PRE-FILED HEARING EXHIBIT LIST FOR KHOA HA RUE OPEN RECORD PUBLIC HEARING

Exhibit 1: Staff Report

Exhibit 2: Zoning Map

Exhibit 3: Authorization from Applicant to Exceed 120-day Processing Timeline

Exhibit 4: Critical Area Report

Exhibit 5: Proposed Site Plan

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PLANNING DEPARTMENT
STAFF REPORT
TO CITY OF LAKE FOREST PARK HEARING EXAMINER

The following review by the City of Lake Forest Park Planning Department is based on information contained in the application and supplemental correspondence, information in the file, comments and letters received on-site investigation, applicable scientific reports, applicable codes, development standards, adopted plans, and other information on file with the city.

SUMMARY INFORMATION

City File Numbers:	2020-RUE-0002
Hearing Date:	June 22, 2023; 10am (virtual)
Requested Action:	Approval of reasonable economic use exception from critical area regulations, to construct one single family residence. The proposal also includes construction of utility and access improvements, as well as installation of critical area mitigation.
Permittee:	Khoa Ha
Site Location:	177xx 28 AVE NE (address to be assigned) Lake Forest Park, WA 98155 Parcel # 4024100380
Comprehensive Plan Designation:	Single Family Residential, Low (Exhibit 10)
Zoning Classification:	RS – 20,000 (Exhibit 2)

APPLICABLE CODES AND REGULATIONS FOR THE REASONABLE ECONOMIC USE EXCEPTION (This list may not be completely exhaustive.)

Lake Forest Park Municipal Code Sections Directly Applicable to the Proposal:

- LFPMC 16.16.250 – Establishes the application procedures for a reasonable use exception to allow for reasonable economic use.
- LFPMC 16.14- Lake Forest Park Tree regulations.
- LFPMC 16.26.030 – Establishes the authority of the Hearing Examiner to issue quasi-judicial decisions variance applications (Type I application).
- LFPMC 16.26.110 (D) – Establishes the decision of the Hearing Examiner on a Type I application as the final decision of the city.
- LFPMC 16.26.040 (D), .090, and .110 (C) – Establishes the public notification requirements associated with Type I applications.
- LFPMC 18.16- RS-20 SINGLE-FAMILY RESIDENTIAL, LOW

BACKGROUND INFORMATION:

Description of the Proposal:
The project proposal is to construct a 40'x 30' or 1,200 square foot single-family residence on a parcel encumbered entirely by regulated critical areas. The site also includes an exceptional tree in the form of a 43" Diameter at Breast Height (DBH) western red cedar.

Site Characteristics/Critical Areas:
The development site is an approximately 250'x 73.5' rectangular lot with relatively flat topography. The site does rise? approximately 20 feet in height in the western portion of the lot where there is no proposed development. The site is also within a large complex of wetland areas and has two on-site type Np streams. Stream A is located on the northern portion of the lot and stream B is located near the southern property line. Wetland A is a palustrine forested wetland located on the western portion of the lot, and wetland B is a palustrine emergent type located on the eastern portion of the lot. The regulated critical areas and associated buffers encumber the entire site. An exceptional western red cedar with a 43" Diameter at Breast Height (DBH) is also located on the subject property. There are also several other native trees which provide significant canopy coverage on the site.

The lot is in the RS-20 zoning designation (20,000 sq. ft. minimum lot size) and has a non-conforming lot size of approximately 19,110 square feet. The lot also has a non-conforming street frontage with a width of approximately 73.5 feet where a 75-foot street frontage is required.

Adjacent Land Use Characteristics:
The site is surrounded by single family development and vacant single-family lots within the same and similarly zoned districts with varying density (see Exhibit 2). There is a ditch that has a continuous flow of water located along the front lot line adjacent to 28th Avenue NE.

Project Review Timeline:
The permittee applied for the reasonable use exception on January 24, 2020, and received a determination of complete application on April 10, 2020. The city requested additional information from the initial consistency review identifying several non-compliant design elements such as drainage and access, as well as inconsistencies with the tree code July 9, 2020.

The permittee responded with additional information on October 11, 2020, but the city determined that the information provided was incomplete because the narrative explaining the reasons why a reasonable use exception was necessary lacked detail and specific content. The city asked for additional information on October 25, 2020 (LFPMC 16.26.040 (F) (2) (a) allows for a period up to 14 days when the city can evaluate any additional information provided for completeness and if the information is determined to be incomplete, the city can identify this fact and request additional information without any impact on the project timeline). The permittee provided additional information in response on February 18, 2021.

The city requested additional information on March 30, 2021, due to inconsistencies identified in the design, specifically those issues related to the exceptional tree #184 which was identified as exceptional at this time by the city arborist. On May 11, 2021, the permittee provided additional information in response to the city's most recent request for additional information.

On June 3, 2021, the city requested additional information citing inconsistencies with city tree code regulations, specifically identifying that excavation for the proposed driveway in the Interior Critical Root Zone (ICRZ) of a retained/exceptional tree (#184) cannot be allowed. On June 13, 2022, the permittee provided additional information in response to the most recent comments provided by the city.

On June 16th, 2022, the city determined that the information provided was, at the time, incomplete because it lacked a site plan to illustrate the changes described. On June 21, 2022, the permittee provided the site plan needed to perform a compliance review of the most recent materials.

During the summer of 2022 and early fall of that year, the department experienced a significant amount of staff turnover and as a result had a reduction in its ability to process complex projects. An increase in workload coupled with reduced staff forced our department to temporarily place this project on hold and seek an extended timeline from the applicant (see exhibit 3 authorizing a timeline extension from the applicant).

On January 27, 2023, the city requested the final items needed to recommend the approval of the RUE proposal, specifically a map of the parcel indicating where the recommended critical area tracts would be located. The permittee provided several versions of this diagram between February 20, 2023, and April 11, 2023. Each instance where a revised map was provided, the city determined (within 14 days) that the information provided was incomplete and lacked the detail needed to include as an exhibit to the pre-filed hearing record. On April 11, 2023, the permittee provided a version of the tract map which included the details needed to include it as an exhibit for the project.

Overall, the project has been in review for 352 days. The permittee has provided authorization to exceed the 120-day statutory processing deadline (see Exhibit 3).

REASONALBE USE CRITERIA REQUIREMENTS AND ANALYSIS

The following is excerpted from the Lake Forest Park Municipal Code. The Permittee has the burden of meeting all the criteria (represented in both **bold** and *italics*) for an approval of reasonable use exception.

Lake Forest Park Municipal Code 16.16.250

16.16.250 Reasonable use exception to allow for reasonable economic use.

A. If the application of this chapter will prevent any reasonable economic use of the owner's property, then the applicant may apply to the planning department for an exception from the requirements of this chapter; may be applied for in accordance with the provisions of Chapter 16.26 *LFPMC.*

B. The planning director shall forward the application, along with the record submitted to the city and the director's recommendation, to the hearing examiner for decision.

C. The hearing examiner shall grant an exception only if:

> ***1. Application of the requirements of this chapter will deny all reasonable economic use of the property; and***
>
> ***2. There is no other reasonable economic use with less impact on the sensitive area; and***
>
> ***3. The proposed development does not pose an unreasonable threat to the public health, safety, or welfare, on or off the proposed site, and is consistent with the general purposes of this chapter and the comprehensive plan; and***
>
> ***4. Any alteration is the minimum necessary to allow for reasonable economic use of the property.***

D. The hearing examiner shall grant an exemption from the requirements of this chapter only to the minimum necessary extent to allow for reasonable economic use of the applicant's property.

E. The hearing examiner shall condition any exception from the requirements of this chapter upon conditions recommended by the city and upon compliance with any mitigation plan approved by the city. (Ord. 930 § 2, 2005)

REASONABLE ECONOMIC USE EXCEPTION (RUE)

Staff's analysis with findings and conclusions for these criteria are listed below:

RUE CRITERION C.1: ***Application of the requirements of this chapter will deny all reasonable economic use of the property;***

FINDINGS: According to the permittee's application materials, the need for a reasonable use exception is derived from the fundamental notion that a law or regulation that deprives a property owner of all reasonable economic use of his or her property is unconstitutional. The site is completely encumbered by the wetland/stream and its associated buffers. The critical areas code also imposes a 15-foot-wide building setback from the edge of any wetland buffer. To connect the proposed structure to sewer, the permittee is proposing to impact approximately 32 square feet of wetland B and five square feet of associated 'pasture' buffer which consists of dead or dying ground cover. The available sewer utility within 28 AVE NE is pressurized and connection to a sewer box near the southeastern portion of the property is necessary for service.

Water and power will be installed under the proposed 8-foot-wide driveway and will not impact critical areas or the adjacent exceptional tree and its interior critical root zone. Tree protection for the exceptional tree (tree number 184) will be required as a recommended condition of this development. The residence itself will impact a total of 4,365 square feet of wetland buffer. Buffer width averaging is not feasible because there is insufficient unencumbered space on the site. The permittee is proposing to mitigate impacts to wetland buffers by enhancing 4,356 square feet of degraded wetlands A and B which will provide mitigation at a slightly better than the required 1:1 wetland buffer mitigation ratio required per LFPMC 16.16.340 (D) (3). A mitigation plan has been provided within the critical area report (see Exhibit 4).

The site also contains two non-conforming features in lot size and street frontage. LFPMC 18.66.110 indicates, legally established lots in existence prior to the effective date of this title which do not meet the requirements set forth in this title are considered nonconforming lots of record and are legally buildable subject to certain conditions and where the project meets area and dimensional requirements of the zone. The proposed design, as illustrated in exhibit 5, demonstrates compliance with all area and dimensional requirements in LFPMC 18.16.

CONCLUSIONS: Strict application of these requirements would deny all reasonable economic use of the property because the parcel is entirely encumbered by steam, stream buffer, wetland, wetland buffer, and the required 15-foot-wide building setback from the edge of the wetland buffer; all areas where regulations prohibit development from occurring. This criterion is met.

RUE CRITERION C.2: ***There is no other reasonable economic use with less impact on the sensitive area;***

FINDINGS: The Site is currently undeveloped. The Site is zoned for one single family residence. All developed parcels in the vicinity of the site are single family residences. There are no other permitted uses for the site given the zoning classification. Thus, there are no other possible economic uses that would have less impact on critical areas.

According to the permittee's critical area report, the critical area will receive direct enhancement as a part of the mitigation plan. In this case, the project only impacts adjacent wetland buffers and mitigation for wetland buffers are typically required at a 1:1 ratio.

The range of possible uses within a single-family zoned property and associated conditional uses are limited. The alternative uses presume the existence of a single-family structure and would imply a greater intensity of use than that of a residence intended for a single family.

CONCLUSIONS: No reasonable, allowable use would have less impact on the sensitive area, other than what the permittee proposes. Enhancement and mitigation of the wetland are also recommended via the critical area report and conditioned as a part of this recommendation. The permittee's critical area report indicates that the site is better served by enhancing 4,356 square feet of degraded wetlands instead of directly mitigating wetland buffer. As conditioned, this criterion is met.

RUE CRITERION C.3: ***The proposed development does not pose an unreasonable threat to the public health, safety, or welfare, on or off the proposed site, and is consistent with the general purposes of this chapter and the comprehensive plan;***

FINDINGS: According to the permittee's application, the proposed single-family residence will not have any impact to public health, safety, or welfare on or off the site. The proposed development is consistent with the general purposes of Chapter 16.16 and specifically with section .230 (G) (3) because they are seeking to remove invasive vegetation from the wetland buffer area, as a part of the enhancement mitigation through an approved alteration by way of this reasonable use exception.

Construction of a single-family home on the proposed location is consistent with the general purposes of this chapter and the comprehensive plan. The following lists specific comprehensive plan goals and policies this application, and the proposed mitigation, is consistent with, along with staff's findings which demonstrate the proposal's consistency with each comprehensive plan goal and policy:

Goal EQ–1 Compatible Development. *Protect the natural environment through zoning and land use decisions. Policy EQ–1.1 Protect designated sensitive areas, including ravines, steep slopes, wetlands, and other features*.

FINDINGS: The proposed use for this site is compatible with area zoning regulations, as single-family use has been proposed. The wetland and buffer on this parcel are regulated by the city's critical area code, a portion of which includes criteria for reasonable economic use exceptions. The applicant's critical area study indicates that a reasonable economic use exception would be the only way that reasonable economic use can be realized for this site, given the critical area constraints, and applicable regulations. The applicant has provided recommendations from qualified personnel which detail mitigation measures plans to construct infrastructure which will mitigate the impacts of the proposal to the greatest extent feasible, and work to protect and enhance the critical areas on site.

Goal LU–3 Compatibility with Natural Environment. *Promote design and development that respects and preserves the natural environment. Policy LU–3.2 Provide design flexibility to preserve desirable existing site features, including clusters of trees, watercourses, slopes, open spaces, and similar assets.*

FINDINGS: The proposed design for this project intentionally minimizes impact to the site, and purposefully avoids impact to the wetland area. The design preserves an exceptional tree, and existing features through avoidance of wetland area. A feature of the development site will be the natural environment, in the form of enhanced wetland mitigation.

Goal H–1 Housing Supply and Diversity. *Ensure that Lake Forest Park has sufficient quantity and variety of housing types to meet projected growth and needs of the community. Policy H–1.1 Promote fair and equitable access to housing for all persons*.

FINDINGS: The addition of this housing unit will contribute to the City's housing stock and housing options and become a much-needed unit that can contribute to the projected growth needs for the city. This project will be a supplement to an already diverse neighborhood in terms of architectural styles, and income ranges, and will serve to broaden the types of single-family housing styles the community has to choose from.

CONCLUSIONS: The proposed development does not pose an unreasonable threat to the public health, safety, or welfare, on or off the proposed site if the proposed mitigation methods for construction suggested in the critical area study provided by the permittee are followed. This criterion is met.

RUE CRITERION C.4: ***Any alteration is the minimum necessary to allow for reasonable economic use of the property.***

FINDINGS: According to the permittee's application materials, the proposed single-family residences will occupy the minimum area practicable and will only impact critical area buffers. The proposal works to avoid the regulated slopes and buffers in the west portion of the property, and it avoids the interior critical root zone of an exceptional tree that is adjacent to the proposed driveway.

The required width of the proposed driveway will also limit the extent to which any additional structures can be located relative to the wetland boundary, thereby limiting the amount of buffer impact. As previously discussed, the remaining wetland will be enhanced relative to their current condition through removal of non-native, invasive species and replanting with native trees and shrubs. Staff is also recommending the establishment and recording of a critical area tract for those areas of the parcel mitigated through this project and for the area not involved in construction or regular use. Establishing a tract which runs in perpetuity, and which is delineated by fencing and signage shall ensure that only the minimum area necessary is subject to alterations indefinitely.

The proposal is for the siting of a single-family home, driveway, and supporting and mitigating infrastructure for the housing unit and its impacts. The existing parcel is entirely encumbered with wetlands and buffers. The Permittee has followed the recommendations of Acre Environmental when designing this proposal. Acre finds that the construction of a moderately sized single-family footprint, associated access drive, utilities, and mitigation have the least amount of impact to the site, while still allowing for an economic use that is at the most basic level (see Exhibit 4- critical area report page 4).

CONCLUSIONS: Since the proposed site plan effectively avoids all critical areas (and the interior critical root zone of an exceptional tree) and will only impact on-site buffers of wetlands,

it complies with the provisions of 16.16 LFPMC to the greatest extent possible while still allowing for reasonable economic use of the parcel. This criterion has been met subject to the recommended conditions.

PUBLIC COMMENT

The city received two public comments (see Exhibit 6) during the Notice of Application (NOA) period for this project. These comments were received after the initial complete application materials were posted as a part of the NOA process. These parties of record have not commented further on any of the revised designs that have been provided after city review and comment.

The comment received from Jean Reid points out differences in the way the critical area report and the geo-technical report recommend stormwater improvements. Ms. Reid also elaborates on the existing stormwater conditions on the site and indicates that further analysis of surrounding stormwater infrastructure is necessary to determine the project's impact to surrounding properties and indicates that the streams on the property feed larger streams known to have fish and fish habitat. Ms. Reid goes onto explain how the application materials do not reflect compliance with the tree code and says that further analysis is needed to determine if the project's impact to critical areas will affect habitat used by endangered or threatened species. She also states that a financial security should be imposed on the project and that the city should administer that process. Jean Reid goes on to comment on whether the amount of disturbance conflicts with requirements imposed by the Army Corps of Engineers and the State Department of Ecology, and that the disturbance area should be limited to the greatest extent possible to avoid wetlands and buffers. Finally, she suggests an alternate location for the sewer line.

The public comment received by the Lake Forest Park Stewardship Foundation (LFPSF) included much of the same information described above in Jean Reid's comments. The Foundation's comments indicated that there are several material deficiencies in the application and suggests that all involved in the decision making for this project visit the site personally to understand the physical characteristics of the parcel. LFPSF states that the application should be denied because the RUE process acts as a development agreement for single family properties and that a new application should be crafted which details the specific provisions within LFPMC 16.16 with which the developer plans conflict and it should also detail, for each conflict, what minimal relaxation of the provisions is needed to accomplish reasonable economic use of this parcel. The comment states that since the applicant failed to provide a complete application upon initial submittal that the application should be denied because the applicant is seeking full abandonment from local critical area codes. Finally, the comment suggests an alternative to the submitted application and design.

CONCLUSIONS AND RECOMMENDATION

The Planning Department recommends the conditional approval of the request for reasonable economic use exception (file NO. 2020-RUE-0002), for the above-described reasons with the following conditions:

1. Exhibit 5 shall be the approved site plan for this Reasonable Use Exception. The construction impact zone shall be the area surrounded by the line labeled "two rail fence", as well as that area delineated for the disturbance necessary to install the side sewer service.
2. The site plan is valid for a period of three years from the date of approval.
3. The permittee must apply for and receive all required permits from the planning and building department.
4. All work must comply with the city's adopted standards for development and construction including stormwater mitigation, erosion control, zoning and building.
5. Split-rail wood fencing and approved signage is required to delineate between the critical area and the construction impact area. The split-rail fencing, and signage shall be installed after completion of construction. Standard protective construction fencing shall be installed and maintained during construction to delineate the outer boundary of the construction impact area. Only work associated with the buffer impact mitigation plan and, if required, drainage control may occur outside of the construction impact area.
6. Prior to the final inspection of the residence, the critical area and buffer mitigation plan within the critical area report shall be implemented by the Permittee/property owner and be found to be correctly installed by City staff and/or City Arborist.
7. The mitigation area shall be subject to the annual monitoring plan specified in the critical area report. Monitoring is required for five consecutive years after the final inspection of the residence. If any of the mitigation plans are not successful, the Permittee/property owner shall address the issue as described in the contingency plan of the critical area report.
8. Prior to occupancy, the permittee shall provide a signed copy of the contract from the professional to perform the mitigation monitoring program with financial security required by Condition 11 shall include the value of the monitoring plan and be reflective of current pricing.
9. All recommendations in the critical area report shall be strictly adhered to throughout the project and monitoring period.
10. The permittee shall record a notice and disclosure on the property's title which indicates the property is subject to critical area mitigation and monitoring, as described in the critical area report. The permittee shall provide the city with a conformed copy of the recorded notice and disclosure prior to a certificate of occupancy.
11. A financial security guarantee, in a form approved by the City, is required for critical area mitigation performance and maintenance. The amount of the financial guarantee shall be subject to approval of the City and based on a qualified professional's cost estimate of the current market value of labor and materials for the approved mitigation plan and including a thirty percent contingency.
12. The Permittee is responsible for obtaining any necessary state and federal permits and approvals for the project, and is responsible for complying with any conditions of approval placed on these or other state or federal permits or approvals, and for submitting revised

drawings to the City for its review and approval, if necessary, to reflect these state or federal conditions of approval

13. If the planning director determines a significant adverse deviation from predicted impacts has occurred, or that mitigation or maintenance measures have failed, the permittee or the property owner shall be required to institute corrective action, which may be subject to further monitoring.
14. All costs associated with the mitigation/monitoring and planning therefore, including city expenses, shall be the responsibility of the permittee and/or property owner.
15. Prior to issuance of a certificate of occupancy by the City, the property owner shall provide documentation indicating that the critical areas preservation tract has been recorded with King County.

LIST OF EXHIBITS INCLUDED

Exhibit 1: Staff Report
Exhibit 2: Zoning Map
Exhibit 3: Authorization from Applicant to Exceed 120-day Processing Timeline
Exhibit 4: Critical Area Report
Exhibit 5: Proposed Site Plan
Exhibit 6: Combined Public Comments from the Notice of Application Comment Period
Exhibit 7: Notice of Application
Exhibit 8: Notice of Public Hearing
Exhibit 9: Sample Tract Map
Exhibit 10: Comprehensive Land Use Designation Map
Exhibit 11: Ariel Photo

Submitted: _____ **Date:** **June 2, 2023**

Nick Holland
Senior Planner

This map is designed for general information purposes only. It is not intended to provide an absolutely accurate and current depiction of addresses, property lines, or lot configurations. Contact city staff for additional verification of the information provided on this map.

Date: 12/3/2019 9:32 AM

Exhibit 2

CITY OF LAKE FOREST PARK
INCORPORATED 1961

CITY OF LAKE FOREST PARK ZONING MAP

Project Location

N

0 0.15 0.3 0.6 Miles

Zoning Designation

- RS-20,000 SFR/Min. Lot Size 20,000 Sq. Ft.
- RS-15,000 SFR/Min. Lot Size 15,000 Sq. Ft.
- RS-10,000 SFR/Min. Lot Size 10,000 Sq. Ft.
- RS-9,600 SFR/Min. Lot Size 9,600 Sq. Ft.
- RS-7,200 SFR/Min. Lot Size 7,200 Sq. Ft.
- RM-3,600 MFR/Min. Lot Size 3,600 Sq. Ft. Per Unit
- RM-2,400 MFR/Min. Lot Size 2,400 Sq. Ft. Per Unit
- RM-1,800 MFR/Min. Lot Size 1,800 Sq. Ft. Per Unit
- RM-900 MFR/Min. Lot Size 900 Sq. Ft. Per Unit
- Neighborhood Business
- Southern Gateway Corridor Transition
- Southern Gateway Single Family
- Southern Gateway Transition Form
- Commercial Corridor
- Town Center
- No Designation

EXHIBIT # 3.8

Nick Holland

From: Khoa Ha <khoa.ha628@gmail.com>
Sent: Tuesday, June 28, 2022 9:51 PM
To: Nick Holland
Subject: Re: Authorization to exceed 120-day timeclock for RUE at parcel 4024100380
Attachments: image001.png

Nick

Thank you for the update. I will authorize the 120-day statutory.

Khoa

On Tue, Jun 28, 2022, 1:44 PM Nick Holland <nholland@cityoflfp.gov> wrote:

> Hello Khoa,
>
> How are you? One thing we will need when we take this project to hearing is your authorization to exceed the 120-day statutory clock that is mandated by state development codes. Please provide this authorization as a reply to this email. Your revised site plan looks good so far, and our Arborist should be finishing up his review soon (Ashley left the City, in case you didn't know). Once we get your authorization on this, we can start to prepare for the hearing, thanks.
>
> Nick Holland
>
> Senior Planner
>
> City of Lake Forest Park
>
> Planning Department
>
> 17425 Ballinger Way NE
>
> Lake Forest Park, WA 98155
>
> Direct: 206-957-2832
>
> www.cityoflfp.com

EXHIBIT # 4.0

ENVIRONMENTALLY CRITICAL AREAS STUDY & BUFFER MITIGATION PLAN FOR

JJ CONSTRUCTION – 28TH AVENUE NE

Tax Parcel No. 402410-0380

Acre Project #18092

Prepared by:

Acre Environmental Consulting, LLC.
PO Box 55248
Shoreline, WA 98155
(206) 450-7746

For:

JJ Construction
Attn. Khoa Ha
7629 199th Street SW
Lynnwood, WA 98036

March 29, 2019
Revision #4: February 17, 2023

EXHIBIT # 4.1

TABLE OF CONTENTS

ATTACHMENTS:

1. WETLAND DETERMINATION DATA FORMS (4 DATA POINTS ON-SITE)
2. WETLAND RATING FORMS FOR WESTERN WASHINGTON: 2014 UPDATE (2 RATING FORMS)
3. CRITICAL AREAS STUDY MAP SHEET CA1.00
4. CRITICAL AREAS STUDY MAP SHEET PLAN SHEET CA2.00
5. BUFFER WIDTHS MAP SHEET CA3.00

EXHIBIT # 4.2

SITE DESCRIPTION

On December 17, 2018 *Acre Environmental Consulting, LLC* visited the approximate 0.44-acre site (no current address) located south of 17725 28th Avenue NE in the City of Lake Forest Park, Washington. The site is further located as a portion of Section 09, Township 26N, Range 4E, W.M. The parcel number for this property is 402410-0380. The purpose of this site visit was to locate regulated critical areas on and adjacent to the subject site. Surrounding land use is comprised of single-family residential development.

Access to this undeveloped site is gained via a gravel driveway that extends west from 28th Avenue NE. The eastern portion of this site is occupied by maintained pasture and residential landscaping associated with the house to the north. This property contains two Category III wetlands and two associated Type Np streams. Wetland A is located in the eastern part of the site and extends off-site to the north. This wetland received 6 points for habitat on the Washington State Department of Ecology Wetland Rating Form for Western Washington: 2014 Update. Stream A flows east from Wetland A and is a tributary to the South Fork of Hillside Creek. Wetland B is a small pasture wetland located in the southeastern corner of the site. Wetland B received 5 points for habitat on the DOE wetland rating form. This wetland is associated with Stream B.

In the City of Lake Forest Park, Category III wetlands with habitat scores of 6 points receive 165-foot buffers. Category III wetlands with habitat scores of 5 points receive 105-foot buffers measured from the delineated edge. Type Ns streams receive 50-foot buffers.

The above wetland buffers reflect the applicants use of Table 16.16.320-1 to determine buffer widths. Even though these wetlands score five or more points for habitat functions, the applicant meets the criteria to utilize this table because there is no option available for providing a relatively undisturbed, vegetated corridor at least 100 feet wide between the wetland and any other priority habitats within 300 feet, and the applicant is proposing to implement applicable measures from Table 16.16.320-2 to minimize impacts to wetlands. Proposed measures to reduce development related impacts include directing lights away from the wetlands, providing wetland enhancement, and providing fencing to demarcate the edge of the buffer and discourage intrusion in to critical areas.

Due to the location of wetlands, streams, and associated buffers, on this site, the entire property is encumbered by wetland and buffer.

EXHIBIT # 4.3

PROJECT DESCRIPTION & APPLICATION FOR REASONABLE USE

The applicant is proposing to construct a single-family residence in the approximate center of the property; as far from the on-site wetlands and streams as is possible. The area where the house is proposed to be placed is currently comprised of maintained pasture with a concrete pad for a basketball court and a decommissioned septic system.

Picture 1: Looking north at the proposed house site. Note the basketball court and the decommissioned septic system (the mound) in the maintained pasture.

Buffer averaging is a mitigation tool that allows a project to reduce a buffer in one part of the site in exchange for designating additional buffer in another part of the subject site. In order for buffer averaging to be possible, it is necessary that some portion of the subject site is not encumbered by critical areas or buffer. Because the site is entirely encumbered by wetlands, streams, and associated buffers, it is not possible to apply buffer averaging to this site as allowed by LFPMC 16.16.320(C). Therefore, application of Title 16 of the Lake Forest Park code will prevent any reasonable use of this property. As a result, the applicant is requesting an exception from the requirements of this chapter pursuant to reasonable use, LFPMC 16.16.250. As discussed below, this site meets the provisions for a reasonable use exception.

Per LFPMC 16.16.250(C), the Hearing Examiner shall grant a reasonable use exception only if (the City requirements are in italics while the applicant's responses are in plain text):

1. *Application of the requirements of this chapter will deny all reasonable economic use of this property; and*

   The on-site critical areas and associated buffers encumber the entire subject property. As a result, application of this chapter will prevent any reasonable use of this property.

2. *There is no other reasonable economic use with less impact on the sensitive area; and*

   The applicant is proposing to place one single-family home in the center of the site. This project will utilize an existing crossing over Stream A and will only impact 3,670 square feet of degraded buffer. The area where the house is proposed is currently comprised of maintained pasture with a concrete pad for a basketball court and a decommissioned septic system (please refer to the picture on page 3).

3. *The proposed development does not pose an unreasonable threat to the public health, safety, or welfare, on or off the proposed site, and is consistent with the general purposes of this chapter and the comprehensive plan; and*

   The proposed development does not pose an unreasonable threat to the public health, safety, or welfare, on or off the proposed site. The applicant is proposing to place one single-family residence on the subject property. The proposed house will comply with all current building and zoning codes and as a result, will in no way endanger the public health, safety, or welfare, on or off of the proposed site.

   This project is consistent with the general purposes of this chapter. This proposal will result in a total of 3,670 square feet of buffer impacts, but will avoid all impacts to the on-site wetlands and streams. This proposal allows a reasonable economic use of the subject property while at the same time protecting the on-site critical areas and maintaining the level of functions and values provided by these features.

   This project is consistent with the general purposes of the comprehensive plan. The proposed single-family residence will be on a lot zoned for such a use and will maintain the residential character of the neighborhood.

4. *Any alteration is the minimum necessary to allow for reasonable economic use of the property.*

   The applicant is proposing to construct a single family residence with a 1,200 square foot (30' by 40') footprint, an associated 15-foot building setback, and an 8-foot wide driveway. This driveway has been designed to avoid impacts to the interior critical root zones of all trees on the site that are proposed to remain. This will impact a total of 3,670

square feet of wetland and stream buffer, while at the same time allowing for an approximate 3,600 square foot, three-story house. A house of this size is commensurate with new houses in this neighborhood, and in Lake Forest Park in general. No alternate proposal would result in less impact to the on-site sensitive areas while at the same time allowing a reasonable economic use of the subject property.

To connect the proposed house to the sewer, the applicant is proposing to temporarily impact 32.5 square feet of Wetland B and 5 square feet of associated pasture buffer for the installation of the sewer line (a small component of the utility facility). The applicant is proposing to install the sewer line using a walk behind trencher. This machine has a width of 33 inches, digs a four to six-inch wide trench, and has a ground pressure of 4.4 pounds per square inch (PSI). This is less than the ground pressure exerted by the average human which is 16 PSI. Based on this, the impacts from this work are expected to be negligible. Assuming a worst case scenario of a six-inch wide trench along the entire line, this work will result in a total of 37.5 square feet of impacts which is less than 75 square feet allowed by LFPMC 16.16.230(E). Because the main sewer line located in 28th Avenue NE is pressurized, it is not possible for the sewer from the house to extend down the proposed driveway and tap in to the sewer where the driveway meets 28th Avenue NE. Therefore, there is no practical alternative to the proposed activity with less impact on critical areas and the proposed house must connect to the sewer box provided in the right-of-way of 28th Avenue NE for this purpose. The sewer box which provides service to this property is located to the southeast of the site. As a result of the necessary location of the house and the existing location of Wetland B and the sewer box, there is no feasible route that would avoid temporary wetland and buffer impacts while connecting the house to sewer. Following installation of the sewer line, these unavoidable, temporary impacts will be restored to a better than existing condition (fully mitigated) as a part of the wetland enhancement discussed below. Finally, this project will in no way result in the permanent transportation of sediment or increased stormwater flow. Therefore, this work is in compliance with LFPMC 16.16.230(E).

Water and electricity for this house will be installed in the driveway and therefore, will not result in additional critical areas impacts.

As mitigation for the proposed 3,670 square feet of permanent buffer impacts, the applicant is offering to enhance 3,670 square feet of degraded wetland on the subject site. This represents a 1:1 buffer impact to mitigation ratio for buffer impacts as required by LFPMC 16.16.340(D)(3). Typically, mitigation for buffer impacts would consist of mitigating a comparable area of degraded buffer. However, in this instance, it appears that a greater functional lift and better protection to the on-site wetlands can be achieved through enhancing a combination of buffer and portions of Wetlands A and B on the subject site. The wetland and buffer areas proposed to be enhanced currently contain a large quantities of invasive and non-native vegetation, including Himalayan blackberry. Wetland and buffer enhancement is proposed to consist of removing non-native and invasive species and planting native trees and shrubs. The proposed enhancement is

expected to increase the level of functions and values on the site over that which currently exists and improve the function of and protection to the subject wetlands and streams

MITIGATION SEQUENCING

Pursuant to LFPMC 16.16.130, applicants shall demonstrate that all reasonable efforts to avoid and minimize impacts to critical areas and buffers have been examined and that impacts have been avoided, minimized, or compensated for in the following order of preference (the City code is in italics with the applicant's response in plain text):

A. *Avoiding impacts to environmentally sensitive areas by avoiding actions or parts of actions;*

The applicant is proposing to construct one single-family residence on this existing vacant, legally platted lot which is zoned for single-family residential use. Due to the location of wetlands, streams, and associated buffers, on this site, the entire property is encumbered by wetland and buffer. Impacts from the proposed house have been limited to the greatest extent possible as discussed below. Therefore, there is no feasible way to avoid impacts to environmentally sensitive areas by avoiding actions or parts of actions and still accomplish the goals of this project.

B. *Minimizing impacts by limiting the degree or magnitude of the action by using appropriate technology, or by taking affirmative steps to avoid or reduce impacts;*

The applicant is proposing to construct a single family residence with a 1,200 square foot (30' by 40') footprint, an associated 15-foot building setback, and an 8-foot wide driveway. This will impact a total of 3,670 square feet of wetland and stream buffer, while at the same time allowing for an approximate 3,600 square foot, three-story house. A house of this size is commensurate with new houses in this neighborhood, and in Lake Forest Park in general. No alternate proposal would result in less impact to the on-site sensitive areas while at the same time allowing a reasonable economic use of the subject property.

C. *Rectifying the impact by repairing, rehabilitating, or restoring the affected environment;*

As mitigation for the proposed 3,670 square feet of permanent buffer impacts, the applicant is offering to enhance 3,670 square feet of degraded wetland and buffer on the subject site. This represents a 1:1 impact to mitigation ratio for buffer impacts as required by LFPMC 16.16.340(D)(3). The proposed wetland rehabilitation is expected to increase the level of functions and values on the site over that which currently exists and improve the function of and protection to the subject wetlands and streams.

D. *Reducing or eliminating the impact over time through preservation and/or maintenance operations;*

The applicant is proposing to preserve approximately 77 percent of the site in its current condition with approximately 30 percent of the remaining area enhanced.

E. *Compensating for the impact by replacing, enhancing, or providing substitute critical areas and/or buffers; and/or*

As discussed above, as mitigation for the proposed 3,670 square feet of permanent buffer impacts, the applicant is offering to enhance 3,670 square feet of degraded wetland and buffer on the subject site. This represents a 1:1 buffer impact to mitigation ratio for buffer impacts as required by LFPMC 16.16.340(D)(3).

F. *Monitoring the impact and/or hazard and making appropriate corrective measures when necessary.*

The applicant will provide a total of five years of maintenance and monitoring of the mitigation areas on the as required by the City of Lake Forest Park.

METHODOLOGIES OF CRITICAL AREAS DETERMINATION

On December 17, 2018, *Acre Environmental Consulting, LLC* conducted a site visit to locate wetlands and streams on and adjacent to the subject site. The methods used for delineating, classifying, and rating the critical areas in the project area are consistent with current Federal, State, and City of Lake Forest Park requirements. At the time of our December 17, 2018 site investigation, the weather was cloudy with a temperature of 51 degrees Fahrenheit.

Wetlands were identified using the routine methodologies described in the U.S. Army Corps of Engineers Wetland Delineation Manual produced in 1987 and the U.S. Army Corps of Engineers Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region produced in May 2010 (hereinafter referred to as "the Corps Regional Supplement"). The Corps Regional Supplement is designed for concurrent use with the 1987 Corps Wetland Delineation Manual and all subsequent versions. The 2010 Regional Supplement provides technical guidance and procedures for identifying and delineating wetlands that may be subject to regulatory jurisdiction under Section 404 of the Clean Water Act. Where differences in the two documents occur, the Corps Regional Supplement takes precedence over the Corps Manual for applications in the Western Mountains, Valleys, and Coast Region.

According to the federal methodologies described above, identification of wetlands is based on a three-factor approach involving indicators of hydrophytic vegetation, hydric soils, and the presence or evidence of persistent hydrology. Except where noted in the manuals, the three-factor approach discussed above requires positive indicators of hydrophytic vegetation, hydric soils, and wetland hydrology, to make a determination that an area is a regulated wetland. Using the aforementioned manuals, the procedure for making a wetland determination include the following:

1.) Examination of the site for hydrophytic vegetation (species present/percent cover);
2.) Examination for the presence of hydric soils in areas where hydrophytic vegetation is present; and
3.) The final step is determining if wetland hydrology exists in the area examined under the first two steps.

Per industry standards, *Acre Environmental Consulting, LLC* examined the entire project site. Per current City of Lake Forest Park, *Acre Environmental Consulting, LLC* also assessed adjacent properties within 300 feet of the proposed project limits, to the maximum extent possible without entering adjacent properties. While a detailed assessment of Critical Areas on adjacent properties was not possible due to the lack of legal access, *Acre Environmental Consulting, LLC* conducted a review of all available information to assess the presence of off-site Critical Areas within 300 feet of the subject site. This review is required by the City of Lake Forest Park to determine if any regulated Critical Areas exist off-site which would cause associated protective buffers to extend onto the property and affect the development proposal.

In addition to on-site field reviews, *Acre Environmental Consulting, LLC* examined aerial photographs and topographical data (elevation contours) on King County's interactive mapping system (iMAP). Soil survey maps produced by the Natural Resources Conservation Service (NRCS), National Wetlands Inventory (NWI) maps produced by the U.S. Fish and Wildlife Service (USFWS), SalmonScape fish distribution maps produced by the Washington Department of Fish and Wildlife (WDFW), and StreamNet fish distribution maps produced by Pacific States Marine Fisheries Commission were also evaluated by *Acre Environmental Consulting, LLC* as part of this project consultation.

BOUNDARY DETERMINATION FINDINGS

Wetlands were classified according to the U.S. Fish and Wildlife Service (USFWS) Cowardin system Classification of Wetlands and Deepwater Habitats of the United States (Cowardin et al., 1979) and rated, by categories, according to the Washington State Department of Ecology Wetland Rating Form for Western Washington: 2014 Update, as required by the City of Lake Forest Park Critical Areas Ordinance, Chapter 16.16 (Environmentally Critical Areas). Buffers are also determined by this chapter.

Wetland Buffer Determination

Per LFPMC 16.16.320(A), both of the subject wetlands discussed below score five points or more for habitat function. Because the applicant only controls the subject property with is surrounded by private ownership, there is no option available for providing a corridor. The applicant is proposing to implement all applicable measures to minimize impacts to wetlands discussed in Table 16.16.320-2.

Per LFPMC 16.16.320(E), "*increased buffer widths shall be required when necessary to protect wetlands. The criteria used to determine increased buffer widths shall include: The presence of critical drainage areas; the location of hazardous materials; the presence of critical fish and wildlife habitat; the presence of landslide and erosion hazard areas adjacent to wetlands; the presence of groundwater recharge and discharge; and the location of trail or utility corridors*" Per a review of the project area, none of the above features appear to be located on the subject site.

Therefore, the buffers discussed below are applicable. It should be noted that applying larger buffer would have no affect on this project since the site is already completely encumbered with wetland and buffer.

Wetland A

HGM Class: Slope
Cowardin: Palustrine, Forested wetland, Broad-leaved Deciduous, Seasonally Flooded /Saturated (PFO1E)
Ecology Rating: Category III
Lake Forest Park Rating: Category III, 165' Buffer

Wetland A is a Category III wetland located in the western portion of the property and extending off-site to the north. This hydrogeomorphic (HGM) class slope wetland is associated with Stream A and received a total score for functions of 16 points (6 points for Water Quality Functions, 4 points for Hydrologic Functions, and 6 points for Habitat Functions) on the DOE Wetland Rating Form for Western Washington: 2014 Update. Wetlands with scores between 16 and 19 points

for all functions are classified as Category III wetlands per LFPMC 16.16.320. In the City of Lake Forest Park, Category III wetlands habitat scores of 6 points receive a 165-foot buffer measured from the delineated edge.

Typical vegetation in this wetland is represented by scattered canopy of red alder (*Alnus rubra*, Fac) and Pacific willow (*Salix lasiandra,* FacW) with Himalayan blackberry (*Rubus armeniacus*, Fac), salmonberry (*Rubus spectabilis,* Fac), climbing nightshade (*Solanum dulcamara*, Fac), creeping buttercup (*Ranunculus repens,* Fac), small flowered bulrush (*Scirpus microcarpus*, Obl), lady fern (*Athyrium filix-femina,* Fac), and field horsetail (*Equisetum arvense*, Fac), in the understory. Typical soils in this wetland have a Munsell color of dark gray (10YR 4/1) with redoximorphic features of grayish brown (10YR 5/2), and a texture of loamy sand from 0 to 18 inches below the surface. Soils in this wetland were saturated to the surface during our December 2018 site visit.

Wetland B

HGM Class: Slope
Cowardin: Palustrine, Emergent, Persistent, Seasonally Flooded /Saturated (PEM1E)
Ecology Rating: Category III
Lake Forest Park Rating: Category III, 105' Buffer

Wetland B is a Category III wetland located in the southeastern corner of the subject site and extending off-site to the east. This hydrogeomorphic (HGM) class slope wetland is associated with Stream B and received a total score for functions of 16 points (6 points for Water Quality Functions, 5 points for Hydrologic Functions, and 5 points for Habitat Functions) on the DOE Wetland Rating Form for Western Washington: 2014 Update. Wetlands with scores between 16 and 19 points for all functions are classified as Category III wetlands per LFPMC 16.16.320. In the the City of Lake Forest Park, Category III wetlands habitat scores of 5 points receive a 105-foot buffer measured from the delineated edge.

Vegetation in this wetland is represented by a small patch of Pacific willow (*Salix lasiandra,* FacW) with creeping buttercup (*Ranunculus repens,* Fac), lady fern (*Athyrium filix-femina,* Fac), small flowered bulrush (*Scirpus microcarpus*, Obl), and large-leaved avens (*Geum macrophyllum*, Fac), dominant in the mowed pastures portions. Typical soils in this wetland have a Munsell color of very dark grayish brown (10YR 3/2) with redoximorphic features of brown (10YR 4/3) and grayish brown (10YR 5/2), and a texture of loamy sand from 0 to 18 inches below the surface. Soils in this wetland were saturated at three inches below the surface during our December 2018 site visit.

Stream A - Type Np

Cowardin: Riverine, Upper Perennial, Unconsolidated Bottom, Sand (R3UB2)
Lake Forest Park Rating: Type Np stream, 50' Buffer

This stream drains from Wetland A and flows east across the northern portion of the subject site. It appears that this stream is depicted on the A Salmon's Guide to Lake Forest Park maps produced by the Lake Forest Park Stewardship Foundation as a tributary to the South Fork of Hillside Creek. This stream is not depicted on the King County iMap. The Salmonscape maps produced by the Washington Department of Fish and Wildlife (WDFW) do not depict fish use in any portion of Hillside Creek, including on or adjacent to the site. This perennial, non-fish bearing stream meets the requirements for a Type Np stream in the City of Lake Forest Park. In Lake Forest Park, Type Np streams receive a 50-foot buffer.

Stream B - Type Np

Cowardin: Riverine, Upper Perennial, Unconsolidated Bottom, Mud (R3UB3)
Lake Forest Park Rating: Type Np stream, 50' Buffer

This stream drains from Wetland B and flows east where it joins stream A in the right-of-way or 28th Avenue NE. This stream is not depicted on the A Salmon's Guide to Lake Forest Park maps produced by the Lake Forest Park Stewardship Foundation. However, this stream is a tributary to the South Fork of Hillside Creek. This stream is not depicted on the King County iMap. The Salmonscape maps produced by the Washington Department of Fish and Wildlife (WDFW) do not depict Stream B and do not depict fish use in any portion of Hillside Creek, including adjacent to the site. This perennial, non-fish bearing stream meets the requirements for a Type Np stream in the City of Lake Forest Park. In Lake Forest Park, Type Np streams receive a 50-foot buffer.

Non - Wetland

Vegetation in the non-wetland areas of the site is comprised of a small patch of trees with the remainder consisting of maintained pasture. Vegetation in the forested area is represented by a canopy of western red cedar (*Thuja plicata*, Fac) and English laurel (*Prunus laurocerasus*, Upl) with holly (*Ilex aquifolium*, FacU), English ivy (*Hedera helix*, Upl), and filaree (*Erodium cicutarium*, Upl), common in the understory. Vegetation in the pasture is represented by creeping buttercup (*Ranunculus repens,* Fac), colonial bentgrass (*Agrostis capillaris*, Fac), curly dock (*Rumex crispus*, Fac), and common dandelion (*Taraxacum officinale*, FacU). Typical soils in the non-wetland portions of the site have Munsell colors ranging from very dark grayish brown (10YR 3/2) to dark brown (10YR 3/3), with textures of sandy loam from 0 to 18 inches below the surface. Soils in the non-wetland areas were moist throughout the profile during our December 2018 site visit.

NATURAL RESOURCE CONSERVATION SERVICE SOILS DESCRIPTION:

NATURAL RESOURCE CONSERVATION SERVICE SOILS DESCRIPTION:
Soils underlying the subject site are not mapped by the Natural Resources Conservation Service (NRCS).

EXISTING FUNCTIONS AND VALUES

The methodologies for this functions and values assessment are based on professional opinion developed through past field analyses and interpretation. This assessment pertains specifically to the on-site wetland, stream, and associated buffer but is typical for assessments of similar systems common to western Washington. The three main functions provided by wetlands include water quality, stormwater / hydrologic control, and wildlife habitat. Buffers serve to protect and support the functions of wetlands and streams as well as provide their own wildlife habitat, water quality, and erosion control functions.

The wetlands and buffer on the subject site provide a moderate level of functions and values.

Wetlands A and B are hydrogeomorphic class slope wetlands and as such, have a limited ability to retain stormwater. Due to the sloped nature of these systems, rather than being stored in these wetlands, water is released relatively quickly to downstream systems. Therefore, these wetlands provide limited stormwater storage functions.

Wetlands in western Washington often contain necessary wildlife habitat resources such as food, water, thermal cover, and hiding cover in close proximity. The subject wetlands and associated buffers provides protected habitat, which becomes increasingly important as areas become further populated with humans and habitat areas become fragmented. The subject wetlands provide moderate levels of habitat for wildlife species as evidenced by Habitat Function scores on the Wetland Rating Form for Western Washington: 2014 Update of 6 for Wetland A and 5 for Wetland B. During our field work a black-capped chickadee (*Poecile atricapillus*) and a bushtit *(Psaltriparus minimus)* were noted in the subject wetlands and buffers.

The dense vegetation within the wetlands and associated buffers on this site serves to intercept rain fall before it strikes the soil, thereby reducing erosion and improving water quality. The presence of adsorbent soils and the biological action of the wetland vegetation, serve to remove sediment and pollutants from the water. These materials are bound in the soil and plant material providing increased water quality to downstream systems.

The on-site Type Np streams provide important functions to the surrounding environment such as hydrological transport, transport of solids (suspended and dissolved), and important fish and

wildlife habitat features, among other functions. The portions of the site adjacent to the stream (vegetated wetland and associated buffers, etc.) are increasingly important to manage appropriately as these areas aid in water quality and hydrologic control, resulting in cleaner water entering the stream's channel. The vegetation within these riparian corridors provides valuable ecological functions. In addition to providing direct habitat for wildlife species, the trees and shrubs provide shade, and the shade provided by the vegetation aids in cooler water temperature for the species that use the stream as habitat. The roots of the vegetation within this riparian corridor serve to bind the soil and aid with soil and bank stabilization, thus reducing erosion and sedimentation within the stream channel. The established vegetation in these riparian corridors aids in the recruitment of organic matter to the streams.

WETLAND & BUFFER ENHANCEMENT

As mitigation for the 3,670 square feet of proposed buffer impacts, the applicant is offering to enhance 3,670 square feet of degraded wetland and buffer on the subject site. This represents a 1:1 mitigation ratio for buffer impacts as required by LFPMC 16.16.340(D)(3). Typically, mitigation for buffer impacts would consist of mitigating a comparable area of degraded buffer. However, in this instance, it appears that a greater functional lift and better protection to the on-site wetlands can be achieved through enhancing a combination of buffer and portions of Wetlands A and B on the subject site. Furthermore, there is not enough non-wetland area on the site to allow for buffer enhancement only. The wetland and buffer areas proposed to be enhanced currently contain a large quantities of invasive and non-native vegetation, including Himalayan blackberry. Wetland and buffer enhancement is proposed to consist of removing non-native and invasive species and planting native trees and shrubs.

Plant quantities and spacing were determined using the King County Critical Areas Mitigation Guidelines. All proposed species are native to the Puget Sound region and have been selected for their benefits to wildlife and their proven success on past mitigation projects. The wetland rehabilitation areas are proposed to be planted with the following native trees and shrubs.

Wetland Enhancement Area A – 1,220 square feet

Common Name	Latin Name	Size	Spacing	Quantity
Western red cedar	*Thuja plicata*	1 gallon	9'	7
Sitka spruce	*Picea sitchensis*	1 gallon	9'	7
Red osier dogwood	*Cornus alba*	1 gallon	6'	9
Nootka rose	*Rosa nutkana*	1 gallon	6'	9
Pacific willow	*Salix lasiandra*	1 gallon	6'	9
Sitka willow	*Salix sitchensis*	1 gallon	6'	9

Wetland Enhancement Area B – 1,120 square feet

Common Name	Latin Name	Size	Spacing	Quantity
Western red cedar	*Thuja plicata*	1 gallon	9'	8
Sitka spruce	*Picea sitchensis*	1 gallon	9'	8
Red osier dogwood	*Cornus alba*	1 gallon	6'	8
Nootka rose	*Rosa nutkana*	1 gallon	6'	8
Pacific willow	*Salix lasiandra*	1 gallon	6'	8
Sitka willow	*Salix sitchensis*	1 gallon	6'	8

Buffer Enhancement – 1,330 square feet

Common Name	Latin Name	Size	Spacing	Quantity
Douglas fir	*Pseudotsuga menziesii*	1 gallon	9'	8
Western red cedar	*Thuja plicata*	1 gallon	9'	8
Hazelnut	*Corylus cornuta*	1 gallon	6'	10
Osoberry	*Oemleria cerasiformis*	1 gallon	6'	10
Baldhip rose	*Rosa gymnocarpa*	1 gallon	6'	10
Snowberry	*Symphoricarpos albus*	1 gallon	6'	10

GRASS SEEDING

Any disturbed soil in critical areas or buffers shall be seeded to the recommended grass seed mixtures below, or similar approved mixtures.

Common Name	Latin Name	lbs/1,000 sf
Tall fescue	*Festuca arundinacea*	0.4
Colonial bentgrass	*Agrostis tenuis*	0.4
Annual ryegrass	*Lolium multiflorum*	0.5
Red clover	*Trifolium pratense*	0.2

EXHIBIT # 4.15

PLANTING NOTES

Wetland and buffer mitigation projects are typically more complex to install than can be described in plans. Careful monitoring by a professional wetland scientist for all portions of this project is strongly recommended. Timing and sequencing is important to the success of this type of project.

Plant in the early spring or late fall. Order plants from a reputable nursery. Care and handling of plant materials is extremely important to the overall success of the project. All plant materials recommended in this plan should be available from local and regional sources, depending on seasonal demand. Some limited species substitution may be allowed, only with the agreement of the consulting wetland professional.
The plants shall be arranged with the appropriate numbers, sizes, species, and distribution to achieve the required vegetation coverage. The actual placement of individual plants shall mimic natural, asymmetric vegetation patterns found on similar undisturbed sites in the area.

Colored surveyors ribbon, or other approved marking device shall be placed next to each planted tree and shrub to assist in locating the plants while removing the competing non-native vegetation and to assist in monitoring the plantings.

Wood chips or other suitable material shall be used for mulching in the planting areas. Any existing vegetation is to be removed from a two-foot diameter area at each planting site. Mulch is to be placed in this two-foot diameter area at a depth of three to four inches. A four-inch diameter ring around the base of each plant shall be kept free of mulch.

Water should be provided during the dry season (July 1 through October 15) for the first two years after installation to insure plant survival and establishment. A temporary above ground irrigation system and/or water truck should provide water. Water should be applied at a rate of 1 inch of water twice per week for year one and 1 inch per week during year two.

PROJECT SUCCESS AND COMPLIANCE

Goals and Objectives of the Proposed Mitigation: The primary goals of the proposed mitigation are as follow:

- Increase the water quality and habitat functions within the on-site wetlands;
- Increase vegetative structure within the on-site wetlands;
- Increase the quantity and diversity of native vegetation within the on-site wetlands; and
- Allow for responsible development and associated infrastructure, while increasing the ecological functions provided by the subject site.

Definition of Success: The planting areas shall meet the following performance standards:

a) Year 1: 100 percent survival of newly planted species,
b) Year 3: at least 80 percent survival of installed plant species,
c) Year 5: at least 80 percent survival of installed plant species,

This mitigation plan shall support at least 80% of the native plants set forth in the approved mitigation plan by the end of five years. The species mix should resemble that proposed in the planting plans, but strict adherence to obtaining all of the species shall not be a criterion for success.

Performance Standards:

Performance Standard 1: There shall be 100 percent survival of all the plantings after Year 1 or the installation contractor shall replace the material. At least 80 percent of the plant material installed shall survive in Year 5 after installation.

Performance Standard 2: There shall be a minimum of 30 percent cover of woody species (shrub and tree canopy layers considered together) in the buffer after the first year post-installation; and a minimum of 50 percent cover by woody material after the third year post-installation; and a minimum of 80 percent cover by woody material after the fifth year post-installation. Naturally occurring, native plants shall be included in the calculation of vegetation coverage.

Performance Standard 3: There shall be no more than 20 percent cover of weedy/invasive species in the mitigation areas at any time throughout the monitoring period.
If the project meets all of the criteria for success at the end of the five-year monitoring period, no further action will be required and the financial guarantee will be returned to the applicant in full. If the definition of success is not met for any reason at the end of the five-year monitoring period, the maintenance and monitoring period will be extended for one year at a time until the site meets the stated performance standards. If the definitions of success and the accompanying performance standards are met in less than five years, the monitoring may be terminated and the bond released at that point. This mitigation plan and the accompanying maintenance and monitoring will not be considered fully complete until written confirmation is received from the City of Lake Forest Park.

EXHIBIT # 4.17

PROJECT MONITORING PROGRAM

Requirements for monitoring project:
1. Initial compliance report
2. Annual site inspection (in the fall) for five years
3. Annual reports (One report submitted in the fall of each monitored year)

Purpose of Monitoring:
The purpose of monitoring this mitigation project is to evaluate the success of the mitigation plantings. Success will be determined if monitoring shows that at the end of five years the stated performance standards are being met. The property owner shall grant access to the site for inspection and maintenance to the contracted wetland specialist and to the City of Lake Forest Park during the period of the bond or until the project is evaluated as successful.

Inspection Schedule:
Upon completion of the mitigation project, an inspection by a qualified wetland biologist will be made to determine plan compliance. An "As Built" report will be supplied to the City of Lake Forest Park regarding the completeness of the project. Condition monitoring of the plantings will be done by a qualified wetland biologist in the fall annually for the five-year monitoring period. A written report describing the monitoring results will be submitted to the City of Lake Forest Park shortly after the inspection of each monitored year. Final inspection will occur five years after completion of planting. The contracted wetland professional will prepare a final report as to the success of the project.

MAINTENANCE

The mitigation areas will require periodic maintenance to remove undesirable species and replace plant mortality. The planting areas should be maintained in spring and fall of each year for the five-year monitoring period. Maintenance may include, but will not be limited to, removal of competing grasses and invasive species (by hand if necessary), irrigation, replacement of plant mortality, and the replacement of mulch for each maintenance period. Following each monitoring visit, the project biologist will make recommendations for maintenance.

CONTINGENCY PLAN

If 20% of the plants are severely stressed during any of the inspections, or it appears 20% may not survive, additional plantings of the same species may be added to the planting area. Elements of a contingency plan may include, but will not be limited to: more aggressive weed control, pest control, mulching, replanting with larger plant material, species substitution, fertilization, soil amendments, and/or irrigation.

PERFORMANCE BONDING

Pursuant to LFPMC16.16.150, "The planning director may require a performance bond or other security in an amount sufficient to guarantee that all required mitigation measures will be completed in a manner that complies with conditions of approval and to guarantee satisfactory workmanship and materials for a period not to exceed five years. The planning director shall establish the conditions of the bond or other security according to the nature of the proposed mitigation, maintenance or monitoring and the likelihood and expense of correcting mitigation or maintenance failures.

POST-PROJECT FUNCTIONS AND VALUES

Due to the existing low level of functions and values provided by portions of the wetland and buffer on the subject site and the proposed enhancement, no significant adverse environmental impacts are expected to occur as a result of this project, assuming the compensatory mitigation is implemented as stated in this plan. Although impacts within the on-site buffer are necessary to accommodate the proposed house, no net loss of ecological functions is expected to occur. The buffer proposed to be impacted is currently comprised of maintained pasture and, as a result provides a relatively low level of functions and values, and little protection to the subject wetlands and streams. The proposed wetland and buffer enhancement will reduce or eliminate invasive and non-native species and will increase vegetative species diversity and vegetative structure. This will increase wildlife habitat as well as water quality and stormwater storage functions, and is expected to generally increase the overall level of functions and values provided by the subject site.

EXHIBIT #4.19

TERMS & CONDITIONS

The environmental consulting work conducted, including this Environmentally Critical Areas Study and Buffer Mitigation Plan (collectively the "Services") is supplied to JJ Construction (the "Client") as a means of determining whether any wetlands, streams, and/or fish and wildlife habitats regulated by the City of Lake Forest Park Critical Areas Regulations exist on, or adjacent to the site. The Services are provided in accordance with the following General Terms and Conditions (the "Terms"). In accepting the Services provided by *Acre Environmental Consulting*, LLC ("Acre"), the Client voluntarily enters into and agrees to the binding effect of the following Terms.

This report is intended to provide information deemed relevant in the Client's attempt to comply with the regulations currently in effect. The work for this report has conformed to the standard of care employed by professional ecologists in the Pacific Northwest. All other representations or warranties, whether express or implied, are hereby disclaimed concerning the work or this report. This report is based largely on readily observable conditions and, to a lesser extent, on readily ascertainable conditions. No attempt has been made to determine hidden or concealed conditions. If such conditions exist or arise, the information contained in this report may be rendered inaccurate or incomplete based upon those conditions. Acre acts solely as an independent contractor in providing the Services to the Client, and nothing in the provision of such Services shall be construed as creating an agency, partnership, joint venture or other similar legal relationship between Acre and the Client.

Please note that Acre did not provide detailed analyses of other permitting requirements not discussed in this report (i.e., structural, drainage, geotechnical, or engineering requirements).

The laws applicable to Critical Areas are subject to varying interpretations. While Acre observed professional industry standards when completing this review, the information included in this report does not guarantee approval by any federal, state, and/or local permitting agencies. Therefore, all work on this property should not commence until permits have been obtained from all applicable agencies. If there are any questions regarding this report, please contact me at 206.450.7746.

Acre Environmental Consulting, LLC.

Louis Emenhiser
Principal Wetland Ecologist
Professional Wetland Scientist #1680

EXHIBIT # 4.20

REFERENCES

A Salmon's Guide to Lake Forest Park maps produced by the Lake Forest Park Stewardship Foundation. Last revised May 15, 2008.

Cowardin, et al, 1979. Classification of Wetlands and Deepwater Habitats of the United States. U.S.D.I. Fish and Wildlife Service. FWS/OBS-79/31. December 1979.

Environmental Laboratory. (1987). "Corps of Engineers Wetlands Delineation Manual," Technical Report Y-87-1, U.S. Army Engineer Waterways Experiment Station, Vicksburg, Miss.

Hruby, T. 2014. Washington State wetland rating system for western Washington – 2014 Update. Publication #14-06-029. Olympia, WA: Washington Department of Ecology

King County iMAP: Interactive Mapping Tool. Administered by the King County GIS Center. http://www.kingcounty.gov/operations/gis/Maps/iMAP.aspx. Website viewed for project on March 22, 2019.

Lichvar, R.W., D.L. Banks, W.N. Kirchner, and N.C. Melvin. 2016. The National Wetland Plant List: 2016 wetland ratings. Phytoneuron 2016-30: 1-17. Published 28 April 2016. ISSN 2153 733X

Lake Forest Park Municipal Code. Chapter 16.16 (Environmentally Critical Areas). Lake Forest Park, Washington.

SalmonScape. Interactive Mapping website administered by the Washington Department of Fish and Wildlife. http://wdfw.wa.gov/mapping/salmonscape/index.html. Website last visited on March 22, 2019.

U.S. Army Corps of Engineers (2010). "Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0)," ERDC/EL TR-10-3, U.S. Army Engineer Research and Development Center, Vicksburg, MS.

U.S. Fish and Wildlife Service. National Wetlands Inventory Wetlands Mapper. http://107.20.228.18/Wetlands/WetlandsMapper.html#. Last modified October 15, 2018. Website last visited on on March 22, 2019.

Web Soil Survey. United States Department of Agriculture. Natural Resources Conservation Service. http://websoilsurvey.nrcs.usda.gov/app/HomePage.htm. Website last visited on on March 22, 2019.

EXHIBIT # 4.21

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

Project/Site: 28th Avenue NE City/County: Lake Forest Park / King County Sampling Date: 12.17.18

Applicant/Owner: JJ Construction State: WA Sampling Point: DP1

Investigator(s): Louis Emenhiser Section, Township, Range: S09, T26N, R4E, W.M.

Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): Concave Slope (%): 18 %

Subregion (LRR): LRR-A Lat: 47.756137 Long: -122.300904 Datum: _____

Soil Map Unit Name: Not Mapped. NWI classification: PFO1E

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in 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 Soil Present?	Yes ✓ No _____	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks:

Wetland A.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 meters)	Absolute % Cover	Dominant Species?	Indicator Status
1. Salix lasiandra	20	Y	FacW
2.			
3.			
4.			
	20	= Total Cover	
Sapling/Shrub Stratum (Plot size: 10 meters)			
1. Rubus armeniacus	60	Y	Fac
2. Rubus spectabilis	20	Y	Fac
3.			
4.			
5.			
	80	= Total Cover	
Herb Stratum (Plot size: 1 meter)			
1. Solanum dulcamara	40	Y	Fac
2. Ranunculus repens	30	Y	Fac
3. Scirpus microcarpus	10	N	Obl
4. Athyrium filix-femina	10	N	Fac
5. Equisetum arvense	10	N	Fac
6.			
7.			
8.			
9.			
10.			
11.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____	= Total Cover	

% Bare Ground in Herb Stratum _____

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:

✓ Dominance Test is >50%

Prevalence Index is Ã3.0[1]

Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ 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:

EXHIBIT # 4.22

SOIL

Sampling Point: DP1

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-18	10YR 2/2	94	10YR 4/1	4	D	m	losa	
			10YR 5/2	2	C	m		

[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.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (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[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- 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:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum 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): 0

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:

EXHIBIT # 4.23

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

Project/Site: 28th Avenue NE City/County: Lake Forest Park / King County Sampling Date: 12.17.18

Applicant/Owner: JJ Construction State: WA Sampling Point: DP2

Investigator(s): Louis Emenhiser Section, Township, Range: S09, T26N, R4E, W.M.

Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): Convex Slope (%): 21%

Subregion (LRR): LRR-A Lat: 47.756148 Long: -122.300692 Datum: _____

Soil Map Unit Name: Not Mapped. NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in 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 Soil Present?	Yes _____ No ✓	
Wetland Hydrology Present?	Yes _____ No ✓	

Remarks:

Non wetland in the vicinity of the house site east of Wetland A.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 meters)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: 10 meters)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: 1 meter)			
1. Ranunculus repens	70	Y	Fac
2. Agrostis capillaris	5	N	Fac
3. Rumex crispus	5	N	Fac
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	80 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 20

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:

✓ Dominance Test is >50%

Prevalence Index is Ã3.0[1]

Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ 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:

EXHIBIT # 4.24

SOIL

Sampling Point: DP2

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-18	10YR 3/3	100					sal	

[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.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (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[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- 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:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum 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:

EXHIBIT # 4.25

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

Project/Site: 28th Avenue NE City/County: Lake Forest Park / King County Sampling Date: 12.17.18

Applicant/Owner: JJ Construction State: WA Sampling Point: DP3

Investigator(s): Louis Emenhiser Section, Township, Range: S09, T26N, R4E, W.M.

Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): Concave Slope (%): 11 %

Subregion (LRR): LRR-A Lat: 47.756178 Long: -122.300294 Datum: _____

Soil Map Unit Name: Not Mapped. NWI classification: PEM1E

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in 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 Soil Present?	Yes ✓ No _____	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks:

Wetland B.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 meters)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: 10 meters)			
1. Salix lasiandra	5	Y	FacW
2.			
3.			
4.			
5.			
	5 = Total Cover		
Herb Stratum (Plot size: 1 meter)			
1. Ranunculus repens	60	Y	Fac
2. Athyrium filix-femina	20	Y	Fac
3. Scirpus microcarpus	15	N	Obl
4. Geum macrophyllum	5	N	Fac
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum _____

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 2 (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:

✓ Dominance Test is >50%

Prevalence Index is Ã3.0[1]

Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ 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:

EXHIBIT # 4.26

SOIL

Sampling Point: DP3

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-18	10YR 3/2	94	10YR 4/3	4	C	m	losa	
			10YR 5/2	2	C	m		

[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.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (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[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ 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:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum 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): 6

Saturation Present? (includes capillary fringe) Yes ✓ No ___ Depth (inches): 3

Wetland Hydrology Present? Yes ✓ No ___

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

Remarks:

EXHIBIT # 4.27

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

Project/Site: 28th Avenue NE City/County: Lake Forest Park / King County Sampling Date: 12.17.18

Applicant/Owner: JJ Construction State: WA Sampling Point: DP4

Investigator(s): Louis Emenhiser Section, Township, Range: S09, T26N, R4E, W.M.

Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): Convex Slope (%): 17%

Subregion (LRR): LRR-A Lat: 47.756181 Long: -122.300441 Datum: _____

Soil Map Unit Name: Not Mapped. NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in 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 Soil Present?	Yes _____	No ✓
Wetland Hydrology Present?	Yes _____	No ✓
Is the Sampled Area within a Wetland?	**Yes** _____	**No** ✓

Remarks:

Non wetland north of Wetland B.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 meters)	Absolute % Cover	Dominant Species?	Indicator Status
1. Thuja plicata	60	Y	Fac
2.			
3.			
4.			
	60	= Total Cover	
Sapling/Shrub Stratum (Plot size: 10 meters)			
1. Prunus laurocerasus	30	Y	Upl
2. Ilex aquifolium	5	Y	FacU
3.			
4.			
5.			
	35	= Total Cover	
Herb Stratum (Plot size: 1 meter)			
1. Hedera helix	30	Y	Upl
2. Erodium cicutarium	10	Y	Upl
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	40	= Total Cover	
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____	= Total Cover	

% Bare Ground in Herb Stratum 5

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 20 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	60	x 3 =	180
FACU species	5	x 4 =	20
UPL species	70	x 5 =	350
Column Totals:	135 (A)		550 (B)

Prevalence Index = B/A = 4.07

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

Prevalence Index is Ã3.0[1]

Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ 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:

EXHIBIT # 4.28

SOIL

Sampling Point: DP4

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-18	10YR 3/2	100					sal	

[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.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (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[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- 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:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum 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:

EXHIBIT # 4.29

Wetland name or number A

RATING SUMMARY – Western Washington

Name of wetland (or ID #): JJ Construction - WetA Date of site visit: 12.17.18

Rated by L Ennenhiser Trained by Ecology? X Yes ___ No Date of training 9.30.14

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

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

Source of base aerial photo/map King County iMap, 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	4	6	16

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	X

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	
Hydroperiods	D 1.4, H 1.2	
Location of outlet *(can be added to map of hydroperiods)*	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland *(can be added to another figure)*	D 2.2, D 5.2	
Map of the contributing basin	D 4.3, D 5.3	
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)*	D 3.1, D 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found *(from web)*	D 3.3	

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	
Hydroperiods	H 1.2	
Perched 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 2.1, R 2.3, R 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)*	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 1.3, 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	1
Hydroperiods	H 1.2	1
Plant cover of **dense** trees, shrubs, and herbaceous plants	S 1.3	1
Plant cover of **dense**, rigid trees, shrubs, and herbaceous plants *(can be added to figure above)*	S 4.1	1
Boundary of 150 ft buffer *(can be added to another figure)*	S 2.1, S 5.1	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	2
Screen capture of map of 303(d) listed waters in basin *(from Ecology website)*	S 3.1, S 3.2	4
Screen capture of list of TMDLs for WRIA in which unit is found *(from web)*	S 3.3	4

EXHIBIT # 4.38

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.

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.*

EXHIBIT # 4.31

Wetland name or number A

SLOPE WETLANDS

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

S 1.0. Does the site have the potential to improve water quality?		
S 1.1. Characteristics of the average slope of the wetland: *(a 1% slope has a 1 ft vertical drop in elevation for every 100 ft of horizontal distance)*		
Slope is 1% or less	points = 3	0
Slope is > 1%-2%	points = 2	
Slope is > 2%-5%	points = 1	
Slope is greater than 5%	points = 0	
S 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic *(use NRCS definitions)*. Yes = 3 No = 0		0
S 1.3. Characteristics of the plants in the wetland that trap sediments and pollutants: *Choose the points appropriate for the description that best fits the plants in the wetland. Dense means you have trouble seeing the soil surface (>75% cover), and uncut means not grazed or mowed and plants are higher than 6 in*		
Dense, uncut, herbaceous plants > 90% of the wetland area	points = 6	2
Dense, uncut, herbaceous plants > ½ of area	points = 3	
Dense, woody, plants > ½ of area	points = 2	
Dense, uncut, herbaceous plants > ¼ of area	points = 1	
Does not meet any of the criteria above for plants	points = 0	
Total for S 1	Add the points in the boxes above	2

Rating of Site Potential If score is: ___12 = H ___6-11 = M X 0-5 = L *Record the rating on the first page*

S 2.0. Does the landscape have the potential to support the water quality function of the site?		
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?	Yes = 1 No = 0	1
S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1? Other sources: _____	Yes = 1 No = 0	0
Total for S 2	Add the points in the boxes above	1

Rating of Landscape Potential If score is: X 1-2 = M ___0 = L *Record the rating on the first page*

S 3.0. Is the water quality improvement provided by the site valuable to society?		
S 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
S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? At least one aquatic resource in the basin is on the 303(d) list.	Yes = 1 No = 0	1
S 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 unit is found.	Yes = 2 No = 0	0
Total for S 3	Add the points in the boxes above	2

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

SLOPE WETLANDS

Hydrologic Functions – Indicators that the site functions to reduce flooding and stream erosion

S 4.0. Does the site have the potential to reduce flooding and stream erosion?		
S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose the points appropriate for the description that best fits conditions in the wetland. *Stems of plants should be stiff enough (usually > ⅛ in), or dense enough, to remain erect during surface flows.*		
Dense, uncut, rigid plants cover > 90% of the area of the wetland	points = 1	0
All other conditions	points = 0	
Rating of Site Potential If score is: ___1 = M X 0 = L		*Record the rating on the first page*

S 5.0. Does the landscape have the potential to support the hydrologic functions of the site?		
S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land uses or cover that generate excess surface runoff?	Yes = 1 No = 0	0
Rating of Landscape Potential If score is: ___1 = M X 0 = L		*Record the rating on the first page*

S 6.0. Are the hydrologic functions provided by the site valuable to society?		
S 6.1. Distance to the nearest area downstream that have flooding problems:		
The sub-basin immediately down-gradient of site has flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds)	points = 2	1
Surface flooding problems are in a sub-basin farther down-gradient	points = 1	
No flooding problems anywhere downstream	points = 0	
S 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 S 6	Add the points in the boxes above	1

Rating of Value If score is: ___2-4 = H X 1 = M ___0 = L *Record the rating on the first page*

NOTES and FIELD OBSERVATIONS:

EXHIBIT # 4.32

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	2
X Emergent	3 structures: points = 2	
X Scrub-shrub (areas where shrubs have > 30% cover)	2 structures: points = 1	
X 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

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).*

___ Permanently flooded or inundated	4 or more types present: points = 3	1
___ 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	
X 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	

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	1
5 - 19 species	points = 1	
< 5 species	points = 0	

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 = 3 points

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
- X 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*)

3

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 2 + [(% moderate and low intensity land uses)/2] 0 = 2 %

If total accessible habitat is:		
> 1/3 (33.3%) of 1 km Polygon	points = 3	0
20-33% of 1 km Polygon	points = 2	
10-19% of 1 km Polygon	points = 1	
< 10% of 1 km Polygon	points = 0	

H 2.2. Undisturbed habitat in 1 km Polygon around the wetland

Calculate: % undisturbed habitat 9 + [(% moderate and low intensity land uses)/2] 3 = 8 %

Undisturbed habitat > 50% of Polygon	points = 3	0
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	

H 2.3. Land use intensity in 1 km Polygon: If

> 50% of 1 km Polygon is high intensity land use	points = (-2)	-2
≤ 50% of 1 km Polygon is high intensity	points = 0	

Total for H 2	Add the points in the boxes above	-2

Rating of Landscape Potential If score is: ___ 4-6 = H ___ 1-3 = M X < 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	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	
Site does not meet any of the criteria above	points = 0	

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

EXHIBIT # 4.33

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, coincidence, 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.

— **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 the habitat requirements for anadromous 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 (7.5 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 provide 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 Research Reserve, National Seashore, 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 ditching, cattle, 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 ¼ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or ungrazed or unmowed 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? 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 a marsh, 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 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

EXHIBIT # 4.34

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 or estimated). Yes – Go to SC 5.1 — No = Not a wetland in a coastal lagoon	Cat. I
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 ¼ 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 ft²) Yes = Category I — No = Category II	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	Cat I
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	Cat. II
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	Cat. III
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. IV
Category of wetland based on Special Characteristics If you answered No for all types, enter "Not Applicable" on Summary Form	

Wetland name or number A

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Map measurements used to determine answers for H2.0.

1km area	35,910,857 SF
Moderate & low intensity land use (LU)	2,235,797 SF 6%
Accessible moderate & low intensity LU	0 SF
Relatively undisturbed LU	1,924,858 SF 5%
Accessible relatively undisturbed LU	719,853 SF 2%
High intensity LU	31,750,020 SF 89%

EXHIBIT # 4.35

Wetland name or number B

RATING SUMMARY – Western Washington

Name of wetland (or ID #): JJ Construction- Wet B Date of site visit: 12.17.18

Rated by L. Emenhiser Trained by Ecology? X Yes ___ No Date of training 9.30.14

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

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

Source of base aerial photo/map King County iMap, 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	5	16

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	X

Wetland name or number B

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	
Hydroperiods	D 1.4, H 1.2	
Location of outlet (can be added to map of hydroperiods)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (can be added to another figure)	D 2.2, D 5.2	
Map of the contributing basin	D 4.3, D 5.3	
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)	D 4.1, D 5.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 4.3	

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 1.4	
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 2.1, R 2.3, R 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)	R 3.1	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	R 1.2, R 4.3	

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	1
Hydroperiods	H 1.2	1
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	1
Plant cover of dense, rigid trees, shrubs, and herbaceous plants (can be added to figure above)	S 4.1	1
Boundary of 150 ft buffer (can be added to another figure)	S 2.1, S 5.1	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	3
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	4
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	S 3.3	4

EXHIBIT #4.36

Wetland name or number B

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.

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.*

EXHIBIT # 4.37

Wetland name or number B

SLOPE WETLANDS

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

S 1.0. Does the site have the potential to improve water quality?		
S 1.1. Characteristics of the average slope of the wetland: *(a 1% slope has a 1 ft vertical drop in elevation for every 100 ft of horizontal distance)*		
Slope is 1% or less	points = 3	
Slope is > 1%-2%	points = 2	
Slope is > 2%-5%	points = 1	0
Slope is greater than 5%	points = 0	
S 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic *(use NRCS definitions)*: Yes = 3 No = 0		0
S 1.3. Characteristics of the plants in the wetland that trap sediments and pollutants:		
Choose the points appropriate for the description that best fits the plants in the wetland. *Dense means you have trouble seeing the soil surface (>75% cover), and uncut means not grazed or mowed and plants are higher than 6 in.*		
Dense, uncut, herbaceous plants > 90% of the wetland area	points = 6	
Dense, uncut, herbaceous plants > ½ of area	points = 3	
Dense, woody, plants > ½ of area	points = 2	
Dense, uncut, herbaceous plants > ½ of area	points = 1	0
Does not meet any of the criteria above for plants	points = 0	
Total for S 1	Add the points in the boxes above	0

Rating of Site Potential If score is: ___12 = H ___6-11 = M X 0-5 = L *Record the rating on the first page*

S 2.0. Does the landscape have the potential to support the water quality function of the site?	
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants? Yes = 1 No = 0	1
S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1? Other sources: _____ Yes = 1 No = 0	0
Total for S 2 Add the points in the boxes above	1

Rating of Landscape Potential If score is: X 1-2 = M ___0 = L *Record the rating on the first page*

S 3.0. Is the water quality improvement provided by the site valuable to society?	
S 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
S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? *At least one aquatic resource in the basin is on the 303(d) list.* Yes = 1 No = 0	1
S 3.3. Has the site been identified as a watershed or local plan as important for maintaining water quality? *Answer YES if there is a TMDL for the basin in which unit is found.* Yes = 2 No = 0	0
Total for S 3 Add the points in the boxes above	2

Rating of Value If score is: X 2-4 = H ___1 = M ___0 = L *Record the rating on the first page*

Slope in the wetland is approx. 12%

Wetland name or number B

SLOPE WETLANDS

Hydrologic Functions – Indicators that the site functions to reduce flooding and stream erosion

S 4.0. Does the site have the potential to reduce flooding and stream erosion?		
S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose the points appropriate for the description that best fits conditions in the wetland. *Stems of plants should be thick enough (usually > ⅛ in), or dense enough, to remain erect during surface flows.*		
Dense, uncut, rigid plants cover > 90% of the area of the wetland	points = 1	0
All other conditions	points = 0	

Rating of Site Potential If score is: ___1 = M X 0 = L *Record the rating on the first page*

S 5.0. Does the landscape have the potential to support the hydrologic functions of the site?	
S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land uses or cover that generate excess surface runoff? Yes = 1 No = 0	1

Rating of Landscape Potential If score is: X 1 = M ___0 = L *Record the rating on the first page*

S 6.0. Are the hydrologic functions provided by the site valuable to society?	
S 6.1. Distance to the nearest areas downstream that have flooding problems:	
The sub-basin immediately down-gradient of site has flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds) points = 2	
Surface flooding problems are in a sub-basin farther down-gradient points = 1	1
No flooding problems anywhere downstream points = 0	
S 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 S 6 Add the points in the boxes above	1

Rating of Value If score is: ___2-4 = H X 1 = M ___0 = L *Record the rating on the first page*

NOTES and FIELD OBSERVATIONS:

EXHIBIT # 4.38

Wetland name or number B

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 X 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
- ___ 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

0

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*).

- ___ Permanently flooded or inundated — 4 or more types present: points = 3
- ___ 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
- X 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

1

H 1.3. Richness of plant species

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

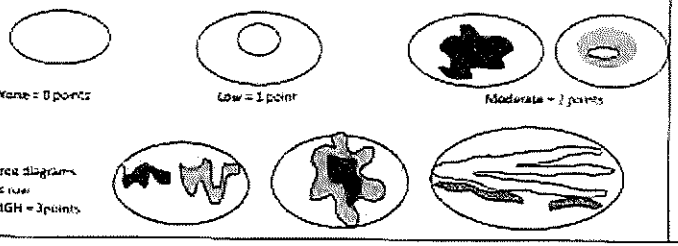
Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. ***Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle.***

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 plant 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.*



0

Wetland name or number B

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 (100 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*)
- X Invasive plants cover less than 25% of the wetland area in every stratum of plants (*see H 1.3 for list of species*)

3

Total for H 1 — Add the points in the boxes above: 5

Rating of Site Potential If score is: ___ 15-18 = H ___ 7-14 = M X 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 (*evaluate only habitat that directly abuts wetland unit*).

Calculate: % undisturbed habitat 2 + (% moderate and low intensity land uses)/2 10 = 2 %

If total accessible habitat is:
- > 1/3 (33.3%) of 1 km Polygon — points = 3
- 20-33% of 1 km Polygon — points = 2
- 10-20% of 1 km Polygon — points = 1
- < 10% of 1 km Polygon — points = 0

0

H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.

Calculate: % undisturbed habitat 6 + (0% moderate and low intensity land uses)/2 3 = 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

0

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

-2

Total for H 2 — Add the points in the boxes above: -2

Rating of Landscape Potential If score is: ___ 4-6 = H ___ 1-3 = M X < 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 list)
- — 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

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

2

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

EXHIBIT # 4.39

Wetland name or number B

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.

— **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 B

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

EXHIBIT # 4.40

Wetland name or number B

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**	Cat. I
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 ft²) Yes = Category I No = Category II	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**	Cat I
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	Cat. II
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	Cat. III
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. IV
Category of wetland based on Special Characteristics If you answered No for all types, enter "Not Applicable" on Summary Form	

Wetland name or number B

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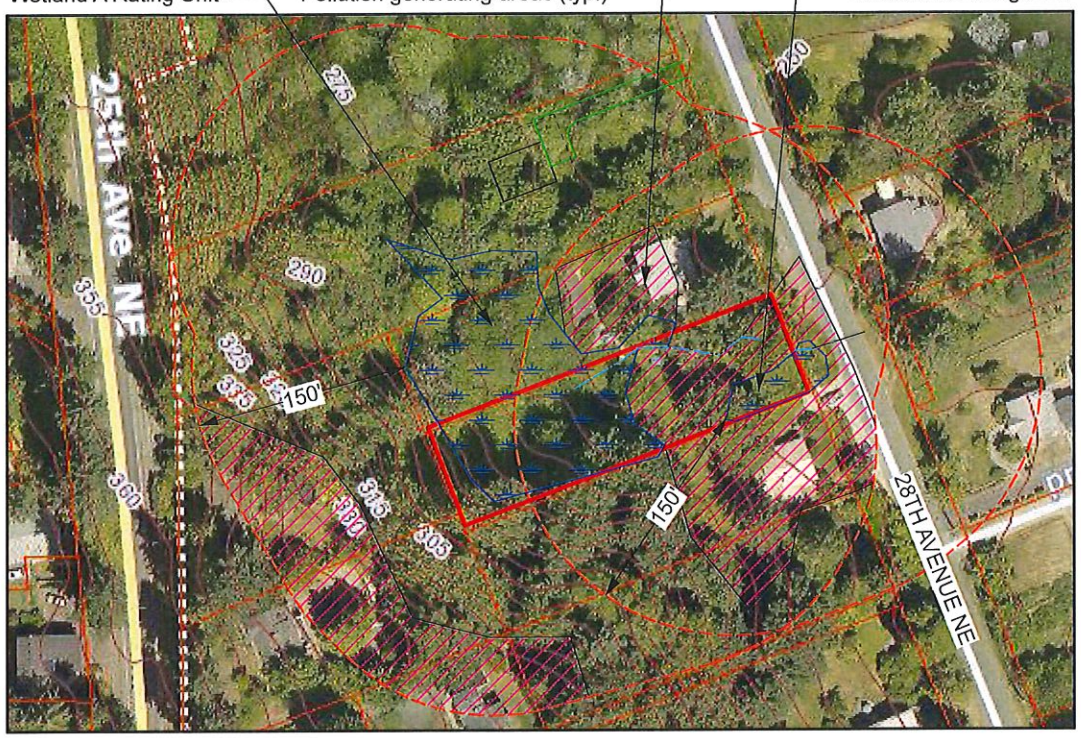
Map measurements used to determine answers for H2.0.

1km area	34,446,659 SF	
Moderate & low intensity land use (LU)	2,051,854 SF	6%
Accessible moderate & low intensity LU	0 SF	0%
Relatively undisturbed LU	1,924,858 SF	6%
Accessible relatively undisturbed LU	719,853 SF	2%
High intensity LU	30,469,947 SF	88%

EXHIBIT # 4.41



RATING ANSWERS FOR WETLAND A

S1.3 Dense, woody, plants > 1/2 the wetland area.

S4.1 Dense, uncut, rigid plants cover < 90% of the area of the wetland.

S2.1 & S5.1 23% of the area within 150' of the uphill side of Wetland A is in land use that generates pollutants and excess runoff.

H1.1 & H1.4 The wetland contains emergent, scrub-shrub and forested vegetation; with moderate interspersion.

H1.2 The wetland contains saturated only and permanently flowing stream hydroperiods.

RATING ANSWERS FOR WETLAND B

S1.3 Does not meet any of the criteria listed for plants (the entire wetland is mowed).

S4.1 Dense, uncut, rigid plants cover < 90% of the area of the wetland.

S2.1 & S5.1 34% of the area within 150' of the uphill side of Wetland B is in land use that generates pollutants and excess runoff.

H1.1 & H1.4 The wetland contains emergent; and no interspersion.

H1.2 The wetland contains saturated only and permanently flowing stream hydroperiods.

N

SCALE 1" = 100'

0 100

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WETLAND RATING MAP
JJ CONSTRUCTION - 28TH AVE. NE
LAKE FOREST PARK, WA
TAX PARCEL NO. 402410-0380.

PREPARED FOR:
JJ Construction
7629 199th Street SW
Lynnwood, WA 98036

Acre Job: 18092
Drawn By: L. Emenhiser
Figure 1 of 6
Date: 01.18.2019
Rev #:

EXHIBIT # 4.42

LEGEND

- SUBJECT WETLAND
- HIGH INTENSITY LAND USE
- MODERATE, AND LOW INTENSITY LAND USE
- RELATIVELY UNDISTURBED LAND
- ONE KILOMETER POLYGON LINE

Note: Land use definitions are derived from H2.0 Table 3 of the Wetland Rating System for Western WA: 2014 Update

This map was used to derive answers for questions H2.1, H2.2, and H2.3.

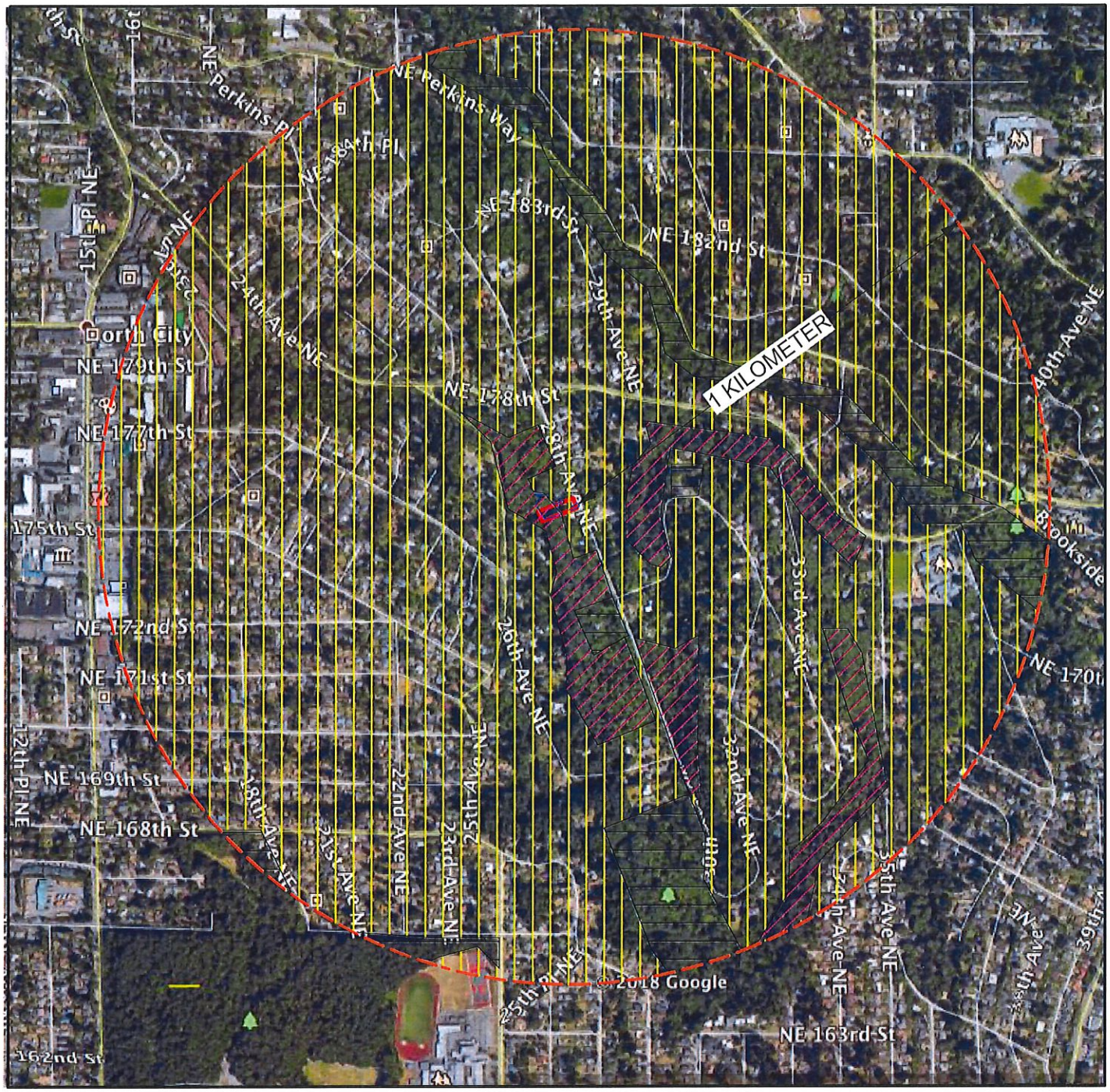
N

APPROX. SCALE 1" = 1,000'

0 1,000 2,000

Acre Job: 18092 Drawn By: L. Emenhiser Figure 2 of 5 Date: 01.18.2019 Rev #:	PREPARED FOR: JJ Construction 7629 199th Street SW Lynnwood, WA 98036	1KM POLYGON MAP (UNDISTURBED & ACCESIBLE HABITAT) JJ CONSTRUCTION - 28TH AVE. NE WET A LAKE FOREST PARK, WA TAX PARCEL NO. 402410-0380.	PREPARED BY: Acre Environmental Consulting, LLC PO Box 55248 Shoreline, WA 98155 Phone: (206) 450-7746 Email: louis@acreenvironmental.com	ACRE ENVIRONMENTAL CONSULTING, LLC

EXHIBIT # 4.43



LEGEND

- SUBJECT WETLAND
- HIGH INTENSITY LAND USE
- MODERATE, AND LOW INTENSITY LAND USE
- RELATIVELY UNDISTURBED LAND
- ONE KILOMETER POLYGON LINE

Note: Land use definitions are derived from H2.0 Table 3 of the Wetland Rating System for Western WA: 2014 Update

This map was used to derive answers for questions H2.1, H2.2, and H2.3.

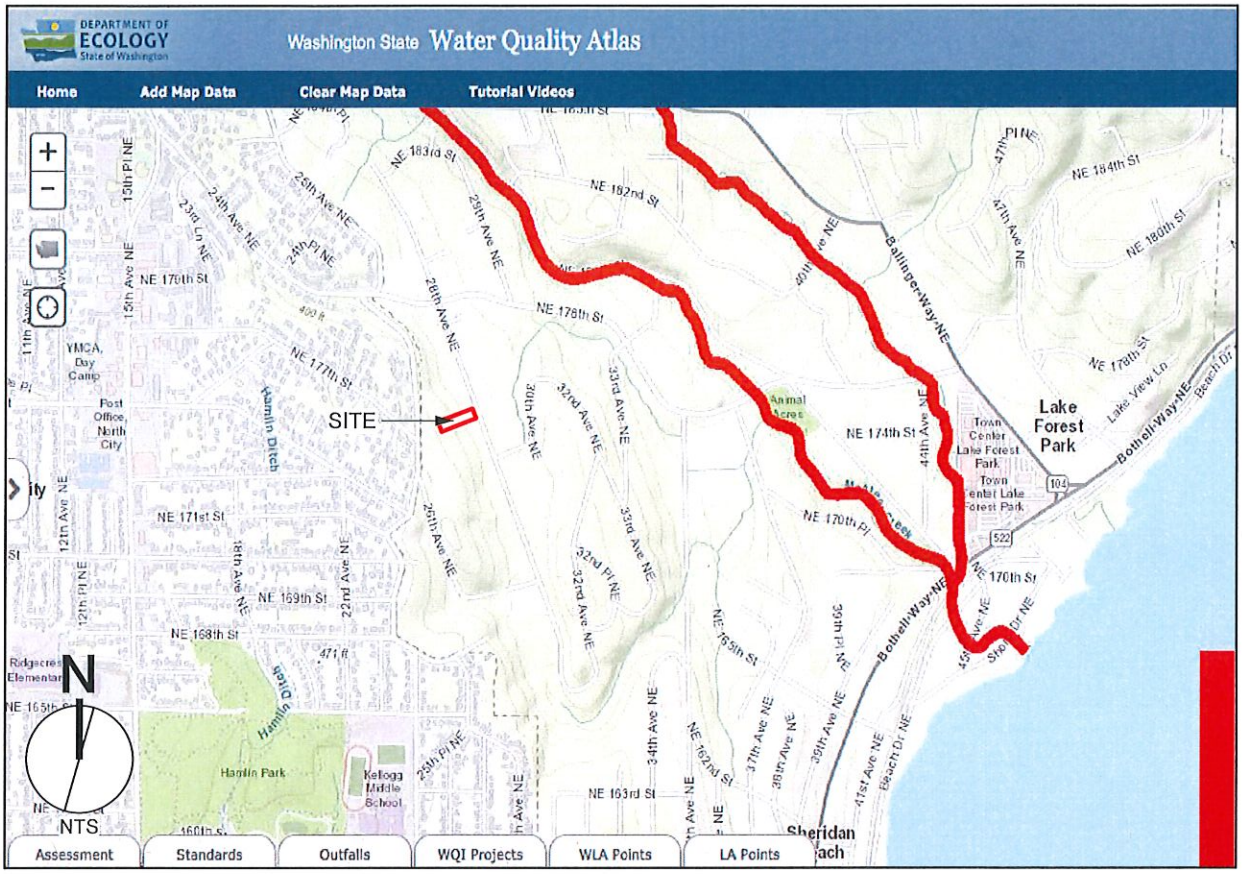
N

APPROX. SCALE 1" = 1,000'

0 1,000 2,000

Acre Job: 18092 Drawn By: L. Emenhiser Figure 3 of 5 Date: 01.18.2019 Rev #:	PREPARED FOR: JJ Construction 7629 199th Street SW Lynnwood, WA 98036	1KM POLYGON MAP (UNDISTURBED & ACCESIBLE HABITAT) JJ CONSTRUCTION - 28TH AVE. NE WET B LAKE FOREST PARK, WA TAX PARCEL NO. 402410-0380.	PREPARED BY: Acre Environmental Consulting, LLC PO Box 55248 Shoreline, WA 98155 Phone: (206) 450-7746 Email: louis@acreenvironmental.com	ACRE ENVIRONMENTAL CONSULTING, LLC

EXHIBIT # 4.44



S3.1 The subject wetlands discharge directly (within 1 mile) of McAleer Creek listed on the 303(d) list.

S3.2 The subject wetlands are located in a basin or sub-basin with an aquatic resource listed on the 303(d) list.

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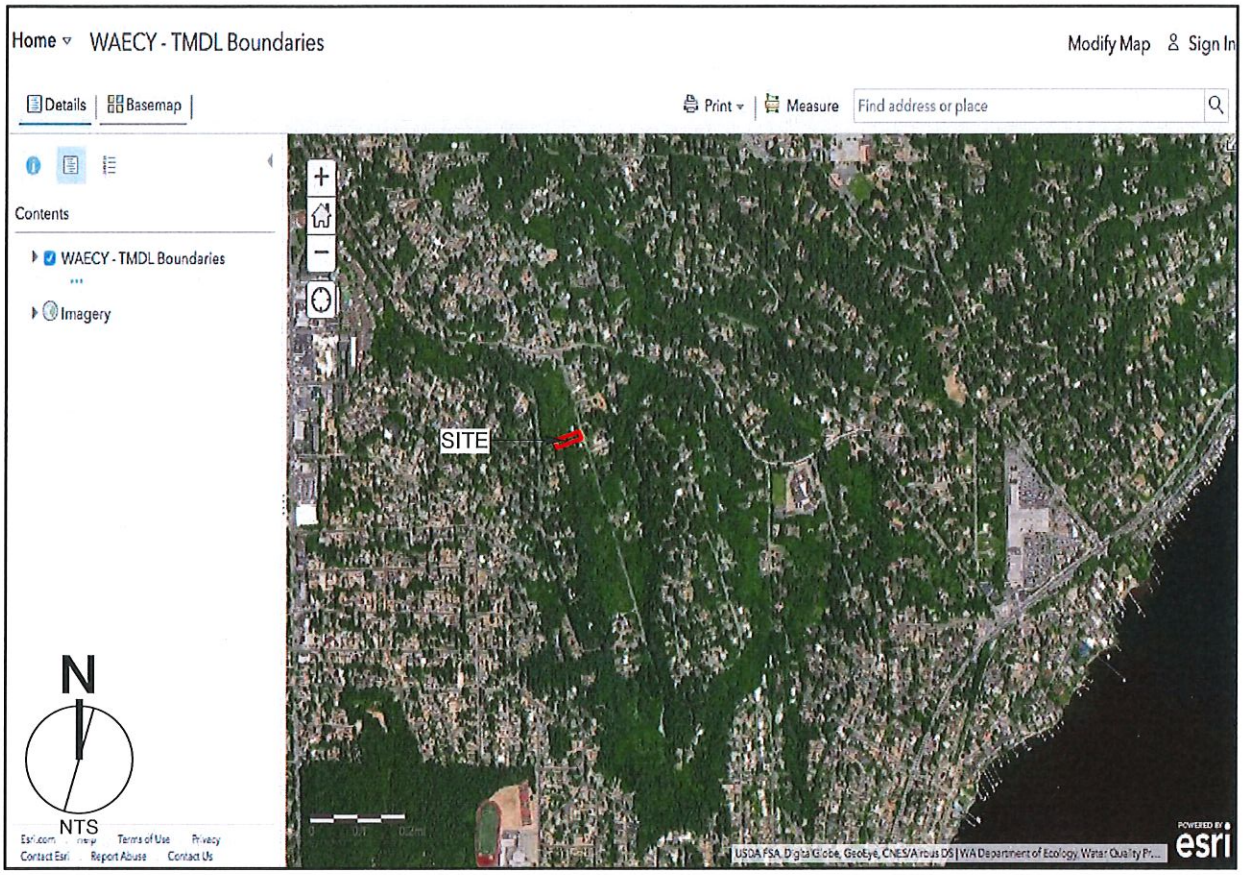
DOE 303(d) Waters in Basin (Screen Capture)
JJ CONSTRUCTION - 28TH AVE. NE
LAKE FOREST PARK, WA
TAX PARCEL NO. 402410-0380.

PREPARED FOR:
JJ Construction
7629 199th Street SW
Lynnwood, WA 98036

Acre Job: 18092
Drawn By: L. Emenhiser
Figure 4 of 5
Date: 01.18.2019
Rev #:

EXHIBIT # 4.45



S3.3 Based on the Department of Ecology's TMDL Boundaries webpage, no TMDL's have been identified for Lake Washington or the McAleer Creek Basin in which this wetland rating unit is found.

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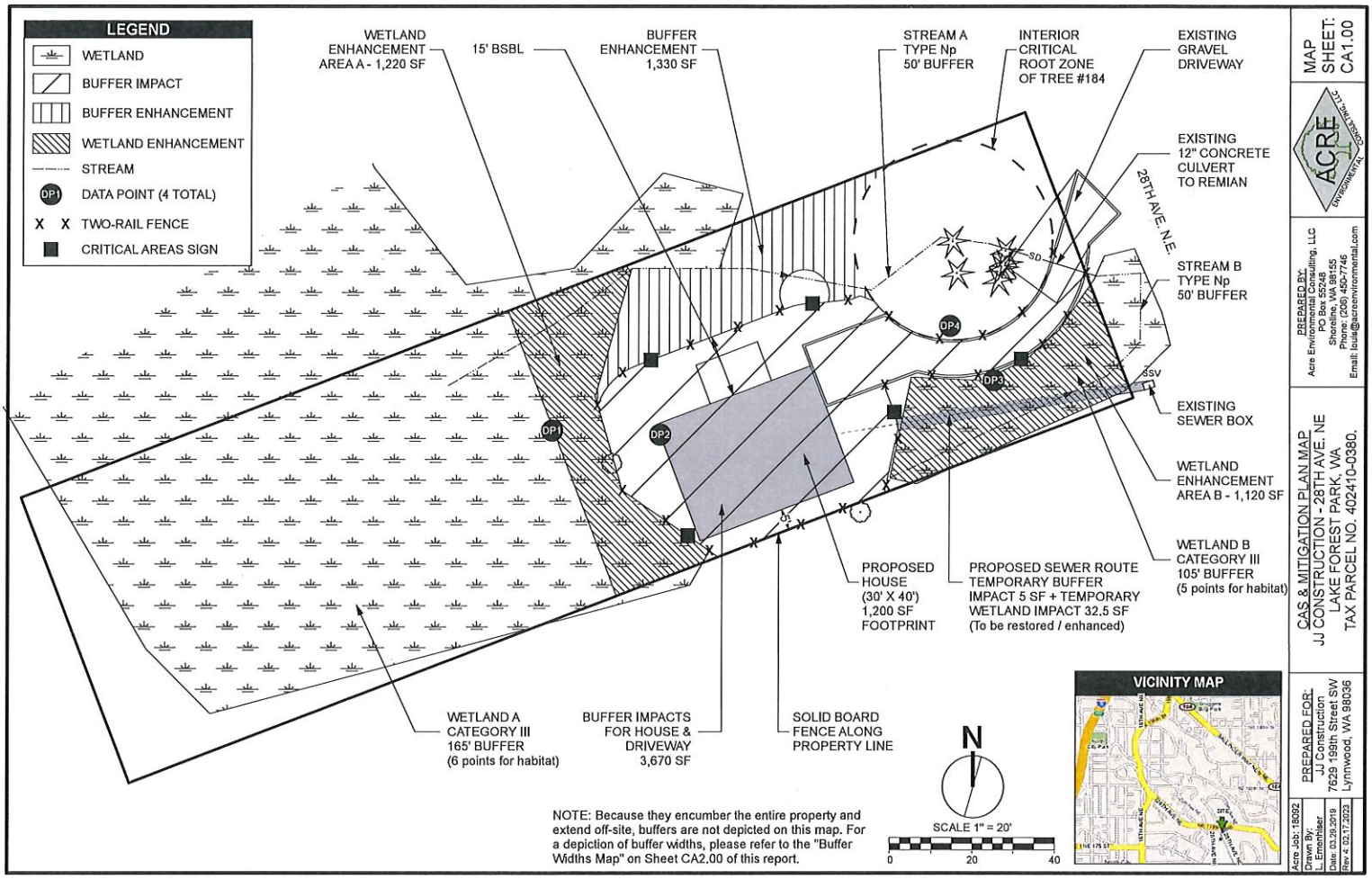
TMDL'S FOR WRIA 8 (Screen Capture)
JJ CONSTRUCTION - 28TH AVE. NE
LAKE FOREST PARK, WA
TAX PARCEL NO. 402410-0380.

PREPARED FOR:
JJ Construction
7629 199th Street SW
Lynnwood, WA 98036

Acre Job: 18092
Drawn By: L. Emenhiser
Figure 5 of 5
Date: 01.18.2019
Rev #:

EXHIBIT # 4.46


LEGEND
WETLAND
BUFFER IMPACT
BUFFER ENHANCEMENT
WETLAND ENHANCEMENT
STREAM
DP1 DATA POINT (4 TOTAL)
X X TWO-RAIL FENCE
CRITICAL AREAS SIGN
WETLAND ENHANCEMENT AREA A - 1,220 SF
15' BSBL
BUFFER ENHANCEMENT 1,330 SF
STREAM A TYPE Np 50' BUFFER
INTERIOR CRITICAL ROOT ZONE OF TREE #184
EXISTING GRAVEL DRIVEWAY
EXISTING 12" CONCRETE CULVERT TO REMIAN
28TH AVE. N.E.
STREAM B TYPE Np 50' BUFFER
EXISTING SEWER BOX
WETLAND ENHANCEMENT AREA B - 1,120 SF
WETLAND B CATEGORY III 105' BUFFER (5 points for habitat)
PROPOSED HOUSE (30' X 40') 1,200 SF FOOTPRINT
PROPOSED SEWER ROUTE TEMPORARY BUFFER IMPACT 5 SF + TEMPORARY WETLAND IMPACT 32.5 SF (To be restored / enhanced)
WETLAND A CATEGORY III 165' BUFFER (6 points for habitat)
BUFFER IMPACTS FOR HOUSE & DRIVEWAY 3,670 SF
SOLID BOARD FENCE ALONG PROPERTY LINE
DP1
DP2
DP3
DP4
SD
SSV
N
SCALE 1" = 20'
0
20
40
VICINITY MAP
NOTE: Because they encumber the entire property and extend off-site, buffers are not depicted on this map. For a depiction of buffer widths, please refer to the "Buffer Widths Map" on Sheet CA2.00 of this report.
MAP SHEET: CA1.00
ACRE ENVIRONMENTAL CONSULTING, LLC
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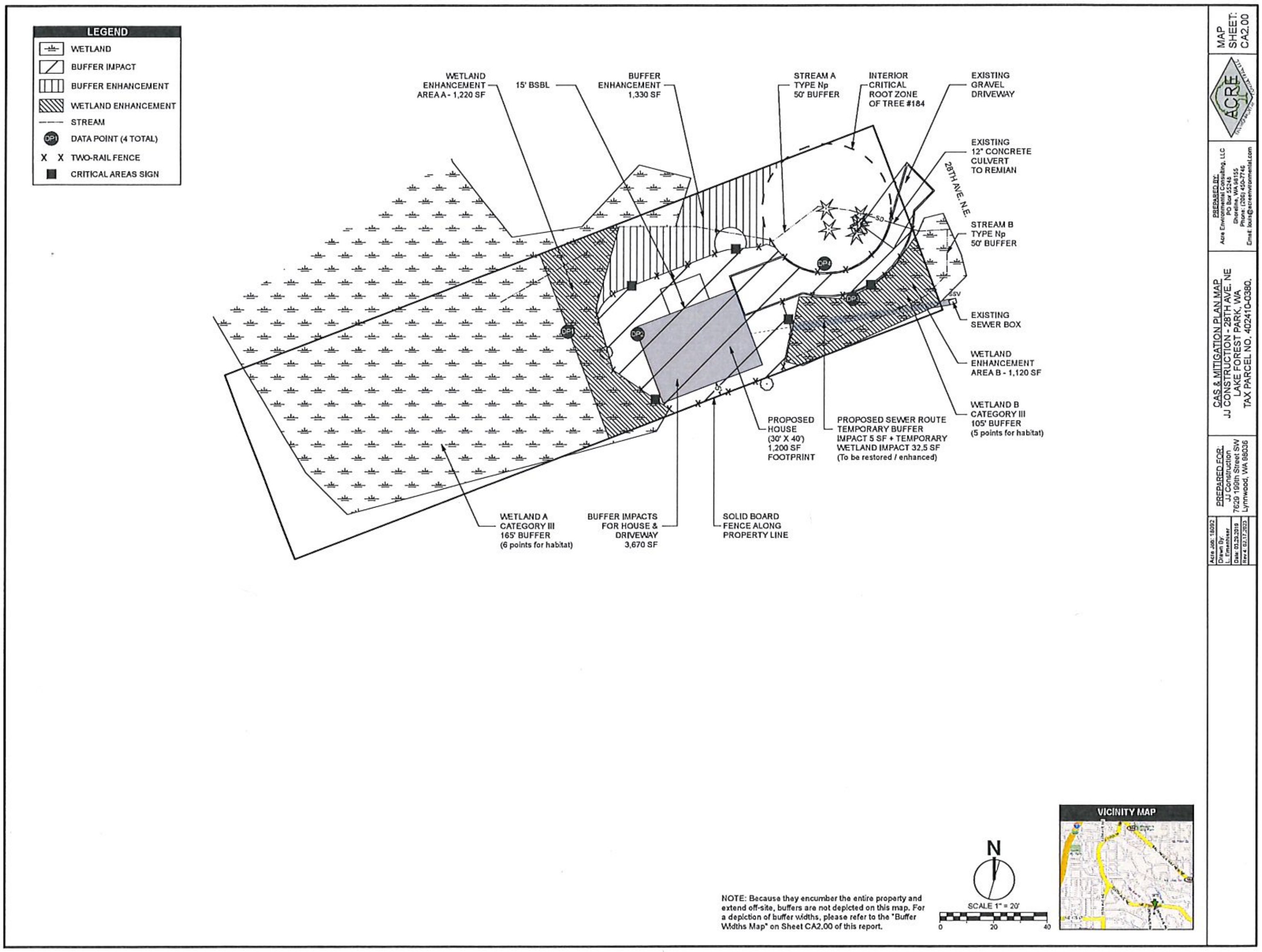
CAS & MITIGATION PLAN MAP
JJ CONSTRUCTION - 28TH AVE. NE
LAKE FOREST PARK, WA
TAX PARCEL NO. 402410-0380.
PREPARED FOR:
JJ Construction
7629 199th Street SW
Lynnwood, WA 98036
Acre Job: 18092
Drawn By: L. Emenhiser
Date: 03.29.2019
Rev 4: 03.17.2023

EXHIBIT # 4.47


LEGEND
WETLAND
BUFFER IMPACT
BUFFER ENHANCEMENT
WETLAND ENHANCEMENT
STREAM
DATA POINT (4 TOTAL)
X X TWO-RAIL FENCE
CRITICAL AREAS SIGN
WETLAND ENHANCEMENT AREA A - 1,220 SF
15' BSBL
BUFFER ENHANCEMENT 1,330 SF
STREAM A TYPE Np 50' BUFFER
INTERIOR CRITICAL ROOT ZONE OF TREE #184
EXISTING GRAVEL DRIVEWAY
EXISTING 12" CONCRETE CULVERT TO REMIAN
28TH AVE. N.E.
STREAM B TYPE Np 50' BUFFER
EXISTING SEWER BOX
WETLAND ENHANCEMENT AREA B - 1,120 SF
WETLAND B CATEGORY III 105' BUFFER (5 points for habitat)
PROPOSED HOUSE (30' X 40') 1,200 SF FOOTPRINT
PROPOSED SEWER ROUTE TEMPORARY BUFFER IMPACT 5 SF + TEMPORARY WETLAND IMPACT 32.5 SF (To be restored / enhanced)
WETLAND A CATEGORY III 165' BUFFER (6 points for habitat)
BUFFER IMPACTS FOR HOUSE & DRIVEWAY 3,670 SF
SOLID BOARD FENCE ALONG PROPERTY LINE
DP1
DP2
DP3
DP4
NOTE: Because they encumber the entire property and extend off-site, buffers are not depicted on this map. For a depiction of buffer widths, please refer to the "Buffer Widths Map" on Sheet CA2.00 of this report.
N
SCALE 1" = 20'
0
20
40
VICINITY MAP
Acre Job: 18092
Drawn By: L. Emenhiser
Date: 03.29.2019
Rev 4: 02.17.2023
PREPARED FOR:
JJ Construction
7629 199th Street SW
Lynnwood, WA 98036
CAS & MITIGATION PLAN MAP
JJ CONSTRUCTION - 28TH AVE. NE
LAKE FOREST PARK, WA
TAX PARCEL NO. 402410-0380.
PREPARED BY:
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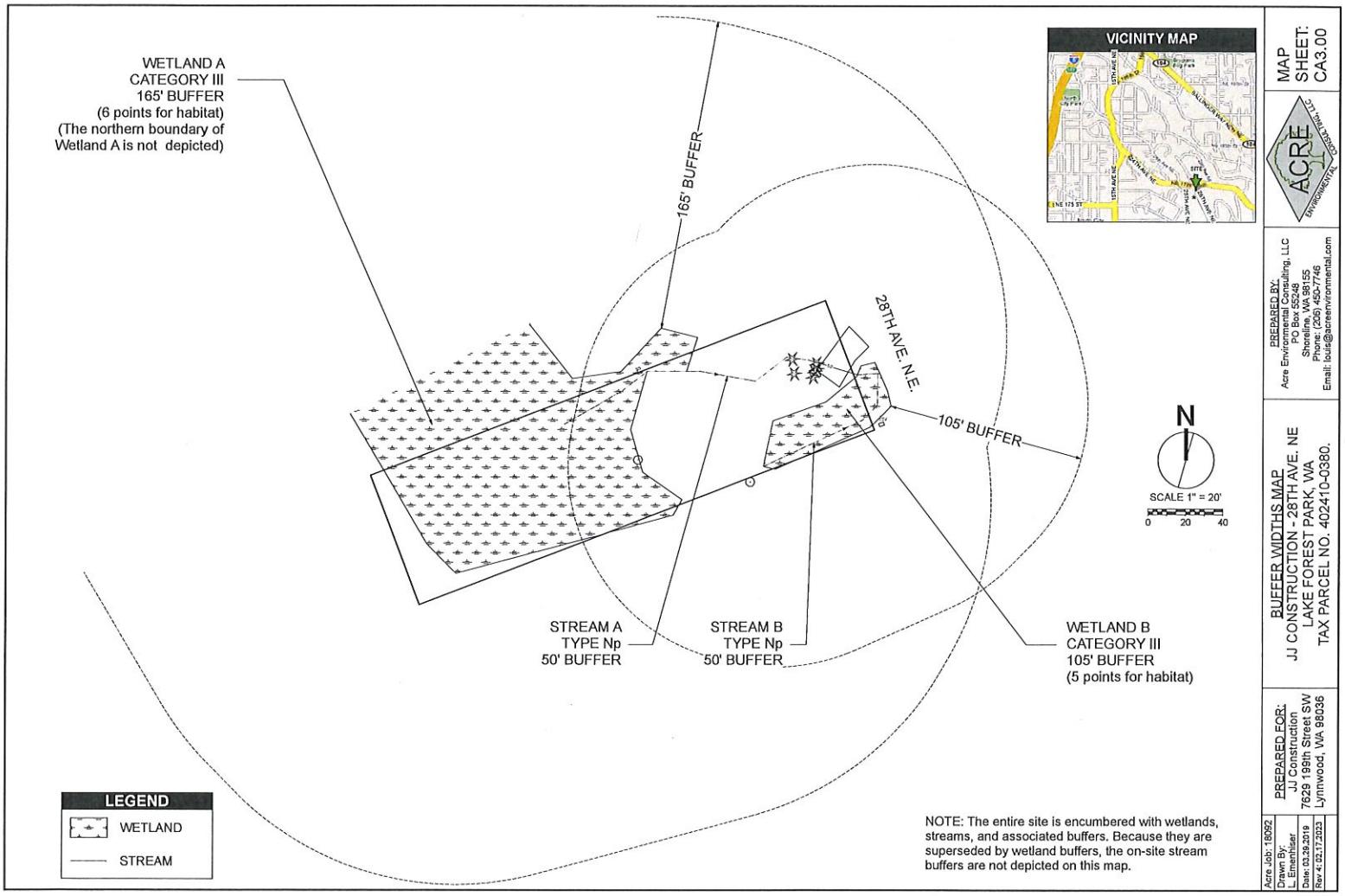
Email: louis@acreenvironmental.com
ACRE
MAP
SHEET:
CA2.00

EXHIBIT # 4.48


WETLAND A
CATEGORY III
165' BUFFER
(6 points for habitat)
(The northern boundary of
Wetland A is not depicted)
165' BUFFER
28TH AVE. N.E.
105' BUFFER
VICINITY MAP
N
SCALE 1" = 20'
0 20 40
STREAM A
TYPE Np
50' BUFFER
STREAM B
TYPE Np
50' BUFFER
WETLAND B
CATEGORY III
105' BUFFER
(5 points for habitat)
LEGEND
WETLAND
STREAM
NOTE: The entire site is encumbered with wetlands, streams, and associated buffers. Because they are superseded by wetland buffers, the on-site stream buffers are not depicted on this map.
MAP SHEET: CA3.00
PREPARED BY:
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Shoreline, WA 98155
Phone: (206) 450-7746
Email: louis@acreenvironmental.com
BUFFER WIDTHS MAP
JJ CONSTRUCTION - 28TH AVE. NE
LAKE FOREST PARK, WA
TAX PARCEL NO. 402410-0380.
PREPARED FOR:
JJ Construction
7629 199th Street SW
Lynnwood, WA 98036
Acre Job: 18092
Drawn By: L.Emenhiser
Date: 03.29.2019
Rev 4: 02.17.2023

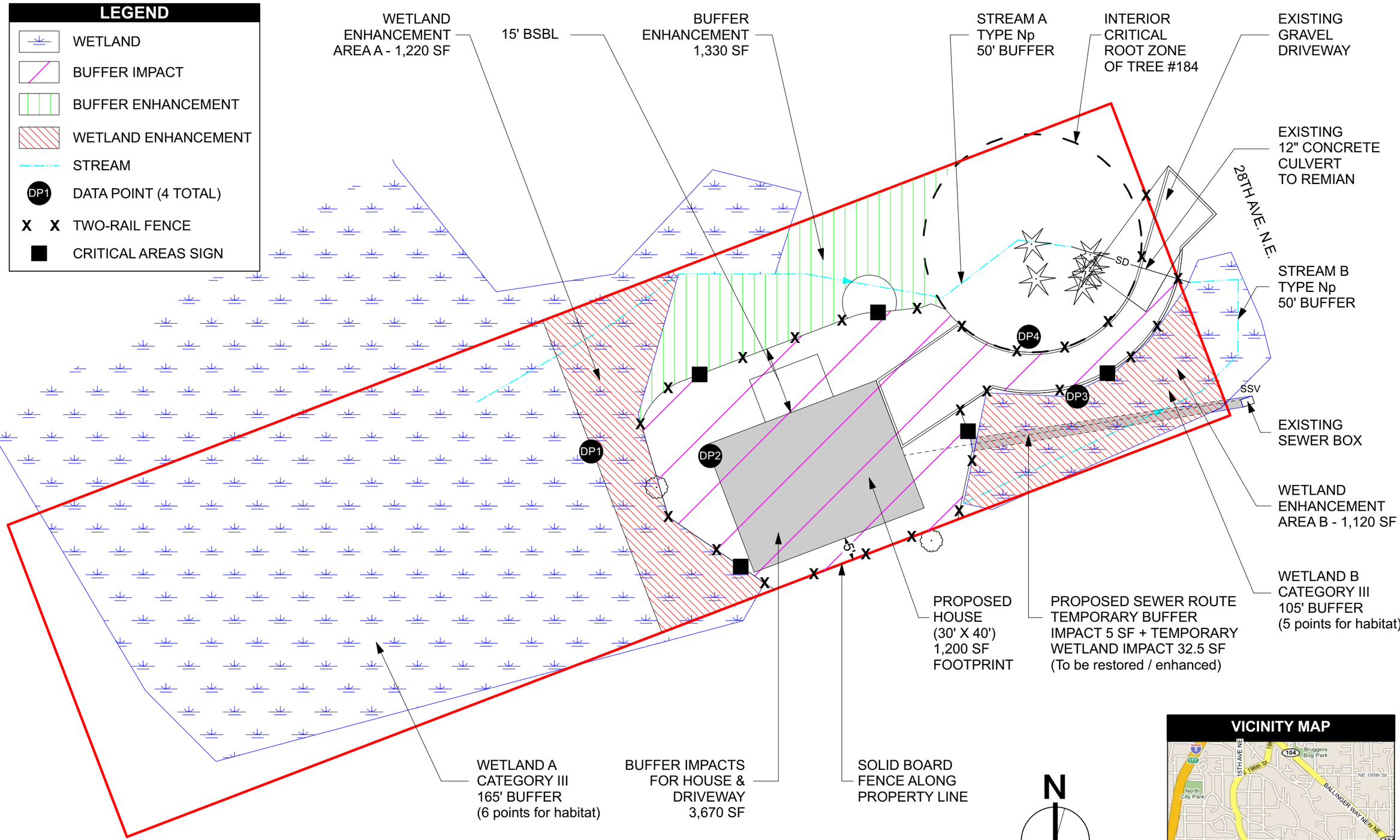
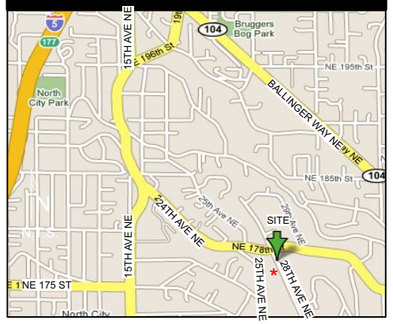


Exhibit 5.0

NOTE: Because they encumber the entire property and extend off-site, buffers are not depicted on this map. For a depiction of buffer widths, please refer to the "Buffer Widths Map" on Sheet CA2.00 of this report.

VICINITY MAP



MAP SHEET: CA1.00

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CAS & MITIGATION PLAN MAP
JJ CONSTRUCTION - 28TH AVE. NE
LAKE FOREST PARK, WA
TAX PARCEL NO. 4024100380.

PREPARED FOR:
JJ Construction
7629 199th Street SW
Lynnwood, WA 98036

Acre Job: 18092
Drawn By: L. Emenhiser
Date: 03.29.2019
Rev 4: 02.17.2023

Exhibit 6.0

May 7, 2020

To
Lake Forest Park Planning Department, Attn Nick Holland

From
Jean Reid, LFP resident at 18551 28th Ave NE and former resident of 16910 26th Ave NE, near to the property in question.

Regarding
Public Comment for 2020-RUE-0002

I request to be a party of record for this land use proposal and subsequent development permitting.

There is much to be commended in this proposal, yet significant deficiencies exist, and a few errors or omissions require correction prior to this application being considered complete.

This non-conforming lot is entirely encumbered by wetland, streams and buffers. The owner is entitled to reasonable use for a single family residential dwelling, which would otherwise be prohibited by full enforcement of existing Critical Areas Ordinances (CAO). The developer can be granted relief from specific ordinances only to the minimum necessary extent to allow for reasonable use.

Per code, applications must include a thorough response to the following criteria. Applications that do not provide a unique and thorough response to these criteria will be considered incomplete:

1. Application of the requirements of Chapter 16.16 of the Lake Forest Park Municipal Code will deny all reasonable use of the property.
2. There is no other reasonable economic use with less impact on the sensitive area.
3. The proposed development does not pose an unreasonable threat to the public health, safety, or welfare, on or off the proposed site and is consistent with the general purposes of this chapter and the comprehensive plan.
4. Any alteration is the minimum necessary to allow for reasonable economic use of the property.

Impervious surface
The geotech report notes that "excessive groundwater and caving soils" complicated the test pits done, and notes that the entire lot is saturated. Of note, these were done in August, when the soil is presumably the driest. The geotech report recommends directing storm water runoff to the existing culvert, and does not recommend that any dispersion systems be utilized for this project.
This is in conflict with the recommendations of the Critical Areas report, and the site plan, which shows two infiltration areas on either side of the drive, and directs southern infiltration directly into wetland B.

Clearly, the most effective compromise of CAO's for this site must focus on drainage issues, which are directly related to the created fill and impervious surface.

Development does not pose an unreasonable threat on or off the proposed site
Per the geotech report-"Small streams were observed to extend through the approximate northern and southern property lines, before turning southward near the eastern perimeter of the property where a small concrete culvert had been previously installed." This culvert crosses under the road emerging on the right-of-way to the east, were the stream continues downhill. The flow of water has caused some erosion around the culvert exit, and the current proposal intends to increase impervious surface by more than 4,000sq ft. Further analysis is required to determine whether the peak flows during storm events would adversely effect the roadway or the downstream neighbors. Additionally, the cement culvert is of unknown age or condition, and must be more fully evaluated before runoff from this site is assumed to cause no harm. This threat would of course be mitigated by decreasing the overall impervious surface, which is of paramount importance.

The Critical Areas report states that no fish are know to be in Hillside Creek. Hillside drains into McAleer, which is well-documented salmonid habitat. Indeed, Lake Forest Park's favorite public viewing spot for returning salmon is at Animal Acres, just a half mile down stream. Sediment, pesticides, unnecessarily high volume peak flows (from additional impervious surface) could all adversely affect our salmonid habitat. Additionally, Hillside Creek's "sister" stream, Brookside Creek, is documented to have salmonids well above Animal Acres, which may also occur less than a half mile downstream from this site.

Compliance with Tree Ordinances
It is not possible to fully evaluate this, since a tree inventory has not been provided. A site map showing significant tress is not provided.
The general "Site plan" indicates several "trees to be protected" yet simultaneously shows the driveway overrunning the stand of cedars just to the north of it. In the case of tree 22, the driveway appears to run right through it. The Planning Director has previously determined in similar development proposals that such general site plan does not meet the requirement for identification and location of significant trees. There is an arborist report included in the application, but it is very explicit that the evaluation was limited in scope and funding. The report states that the arborist was asked to evaluate eight specific trees.
The current plan clearly does not protect the critical root zone of significant trees, as confirmed by the arborist's letter, which simply states that trees 4-8 will not survive. The largest evaluated cedar tree (#3) is not specifically addressed, nor does it consider the effect of loosing the closely associated trees in the stand (#4-8).
The lot likely meets required canopy coverage of 58% but this has not been addressed.
There will clearly need to be a balancing of tree, stream and wetland compromise, but it is not possible to determine whether this proposal is that best compromise and the minimum impact without clear delineation of significant trees. Could the driveway be placed north of the stand of cedars? Or would the negative impact on the north boundary stream outweigh the benefit to the trees? The driveway directly abuts the delineated boundary of wetland B and cannot shift

south. Could a slightly narrower driveway preserve enough of the critical root zone to give trees 4-8 (per the numbering in the arborist report) a fighting chance?

The applicant has not addressed whether relief from required stream or wetland buffers will affect critical habitat for any endangered or threatened species. While this does not appear likely, it does not appear that this has been addressed in publicly available documents.

At this point in the process, we do not have any narrative from the city about what restrictions, monitoring and or bonding they may require for this development. I request that Planning require the following be addressed before making a recommendation:

-footprint/ fill/impervious surface- is this truly the minimum required for economic use?
-Careful review of the calculation of 4356 sq ft buffer and wetland disruption. If there is a chance that this could exceed the 1/10th acre threshold, request review by the Army Corps and DoE.
Even if the 4356sq ft maximum is not exceeded, any fill and pavement must be minimized to reduce the impact on wetland and buffer function, and longterm habitat disruption.
-Trees- better delineation and characterization prior to city arborist review
-consideration of moving the house footprint eastward, to increase the buffer afforded to wetland A. This buffer has been reduced from 165ft to 8 ft. Even 2 feet of movement would increase the proposed retained buffer by 25%. Additionally, this would reduce the length of driveway and fill required.
-consider proposal for alternate driveway w/less impact on CRZ, if in fact the existing culvert will need to be replaced, and the advantage of using existing structure is no longer reasonable.
-consider alternate sewer line placement to avoid wetland. The desires of Public Works and the preservation of wetland should be considered on balance.

Processing this application during a pandemic, while City Hall is closed, limits public review and interaction with Planning staff. Documents available online are at times difficult, even impossible to effectively discern, at least for those of us with old eyes and small computers. I respectfully request that the Planning Department grant, to the maximal extent possible, flexibility with respect to public comment and review.

Sincerely,
Jean Reid

-
May 7, 2020

To Lake Forest Park Planning Department

From Lake Forest Park Stewardship Foundation

Exhibit 6.3

Regarding Public Comment for 2020-RUE-0002

This the Stewardship Foundation public comment on 2020-RUE-0002, which the City announced as a completed application 14 days ago.

We request the Lake Forest Park Stewardship Foundation and President, Julian Andersen, be recognized as a parties of record in this matter and receive all future notices and documents associated with this matter.

Lake Forest Park Stewardship Foundation
PO Box 82861, Kenmore WA 98028
info@lfpsf.org

Julian Andersen
PO Box 55969, Seattle WA 98155
julian@andermac.org

This application seeks exemption from Lake Forest Park Municipal Code (LFPMC) 16.16, Critical Area Protection. **The Stewardship Foundation opposes the granting of this Reasonable Use Exception as submitted**.

We find a fundamental flaw in the structure of this application, as well as several material deficiencies, all to be detailed below.

We recommend that the Hearing Examiner and all other interested parties become personally acquainted with this parcel. Walk by and observe the lay of the land and the evidence of water flow. If you have permission, walk on the land, feel the ground beneath your feet. We think you will conclude, as we have, that this parcel is dominated by water.

Wetlands are a critical part of our natural environment. Wetland areas reduce the impacts of floods, absorb pollutants and improve water quality. They provide habitat for animals and plants and many contain a wide diversity of life, supporting plants and animals that are found nowhere else. As such, wetlands are not just something to be "dealt with" or "built around" (or through) but deserve a much higher degree of protection than shown on the submitted proposal.

Thank you for your attention to the details of our critique in the pages that follow.

Sincerely,

Julian Andersen, President of Lake Forest Park Stewardship Foundation

A. Development Agreement in disguise

   a. This application seek relief from LFPMC 16.16 in its entirety. This is outside the provisions of section 16.16.25 regarding "Reasonable Use Exceptions". Thus this

proposal is in its essence a proposed development agreement whose provisions will replace all the standards and requirements of MC 16.16. There is no provision in LFPMC for a development agreement for development in a single family zone. **Even in disguise, this application for a development agreement should be rejected .**

b. LFPMC 16.16.25, under which this application is filed is a part of the Municipal Code from which the developer seeks to be exempt.

c. This application should be withdrawn and a new application crafted which details the specific provisions within LFP MC 16.16 with which the developer plans conflict. The application should also detail, for each conflict, what minimal relaxation of the provisions is needed to accomplish reasonable economic use of this parcel.

B. Finally acceptable after two letters of deficiencies

a. The applicant, twice, submitted RUE applications which the Planning Department found incomplete, informing the applicant of the deficiencies in the applications. These rejections led the applicant to the most recent and accepted application.

b. The reluctance to submit a complete application, including the omission of clearly required reports, further demonstrates the applicant's expectation of full abandonment of the provisions of MC 16.16. See the second letter of deficiencies, dated 3/19/2020, attached.
Mar_19_2020 LFP_Khoa IncompleteApplication.pdf

C. Wetland delineation

a. Central to the consideration of any activity of any parcel with wetlands or wetland buffers is a professional delineation of the type and extent of both wetlands and their buffers, including a map of the subject parcel with the delineation results clearly shown. The revised Critical Area Study prepared by Acre Environmental with a date of February 21, 2020 is such a report. It is one of the documents provided by the City on its website.

This report includes the required map of wetlands and buffers, a thorough analysis leading to wetland categorization, an admirable wetland improvement/mitigation program, and a rationale for disturbing one of the wetlands with the installation of the sewer line from the house to the pre-existing connection box to the pressurized sewer main.

b. The wetland analysis in this report is weakened by the lack of information about critical areas in nearby parcels whose buffers may also overlay the subject

property. The subject property, with two small creeks and two wetlands, is typical of all the land in this area west of 28th and sloping down from the escarpment to the west. The underlying geologic structure in the escarpment provide a plethora of springs along this area. It is likely that there are critical areas nearby, to be considered in plans for the subject site. **Applicant should be required to provide a revised report including identification of critical areas on nearby parcels and their buffers.**

c. The wetland mitigation plan appears to follow all the expectations of City regulations about such mitigations and the trees and other plants which will be part of the mitigation. It includes a five year performance bond requirement, a specific performance standard, fencing to separate the wetlands from other parts of the property, and a generous selection of trees, shrubs, and grasses to be planted and maintained. The proposal states that if the mitigation plan is successful the wetland functions will be enhanced. If successful, near neighbors will certainly appreciate the increasing natural appearance of the property.

d. The described sewer connection line, through one of the wetlands, is a straight line from the proposed house to the pre-existing connection box to the pressurized main along 28th. If this were a gravity system a straight line connection would be an advantage because it would maximize the slope of the side sewer improving gravity driven flow. However this system will be pressurized, so slope, and hence minimizing connection length, need not be the controlling factor in routing the side sewer line. **Less impact on the wetland would be achieved by routing the side sewer along the driveway and then turning to run along 28th to the connection box.**

D. Soil conditions

a. Two wetlands, two small creeks, and their associated wetlands characterize this wet lot. Moist conditions and wet soil are a challenging setting for a home in which the occupants desire to be free of mold, fungi, and other conditions encouraged by perpetual moistness. The loose subsurface soils make house stability a risk.

b. The geotechnical engineering report by GeoTech Consultants, Inc dated 9/2/2019, received by the City on 1/20/2019, is included in the application supporting materials. In it cautions are clearly stated.

On page 5, in Seismic Considerations:
"Loose, very wet native soils were revealed beneath the ground surface at depths of 5 to 7 feet in all three of the test pits. These wet to saturated soils have been demonstrated to have a moderate to high liquefaction potential during a large earthquake"
"... the recommendations in this report are intended to prevent catastrophic

foundation collapse of the proposed residence if liquefaction were to occur. The intent is not to prevent damage or ensured continued function of the residence after the design seismic event."

On page 3, General Conclusions;
"All new foundation loads need to bear on suitable bearing soil. Considering the subsurface conditions encountered, and the considerable depth to suitable bearing soils found in nearby boring logs, we recommend that the proposed residence be supported on a system of small diameter pipe piles that are driven through the upper, loose soils to refusal in the underlying dense native soils. We also recommend that the floor slab be supported by the pipe pile foundations."

On page 5, GeoTech Consultants emphasizes the seriousness of its conclusions and recommendations"
"GeoTech Consultants, Inc. should be allowed to review the final development plans to verify that the recommendations presented in this report are adequately addressed in the design. Such a plan review would be additional work beyond the current scope of this study, and it may include revisions to our recommendations to accommodate site, development, and geotechnical constraints that become more evident during the review process."
"We recommend including this report, in its entirety, in the project contract documents. This report should also be provided to any future property owners so they will be aware of our findings and recommendations"

c. These findings and conclusions clearly reveal substantial risk in the development being proposed. There is risk to anyone who resides in the proposed residence, but also potential liability risk to a jurisdiction that permits such a project to go forward. Their recommendations to support all the new development on pipe piles avoids all reliance on the surface soils. **These recommendations should be required of the developer.**

E. Drainage Plan

a. There is no drainage plan provided to describe how the basic tenants of "no net loss of ecological function" and "post development, discharge of surface water should not exceed pre-development conditions" are supported.

b. City provided support materials for this application does include a Technical Information Review provided by PacLand in Seattle.

PacLand's report on soil conditions diverges from the GeoTech report, and lowers the credibility of PacLand's report and conclusions. On page 7, PacLand describes the soils of the subject property as "till soils", clearly an erroneous characterization of the surface soils.

The only discussion of surface water flow management in this report is on page 8 :
"Section3 - Flow Control BMPs, ESC
Flow Control
To address the requirements for mitigation of target impervious surfaces, the applicability and feasibility of full dispersion and infiltration were considered. Due to site geography, limiting impacts to wetlands, as well as soil conditions, these methods were considered infeasible. To implement basic dispersion, the roof downspouts of the proposed house will be dispersed through the use of splash blocks and to a minimum 50-foot vegetated flow path (to the north and south of the proposed driveway with slopes no greater than 15% as indicated on the attached Plan.
The driveway will consist of pervious concrete with a minimum of 6" of drain rock designed per section C.2.6.1."

c. Adding water to soils that are typically saturated in the rainy season is not a credible drainage plan. Proposing pervious concrete without a thorough analysis of the ability of the underlying soil to accept water flowing through the concrete fails to provide any confidence in any claim of beneficial effects.

Applicant should be required to provide a professionally prepared drainage plan, which includes a detailed analysis of the of the use of pervious concrete and the impacts of its installation.

d. The area of impervious surface created by the development activity is a key metric in analysis of surface water and drainage effects, and are subject to regulation by multiple agencies. Surprisingly the materials provided in support of this application do not offer much precision in their account of impervious surface area. This TIR report, page 7, *"The proposed single-family residential development will add greater than 2000 sf of new plus replaced impervious surface and less than 5000 sf of new plus replaced pollution generating impervious surface."* The TIR does not include and dimensional data that would allow the calculation of the number only estimated in the report. **Applicant should be required to provide an accurate estimate of all impervious surface supported by drawings and dimensional data.**

F. Trees

a. The arborist report included in the City's supporting documents for this application was completed May 23, 2019 after a site visit a week prior. It does include a list of eight trees on the property with DBH, a condition category, and notes. **The arborist's report should be revised to include a scale map of the parcel with trees located and their ICRZ and CRZ areas shown.**

The evaluation of these eight trees was the task for which this arborist was

engaged. There is no list or map documenting all the trees on the subject property. **Applicant should be required to present an arborist's report of all the trees on the property, or attest that there are only the eight trees discussed in this report.**

b. Six of the eight are Western Red Cedar, all growing in the same grove, all judged to be in fair condition. All eight are threatened by the planned driveway and construction activity. Cedar, the arborist notes are especially vulnerable to loss of lower limbs and soil compaction.

   Consideration should be given to alternate driveway construction methods and minor relocation of driveway and/or footprint to increase survival prospects for some of the cedars in this grove. Pervious concrete needs appropriate layers of material underneath it to function as designed, requiring excavation to a depth sure to encounter critical roots of these cedar trees.

c. The only tree judged to be in good condition is a multi-stemmed bigleaf maple. The arborist describes in detail actions to be taken and protections to be established to avoid threatening this tree. **If this RUE application is granted, the examiner's decision should include the arborist's prescription for protecting this maple.**

d. **If any of these eight trees are removed or critically damaged during construction, the usual provisions of LFPMC tree protection code should be enforced.** The necessary replacement trees should be coordinated with the wetland mitigation planting plan.

G. Alternative

Certainly there is an established principle under the US Constitution that the owner of this parcel cannot be denied all use of the property. In a single family zone, a medium sized home as the applicant proposes, is not an excessive use. However this wet parcel requires more protection than this plan offers.

In other jurisdictions where ground water or flood water is expected, developers have learned that a wise method for residential development is to elevate the structure and support it on foundation posts. High elevation is not needed here, just enough to allow the wetland and wetland buffer beneath it to continue to function as it does today.

The GeoTechnical Report supporting this application strongly recommends that the proposed house be supported on pipe pilings, including the slab underneath the house. If these pilings extended a few feet above the ground level impact on the existing natural functions would be reduced.

One could imagine a sinuous sloping elevated walkway from the front door down to the edge of the right of way. A gentle green pathway to a home sitting lightly on the land.

ATTACHED

1. Mar_19_2020 LFP_Khoa IncompleteApplication.pdf

Exhibit 7.0

Mayor
Jeff R. Johnson

17425 Ballinger Way NE
Lake Forest Park, WA 98155-5556
Telephone: 206-368-5440
Fax: 206-364-6521
E-mail: cityhall@ci.lake-forest-park.wa.us
www.cityoflfp.com

PUBLIC NOTICE

NOTICE OF APPLICATION FOR REASONABLE USE EXCEPTION

File Numbers: 2020-RUE-0002
Proponent: Khoa Ha
Location of proposal:
Address not yet assigned; parcel #:4024100380
Zoning: RS-20
Proposal: The applicant is seeking a reasonable use exception from critical area regulations to construct a single family residence on a single parcel with a non-conforming lot area of 19,110 square feet. Access improvements, critical area mitigation, and stormwater facilities are also included and required with the proposal.
Date of Application: January 24, 2020

Date of Letter of Complete Application: April 10, 2020
Other Approvals Needed: Tree Removal Permit, Right of Way Permit, Clearing and Grading Permit, Critical Area Permit, Building Permit. A public hearing is required for these applications and will be noticed separately.

Environmental Review: After review of the proposal and the State Environmental Policy Act (SEPA), the City expects to issue an exemption for the proposal as it is typically categorically exempt under WAC 197-11-800 (6) (a).

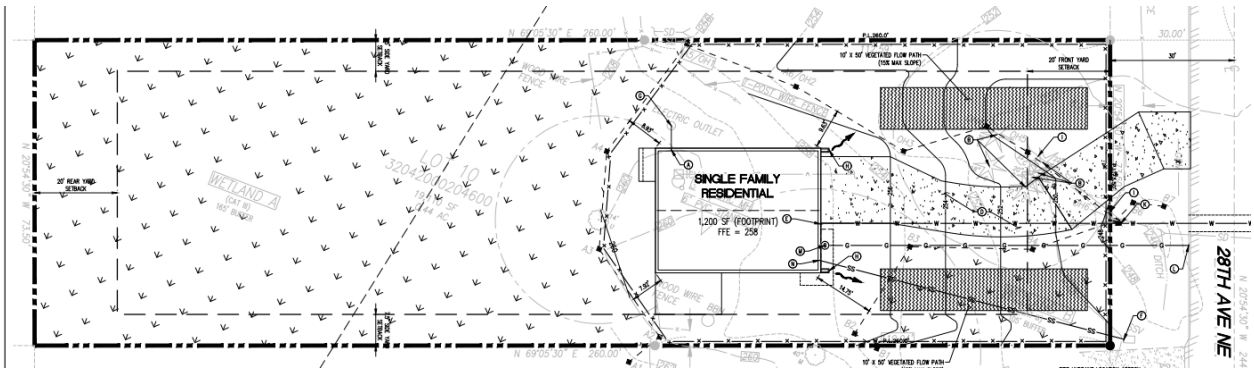
Public Comment: Interested parties may comment on this application by submitting written comments to Lake Forest Park Planning Department located at City Hall and 17425 Ballinger Way NE, Lake Forest Park, WA 98155 or via email to nholland@cityoflfp.com for fourteen days following the publication date of this notice.

Additional Information: Additional information may be obtained by contacting the Lake Forest Park Planning Department at (206) 957-2837 or at the City's Notices and Announcements webpage (cityoflfp.com/ 313/Notices-and-Announcements). Materials related to this proposal may be reviewed at City Hall Monday - Friday 9:00 am - 5:00 pm. Contact Nick Holland, Senior Planner, at nholland@cityoflfp.com if you prefer to make an appointment to review the materials with a planner's assistance.

Notice Date: April 23, 2020

Exhibit 7.1

File Numbers: 2020-RUE-0002
Proponent: Khoa Ha
Location of proposal:
Address not yet assigned; parcel #:4024100380



Notice Date: April 23, 2020

Exhibit 8.0

Mayor
Jeff R. Johnson

17425 Ballinger Way NE
Lake Forest Park, WA 98155-5556
Telephone: 206-368-5440
Fax: 206-364-6521
E-mail: cityhall@ci.lake-forest-park.wa.us
www.cityoflfp.com

PUBLIC NOTICE

NOTICE OF HEARING FOR REASONABLE USE EXCEPTION

File Numbers: 2020-RUE-0002
Proponent: Khoa Ha
Location of proposal: Address not yet assigned; parcel #:4024100380
Zoning: RS-20
Proposal: The applicant is seeking a reasonable use exception from critical area regulations to construct a single-family residence on a single parcel. Access improvements, critical area mitigation, and stormwater facilities are also included and required with the proposal.
Date of Application: January 24, 2020

Date of Letter of Complete Application: April 10, 2020

Date and Format of Public Hearing: June 22, 2023 at 10am. This hearing will be conducted virtually using zoom. The following link can be used to participate in the hearing: https://us06web.zoom.us/j/88623295956

Other Approvals Needed: Tree Removal Permit, Right of Way Permit, Clearing and Grading Permit, Critical Area Permit, Building Permit.

Environmental Review: After review of the proposal and the State Environmental Policy Act (SEPA), the proposal was determined categorically exempt under WAC 197-11-800 (6) (a).

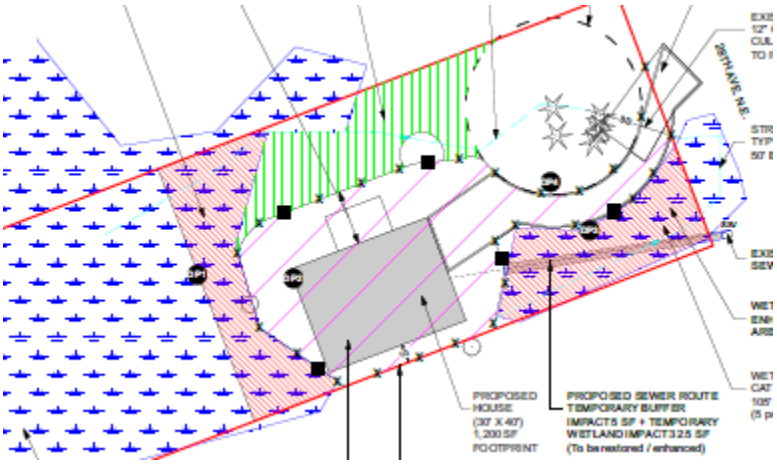
Public Comment: Interested parties may comment on this application by submitting written comments to Lake Forest Park Planning Department located at City Hall and 17425 Ballinger Way NE, Lake Forest Park, WA 98155 or via email to nholland@cityoflfp.com. Testimony at the public hearing is also accepted.

Additional Information: Additional information may be obtained by contacting the Lake Forest Park Planning Department at (206) 957-2837 or at the City's Notices and Announcements webpage (cityoflfp.com/ 313/Notices-and-Announcements). Materials related to this proposal may be reviewed at City Hall Monday - Friday 9:00 am - 5:00 pm. Contact Nick Holland, Senior Planner, at

Notice Date: June 2, 2023

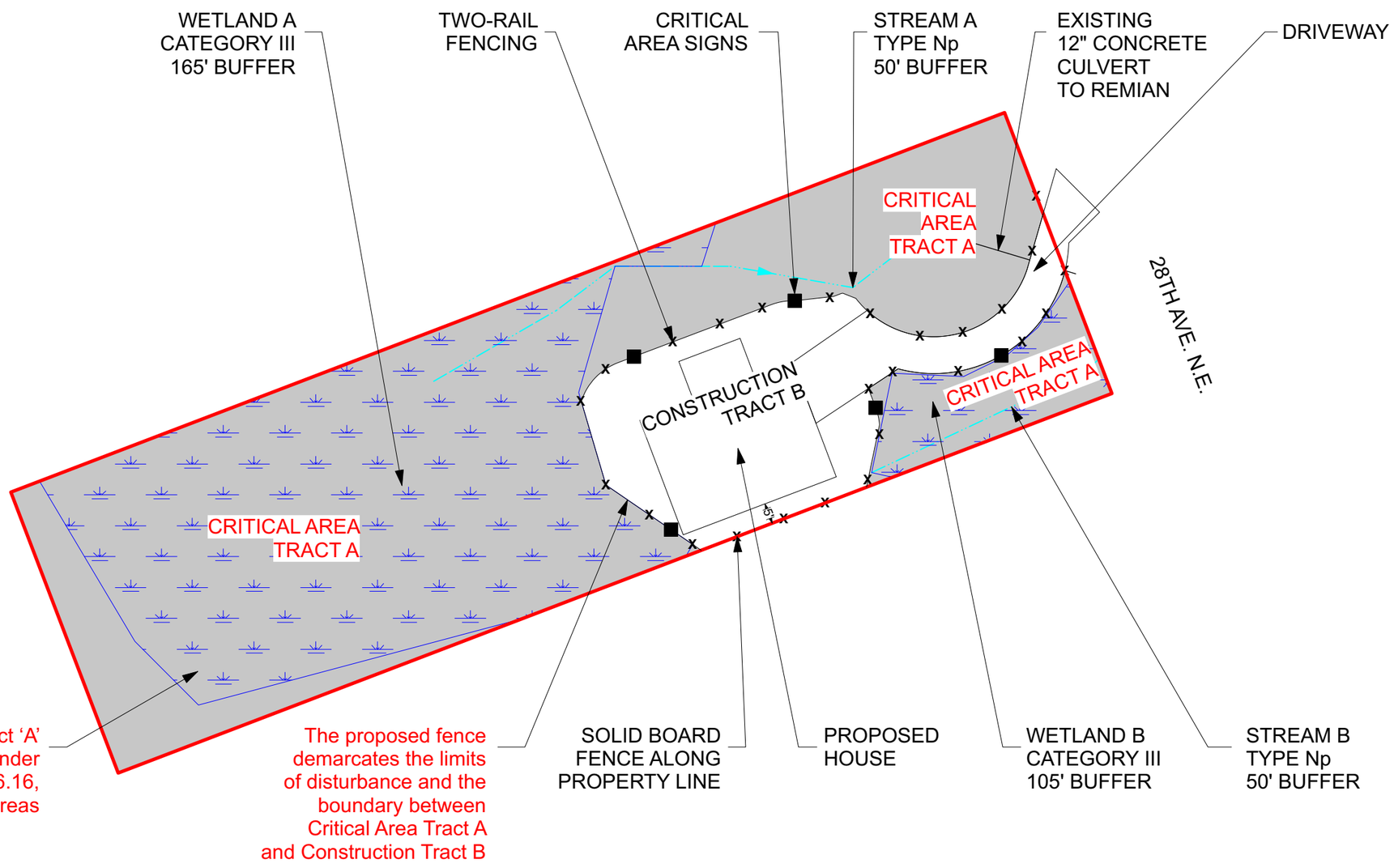
nholland@cityoflfp.com if you prefer to make an appointment to review the materials with a planner's assistance.

File Numbers: 2020-RUE-0002
Proponent: Khoa Ha
Location of proposal:
Address not yet assigned; parcel #:4024100380



Notice Date: June 2, 2023

Exhibit 9.0



N

SCALE 1" = 30'

0 30 60

LEGEND

- WETLAND
- SENSITIVE AREA TRACT 'A'
- STREAM
- x x TWO-RAIL FENCE
- CRITICAL AREAS SIGN

MAP SHEET: CA1.00

ACRE ENVIRONMENTAL CONSULTING, LLC

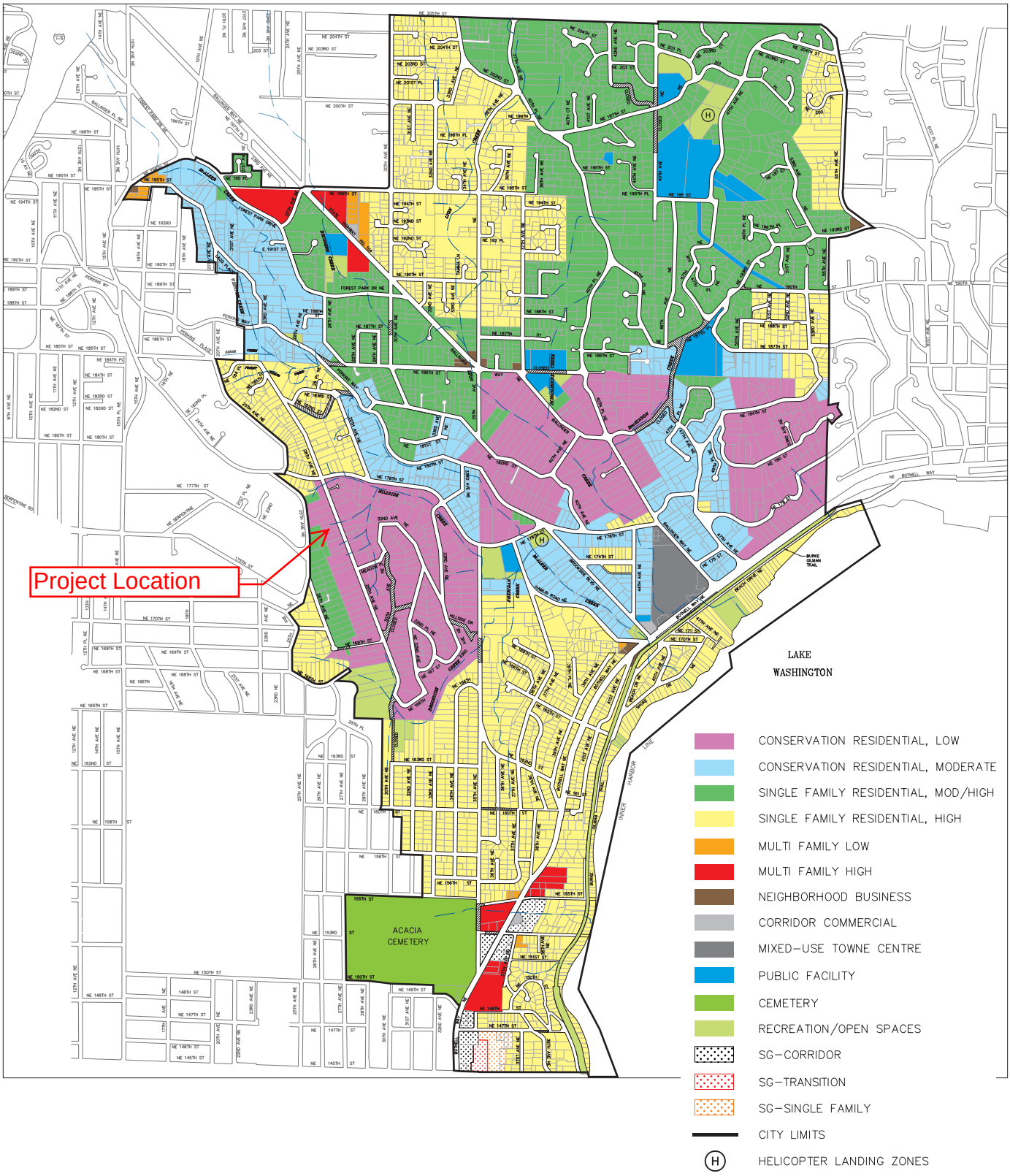
PREPARED BY:
Acre Environmental Consulting, LLC
PO Box 55248
Shoreline, WA 98155
Phone: (206) 450-7746
Email: louis@acreenvironmental.com

CRITICAL AREAS TRACT MAP
JJ CONSTRUCTION - 28TH AVE. NE
LAKE FOREST PARK, WA
TAX PARCEL NO. 4024100380.

PREPARED FOR:
JJ Construction
7629 199th Street SW
Lynnwood, WA 98036

Acre Job: 18092
Drawn By: L. Emenhiser
Date: 02.17.2013
Rev:

Figure I.2 Comprehensive Plan Land Use Map



Google Maps Khoa Ha RUE site

EXHIBIT # 11.8

Imagery ©2023 Maxar Technologies, Map data ©2023 Google 20 ft

EXHIBIT # 12.0

17425 Ballinger Way NE
Lake Forest Park, WA 98155
Phone: (206) 368-5440
Fax: (206) 364-6521

OFFICE USE ONLY	
Application Date	5/17/19
Application Number	2019-SSA-0004
Fee Amount - $105* per connection *fee includes 5% technology fee	105.00
Receipt Number	#42609

Certificate of Sewer Availability

Type of Project (Single Family Residence, Subdivision, etc.): SINGLE FAMILY RESIDENCE

Number of New Connections: 1 Site Address: _____

Parcel Number(s): 402410-0380

Owner of Record: KHOA HA

Contact Name: KHOA HA Contact Phone: 206-235-8529

RECEIVED
MAR 6 2020
City of Lake Forest Park

OFFICE USE ONLY

Sewer Information (To Be Completed By City)

☐ Sewer service will be provided by connection to an existing 4" ø pressure size sewer ~20 feet from the property line and the sewer system has the capacity to serve the proposed use.

Or sewer service will require an improvement of:

☐ _____ feet of sewer trunk or lateral to reach the property line.

☐ Other: _____

☒ Pump System: Grinder pump system req'd.

Approval is subject to the following:

☐ Connection Charge: $_____ Permit Fee: $_____ Total: $_____

☐ Easement(s): _____ Date Received: _____

☐ As-Builts: _____ Date Received: _____

☐ Other : _____ Date Received: _____

I, representative of the City of Lake Forest Park, hereby certify that the above information is true. This certification is valid for one year from date of signature.

Name _____ Title City Engineer Date 5/21/19

7629 199TH ST SW
LYNNWOOD WA 98036
- owner address -

Updated 7/17/17

NORTH CITY WATER DISTRICT CERTIFICATE OF WATER AVAILABILITY NUMBER ask Order 1697

EXHIBIT # 3.

17711 Ballinger Way NE
Lake Forest Park, WA 98155
Telephone: (206) 364-7711

Lake Forest Park

RECEIVED
JAN 24 2020
City of Lake Forest Park

CITY OF LAKE FOREST PARK CERTIFICATE OF WATER AVAILABILITY

Do not write in this box	
Number	Name

☒ Building Permit ☐ Preliminary Plat or PUD
☐ Short Subdivision ☐ Rezone or Other _____

Applicant's Name Khoa Ha
Proposed Use Single Family Residence
Location 17719 28th AVE NE

(Attach map and legal description if necessary)

WATER PURVEYOR INFORMATION

Domestic Service Only:

1. a. ☒ Water will be provided by service connection only to an existing 8 (size) inch water main 45 feet from the site.

Domestic, Fire and Other Service: (See back of form)

b. ☒ Water service will require an improvement to the water system of:
- ☐ (1) _____ feet of water main to reach the site; and/or
- ☐ (2) the construction of a distribution system on the site; and/or
- ☒ (3) other (describe) improvement may be required, depending on fire flow requirement

2. a. ☒ The water system is in conformance with a County approved water comprehensive plan.
OR b. ☐ The water system improvement will require a water comprehensive plan amendment.

3. a. ☒ The proposed project is within the corporate limits of the district, or has been granted Boundary Review Board approval for extension of service outside the district or city, or is within the County approved service area of a private water purveyor.
OR b. ☐ Annexation or BRB approval will be necessary to provide service.

4. a. ☒ Water is/~~or will be~~ available at the rate of flow and duration indicated below at no less than 20 psi measured at the fire hydrant 215 ft from the building/property (or as marked on the attached map):

Rate of Flow
- ☐ Less than 500 gpm (approx. _____ gpm)
- ☐ 500 to 999 gpm
- ☐ 1,000 gpm or more
- ☐ flow test of _____ gpm
- ☒ calculation of 2150 gpm

Duration
- ☐ less than 1 hour
- ☐ 1 hour to 2 hours
- ☒ 2 hours or more
- ☐ other (Commercial Building permits require flow test or calculation)

OR b. ☐ Water system is not capable of providing fire flow.

COMMENTS/CONDITIONS: (1) The fire flow requirement for the applicant's proposed project must be determined to identify if improvements to the District's system are necessary. (2) This is not an application for or approval of water service to the proposed site. A proper application must be filed with and accepted by the District before service will be provided. The District has a connection charge (also called general facilities charge) and meter installation charge for each new water service provided. It is recommended that the applicant consult with the District to obtain applicable fees, charges, and procedures which may change during the property development process.

I hereby certify that the above water purveyor information is true. This certification shall be valid for one year from date of signature.

NORTH CITY WATER DISTRICT	Denny Clouse
Agency Name	Signatory Name
Operations Manager	Denny L Clouse 1/6/2020
Title	Signature Date

EXHIBIT # 13.

ADDITIONAL INFORMATION FOR EACH NUMBERED ITEM ON FORM FRONT

1A. Domestic service only is referenced in this item, 1A. Domestic service is for in-house consumption only and excludes fire protection.

1B. Service for a combination of domestic, fire and other conditions is referenced in this item.

4A. A computer analysis of the District's water system was performed for the purpose of determining the available water supply to fight a fire at the project location described above. This analysis was based on the District's existing water system, without any development related improvements. The results of the analysis indicate the fire flow capacity of the District's existing system as shown on this form at a minimum residual pressure of 20 psi at all points throughout the distribution system. Actual fire flows may vary due to water system configuration changes, time of day, demands on system, and operational parameters.

A summary of the operational conditions used in the analysis follows:

- The District was experiencing buildout peak day demand conditions.
- Supply Stations 1 and 3, 660 Zone Booster Pump Station, and Booster Stations 1 and 2 were operating. Supply Station 3 connected to 492 Zone.
- The 3.7 MG Reservoir level was drawn down 34.5 feet, and the 2.0 MG 424 Zone Reservoir level was drawn down 19 feet.
- All pressure reducing stations were operating at their normal setpoints.
- WAC 246-290-230 (6) Distribution systems – If fire flow is to be provided, the distribution system shall also provide maximum day demand (MDD) plus the required fire flow at a pressure of at least 20 psi (140 kPa) at all points throughout the distribution system, and under the condition where the designed volume of fire suppression and equalizing storage has been depleted.
- Maximum allowed velocity in the distribution system is 10 feet per second during peak day demand and fire flow conditions.