CITY OF KIRKLAND
Planning and Building Department
123 Fifth Avenue, Kirkland, WA 98033
425.587-3600 - www.kirklandwa.gov

ADVISORY REPORT
FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

To: Kirkland Hearing Examiner

From: *Susan Lauinger*, Susan Lauinger, Associate Planner

Eric R. Shields, AICP, Planning Director

Date: January 5th 2017

File: SUB16-01624 & SAR16-01623

Hearing Date and Place: January 5th 2017
9:00 a.m.
City Hall Council Chamber
123 Fifth Avenue, Kirkland

INTRODUCTION

A. APPLICATION

1. Applicant: Steve and Kristal Wallstrom
2. Site Location: 10841 NE 108th Street (see Attachment 1)
3. Request: Proposal to subdivide a 54,694 square foot parcel into 2 lots in an RS 8.5 Zone; the site contains a Type II wetland and a Class B stream. The proposal includes a request to reduce the existing 75' wide wetland buffer to 50' across the entire site. The existing house will be retained and moved to the future Lot 2 and a new home is planned for Lot 1 (see Attachment 2). The stream buffer is enclosed within the proposed modified buffer and no modification is proposed for the stream buffer.
4. Review Process: Process IIA, pursuant to Kirkland Zoning Code (KZC) Section 90.100.2 and KZC Section 90.60.2.b, the Hearing Examiner conducts public hearing and makes final decision on a Type II Wetland Buffer Modification. Pursuant to Kirkland Municipal Code (KMC) 22.20.030 and KZC 145.10, the short plat will be reviewed as part of the Process IIA process.
5. Summary of Key Issues and Conclusions: The key issues addressed in this report are compliance with the Development Regulations, compliance with the applicable short plat requirements, and compliance with Wetland Buffer Modification criteria in KZC Chapter 90.

B. RECOMMENDATIONS

1. Based on Statements of Fact and Conclusions (Section II), and Attachments in this report, I/we recommend approval of this application subject to the following conditions:

2. This application is subject to the applicable requirements contained in the Kirkland Municipal Code, Zoning Code, and Building and Fire Code. It is the responsibility of the applicant to ensure compliance with the various provisions contained in these ordinances. Attachment 3, Development Standards, is provided in this report to familiarize the applicant with some of the additional development regulations. This attachment does not include all of the additional regulations. When a condition of approval conflicts with a development regulation in Attachment 3, the conditions of approval shall be followed (see Conclusion II.E.2).

3. Trees shall not be removed or altered following short plat approval except as approved by the Planning Department. Attachment 3, Development Standards, contains specific information concerning tree retention requirements (see Conclusion II.C.5.b).

4. As part of any development permit application, the applicant shall submit plans consistent with the recommendations in the Geotechnical report by Gary A. Flowers, dated May 29th 2016 (see Attachment 13 and Conclusion II.C.4.b).

5. As part of the application for a Building Permit the applicant shall submit (see Conclusions II.C.3.b and II.C.6.b):

   a. A revised mitigation proposal that meets the conditions as listed in the Watershed memo dated November 14th 2017 including:

      - Add a note to the mitigation plan indicating restoration of the existing garden area with native shrubs and trees that are appropriate to wetland and stream buffers and that match the vegetation conditions prior to the placement of the garden
      - Add a note to the mitigation plan that mowing is not allowed in the modified buffer. Change the mitigation plan to include shrubs and plants in the modified buffer that would not require any mowing and would allow natural succession of plants and trees in the buffer.
      - Consider using beaver exclusion fencing to protect mitigation plantings and ensure plant survival in order to meet the performance standards of 80% plant survival by year 5.

6. Prior to issuance of any permits, the applicant shall (see Conclusions II.C.3.b and II.C.6.b):

   a. Submit to the Planning Department a financial security device to cover all monitoring and maintenance activities that will need to be done including wetland consultant site visits, reports to the Planning Department, and any vegetation that needs to be replaced. The security shall be consistent with the standards outlined in Zoning Code section 90.145:

   b. Submit plans depicting the location of a six-foot high construction phase fence along the upland boundary of the entire wetland buffer with silt screen fabric installed per City standard. The fencing shall be installed prior to any development activities occurring on the site. The fence shall remain upright in the approved location for the duration of development activities.

c. Submit a signed and notarized covenant (see Attachment 5) that holds the City harmless against any future claims that may arise as a result of the development of the property.

2. Prior to final inspection of any permits, the applicant shall (see Conclusions II.C.3.b and II.C.6.b):

a. Complete installation of the stream and wetland buffer enhancement plan, subject to inspection by the City's wetland consultant at the applicant's expense.

b. Provide proof of a written contract with a qualified professional who will perform the monitoring program, together with a completed contract and fees to fund review of the monitoring and maintenance activities, (i.e. inspection of plant materials, annual monitoring reports or revegetation activities) by the City's wetland consultant. Alternatively, the applicant shall provide a copy of a completed contract and fees to fund completion of the monitoring program by the City's wetland consultant.

c. Provide proof of a written contract to cover maintenance activities outlined in the buffer report.

d. Dedicate a natural greenbelt protection easement on the short plat plans which encompasses the modified stream and wetland buffers on the site (see Attachment 6). All surveys shall be located on KCAS or plat bearing system and tied to known monuments.

e. Install either 1) a permanent 3 to 4 foot tall split rail fence, or 2) permanent planting of equal barrier value between the upland boundary of the stream and wetland buffers and the developed portion of the site.

II. FINDINGS OF FACT AND CONCLUSIONS

A. SITE DESCRIPTION

1. Site Development and Zoning:

a. Facts:

(1) Size: 54,694 square feet (1.26 acres). The site is generally rectangular in shape and fronts on NE 108th Street.

(2) Land Use: The site currently has one single-family home and a detached garage.

(3) Zoning: Single Family Residential, RS 8.5 zone with a minimum lot size of 8,500 square feet. The proposal includes two lots with the following square footages:

Lot 1: 46,194 square feet
Lot 2: 8,500 square feet

(4) Terrain: The property is nearly flat, but slopes gently downward from the northern property line (adjacent to NE 108th St) to the south at an approximate slope of 2 percent.

(5) Vegetation: There are 6 significant trees on the property that are primarily located outside of the wetland buffer except one Red

Alder tree within the wetland. The applicant has submitted an arborist report (see Attachment 4).

(6) Wetland: A "Type II" Wetland exists on the southern portion of the subject property. The subject property is located within the Forbes Creek Basin, which is a Primary Basin. A 75' wide buffer and a 10' wide buffer setback is required from the wetland boundary. The applicant is seeking to reduce the buffer width by one third (25').

(7) Stream: A "Class A" stream, which is a tributary of Forbes Creek flows east to west across the subject property. The stream enters the site at the southeastern corner of the site and leaves the property near the midpoint of the south property line. The Kirkland Zoning Code requires a 75' wide buffer and a 10' wide buffer setback from Class A streams. In this case, the stream buffer is fully encompassed within wetland buffer. The applicant is not proposing a reduction to the stream buffer.

(8) The wetland and stream were delineated and typed by Wetland Resources, Inc, the applicant's consultant (see Attachment 5). This determination was reviewed by the City's consultant, The Watershed Co. (see Attachment 6).

b. Conclusions: Size, land use, zoning, terrain and vegetation are not constraining factors in the consideration of this application. The stream and wetland are not a constraining factor provided that the applicant complies with the requirements and criteria for a Wetland Buffer Modification as conditioned by this report (see Section II.C.3).

2. Neighboring Development and Zoning:

a. Facts: The subject site is bordered by the following uses:

North: To the north is an area zoned RS 8.5 and developed with single family homes.

South: An un-opened city alley borders the south of the site, which is directly adjacent to a PLA 9 zone. An apartment complex named Park at Forbes Creek is located south of the alley.

East: The area is zoned RS 8.5 and PLA 9. It is developed with a single family home and a portion of the Park at Forbes Creek apartment complex.

West: To the west is an area zoned RS 8.5 and developed with single-family homes.

b. Conclusion: The neighboring development and zoning are not constraining factors in this application.

B. PUBLIC COMMENT

The public comment period for the proposed short plat and wetland buffer modification application extended from October 27, 2016 to November 14th, 2016. One public comment email was received during the comment period (see Attachment 7). The comment email states arguments opposing the buffer reduction request because of the protection that buffers provide to wetlands; the letter also lists the many beneficial functions of wetlands.

Staff Response: The applicant has proposed to reduce the required wetland buffer width by one-third pursuant to the standards in KZC 90.60.2.a(2) which allows wetland buffer reduction through buffer enhancement. The reduced buffer must function at a higher level than the existing buffer. An application for buffer reduction must contain a report prepared by a qualified professional that addresses how the wetland's function and values would be affected and methods to mitigate any functions with the goal that no net loss of wetland functions would be a result of the buffer reduction. The criteria for allowing a buffer reduction and staff's analysis of the criteria are found in Section II.C.3.

C. APPROVAL CRITERIA

1. GENERAL ZONING CODE CRITERIA

   a. Fact: Zoning Code section 150.65.3 states that a Process IIA application may be approved if:

      (1) It is consistent with all applicable development regulations and, to the extent there is no applicable development regulation, the Comprehensive Plan; and

      (2) It is consistent with the public health, safety, and welfare.

   b. Conclusion: The proposal complies with the criteria in section 150.65.3. It is consistent with all applicable development regulations (see Section II.E) and the Comprehensive Plan (see Section II.D). In addition, it is consistent with the public health, safety, and welfare because it will add housing stock while also enhancing and protecting a stream and wetland buffer, which contribute to many environmental functions including water quality.

   c. Facts: Municipal Code section 22.20.140 states that the Planning Director may approve a short subdivision only if:

      (1) There are adequate provisions for open spaces, drainage ways, rights-of-way, easements, water supplies, sanitary waste, power service, parks, playgrounds, and schools; and

      (2) It will serve the public use and interest and is consistent with the public health, safety, and welfare. The Planning Director shall be guided by the policy and standards and may exercise the powers and authority set forth in RCW 58.17.

   d. Conclusion: The proposal complies with the criteria in KMC section 22.20.140. With the recommended conditions of approval, it is consistent with the Zoning Code and Subdivision regulations and there are adequate provisions for open spaces, drainage ways, rights-of-way, easements, water supplies, sanitary waste, power service, parks, playgrounds, and schools. It will serve the public use and interest and is consistent with the public health, safety, and welfare because it will add housing stock to the City of Kirkland in a manner that is consistent with applicable development regulations.

2. MAXIMUM DEVELOPMENT POTENTIAL

a. Facts:

(1) KZC Section 90.135 requires that the following formula, called Maximum Development Potential, will determine the number of units on a site which contains a stream and/or its buffer:

Maximum Dwelling Unit Potential = (the buildable area/the prescribed minimum lot area per unit) + (the buffer area/the prescribed minimum lot area per unit) x (the development factor)

(2) The minimum lot size per lot is 8,500 sq. ft. Based on the survey provided by the applicant (see Attachment 2), the subject property contains 54,694 SF of which 22,689 SF is buildable area, 12,439 SF is sensitive area, and 19,566 SF is buffer area. The percentage of the site in sensitive area buffers is 36%. KZC 90.135 requires a development factor of 60% be applied to the wetland buffer area. Per the formula shown above, the maximum development potential for the subject property is 4.28 lots.

b. Conclusion: The proposal for 2 lots conforms to the maximum development potential requirements of KZC Section 90.135

3. BUFFER MODIFICATION FOR TYPE II WETLAND

a. Facts:

(1) KZC 90.60.2 establishes that a Wetland Buffer Modification may only be granted when the proposed development is consistent with all of the following 9 criteria:

- It is consistent with Kirkland's Streams, Wetlands and Wildlife Study (The Watershed Company, 1998) and the Kirkland Sensitive Areas Regulatory Recommendations Report (Adolfson Associates, Inc., 1998);
- It will not adversely affect water quality;
- It will not adversely affect fish, wildlife, or their habitat;
- It will not have an adverse effect on drainage and/or storm water detention capabilities;
- It will not lead to unstable earth conditions or create an erosion hazard or contribute to scouring actions;
- It will not be materially detrimental to any other property or the City as a whole;
- Fill material does not contain organic or inorganic material that would be detrimental to water quality or to fish, wildlife, or their habitat;
- All exposed areas are stabilized with vegetation normally associated with native stream buffers, as appropriate; and

- There is no practicable or feasible alternative development proposal that results in less impact to the buffer.

(2) The applicant's consultant, Talasaea Consultants Inc, provided a report dated May 12, 2016 that responds to the decisional criteria for modifying a wetland buffer (see Attachment 8). The plan indicates that 13,255 sf of buffer area will be enhanced in exchange for 6,331 sf of buffer reduction.

(3) The mitigation plans includes goals and objectives, success criteria, maintenance and a monitoring schedule and contingency plan as required by KZC 90.55.4. Not included, but also required in the proposal is proof of a written contract with a qualified professional who will perform the monitoring program.

(4) The applicants submitted a previous proposal to modify the wetland buffer, "paper fill" part of the wetland and modify the stream buffer in order to retain a garden, which was installed without city approval; note that there are no provisions in Chapter 90 that would allow removal of existing vegetation for a garden area. The proposal did not meet the criteria in KZC 90.55 or in 90.100 and was subsequently re-submitted as a proposal to reduce the wetland buffer by one third across the site (see Attachment 8).

(5) The Watershed Company, the City's wetland consultant, reviewed the applicant's initial proposal and provided comments on suggested changes to the plan (see Attachment 9). Watershed also reviewed the final mitigation plan and provided a follow up memo (see Attachment 10).

Watershed's final review includes 3 recommendations for changes in the proposed mitigation plan in order to meet the criteria in KZC 90.60 including the following:

- Restore the garden area with native shrubs and trees that are appropriate to wetland and stream buffers and that match the conditions prior to the placement of the garden.
- Change the mitigation plan to include shrubs and plants in the modified buffer that would not require any mowing and would allow natural succession of plants and trees in the buffer.
- Consider using beaver exclusion fencing to protect mitigation plantings and ensure plant survival in order to meet the performance standards of 80% plant survival by year 5.

(6) KZC Section 90.60.2.a.2 states that a wetland buffer cannot be reduced by more than one-third of the standard buffer width. An additional 10-foot buffer setback is required through KZC Section 90.45.2. The reduced buffer line and 10-foot buffer

setback line are shown on the applicant's plans (see Attachment 2). Preliminary measurement by Staff shows compliance with the referenced code sections.

(7) Pursuant to KZC 90.50 Prior to beginning development activities, the applicant is required to install a 6-foot-high construction-phase chain link fence or equivalent fence, along the upland boundary of the entire wetland buffer with silt screen fabric installed per City standard. The construction-phase fence shall remain upright in the approved location for the duration of development activities install. Upon project completion, the applicant is required to install a permanent 3- to 4-foot-tall split rail fence at the buffer line.

(8) Pursuant to KZC 90.145: The Planning Official shall require a performance or maintenance bond, to ensure compliance with any aspect of this chapter or any decision or determination made pursuant to this chapter.

(9) Pursuant to KZC 90.150, the City of Kirkland requires dedication of a Natural Greenbelt Protection Easement (NGPE) to protect sensitive areas and their buffers (see Attachment 11).

(10) KZC 90.155 requires applicants to enter in to an agreement with the City indemnifying the City from any claims, actions, liability and damages to streams arising out of development activity on the subject property (see Attachment 12).

b. Conclusions: Pursuant to the attachments included with this report, which include the proposed site plan, buffer mitigation plan, and monitoring and maintenance plans (see Attachments 2 and 8), and the review memos from The Watershed Company (see Attachments 9 and 10), the proposed development is consistent with the decisional criteria for buffer modifications as indicated in Chapter 90 of the KZC, subject to the following conditions:

(1) The applicant should revise the mitigation plan to include the following recommendations as listed in the Watershed memo dated November 14th 2017(see Attachment 10):

- Add a note to the mitigation plan indicating restoration of the existing garden area with native shrubs and trees that are appropriate to wetland and stream buffers and that match the vegetation conditions prior to the placement of the garden
- Add a note to the mitigation plan that mowing is not allowed in the modified buffer. Change the mitigation plan to include shrubs and plants in the modified buffer that would not require any mowing and would allow natural succession of plants and trees in the buffer.
- Consider using beaver exclusion fencing to protect mitigation plantings and ensure plant survival in order

to meet the performance standards of 80% plant survival by year 5.

(2) Prior to commencement of development activity, the applicant should:

(a) Install a 6-foot-high construction-phase chain link fence along the upland boundary of the entire stream buffer with silt screen fabric at the base. Installation of the permanent fence or planted barrier should be done by hand where necessary to prevent machinery from entering the stream or its buffer. The construction-phase fence should remain upright in the approved location for the duration of development activities.

(b) Submit for recording a covenant that indemnifies the City for any claims, actions, liability and damages to streams arising out of development activity related to the sensitive areas on the subject property (see Attachment 12).

(c) Submit to the Planning Department a financial security device to cover all monitoring and maintenance activities that will need to be done including wetland consultant site visits, reports to the Planning Department, and any vegetation that needs to be replaced. The security shall be consistent with the standards outlined in Zoning Code section 90.145.

(3) Prior to recording the short plat, the applicant should:
Submit for recording a Natural Greenbelt Protection Easement that encompasses the entire reduced buffer and wetland/stream area on the subject property (see Attachment 11).

(4) Prior to final inspection of the new home, the applicant should:

- Provide a final as built of the planted mitigation area for review by the City's consultant. The final inspection of the buffer mitigation installation and subsequent maintenance and monitoring work should be reviewed by the City's wetland consultant, the cost of which should be borne by the applicant.
- Install a permanent 3- to 4-foot-tall split rail fence. The fence should be placed at the wetland buffer line. Installation of the permanent fence should be done by hand where necessary to prevent machinery from entering the sensitive areas.
- Provide proof of a written contract with a qualified professional who will perform the monitoring program, together with a completed contract and fees to fund review of the monitoring and maintenance activities, (i.e. inspection of plant materials, annual monitoring reports or re-vegetation activities) by the City's wetland consultant. Alternatively, the applicant shall provide a copy of a completed contract and fees to fund completion of the monitoring program by the City's wetland consultant.

4. GEOLOGICALLY HAZARDOUS AREAS

a. Facts: KMC 22.28.180 states that the applicant has the responsibility in proposing a plat to be sensitive with respect to the natural features, including topography, streams, lakes, wetlands, habitat, geologic features and vegetation, of the property. The plat must be designed to preserve and enhance as many of these valuable features as possible.

Zoning Code regulations on geologically hazardous areas address slope stability, run-off, structural concerns, and liability issues. The Planning Department evaluates proposals located in geologically hazardous zones on the criteria in KZC Chapter 85. The evaluation is based on a geotechnical report prepared by a qualified geotechnical engineer

(1) The City's sensitive area maps indicate that the site is within a seismic hazard area.

(2) The applicant has submitted a geotechnical evaluation by Gary A. Flowers dated May 29th, 2016 that indicates that the underlying soils are glacially consolidated sediments and that the risk of seismic events such as liquefaction is low (see Attachment 13). There are additional requirements for home construction found within the report.

b. Conclusions: As part of any development permit application, the applicant should submit plans consistent with the recommendations within the applicant's geotechnical report (see Attachment 13).

5. NATURAL FEATURES-SIGNIFICANT VEGETATION

a. Facts:

(1) Regulations regarding the retention of trees can be found in Chapter 95 of the Kirkland Zoning Code. The applicant is required to retain all viable trees on the site following the short plat approval. Consistent with the Tree Retention Plan phased review process for short plats in KZC 95.30.6.a, tree removal will be considered at the land surface modification and building permit stages of development when the location of all improvements will be established.

(2) The applicant has submitted a Tree Retention Plan prepared by AFM dated May 6, 2016 (see Attachment 4). The report addresses the health and viability of all trees on site and trees with overhanging driplines from neighbor's trees.

(3) The City's consulting arborist has reviewed the arborist report. The trees were typed according to their retention value; this information can be found in Attachment 3, Development Standards.

b. Conclusion: The applicant should retain all viable trees during the construction of plat improvements and residences and comply with the specific recommendations of the City's arborist (see Attachment 3).

6. DEVELOPMENT REGULATIONS SHORT PLAT

   a. Facts: Kirkland Municipal Code section 22.28 contains requirements governing the design of short plats.

      (1) KMC section 22.28.030 requires that all lots within a subdivision meet the minimum size requirements established for the property in the Kirkland Zoning Code or other land use regulatory document.

      (2) KMC 22.28.050 and 22.28.060 require that lots are of a shape and size so that reasonable development may be made of the lot, and that the general layout is designed to allow for reasonable subdivision and use of adjoining properties.

      (3) KMC section 22.28.200 establishes that the City may require that any area adjacent to a Class A, B and C_stream, a lake, or a wetland be kept in its natural or pre-existing state if reasonably necessary to prevent hazards to persons or property, or to protect unique and valuable environments.

      (4) KMC section 22.28.180 states that the applicant has the responsibility in proposing a plat to be sensitive with respect to the natural features, including topography, streams, lakes, wetlands, habitat, geologic features and vegetation, of the property. The plat must be designed to preserve and enhance as many of these valuable features as possible.

      (5) The applicant has proposed two lots, both meeting the minimum lot size for the RS 8.5 zone. Both lots are generally rectangular in shape, and the wetland buffer modification request complies with the criteria in KZC Chapter 90 as analyzed and conditioned in Section II.C.3.

   b. Conclusion: The application complies with the design requirements for short plats found in KMC 22.28. with respect to lot size, shape, layout and preservation of natural features. The conditions in Section II.C.3.b regarding the wetland buffer reduction should be followed.

D. COMPREHENSIVE PLAN

1. Facts: The subject property is located within the Juanita Neighborhood. Figure J-2b on page XV.I-6-1 designates the subject property for LDR 5 (Low Density Residential, 5 dwelling units per acre).

   a. The proposal includes division of a 54,694 square foot parcel into 2 lots in an RS 8.5 Zone.

2. Conclusion: The proposed use of the subject property is consistent with the Comprehensive Plan.

E. DEVELOPMENT STANDARDS

1. Fact: Additional comments and requirements placed on the project are found on

the Development Standards, Attachment 3.

2. Conclusion: The applicant should follow the requirements set forth in Attachment 3.

III. SUBSEQUENT MODIFICATIONS

Modifications to the approval may be requested and reviewed pursuant to the applicable modification procedures and criteria in effect at the time of the requested modification.

IV. APPEALS AND JUDICIAL REVIEW

The following is a summary of the deadlines and procedures for and appeals. Any person wishing to file or respond to an appeal should contact the Planning Department for further procedural information.

A. APPEALS

1. Appeal to City Council:

Section 150.80 of the Zoning Code allows the Hearing Examiner's decision to be appealed by the applicant and any person who submitted written or oral testimony or comments to the Hearing Examiner. A party who signed a petition may not appeal unless such party also submitted independent written comments or information. The appeal must be in writing and must be delivered, along with any fees set by ordinance, to the Planning Department by 5:00 p.m., ______________________________, fourteen (14) calendar days following the postmarked date of distribution of the Hearing Examiner's decision on the application.

B. JUDICIAL REVIEW

Section 150.130 of the Zoning Code allows the action of the City in granting or denying this zoning permit to be reviewed in King County Superior Court. The petition for review must be filed within 21 calendar days of the issuance of the final land use decision by the City.

V. LAPSE OF APPROVAL

A. Under KMC 22.20.370 Short plat documents – Recordation – Time limits:

The short plat must be recorded with King County within five (5) years of the date of approval or the decision becomes void; provided, however, that in the event judicial review is initiated, the running of the five (5) years is tolled for any period of time during which a court order in said judicial review proceeding prohibits the recording of the short plat.

B. Under KZC 150.135:

The applicant must begin construction or submit to the City a complete building permit application for the development activity, use of land or other actions approved under this chapter within five (5) years after the final approval of the City of Kirkland on the matter, or the decision becomes void; provided, however, that in the event judicial review is initiated per KZC 145.110, KZC 150.130, KZC 152.110, the running of the five

(5) years is tolled for any period of time during which a court order in said judicial review proceeding prohibits the required development activity, use of land, or other actions.

The applicant must substantially complete construction for the development activity, use of land, or other actions approved under this chapter and complete the applicable conditions listed on the notice of decision within nine (9) years after the final approval on the matter, or the decision becomes void.

APPENDICES

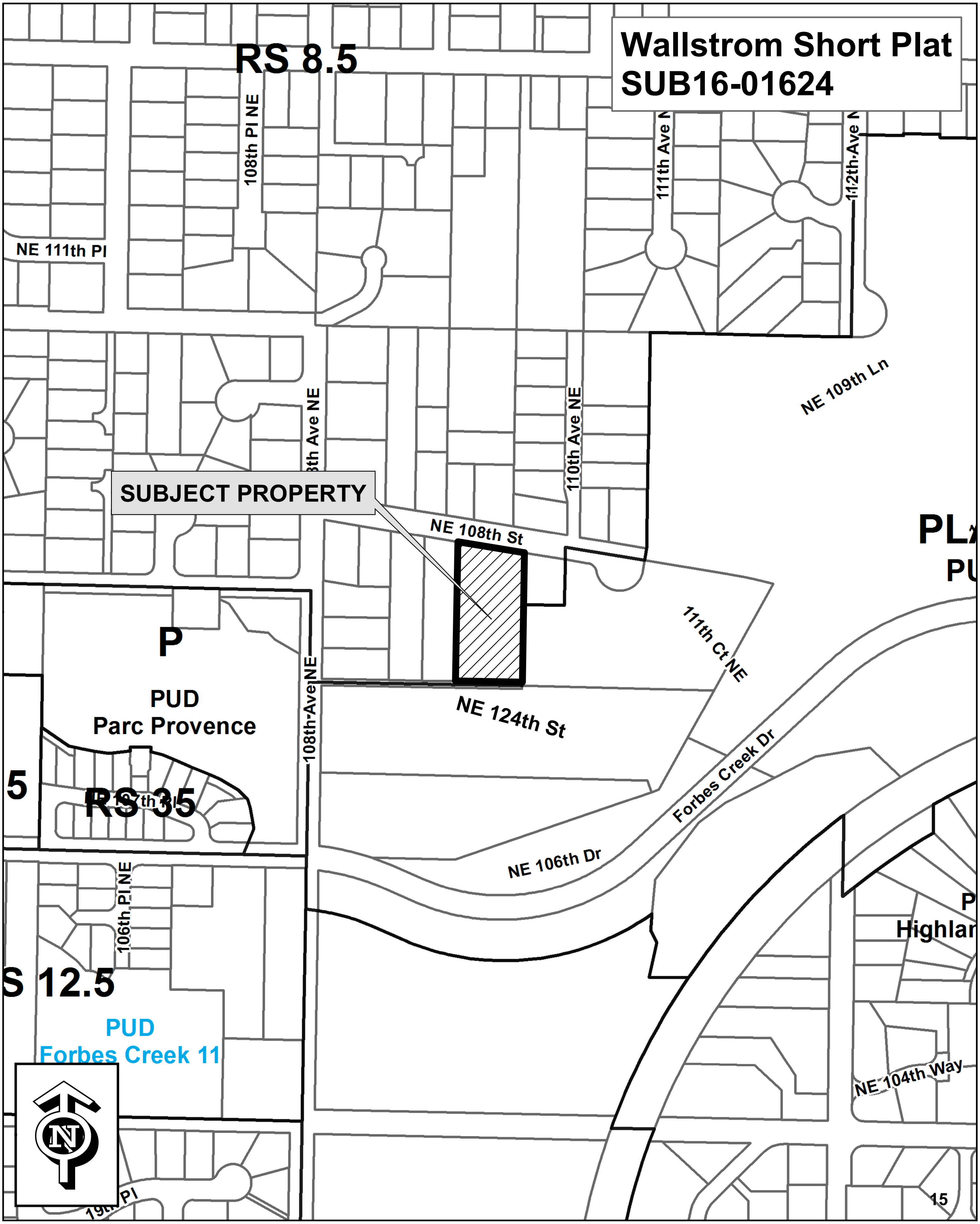
Attachments 1 through 13 are attached.

1. Vicinity Map
2. Applicant's Development Proposal
3. Development Standards
4. Arborist Report
5. Wetland Resources Delineation report dated November 13, 2014.
6. Watershed Company peer review delineation report dated October 24, 2014
7. Public Comment letter
8. Buffer Modification Proposal report by Talasaea Consultants Inc, dated May 12, 2016
9. The Watershed Co. Response to the Original proposal dated August 24, 2016
10. The Watershed Co. final review memo dated November 14, 2016
11. Natural Growth Protection Easement (NGPE) language
12. Wetlands Covenant
13. Geotechnical Report prepared by Gary Flowers, dated

VI. PARTIES OF RECORD

Applicant
Persons submitting public comment
Department of Planning and Community Development
Department of Public Works
Department of Building and Fire Services

A written decision will be issued by the Hearing Examiner within eight calendar days of the date of the open record hearing.


Wallstrom Short Plat
SUB16-01624
RS 8.5
108th Pl NE
111th Ave NE
112th Ave NE
NE 111th Pl
NE 109th Ln
108th Ave NE
110th Ave NE
SUBJECT PROPERTY
NE 108th St
PLA
PU
111th Ct NE
P
PUD
Parc Provence
108th Ave NE
NE 124th St
5
RS 35
Forbes Creek Dr
NE 106th Dr
106th Pl NE
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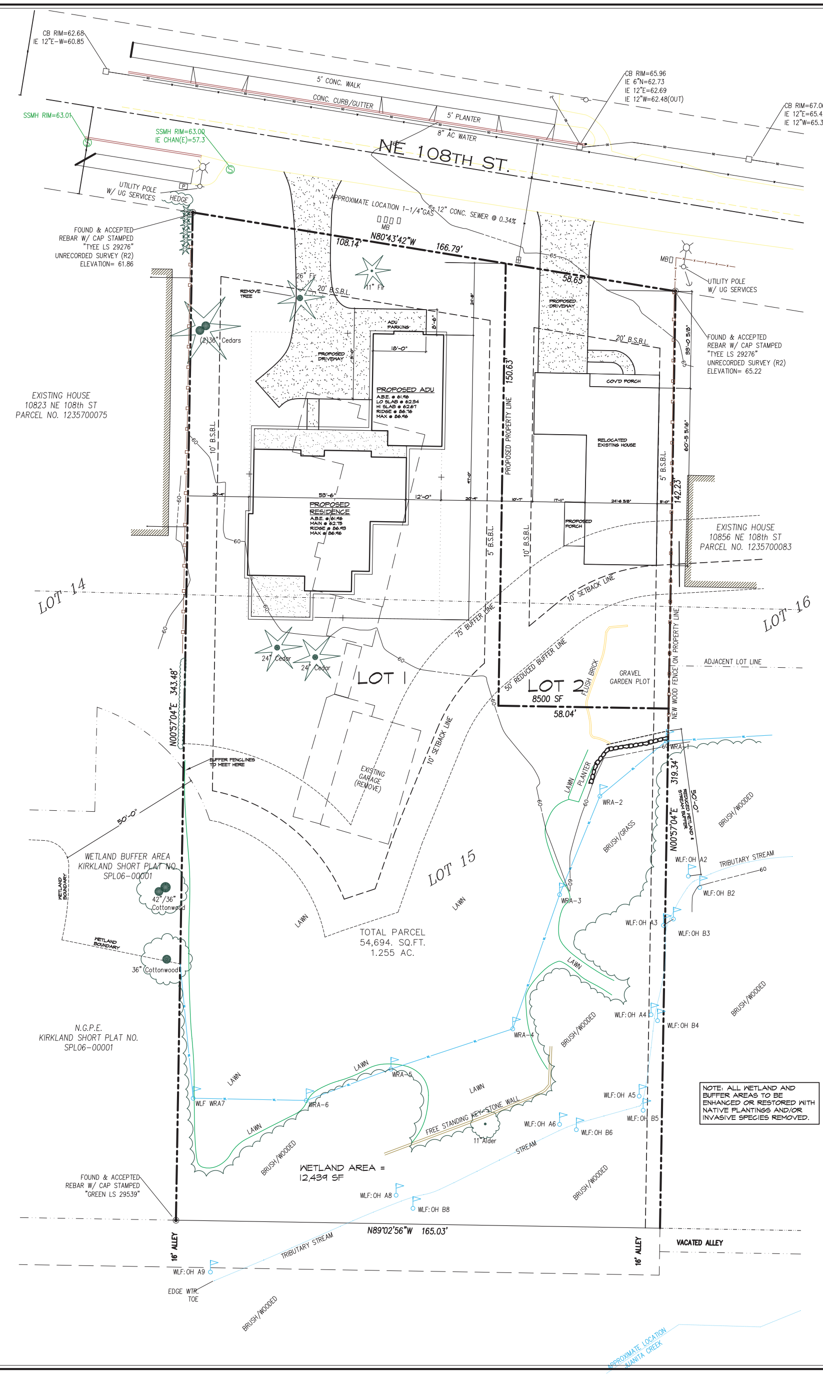
NE 104th Way
N
19th Pl



TAX ACCOUNT
123570-0080

SITE ADDRESS
10841 NE 108TH ST
KIRKLAND, WA 98033

OWNER
STEVE & KRISTAL WALLSTROM
10841 NE 108TH ST
KIRKLAND, WA 98033

LOT 1 IMPERVIOUS AREA

LOT AREA:	46,194 S.F.
PROPOSED ROOF AREA:	3928 S.F.
PROPOSED DRIVEWAY:	1508 S.F.
TOTAL NEW IMPERVIOUS AREA:	5436 S.F.

LOT 2 IMPERVIOUS AREA

LOT AREA:	8,500 S.F.
EXIST/RELOCATED HOUSE/PORCH AREA:	2076 S.F.
PROPOSED DRIVEWAY/WALKWAY:	644 S.F.
TOTAL IMPERVIOUS AREA:	2720 S.F.

SITE PLAN
SCALE : 1" = 20'-0"

0 20 40 80

NORTH

ARCHITECTS NORTHWEST
18915-142nd AVENUE NE SUITE 100 WOODINVILLE, WA 98072
OFFICE (425) 485-4900 FAX (425) 487-6585 WWW.ARCHITECTSNW.COM

WALLSTROM RESIDENCE
XXXXXXXXXXXXXX
CUSTOM

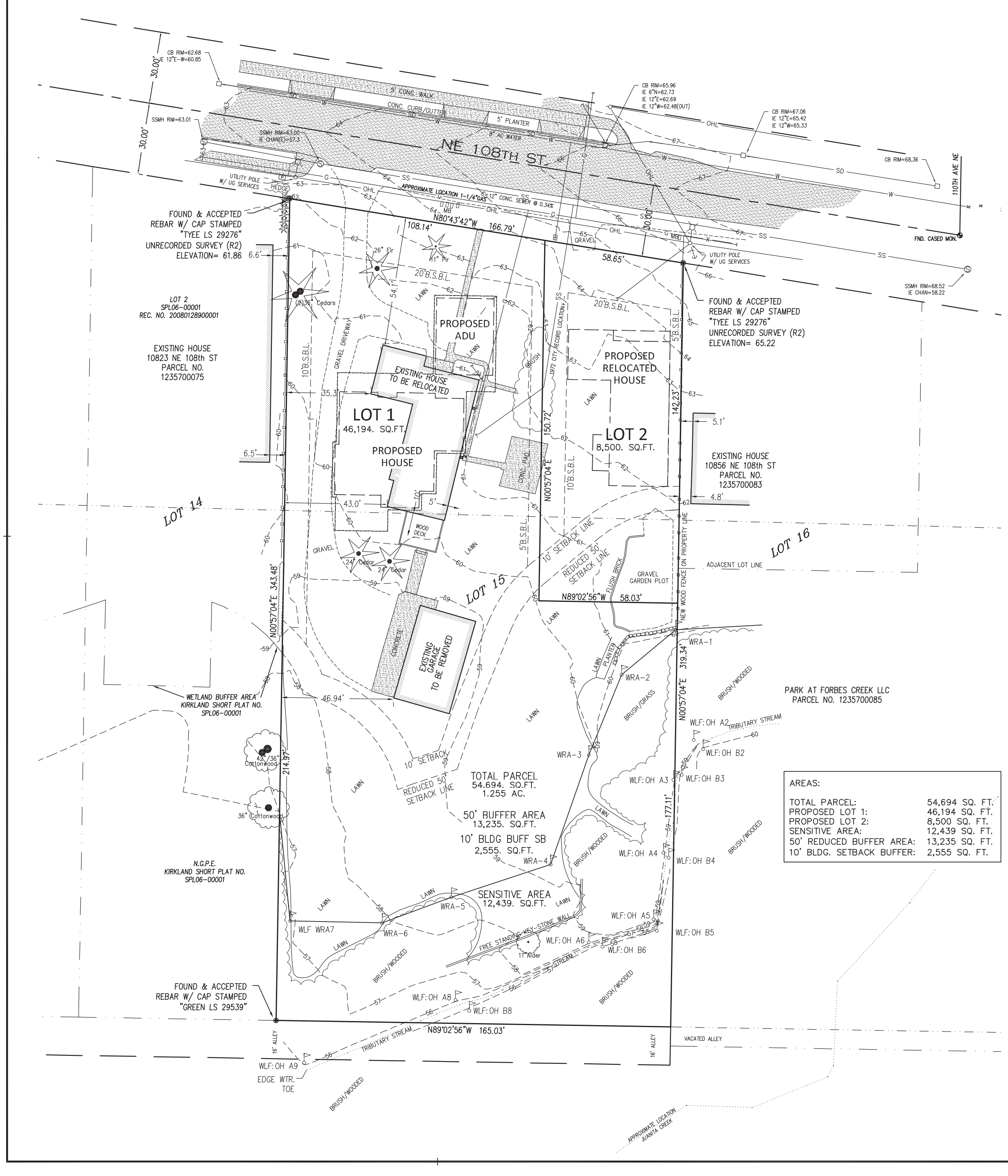
DESIGNED BY: SLW DATE: 2016
DRAWN BY: AG DATE: 2016
PROJECT MANAGER: SARAH WEIGHT

0
AX

ANW WOODINVILLE OFFICE JOB NUMBER: 160150

WALLSTROM SHORT PLAT SUB 16 - 01624

A PORTION OF: SW 1/4 OF NE 1/4 & NW 1/4 OF SE 1/4, SECTION 32, T. 26 N., R. 5 E., W.M.
CITY OF KIRKLAND, KING COUNTY, WASHINGTON



AREAS:

TOTAL PARCEL:	54,694 SQ. FT.
PROPOSED LOT 1:	46,194 SQ. FT.
PROPOSED LOT 2:	8,500 SQ. FT.
SENSITIVE AREA:	12,439 SQ. FT.
50' REDUCED BUFFER AREA:	13,235 SQ. FT.
10' BLDG. SETBACK BUFFER:	2,555 SQ. FT.

LEGEND

- WATER VALVE
- HYDRANT
- WATER METER
- MANHOLES (SS/SD)
- CB
- POWER/UTILITY POLE
- GUY ANCHOR
- POWER TRANSFORMER
- POWER/TELEPHONE VAULT
- POWER METER
- TELEPHONE/TV RISER
- GAS VALVE
- GAS METER
- STREET LIGHT
- SIGN
- MAILBOX
- ROCKERY
- CONIFEROUS TREE / DECIDUOUS TREE — WITH TREE DIAMETER PER C.O.K.
- SUBDIVISION LINES
- CENTER LINES
- PROPERTY LINES
- RIGHT-OF-WAY LINES
- LOT LINES
- DITCH LINE
- WATER LINE
- SANITARY SEWER LINE
- STORM DRAIN LINE
- GAS LINE
- UNDERGROUND POWER LINES
- OVERHEAD UTILITY LINES
- CHAIN LINK FENCE
- WIRE FENCE
- WOOD FENCE
- FOUND 5/8" IRON REBAR W/ PLASTIC CAP AS NOTED. UNLESS OTHERWISE STATED.
- MONUMENTS AS NOTED

NOTES:

BASIS OF BEARING: UNRECORDED SURVEY BY TYEE SURVEYORS

MERIDIAN: N. 0 57' 04" E. ON CENTERLINE OF 108TH AVE. NE.

VERTICAL DATUM: NAVD88

SITE BENCHMARK: NE AND NW PROPERTY CORNERS AS SHOWN HEREON

TOTAL SITE AREA: 56,694 SQ. FT. OR 1.255 ACRES

PROPERTY ADDRESS: 10841 NE 108TH ST, KIRKLAND WA 98033

TAX ACCOUNT NUMBER:123570-0080

TITLE REPORT: STEWART TITLE GUARANTEE COMPANY, SUBDIVISION GUARANTEE NO. G-6329-8703, ORDER NO. 01148-58658, DATED JUNE 24TH, 2016 AT 8:00AM.

PROPERTY BOUNDARY: THE BOUNDARY SHOWN HEREON IS PER UNRECORDED RECORD OF SURVEY BY TYEE SURVEYORS DATED 4-28-14 AS SUPPLIED BY THE CLIENT.

THE LOCATION AND DESCRIPTION OF ALL SURVEY MARKERS SHOWN HEREON ARE BASED ON FIELD OBSERVATIONS TAKEN IN NOVEMBER 2014, UNLESS OTHERWISE INDICATED.

WORK PERFORMED IN CONJUNCTION WITH THIS SURVEY UTILIZED THE FOLLOWING EQUIPMENT AND PROCEDURES: (A) LEICA TCA1103 ELECTRONIC TOTAL STATION, MAINTAINED TO THE MANUFACTURER'S SPECIFICATIONS PER W.A.C. 332-130-100. (B) FIELD TRAVERSE, EXCEEDING REQUIREMENTS SET FORTH IN W.A.C. 332-130-090.

THIS SURVEY DRAWING PRESENTS SURFACE FEATURES LOCATED DURING THE COURSE OF THIS SURVEY. UNDERGROUND UTILITIES SHOWN HEREON (IF ANY) ARE BASED SOLELY UPON INFORMATION PROVIDED BY OTHERS AND BENCHMARK SURVEYING LLC DOES NOT ACCEPT RESPONSIBILITY OR ASSUME LIABILITY FOR THE ACCURACY OR COMPLETENESS.

CONTRACTOR/ENGINEERS/OWNERS/ARCHITECTS AND ALL OTHERS SHALL VERIFY EXACT SIZE AND LOCATION PRIOR TO CONSTRUCTION.

CALL FOR LOCATE: UTILITY LOCATION SERVICE: 1-800-424-5555.

LEGAL DESCRIPTION:

LOT 15, BLOCK 22, BURKE & FARRAR'S KIRKLAND ADDITION TO THE CITY OF SEATTLE, DIVISION NO. 9, ACCORDING TO THE PLAT THEREOF RECORDED IN VOLUME 19 OF PLATS, PAGE 69, RECORDS OF KING COUNTY, WASHINGTON.

SITUATE IN THE COUNTY OF KING, STATE OF WASHINGTON.

32-26N-5E

JOSEPH R. DERSHAM
STATE OF WASHINGTON
23127
REGISTERED
PROFESSIONAL LAND SURVEYOR
4/27/2016

GRAPHIC SCALE
30 0 15 30
(IN FEET)
1 inch = 30 ft.

CITY OF KIRKLAND
WASHINGTON

WALLSTROM SHORT PLAT
10841 NE 108TH STREET
KIRKLAND, WA 98033

BENCHMARK SURVEYING LLC
EVERETT p. 206.396.6252
11915 44TH DRIVE SE
EVERETT, WA 98208
KIRKLAND p. 206.396.3199

DRN/CHKD BY:	SCALE:	DATE:	JOB NO.:	SHEET
JRD/JD	1"=30'	6/30/2016 REV. 9/26/2016	WAL-2014	2 OF 2

CITY OF KIRKLAND
Planning and Building Department
123 5th Avenue, Kirkland, WA 98033
425.587.3600 ~ www.kirklandwa.gov

DEVELOPMENT STANDARDS LIST

File: SUB16-01624 and SAR16-01623

SUBDIVISION STANDARDS

22.28.030 Lot Size. Unless otherwise approved in the preliminary subdivision or short subdivision approval, all lots within a subdivision must meet the minimum size requirements established for the property in the Kirkland zoning code or other land use regulatory document.

22.28.050 Lot Dimensions. For lots smaller than 5,000 square feet in low density zones, the lot width at the back of the required front yard shall not be less than 50 feet unless the garage is located at the rear of the lot or the lot is a flag lot.

22.28.210 Significant Trees.

A Tree Retention Plan was submitted with the short plat. During the review of the short plat, all proposed improvements were unknown. Therefore KZC Section 95.30 (6)(a) – Phased Review applies in regards to tree retention. There are 6 significant trees on the site, of which 6 are viable. These trees have been assessed by the City's Urban Forester. They are identified by number in the following chart.

Significant Trees:	**High Retention Value**	**Moderate Retention Value**	**Low Retention Value** **(V)** – viable **(NV)** – not viable
378	X		
379		X	
382	X		
6+" Western Hazelnut	X		
368		X	
369		X	

Arborist recommendation: (*KZC 95.30) show no grade changes within 10 feet of tree #378 to accommodate arborist recommendation for limits of disturbance and retain this tree as planned*

There are no tree related concerns with the wetland buffer modification shown in the updated plans. Trees #378, 382 and a 6+" DBH western hazelnut tree are high retention value trees. The western hazelnut tree is approximately 18 feet north of tree #382. It is unlikely to be impacted by the proposed improvements. The updated plans show grade changes within 10 feet of tree #378; these should be changed to accommodate the retention and follow the recommendations of the arborist report.

Trees #379, 368 and 369 are moderate retention value trees. Tree #379 is accurately described in the arborist report in that it has multiple leaders which have regenerated from a topping cut at 35' and the leaders are reaching a height which is equal to the height of the topping cut. The leaders' attachments appear to be strong at this time rather than weaker acute attachments.

Tree #370 is not identified on the chart above because it is not identified as a hazard and is not within the work zone.

Neighbor's trees: Trees #201 and 202 will be impacted by the proposed garage and ADU on the eastern lot. The excavation near these trees should be observed by an arborist to cleanly cut any damaged roots and write and submit a memo if an unusual root plate is encountered and incurs damage.
ROW trees: the proposal includes frontage improvements but no street tree plantings. The LSM submittal should include street trees if they are required. The street trees species should be selected to accommodate the overhead power lines which run along the south side of NE 108th Street.

No trees are to be removed with an approved short plat or subdivision permit. Based on the Tree Retention Plan, the applicant shall retain and protect all viable trees throughout the development of each single family lot except for those trees allowed to be removed for the installation of the plat infrastructure improvements with an approved Land Surface Modification permit. Subsequent approval for tree removal is granted for the construction of the house and other associated site improvements with a required Building Permit. The Planning Official is authorized to require site plan alterations to retain High Retention value trees at each stage of the project. In addition to retaining viable trees, new trees may be required to meet the minimum tree density per KZC Section 95.33.

22.32.010 Utility System Improvements. All utility system improvements must be designed and installed in accordance with all standards of the applicable serving utility.
22.32.030 Stormwater Control System. The applicant shall comply with the construction phase and permanent stormwater control requirements of the Municipal Code.
22.32.050 Transmission Line Undergrounding. The applicant shall comply with the utility lines and appurtenances requirements of the Zoning Code.
22.32.060 Utility Easements. Except in unusual circumstances, easements for utilities should be at least ten feet in width.

Prior to Recording:
22.20.362 Short Plat - Title Report. The applicant shall submit a title company certification which is not more than 30 calendar days old verifying ownership of the subject property on the date that the property owner(s) (as indicated in the report) sign(s) the short plat documents; containing a legal description of the entire parcel to be subdivided; describing any easements or restrictions affecting the property with a description, purpose and reference by auditor's file number and/or recording number; any encumbrances on the property; and any delinquent taxes or assessments on the property.
22.20.366 Short Plat - Lot Corners. The exterior short plat boundary and all interior lot corners shall be set by a registered land surveyor. If the applicant submits a bond for construction of short plat improvements and installation of permanent interior lot corners, the City may allow installation of temporary interior lot corners until the short plat improvements are completed.
22.20.390 Short Plat - Improvements. The owner shall complete or bond all required right-of-way, easement, utility and other similar improvements.

22.32.020 Water System. The applicant shall install a system to provide potable water, adequate fire flow and all required fire-fighting infrastructure and appurtenances to each lot created.

22.32.040 Sanitary Sewer System. The developer shall install a sanitary sewer system to serve each lot created.

22.32.080 Performance Bonds. In lieu of installing all required improvements and components as part of a plat or short plat, the applicant may propose to post a bond, or submit evidence that an adequate security device has been submitted and accepted by the service provider (City of Kirkland and/or Northshore Utility District), for a period of one year to ensure completion of these requirements within one year of plat/short plat approval.

Prior to occupancy:

22.32.020 Water System. The applicant shall install a system to provide potable water, adequate fire flow and all required fire-fighting infrastructure and appurtenances to each lot created.

22.32.040 Sanitary Sewer System. The developer shall install a sanitary sewer system to serve each lot created.

22.32.090 Maintenance Bonds. A two-year maintenance bond may be required for any of the improvements or landscaping installed or maintained under this title

ZONING CODE STANDARDS

85.25.1 Geotechnical Report Recommendations. The geotechnical recommendations contained in the report by Gary Flowers dated May 29th 2016 shall be implemented.

90.45 Wetlands and Wetland Buffers. No land surface modification may take place and no improvement may be located in a wetland or within the environmentally sensitive area buffers for a wetland, except as specifically provided in this Section.

90.50 Wetland Buffer Fence. Prior to development, the applicant shall install a six-foot high construction phase fence along the upland boundary of the wetland buffer with silt screen fabric installed per City standard. The fence shall remain upright in the approved location for the duration of development activities. Upon project completion, the applicant shall install between the upland boundary of all wetland buffers and the developed portion of the site, either 1) a permanent 3 to 4 foot tall split rail fence, or 2) permanent planting of equal barrier value.

90.55 Monitoring and Maintenance of Wetland Buffer Modifications: Modification of a wetland buffer will require that the applicant submit a 5-year monitoring and maintenance plan consistent with the criteria found in 95.55 and which is prepared by a qualified professional and reviewed by the City's wetland consultant. The cost of the plan and the City's review shall be borne by the applicant.

90.80 Streams. No land surface modification may take place and no improvements may be located in a stream except as specifically provided in this Section.

90.90 Stream Buffers. No land surface modification may take place and no improvement may be located within the environmentally sensitive buffer for a stream, except as provided in this Section.

90.95 Stream Buffer Fence. Prior to development, the applicant shall install a six-foot high construction phase fence along the upland boundary of the entire stream buffer with silt screen fabric installed per City standard. The fence shall remain upright in the approved location for the duration of development activities. Upon project completion, the applicant shall install between the upland boundary of all stream buffers and the developed portion of the site, either 1) a permanent 3 to 4 foot tall split rail fence, or 2) permanent planting of equal barrier value.

95.50 Tree Installation Standards. All supplemental trees to be planted shall conform to the

Kirkland Plant List. All installation standards shall conform to Kirkland Zoning Code Section 95.45.

95.52 Prohibited Vegetation. Plants listed as prohibited in the Kirkland Plant List shall not be planted in the City.

105.10.2 Pavement Setbacks. The paved surface in an access easement or tract shall be set back at least 5 feet from any adjacent property which does not receive access from that easement or tract. An access easement or tract that has a paved area greater than 10 feet in width must be screened from any adjacent property that does not receive access from it. Screening standards are outlined in this section.

105.47 Required Parking Pad. Except for garages accessed from an alley, garages serving detached dwelling units in low density zones shall provide a minimum 20-foot by 20-foot parking pad between the garage and the access easement, tract, or right-of-way providing access to the garage.

110.60.5 Street Trees. All trees planted in the right-of-way must be approved as to species by the City. All trees must be two inches in diameter at the time of planting as measured using the standards of the American Association of Nurserymen with a canopy that starts at least six feet above finished grade and does not obstruct any adjoining sidewalks or driving lanes.

115.25 Work Hours. It is a violation of this Code to engage in any development activity or to operate any heavy equipment before 7:00 am. or after 8:00 pm Monday through Friday, or before 9:00 am or after 6:00 pm Saturday. No development activity or use of heavy equipment may occur on Sundays or on the following holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving, and Christmas Day. The applicant will be required to comply with these regulations and any violation of this section will result in enforcement action, unless written permission is obtained from the Planning official.

115.40 Fence Location. Fences over 6 feet in height may not be located in a required setback yard. A detached dwelling unit abutting a neighborhood access or collector street may not have a fence over 3.5 feet in height within the required front yard. No fence may be placed within a high waterline setback yard or within any portion of a north or south property line yard, which is coincident with the high waterline setback yard.

A detached dwelling unit may not have a fence over 3.5 feet in height within 3 feet of the property line abutting a principal or minor arterial except where the abutting arterial contains an improved landscape strip between the street and sidewalk. The area between the fence and property line shall be planted with vegetation and maintained by the property owner.

115.42 Floor Area Ratio (F.A.R.) Limits. Floor area for detached dwelling units is limited to a maximum floor area ratio in low density residential zones. See Use Zone charts for the maximum percentages allowed.

115.43 Garage Requirements for Detached Dwelling Units in Low Density Zones. Detached dwelling units served by an open public alley, or an easement or tract serving as an alley, shall enter all garages from that alley. Whenever practicable, garage doors shall not be placed on the front façade of the house. Side-entry garages shall minimize blank walls. For garages with garage doors on the front façade, increased setbacks apply, and the garage width shall not exceed 50% of the total width of the front façade. These regulations do not apply within the disapproval jurisdiction of the Houghton Community Council. Section 115.43 lists other exceptions to these requirements.

115.75.2 Fill Material. All materials used as fill must be non-dissolving and non-decomposing. Fill material must not contain organic or inorganic material that would be detrimental to the water quality, or existing habitat, or create any other significant adverse impacts to the environment.

115.90 Calculating Lot Coverage. The total area of all structures and pavement and any other impervious surface on the subject property is limited to a maximum percentage of total lot area. See the Use Zone charts for maximum lot coverage percentages allowed. Section 115.90 lists exceptions to total lot coverage calculations See Section 115.90 for a more detailed explanation of these exceptions.

115.95 Noise Standards. The City of Kirkland adopts by reference the Maximum

Environmental Noise Levels established pursuant to the Noise Control Act of 1974, RCW 70.107. See Chapter 173-60 WAC. Any noise, which injures, endangers the comfort, repose, health or safety of persons, or in any way renders persons insecure in life, or in the use of property is a violation of this Code.

115.115 Required Setback Yards. This section establishes what structures, improvements and activities may be within required setback yards as established for each use in each zone.

115.115.3.g Rockeries and Retaining Walls. Rockeries and retaining walls are limited to a maximum height of four feet in a required yard unless certain modification criteria in this section are met. The combined height of fences and retaining walls within five feet of each other in a required yard is limited to a maximum height of 6 feet, unless certain modification criteria in this section are met.

115.115.3.n Covered Entry Porches. In residential zones, covered entry porches on dwelling units may be located within 13 feet of the front property line if certain criteria in this section are met. This incentive is not effective within the disapproval jurisdiction of the Houghton Community Council.

115.115.3.p HVAC and Similar Equipment: These may be placed no closer than five feet of a side or rear property line, and shall not be located within a required front yard; provided, that HVAC equipment may be located in a storage shed approved pursuant to subsection (3)(m) of this section or a garage approved pursuant to subsection (3)(o)(2) of this section. All HVAC equipment shall be baffled, shielded, enclosed, or placed on the property in a manner that will ensure compliance with the noise provisions of KZC 115.95.

115.115.5.a Driveway Width and Setbacks. For a detached dwelling unit, a driveway and/or parking area shall not exceed 20 feet in width in any required front yard, and shall be separated from other hard surfaced areas located in the front yard by a 5-foot wide landscape strip. Driveways shall not be closer than 5 feet to any side property line unless certain standards are met.

115.115.5.b Driveway Setbacks. For attached and stacked dwelling units in residential zones, driveways shall have a minimum 5' setback from all property lines except for the portion of any driveway, which connects with an adjacent street. Vehicle parking areas shall have a minimum 20-foot setback from all front property lines and meet the minimum required setbacks from all other property lines for the use.

by incorporating them in to the roof form.

115.135 Sight Distance at Intersection. Areas around all intersections, including the entrance of driveways onto streets, must be kept clear of sight obstruction as described in this section.

150.22.2 Public Notice Signs. Within seven (7) calendar days after the end of the 21-day period following the City's final decision on the permit, the applicant shall remove all public notice signs.

Prior to recording:

110.60.6 Mailboxes. Mailboxes shall be installed in the development in a location approved by the Postal Service and the Planning Official. The applicant shall, to the maximum extent possible, group mailboxes for units or uses in the development.

Prior to issuance of a grading or building permit:

85.25.1 Geotechnical Report Recommendations. A written acknowledgment must be added to the face of the plans signed by the architect, engineer, and/or designer that he/she has reviewed the geotechnical recommendations and incorporated these recommendations into the plans.

85.45 Liability. The applicant shall enter into an agreement with the City, which runs with the property, in a form acceptable to the City Attorney, indemnifying the City for any damage resulting from development activity on the subject property which is related to the physical condition of the property .

90.50 Wetland Buffer Fence. Prior to development, the applicant shall install a six-foot high construction phase fence along the upland boundary of the wetland buffer with silt screen fabric installed per City standard. The fence shall remain upright in the approved location for the duration of development activities. Upon project completion, the applicant shall install between the upland boundary of all wetland buffers and the developed portion of the site, either 1) a permanent 3 to 4 foot tall split rail fence, or 2) permanent planting of equal barrier value.

90.150 Natural Greenbelt Protective Easement. The applicant shall submit for recording a natural greenbelt protective easement, in a form acceptable to the City Attorney, for recording with King County.

90.155 Liability. The applicant shall enter into an agreement with the City which runs with the property, in a form acceptable to the City Attorney, indemnifying the City for any damage resulting from development activity on the subject property which is related to the physical condition of the stream, minor lake, or wetland.

95.30(4) Tree Protection Techniques. A description and location of tree protection measures during construction for trees to be retained must be shown on demolition and grading plans.

95.34 Tree Protection. Prior to development activity or initiating tree removal on the site, vegetated areas and individual trees to be preserved shall be protected from potentially damaging activities. Protection measures for trees to be retained shall include (1) placing no construction material or equipment within the protected area of any tree to be retained; (2) providing a visible temporary protective chain link fence at least 6 feet in height around the protected area of retained trees or groups of trees until the Planning Official authorizes their removal; (3) installing visible signs spaced no further apart than 15 feet along the protective fence stating "Tree Protection Area, Entrance Prohibited" with the City code enforcement phone number; (4) prohibiting excavation or compaction of earth or other damaging activities within the barriers unless approved by the Planning Official and supervised by a qualified professional; and (5) ensuring that approved landscaping in a protected zone shall be done with light machinery or by hand.

27.06.030 Park Impact Fees. New residential units are required to pay park impact fees prior to issuance of a building permit. Please see KMC 27.06 for the current rate. Exemptions and/or credits may apply pursuant to KMC 27.06.050 and KMC 27.06.060. If a property contains an existing unit to be removed, a "credit" for that unit shall apply to the first building permit of the subdivision.

Prior to occupancy:

90.145 Bonds. The City may require a bond and/or a perpetual landscape maintenance agreement to ensure compliance with any aspect of the Drainage Basins chapter or any decision or determination made under this chapter.

95.51.2.b Tree Maintenance. For detached dwelling units, the applicant shall submit a 5-year tree maintenance agreement to the Planning and Building Department to maintain all pre-existing trees designated for preservation and any supplemental trees required to be planted.

PUBLIC WORKS CONDITIONS

Permit #: SUB16-01624
Project Name: Wallstrom Short Plat
Project Address: 10841 NE 108th St
Date: July 26, 2016

General Conditions:

1. All public improvements associated with this project including street and utility improvements, must meet the City of Kirkland Public Works Pre-Approved Plans and Policies Manual. A Public Works Pre-Approved Plans and Policies manual can be purchased from the Public Works Department, or it may be retrieved from the Public Works Department's page at the City of Kirkland's web site at www.kirklandwa.gov.

2. This project will be subject to Public Works Permit and Connection Fees. It is the applicant's responsibility to contact the Public Works Department by phone or in person to determine the fees. The fees can also be review the City of Kirkland web site at www.kirklandwa.gov The applicant should anticipate the following fees:

- o Water, Sewer, and Surface Water Connection Fees (paid with the issuance of a Building Permit)
- o Side Sewer Inspection Fee (paid with the issuance of a Building Permit)
- o Water Meter Fee (paid with the issuance of a Building Permit)
- o Right-of-way Fee
- o Review and Inspection Fee (for utilities and street improvements).
- o Building Permits associated with this proposed project will be subject to the traffic, park, and school impact fees per Chapter 27 of the Kirkland Municipal Code. The impact fees shall be paid prior to issuance of the Building Permit(s). Any existing buildings within this project which are demolished will receive a Traffic Impact Fee credit, Park Impact Fee Credit and School Impact Fee Credit. This credit will be applied to the first Building Permits that are applied for within the project. The credit amount for each demolished building will be equal to the most currently adopted Fee schedule.

3. All street and utility improvements shall be permitted by obtaining a Land Surface Modification (LSM) Permit.

4. Submittal of Building Permits within a subdivision prior to recording:

- Submittal of a Building Permit with an existing parcel number prior to subdivision recording: A Building Permit can be submitted prior to recording of the subdivision for each existing parcel number in the subject project, however in order for the Building Permit to be deemed a complete application, all of the utility and street improvements for the new home must be submitted with application. However, the Building Permit will not be eligible for issuance until after the Land Surface Modification Permit is submitted, reviewed, and approved to ensure the comprehensive storm water design required by the subdivision approval is reviewed and approved, and then shown correctly on the Building Permit plans to match the Land Surface Modification Permit.

- Submittal of Building Permits within an Integrated Development Plan (IDP): If this subdivision is using the IDP process, the Building Permits for the new homes can only be applied for after the Land Surface Modification Permit has been submitted, reviewed, and approved.

- Submittal of a Building Permit within a standard subdivision (non IDP): If this subdivision is not using the IDP process, the Building Permits for the new houses can be applied for after the subdivision is recorded and the Land Surface Modification permit has been submitted, reviewed, and approved.

- Review of Expedited or Green Building Permits: A new single family home Building Permit within a subdivision can only be review on an expedited or green building fast track if submitted electronically through MBP and the Land Surface Modification permit has been submitted, reviewed, and approved.

- Review of detached multi-family building permits: Detached multi-family building permits can only be applied for after the Land Surface Modification permit submitted, reviewed, and approved.

5. Subdivision Performance and Maintenance Securities:

- The subdivision can be recorded in advance of installing all the required street and utility improvements by posting a performance security equal to 130% of the value of work. This security amount will be determined by using the City of Kirkland's Improvement Evaluation Packet. Contact the Development Engineer assigned to this project to assist with this process.

- If the Developer will be installing the improvements prior to recording of the subdivision, there is a standard right of way restoration security ranging from $10,000.00 to 30,000.00 (value determined based on amount of right-of-way disruption). This security will be held until the project has been completed.

- Once the subdivision has been completed there will be a condition of the permit to establish a two year Maintenance security.

- If a recording Performance Security has not yet been posted, then prior to issuance of the LSM Permit a standard right of way restoration security ranging from $10,000.00 to 30,000.00 (value determined based on amount of ROW disruption) shall be posted with Public Works Department. This security will be held until the project has been completed

6. This project is exempt from concurrency review.

7. All civil engineering plans which are submitted in conjunction with a building, grading, or right-of-way permit must conform to the Public Works Policy titled ENGINEERING PLAN REQUIREMENTS. This policy is contained in the Public Works Pre-Approved Plans and Policies manual.

8. All street improvements and underground utility improvements (storm, sewer, and water) must be designed by a Washington State Licensed Engineer; all drawings shall bear the engineers stamp.

9. All plans submitted in conjunction with a building, grading or right-of-way permit must have elevations which are based on the King County datum only (NAVD 88).

10. A completeness check meeting is required prior to submittal of any Building Permit applications.

11. The required tree plan shall include any significant tree in the public right-of-way along the property frontage.

12. All subdivision recording documents shall include the following language:

o Utility Maintenance: Each property owner shall be responsible for maintenance of the sanitary sewer, storm water stub, rain garden, permeable pavement, or any infiltration facilities (known as Low Impact Development) from the point of use on their own property to the point of connection in the City sanitary sewer main or storm water main. Any portion of a sanitary sewer, surface water stub, rain garden, permeable pavement, or any infiltration facilities, which jointly serves more than one property, shall be jointly maintained and repaired by the property owners sharing such stub. The joint use and maintenance shall "run with the land" and will be binding on all property owners within this subdivision, including their heirs, successors and assigns.

o Public Right-of-way Sidewalk and Vegetation Maintenance: Each property owner shall be responsible for keeping the sidewalk abutting the subject property clean and litter free. The property owner shall also be responsible for the maintenance of the vegetation within the abutting landscape strip. The maintenance shall "run with the land" and will be binding on all property owners within this subdivision, including their heirs, successors and assigns.

If the lots have on-site private storm water facilities, include this language on the subdivision recording document:

o Maintenance of On-site Private Stormwater Facilities: Each Lot within the Subdivision has a stormwater facility (infiltration trench, dry wells, dispersion systems, rain garden, and permeable pavement) which is designed to aid storm water flow control for the development. The stormwater facility within the property shall be owned, operated and maintained by the Owner. The City of Kirkland shall have the right to ingress and egress the Property for inspection of and to reasonable monitoring of the performance, operational flows, or defects of the stormwater/flow control facility.
If the City of Kirkland determines related maintenance or repair work of the stormwater facility is required, the City of Kirkland shall give notice to the Owner of the specific maintenance and/or repair work required. If the above required maintenance or repair is not completed within the time set by the City of Kirkland, the City of Kirkland may perform the required maintenance or repair, or contract with a private company capable of performing the stormwater facility maintenance or repair and the Owner will be required to reimburse the City for any such work performed.
The Owner is required to obtain written approval from the City of Kirkland prior to replacing, altering, modifying or maintaining the storm water facility.

If the project contains LID storm improvements that will be installed as a condition of the new home Building Permit, then include this condition on the Short Plat recording documents:

o Installation of Low Impact Development (LID) storm drainage improvements with Building Permits: All LID storm drainage features depicted on Sheet ____ of ____ of issued permit LSM1X-0XXXX shall be installed in conjunction with the construction of each new home on lots X to X. The LID improvements include, but are not limited to the rain gardens and the pervious driveways. The Building Permit for the new signal family home on lots X to X will not receive a final inspection until said LID improvements are installed. The pervious access road/Tract serving lots X and X shall be constructed or secured by a performance bond prior to recording of the short plat

Sanitary Sewer Conditions:

1. The existing sanitary sewer main within the public right-of-way along the front of the

property is adequate to serve all the lots within the proposed project.

2. Provide a 6-inch minimum side sewer stub to each lot.

3. All side sewer stubs serving the property shall be PVC type pipe per Public Works Pre-approved Plans Sanitary Sewer Design Criteria. Any side sewer not meeting this standard shall be removed and replaced.

Water System Conditions:

1. The existing water main in the public right-of-way along the front of the subject property is adequate to serve this proposed development.

2. Provide a separate 1" minimum water service from the water main to the meter for each lot; City of Kirkland will set the water meter. The water size is determined when the Building Permit is submitted and is sized per the Uniform Plumbing Code. A ¾" meter is the typical size for new single-family home.

3. The existing water service shall be abandoned unless otherwise approved by the Development Engineer or Construction Inspector.

Surface Water Conditions:

1. Provide temporary and permanent storm water control per the 2009 King County Surface Water Design Manual and the Kirkland Addendum (Policy D-10). See Policies D-2 and D-3 in the PW Pre-Approved Plans for drainage review information, or contact city of Kirkland Surface Water staff at (425) 587-3800 for help in determining drainage review requirements. Summarized below are the levels of drainage review based on site and project characteristics:

• Small Project Drainage Review (Types I & II)

Small project drainage reviews are divided into two types, Type I and Type II, primarily based on the amount of impervious surface area. Typical Type I projects create between 500 and 1,999ft2 impervious surface area. Type II projects involve between 2,000 and 9,999ft2 impervious surface areas, with a total of no more than 5,000ft2 of new impervious area and not more than a total of 9,999ft2 impervious surface area added since 01/08/01.

• Targeted Drainage Review

A targeted project drainage review is required for projects that meet the new impervious area criteria for small projects, but also have additional characteristics that require a more in-depth level of review, such as sensitive drainage areas or the construction/modification of a 12" pipe or ditch.

• Full Drainage Review

☐ A full drainage review is required for any proposed project, new or redevelopment, that will:

☐ Adds 5,000ft2 or more of new impervious surface area or 10,000ft2 or more of new plus replaced impervious surface area,

☐ Propose 7,000ft2 or more of new pervious surface or,

☐ Be a redevelopment project on a single or multiple parcel site in which the total of new plus replaced impervious surface area is 5,000ft2 or more and whose valuation of proposed improvements (including interior improvements but excluding required mitigation and frontage improvements) exceeds 50% of the assessed value of the existing site improvements.

2. Address the following items in the LSM:

a. For the flow control exemption, either evaluate the lot at the maximum allowable coverage per planning or apply reduced impervious area credits by recording reduced impervious area covenants during the subdivision process.

b. All public storm main shall be a minimum of 12" in diameter.

c. Level spreaders/dispersion trenches must be located outside of the wetland buffer.

3. Evaluate the feasibility and applicability of dispersion, infiltration, and other stormwater low impact development facilities on-site (per section 5.2 in the 2009 King County Surface Water Design Manual). If feasible, stormwater low impact development facilities are required. See PW Pre-Approved Plan Policy L-1 or L-2 (depending on drainage review) for more information on this requirement.

4. Because this project site is one acre or greater, the following conditions apply:

- Amended soil requirements (per Ecology BMP T5.13) must be used in all landscaped areas.
- If the project meets minimum criteria for water quality treatment (5,000ft2 pollution generating impervious surface area), the enhanced level of treatment is required if the project is multi-family residential, commercial, or industrial. Enhanced treatment targets the removal of metals such as copper and zinc.
- The applicant is responsible to apply for a Construction Stormwater General Permit from Washington State Department of Ecology. Provide the City with a copy of the Notice of Intent for the permit. Permit Information can be found at the following website: http://www.ecy.wa.gov/programs/wq/stormwater/construction/

o Among other requirements, this permit requires the applicant to prepare a Storm Water Pollution Prevention Plan (SWPPP) and identify a Certified Erosion and Sediment Control Lead (CESCL) prior to the start of construction. The CESCL shall attend the City of Kirkland PW Dept. pre-construction meeting with a completed SWPPP.

- Turbidity monitoring by the developer/contractor is required if a project contains a lake, stream, or wetland.
- A Stormwater Pollution Prevention and Spill (SWPPS) Plan must be kept on site during all phases of construction and shall address construction-related pollution generating activities. Follow the guidelines in the 2009 King County Surface Water Design Manual for plan preparation.

5. If a storm water detention system is required, it shall be designed to Level II standards. Historic (forested) conditions shall be used as the pre-developed modeling condition.

6. Provide a level one off-site analysis (based on the King County Surface Water Design Manual, core requirement #2).

7. It doesn't appear that any work within an existing ditch or wetland will be required, however the developer has been given notice that the Army Corps of Engineers (COE) has asserted jurisdiction over upland ditches draining to streams. Either an existing Nationwide COE permit or an Individual COE permit may be necessary for work within ditches, depending on the project activities.

Applicants should obtain the applicable COE permit; information about COE permits can be found at: U.S. Army Corps of Engineers, Seattle District Regulatory Branch http://www.usace.army.mil/Missions/CivilWorks/RegulatoryProgramandPermits.aspx

Specific questions can be directed to: Seattle District, Corps of Engineers, Regulatory Branch, CENWS-OD-RG, Post Office Box 3755, Seattle, WA 98124-3755, Phone: (206) 764-3495

8. A Hydraulic Project Approval (HPA) from WA State Department of Fish and Wildlife (WDFW) may be required for this project. Contact WDFW at 425-313-5681 or Christa.Heller@dfw.wa.gov for determination, obtain an HPA if required, and submit a copy to COK. If an HPA is not required, the applicant may be required to provide written documentation from WDFW as verification. More information on HPAs can be found at the following website: http://wdfw.wa.gov/licensing/hpa/

9. Provide an erosion control report and plan with Building or Land Surface Modification Permit application. The plan shall be in accordance with the 2009 King County Surface Water Design Manual.

10. Construction drainage control shall be maintained by the developer and will be subject to periodic inspections. During the period from May 1 and September 30, all denuded soils must be covered within 7 days; between October 1 and April 30, all denuded soils must be covered within 12 hours. Additional erosion control measures may be required based on site and weather conditions. Exposed soils shall be stabilized at the end of the workday prior to a weekend, holiday, or predicted rain event.

11. Provide collection and conveyance of right-of-way storm drainage

12. Provide a separate storm drainage connection for each lot. All roof and driveway drainage must be tight-lined to the storm drainage system or utilize low impact development techniques. The tight line connections shall be installed with the individual new houses.

13. Provide a plan and profile design for the storm sewer system.

14. A storm sewer "Joint Maintenance Agreement" must be recorded with the property for the jointly used storm sewer lines.

Street and Pedestrian Improvement Conditions:

1. The subject property abuts NE 108th St. This street is a Neighborhood Access type street. Zoning Code sections 110.10 and 110.25 require the applicant to make half-street improvements in rights-of-way abutting the subject property. Section 110.30-110.50 establishes that this street must be improved with the following:

A. Widen the street to 12 ft. from centerline to face of curb (24 ft. from facing curb). Alternatively, the street may be widened to 14 ft. from centerline to face of curb with transitions to 12 ft. at either end of the frontage.
B. Install storm drainage, curb and gutter, a 4.5 ft. planter strip with street trees 30 ft. on-center, and a 5 ft. wide sidewalk.

2. When three or more utility trench crossings occur within 150 lineal ft. of street length or

where utility trenches parallel the street centerline, the street shall be overlaid with new asphalt or the existing asphalt shall be removed and replaced.

- Existing streets with 4-inches or more of existing asphalt shall receive a 2-inch (minimum thickness) asphalt overlay. Grinding of the existing asphalt to blend in the overlay will be required along all match lines.
- Existing streets with 3-inches or less of existing asphalt shall have the existing asphalt removed and replaced with an asphalt thickness equal or greater than the existing asphalt provided however that no asphalt shall be less than 2-inches thick and the subgrade shall be compacted to 95% density.

3. Meet the requirements of the City of Kirkland Driveway Policy D-4.

4. The driveway for each lot shall be long enough so that parked cars do not extend into the access easement or right-of-way. A minimum 20'x20' parking pad is required.

5. All street and driveway intersections shall not have any visual obstructions within the sight distance triangle. See Public Works Pre-approved Policy R.13 for the sight distance criteria and specifications.

6. It shall be the responsibility of the applicant to relocate any above-ground or below-ground utilities which conflict with the project associated street or utility improvements.

7. Underground all new and existing on-site utility lines and overhead transmission lines.

8. Underground any new off-site transmission lines.

9. Zoning Code Section 110.60.9 establishes the requirement that existing utility and transmission (power, telephone, etc.) lines on-site and in rights-of-way adjacent to the site must be underground. The Public Works Director may determine if undergrounding transmission lines in the adjacent right-of-way is not feasible and defer the undergrounding by signing an agreement to participate in an undergrounding project, if one is ever proposed. In this case, the Public Works Director has determined that undergrounding of existing overhead utility on NE 108th St. is not feasible at this time and the undergrounding of off-site/frontage transmission lines should be deferred with a Local Improvement District (LID) No Protest Agreement. The final recorded subdivision mylar shall include the following note:

Local Improvement District (LID) Waiver Agreement. Chapter 110.60.7.b of the Kirkland Zoning Code requires all overhead utility lines along the frontage of the subject property to be converted to underground unless the Public Works Director determines that it is infeasible to do so at the time of the subdivision recording. If it is determined to be infeasible, then the property owner shall consent to the formation of a Local Improvement District, hereafter formed by the City or other property owners. During review of this subdivision it was determined that it was infeasible to convert the overhead utility lines to underground along the frontage of this subdivision on NE 108th St. Therefore, in consideration of deferring the requirement to underground the overhead utility lines at the time of the subdivision recording, the property owner and all future property owners of lots within this subdivision hereby consent to the formation of a Local Improvement District hereafter formed by the City or other property owners

10. New street lights may be required per Puget Power design and Public Works approval. Contact the INTO Light Division at PSE for a lighting analysis. If lighting is necessary, design

must be submitted prior to issuance of a grading or building permit.

BUILDING DEPARTMENT CONDITIONS

You may contact Tanya Elder at 425-587-3614 for Building Department questions related to this permit.

1. The approved plans shall not be changed, modified, or altered without authorization from the building official. The approved plans are required to be on the job site.

2. This SUB Permit does not authorize any cutting or digging for new footings or foundations. A SEPERATE BUILDING PERMIT MUST BE ISSUED PRIOR TO ANY FOOTING OR FOUNDATION WORK.

3. No excavation or fill is authorized to encroach upon a neighboring property without explicit agreement by the adjoining property owner.

4. Separate demolition permit(s) are required prior to demolition of any existing structures (this includes demolition of the foundation of the existing house once the house has been relocated).

5. Separate building permit(s) are required for construction of any new buildings (this include construction of the new foundation for the relocated house), or modifications to the existing house.

6. For the existing house that is to be relocated, if any portion of the roof eave overhangs project into the 5’ side yard, those overhangs must be protected per IRC R302.1 and Table R302.1. This means that some minor construction is required, and perhaps modifications to roof/attic ventilation. This kind of work will require a building permit.

FIRE DEPARTMENT COMMENTS

Contact: Grace Steuart at 425-587-3660; or gsteuart@kirklandwa.gov

NO COMMENT

The Fire Department has no specific comments or conditions on this short plat.

ACCESS, HYDRANTS, AND FIRE FLOW ARE ADEQUATE

Both lots front on the ROW so there are no additional fire department requirements for access.

Existing hydrants in the area are adequate to provide coverage for the proposed project. The closest hydrant is already equipped with a 5” Storz fitting.

Fire flow in the area is approximately 2200 gpm, which is adequate for development.

SPRINKLER THRESHOLD

Per Kirkland Municipal Code, all new buildings which are 5,000 gross square feet or larger require fire sprinklers. Included are single family homes, duplexes, and zero lot line townhouses where the aggregate area of all connected townhouses is greater than 5,000 square feet.; garages, porches, covered decks, etc, are included in the gross square footage. (This comment is included in the short plat conditions for informational purposes only.)

American Forest Management
11415 NE 128th St Suite 110 Kirkland WA 98034 • (425)820-3420 • FAX (425)820-3437
www.americanforestmanagement.com

ARBORIST REPORT/TREE PLAN
for
10841 – 108th ST NE
Kirkland, WA

May 6, 2016

Table of Contents

Appendix

Site/Tree Photos – pages 5 – 8

Tree protection Standards – page 9

Tree Summary Table - attached

Tree Plan Map – attached

City of Kirkland Tree Protection Fencing Detail - attached

1. Introduction

American Forest Management, Inc. was contacted by Kristal Wallstrom, and was asked to compile an 'Arborist Report' for a parcel located within the City of Kirkland.

The proposed 2 Lot short plat encompasses the property at 10841 – 108th ST NE. Our assignment is to prepare a written report on present tree conditions, which is to be filed with the preliminary permit application.

This report encompasses all of the criteria set forth under the City of Kirkland's tree regulations (Chapter 95 of the Kirkland Zoning Code). The required minimum tree density for the parcel (54,885 sq. ft.) is 38 tree credits.

Date of Field Examination: May 5, 2016

2. Description

Six significant trees were identified and assessed on the property. These are comprised of both native and ornamental species.

A numbered aluminum tag is attached to the lower trunk of the subject trees. These numbers correspond with the numbers on the attached Tree Summary Table and copy of the attached site plan.

Five neighboring tree with drip-lines that encroach the subject property were identified. These have been approximately located on the attached survey.

3. Methodology

Each tree in this report was visited. Tree diameters were measured by tape. The tree heights were measured using a Spiegel Relaskop. Each tree was visually examined for defects and vigor. The tree assessment procedure involves the examination of many factors:

- The crown of the tree is examined for current vigor. This is comprised of inspecting the crown (foliage, buds and branches) for color, density, form, and annual shoot growth, limb dieback and disease. The percentage of live crown is estimated for coniferous species only and scored appropriately.

- The bole or main stem of the tree is inspected for decay, which includes cavities, wounds, fruiting bodies of decay (conks or mushrooms), seams, insects, bleeding, callus development, broken or dead tops, structural defects and unnatural leans. Structural defects include crooks, forks with V-shaped crotches, multiple attachments, and excessive sweep.

- The root collar and roots are inspected for the presence of decay, insects and/or damage, as well as if they have been injured, undermined or exposed, or original grade has been altered.

Based on these factors a determination of viability is made. Trees considered 'non-viable' are trees that are in poor condition due to disease, extensive decay and/or cumulative structural defects, which exacerbate failure potential. A 'viable' tree is a tree found to be in good health, in a sound condition with minimal defects and is suitable for its location. Also, it will be wind firm if isolated or left as part of a grouping or grove of trees. A 'borderline' viable tree is a tree where its viability is in question. These are trees that are beginning to display symptoms of decline due to age and or species related problems. Borderline trees are not expected to positively contribute to the landscape for the long-term and are not recommended for retention.

The attached site plan/tree map indicates the viability of the subject trees.

4. Observations

The subject trees are described as follows:

Tree #378 is a semi-mature Colorado spruce. It has developed good form and structure. No concerning defects were observed. Foliage is of normal color and density. Overall vigor and condition is considered good.

Tree #379 is a semi-mature to mature Norway spruce. This tree was topped in the past at roughly 35' above ground. Regenerated top leaders appear soundly attached to the main stem. No foliage concerns were observed. Overall vigor is good. Condition is considered fair due to the past topping.

Tree #382 is a large mature western red cedar, made up of two stems or trunks. Both stems have self-corrected leans. Both trunks appear structurally sound. Foliage is of normal color and density. The subject is in good condition.

Trees #368 and #369 are semi-mature western red cedars. The upper foliage of #368 is a little on the thin side, likely related to last year's drought. Both trunks are sound and free of any significant defects. #369 has a smaller forked stem that is not affecting structure.

Tree #370 is a semi-mature red alder situated at the far back of the property. It has developed typical form. Overall condition is fair.

Neighboring Trees

Tree #201 is a mature Douglas-fir near the property line on the adjacent property to east. It is situated approximately 3' off of the property line. No concerning defects were observed. Foliage is of normal color and density. Overall vigor and condition is considered good.

Tree #202 is a mature western hemlock near the property line on the adjacent property to east. It is also situated approximately 3' off of the property line. No concerning defects were observed. Foliage is of normal color and density. Overall vigor and condition is considered good.

Tree #203 is another mature Douglas-fir situated on the adjacent property to the west near the northwest property corner. It is located roughly 6' off of the property line. Some dieback of outer limb tips was observed. Overall vigor and condition is considered fair.

Trees #204 and #205 are very large, over-mature black cottonwoods situated near the west property line. Tree #204 is made up of two trunks or stems, both of very large diameter greater than 40". The stem to the west is in obvious decline, evidenced my major dieback of the upper crown. There is an advanced buildup of included bark between the forked trunks. Tree #205 has a lean to the south toward the wetland. Both are considered 'borderline' viable due to age.

5. Discussion

The extent of drip-lines (farthest reaching branches) for the subject trees can be found on the tree summary table at the back of this report. These have also been delineated on a copy of the site plan. The information plotted on the attached site plan may need to be transferred to a final tree retention/protection plan to meet City submittal requirements.

The Limit of Disturbance (LOD) measurements can also be found on the tree summary table. The LOD measurements are based on species, age, condition, drip-line, prior improvements, proposed impacts and the anticipated cumulative impacts to the entire root zone. These shall be evaluated when proposing future outbuildings or other improvements.

All of the subject trees are located on portions of the property that have no immediate plans for development. All of the subject trees will be retained. None of the trees subject to this report are proposed for removal.

In order to appropriately protect the neighboring trees to the east (#201 and #202), afford a 10' setback of no disturbance from the property line. Position tree protection fencing on the 10' setback line as shown on the attached plan. For these trees, the LOD is the 10' setback line.

Tree #204, the neighboring over-mature cottonwood is concerning. The stem on the east side is positioned to fall towards the existing garage. Over time, the risk will increase as the subject ages and naturally declines. Removal and replacement is recommended to abate the hazardous condition. Replace with native western red cedar in the wetland buffer to enhance it. Tree #205 has a heavy lean to the south and will likely fall into the wetland area away from any targets. Retention of #205 is appropriate.

Finished landscaping work within the drip-lines of retained trees shall maintain existing grades and not disturb the fine root mass at the ground surface. Finish landscape with beauty bark or new lawn on top of existing grade. Add no more than 2” to 4” of mulch/beauty bark or 2” of composted soil to establish new lawn. Raising the grade more than a few inches can have adverse impacts on fine roots, by cutting off the exchange of air and gases.

6. Tree Protection Measures

The following general guidelines are recommended to ensure that the designated space set aside for the preserved trees are protected and construction impacts are kept to a minimum.

1. Tree protection fencing should be erected around retained trees and positioned just beyond the drip-line edge prior to moving any heavy equipment on site. Doing this will set clearing limits and avoid compaction of soils within root zones of retained trees.

2. Any existing infrastructure to be removed within the drip-line or tree protection zone shall be removed by hand or utilizing a tracked mini-excavator.

3. Excavation limits should be laid out in paint on the ground to avoid over excavating.

4. Excavations within the drip-lines shall be monitored by a qualified tree professional so necessary precautions can be taken to decrease impacts to tree parts. A qualified tree professional shall monitor excavations when work is required and allowed within the “Limits of Disturbance”.

5. To establish sub grade for foundations, curbs and pavement sections near the trees, soil should be removed parallel to the roots and not at 90 degree angles to avoid breaking and tearing roots that lead back to the trunk within the drip-line. Any roots damaged during these excavations should be exposed to sound tissue and cut cleanly with a saw. Cutting tools should be sterilized with alcohol.

6. Areas excavated within the drip-line of retained trees should be thoroughly irrigated weekly during dry periods.

7. Preparations for final landscaping shall be accomplished by hand within the drip-lines of retained trees. Large equipment shall be kept outside of the tree protection zones at all times. Simply finish landscape within 10’ of retained trees with a 2” to 4” layer of organic mulch.

7. Tree Replacement

The subject property contains enough significant trees to meet the density requirement. Supplemental trees will not be required. The tree calculation summary table can be found on page 9.

If new tree plantings are desired to enhance landscaping, they shall be given the appropriate space for the species and their growing characteristics. Refer to the *Kirkland Plant List* on the City’s website for a list of desirable species.

For planting and maintenance specifications, refer to chapters 95.50 and 51 of the Kirkland Zoning Code.

There is no warranty suggested for any of the trees subject to this report. Weather, latent tree conditions, and future man-caused activities could cause physiologic changes and deteriorating tree condition. Over time, deteriorating tree conditions may appear and there may be conditions, which are not now visible which, could *cause tree failure. This report or the verbal comments made at the site in no way warrant the structural stability or long term condition of any tree, but represent my opinion based on the observations made.*

Nearly all trees in any condition standing within reach of improvements or human use areas represent hazards that could lead to damage or injury.

Please call if you have any questions or we can be of further assistance.

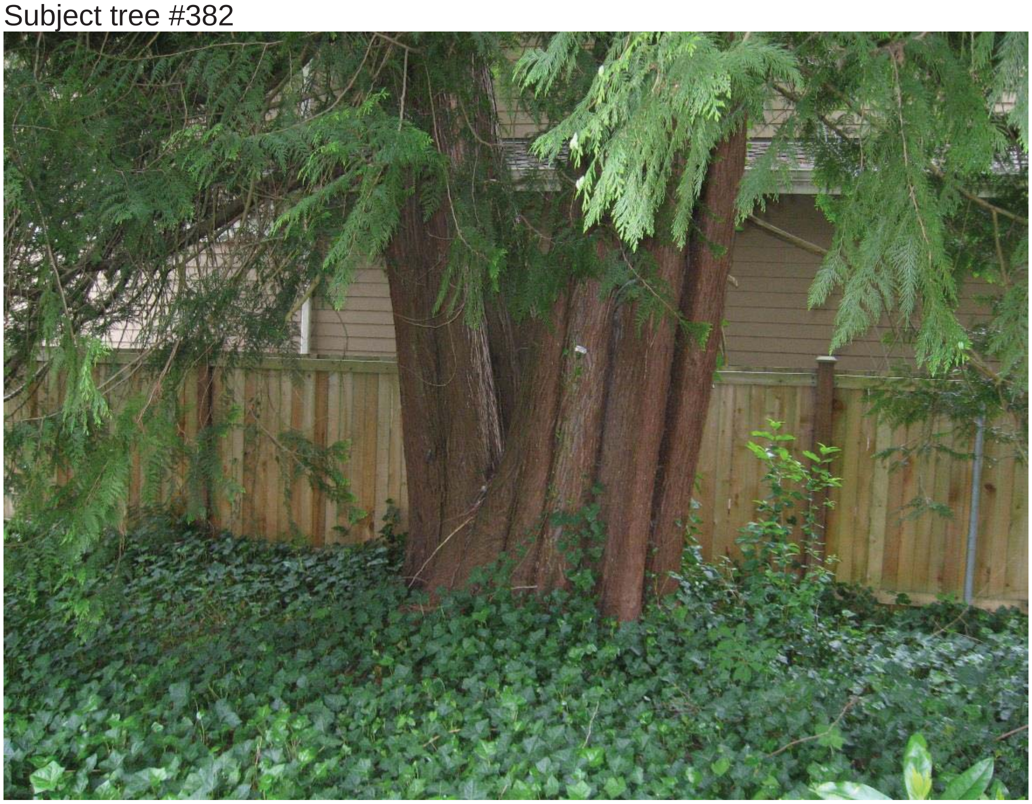
Sincerely,

Bob Layton

Bob Layton
ISA Certified Arborist #PN-2714A
Tree Risk Assessment Qualified (TRAQ)

Subject trees #378 and #379

Subject tree #382



Subject Trees #368 and #369

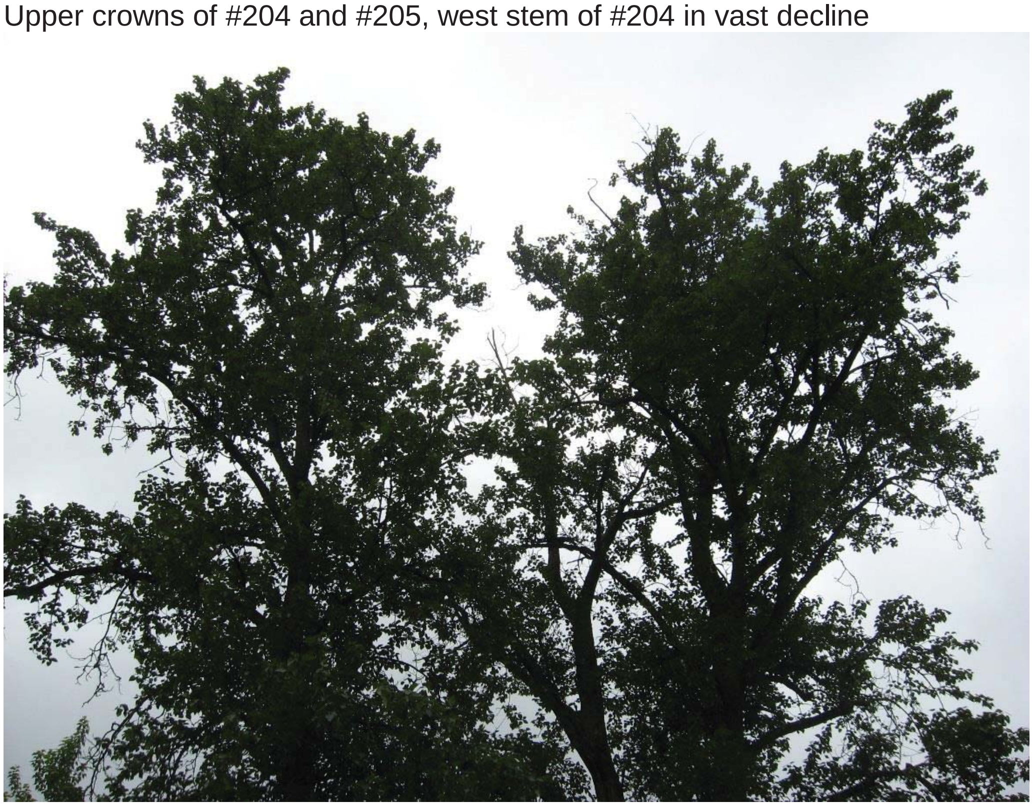
Subject tree #370

Neighboring trees #201 and #202

Neighboring tree #203

Neighboring trees #204 and #205

Upper crowns of #204 and #205, west stem of #204 in vast decline



City of Kirkland - Tree Protection Standards

1. Tree Protection Fencing shall be erected at prescribed distance per arborist report. Fences shall be constructed of chain link and be at least 4 feet high.
2. Install highly visible signs on protection fencing spaced no further than 15 feet apart. Signs shall state “Tree Protection Area-Entrance Prohibited”, and “City of Kirkland” code enforcement phone number.
3. No work shall be performed within protection fencing unless approved by Planning Official. In such cases, activities will be approved and supervised by a “Qualified Professional”.
4. The original grade shall not be elevated or reduced within protection fencing without the Planning Official authorization based on recommendations from a qualified professional.
5. No building materials, spoils, chemicals or substances of any kind will be permitted within protection fencing.
6. Protection Fencing shall be maintained until the Planning Official authorizes its removal.
7. Ensure that any approved landscaping within the protected zone subsequent to the approved removal of protection fencing be performed with hand labor.

In addition to the above, the Planning Official may require the following:

a. If equipment is authorized to operate within the root zone, the area will be mulched to a depth of 6” or covered with plywood or similar material to protect roots from damage caused by heavy equipment.
b. Minimize root damage by excavating a 2-foot deep trench, at edge of protection fencing to cleanly sever the roots of protected trees.
c. Corrective pruning to avoid damage from machinery or building activity.
d. Maintenance of trees throughout construction period by watering and fertilization.

Trees on Parcel

Tag #	Species	DBH	Condition	Credits	Proposal
378	Colorado spruce	13	Good	2.5	Retain
379	Norway spruce	28	Fair	10	Retain
382	western red cedar	54	Good	23	Retain
368	western red cedar	25	Fair	8.5	Retain
369	western red cedar	31	Fair	11.5	Retain
370	red alder	11	Fair	1.5	Retain

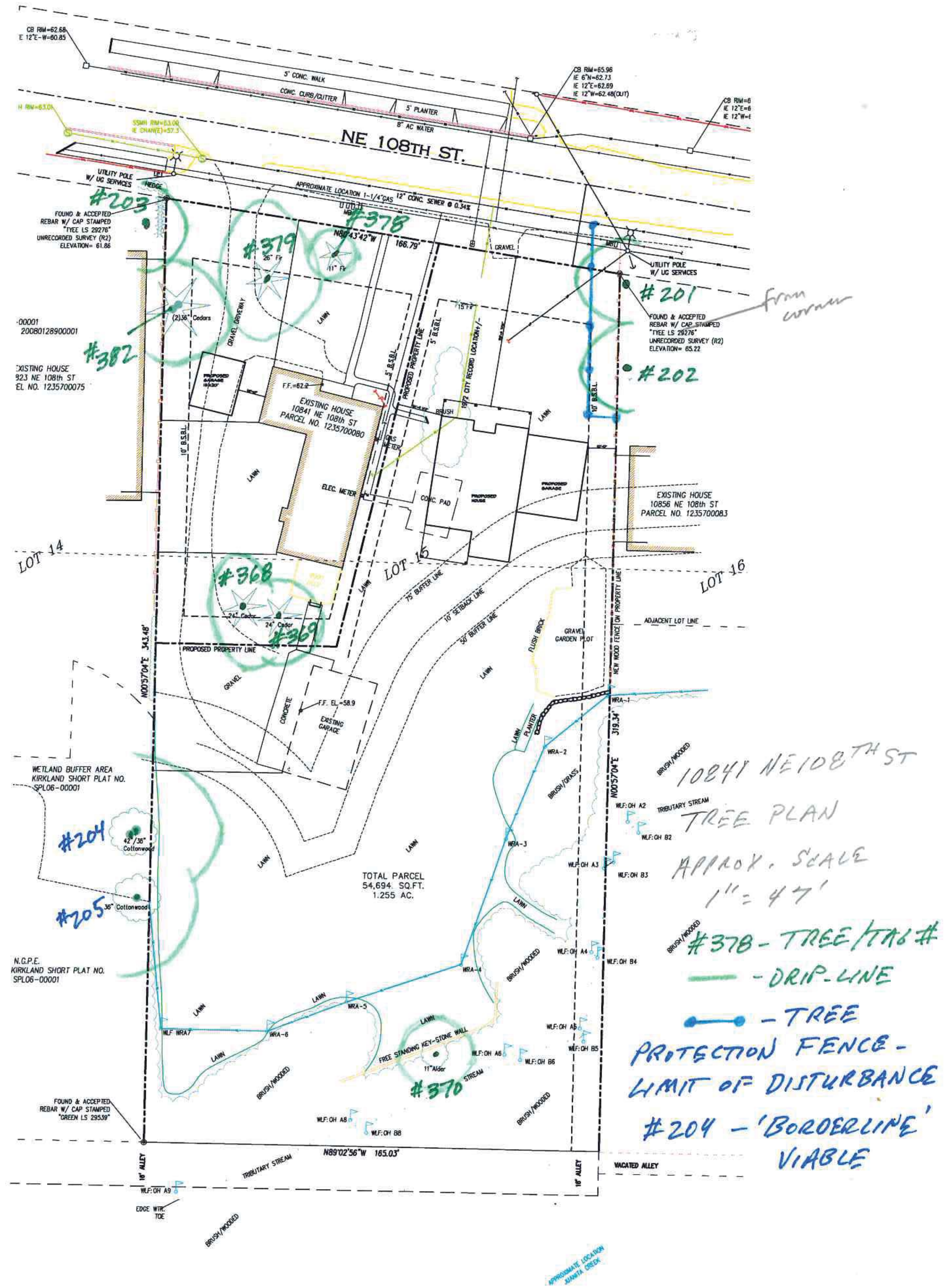
Tree Density Calculation
Lot Size – +/- 54,885 sq.ft.
54,885/43,560 X 30 = 37.8
Required Minimum Tree Density = 38 tree credits
Tree Credits Retained/Existing = 57
Supplemental Trees Required =0

Tree Summary Table
For: 12224 NE 90th ST Lot 4
Kirkland

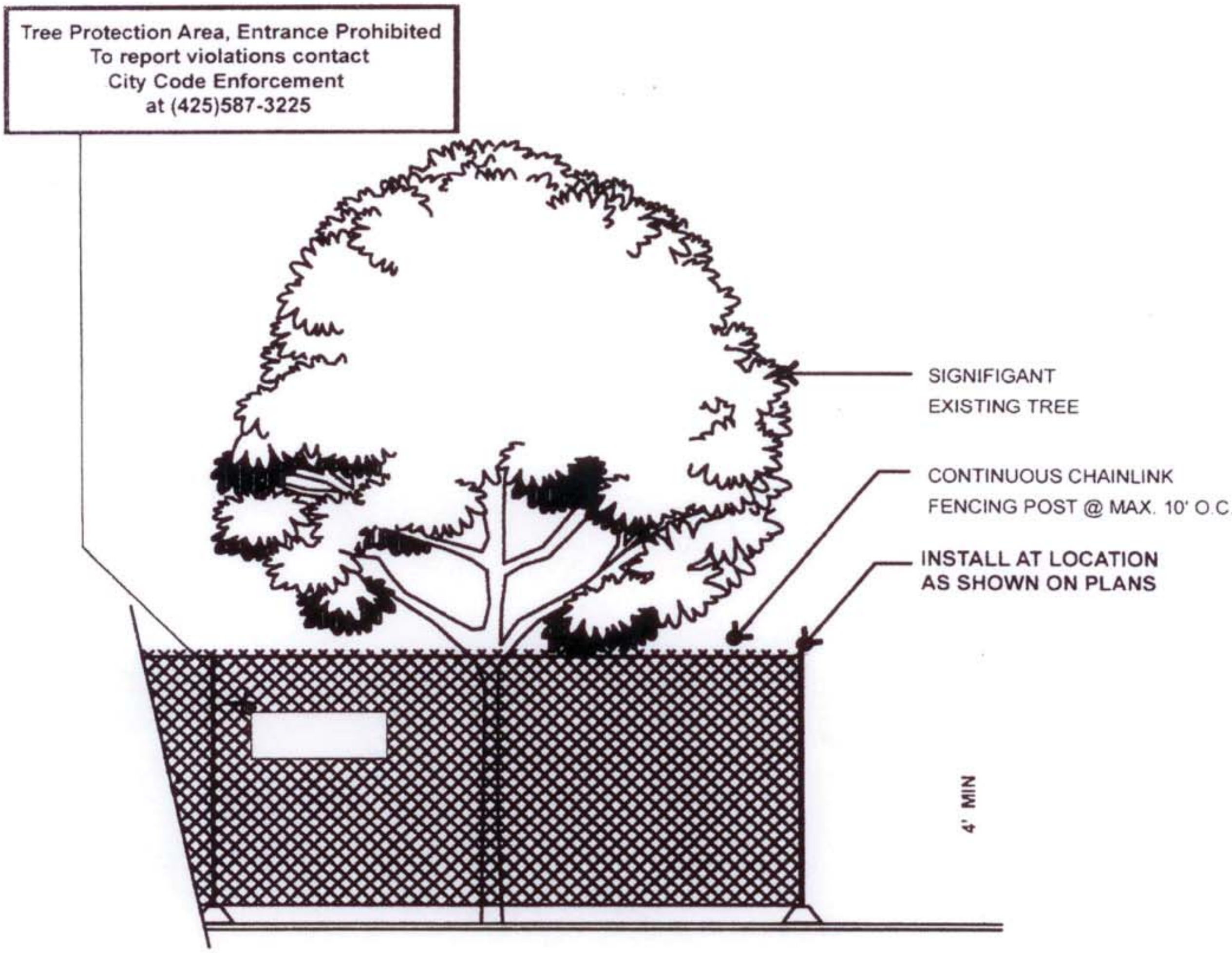
American Forest Management, Inc.
Date: 5/5/2016
Inspector: Layton

Tree/Tag #	Species	Native/ Planted/ Volunteer	DBH	Height	Tree Credit	Drip-Line/Limits of Disturbance (feet) N	S	E	W	Condition	Viability	Comments
378	Colorado spruce	P	13	56	2.5	10/10	7/8	10/10	7/8	good	viable	no concerns
379	Norway spruce	P	28	65	10	28/20	23/20	19/18	18/16	fair	viable	topped in the past at 35', multiple leaders
382	western red cedar	N	39,38 (54)	80	23	16/20	20/20	19/18	na	good	viable	forked at 2', self-corrected leans
368	western red cedar	N	25	62	8.5	19/18	19/18	12/12	12/12	fair	viable	top a little thin
369	western red cedar	N	31	68	11.5	12/14	17/17	16/16	10/12	fair	viable	self-corrected lean, forked smaller stem
370	red alder	N	11	42	1.5	13/8	na	8/8	15/8	fair	viable	typical
					57							
Neighboring Trees												
201	Douglas-fir	N	32	107	na	16/14	14/14	na	15/10	good	viable	3' off property line
202	western hemlock	N	32	90	na	15/15	15/15	na	13/10	good	viable	3' off property line, large surface root extending west
203	Douglas-fir	N	34	112	na	14/16	16/6	8/8	na	fair	viable	6' off property line, minor limb tip dieback
204	black cottonwood	N	42,44	120	na	na	na	30/24	na	fair-poor	borderline	forks at 2', significant included bark
205	black cottonwood	N	35	110	na	na	na	20/18	na	fair	borderline	leans south into wetland

Multiple stemmed trees - DBH calculated by taking the square root of combined squared stems
Drip-Line and Limits of Disturbance measurements from face of trunk
Neighboring Trees - drip-line and LOD measurements from property line


NE 108TH ST.
5' CONC. WALK
CONC. CURB/GUTTER
5' PLANTER
8" AC WATER
UTILITY POLE W/ UG SERVICES
HEDGE
#203
#378
#379
#382
#201
#202
from corner
EXISTING HOUSE 10841 NE 108th ST PARCEL NO. 1235700080
EXISTING HOUSE 10856 NE 108th ST PARCEL NO. 1235700083
PROPOSED PROPERTY LINE
LOT 14
LOT 15
LOT 16
#368
#369
24" Cedar
75' BUFFER LINE
10' SETBACK LINE
50' BUFFER LINE
GRAVEL GARDEN PLOT
EXISTING GARAGE
WETLAND BUFFER AREA KIRKLAND SHORT PLAT NO. SPL06-00001
#204
42"/36" Cottonwood
#205
36" Cottonwood
TOTAL PARCEL 54,694. SQ.FT. 1.255 AC.
N.G.P.E. KIRKLAND SHORT PLAT NO. SPL06-00001
FREE STANDING KEY-STONE WALL
11" Alder
#370
STREAM
TRIBUTARY STREAM
N89°02'56"W 165.03'
N00°57'04"E 343.48'
N00°57'04"E 319.34'
VACATED ALLEY
16' ALLEY
APPROXIMATE LOCATION JUANITA CREEK
10841 NE 108TH ST
TREE PLAN
APPROX. SCALE 1" = 47'
#378 - TREE/TAG #
- DRIP-LINE
- TREE PROTECTION FENCE - LIMIT OF DISTURBANCE
#204 - 'BORDERLINE' VIABLE

FENCING SIGN DETAIL



1. MINIMUM FOUR (4) FOOT HIGH TEMPORARY CHAINLINK FENCE SHALL BE PLACED AT THE CRITICAL ROOT ZONE OR DESIGNATED LIMIT OF DISTURBANCE OF THE TREE TO BE SAVED. FENCE SHALL COMPLETELY ENCIRCLE TREE (S). INSTALL FENCE POSTS USING PIER BLOCK ONLY. AVOID POST OR STAKES INTO MAJOR ROOTS. MODIFICATIONS TO FENCING MATERIAL AND LOCATION MUST BE APPROVED BY PLANNING OFFICIAL.

2. TREATMENT OF ROOTS EXPOSED DURING CONSTRUCTION: FOR ROOTS OVER ONE (1) INCH DIAMETER DAMAGED DURING CONSTRUCTION, MAKE A CLEAN STRAIGHT CUT TO REMOVE DAMAGED PORTION OF ROOT. ALL EXPOSED ROOTS SHALL BE TEMPORARILY COVERED WITH DAMP BURLAP TO PREVENT DRYING, AND COVERED WITH SOIL AS SOON AS POSSIBLE.

3. NO STOCKPILING OF MATERIALS, VEHICULAR TRAFFIC, OR STORAGE OF EQUIPMENT OR MACHINERY SHALL BE ALLOWED WITHIN THE LIMIT OF THE FENCING. FENCING SHALL NOT BE MOVED OR REMOVED UNLESS APPROVED BY THE CITY PLANNING OFFICIAL. WORK WITHIN PROTECTION FENCE SHALL BE DONE MANUALLY UNDER THE SUPERVISION OF THE ON-SITE ARBORIST AND WITH PRIOR APPROVAL BY THE CITY PLANNING OFFICIAL.

4. FENCING SIGNAGE AS DETAILED ABOVE MUST BE POSTED EVERY FIFTEEN (15) FEET ALONG THE FENCE.

CITY OF KIRKLAND WASHINGTON

**TREE PROTECTION
FENCING DETAIL**

Wetland Resources, Inc.

Delineation / Mitigation / Restoration / Habitat Creation / Permit Assistance

9505 19th Avenue S.E.
Suite 106
Everett, Washington 98208
(425) 337-3174
Fax (425) 337-3045

SENSITIVE AREAS STUDY

FOR

WALLSTROM—NE 108TH STREET

CITY OF KIRKLAND, WA

Wetland Resources, Inc. Project #14214

Prepared By:

Wetland Resources, Inc.
9505 19th Ave. SE, Suite 106
Everett, WA 98208
(425) 337-3174

Prepared For:

Kristal Wallstrom
10841 NE 108th Street
Kirkland, WA 98033

November 13, 2014

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INTRODUCTION

On September 23, 2014 *Wetland Resources, Inc*. (WRI) conducted a site visit to identify on-site wetlands and/or streams on the 1.26-acre parcel located at 10841 NE 108th Street in the City of Kirkland, WA (a portion of Section 32, Township 26N, Range 5E, W.M.). WRI identified one Type 2 wetland and one Class B stream in the southern portion of the subject site.

Access to the site is via NE 108th Street, along the northern side of the property. The site is situated on a gentle south-facing slope. The majority of the subject site was historically cleared of native vegetation and converted to lawn several decades ago. There is an existing single-family residence (built in 1939) and a detached garage on the site, as well as a large actively maintained lawn and small garden. Surrounding land use consists of single and multi-family (apartments) residential use and open space.

A regulated wetland occurs along the southern vegetated fringes of the subject property. This wetland exists mostly off-site to the south, east and west. It connects hydrologically to a larger wetland complex to the west. It also contains a salmon-bearing stream known as Forbes Creek. These waters drain to Lake Washington, located within one mile to the west of the investigated site.

The typical vegetation found within the on-site fringes of this wetland include: Scouler's willow (*Salix scouleriana*), pacific willow (*Salix lucida*), red alder (*Alnus rubra*), black cottonwood (*Populus balsamifera*), reed canarygrass (*Phalaris arundinacea*), creeping buttercup (*Ranunculus repens*), field horsetail (*Equicetum arvense*), and Himalayan blackberry (*Rubus armeniacus*).

On the City of Kirkland Wetland Field Data Form, the on-site (Wetland A) does not meet the criteria of a Type 1 wetland. It receives a total score of 35 points, thereby meeting the criteria of a Type 2 wetland. This appears to be consistent with the rating of the same wetland system for the neighboring property to the west. The on-site wetland is located within the Forbes Creek drainage basin, which is considered a primary basin in Kirkland. Type 2 wetlands are dedicated 75-foot protective buffers in primary basins, per Kirkland Municipal Code (KMC), Chapter 90.45.

A tributary to Forbes Creek flows through the on-site portion of this wetland, along the eastern property line and then turns to the west and becomes braided just off-site to the south. Because it is wider than two-feet and directly connected to Forbes Creek, it appears that is could be classified as a Class A stream.

Forbes Creek flows off-site approximately 60 feet from the southeastern corner of the subject property. It meets the criteria of a Class A stream because it supports salmonid habitat. It is dedicated a 75-foot protective buffer. A small portion of this buffer would extend on the subject site. Since the on-site wetland and its associated buffer supersede the protection requirements for Forbes Creek, the remainder of this report will focus on the protection requirements and boundary determination findings for the wetland.

WETLAND CLASSIFICATION - COWARDIN SYSTEM

According to the Cowardin System, as described in Classification of Wetlands and Deepwater Habitats of the United States, the on-site wetland is classified as follows:

On-site Wetland: Palustrine, Forested Wetland, Broad Leaved Deciduous, Seasonally flooded.

On-site Stream: Riverine, Lower Perennial, Streambed, Sand.

WETLAND CLASSIFICATION – CITY OF KIRKLAND

Pursuant to Kirkland Zoning Code, Chapter 90, the on-site wetland is classified as follows:

Wetland A (Type 2 Wetland): This is a depressional/riverine wetland complex that supports a salmonid-bearing stream and moderate habitat functions. It is surrounded by suburban development, which limits its potential for offering high levels of typical wetland functions. This wetland is not a Type 1 wetland, and receives a total score of 35 points on the City of Kirkland Wetland Field Data Form. With a score well above 22 points, this wetland system shall be classified as a Type 2 wetland.

This wetland is located within the Forbes Creek drainage basin, which is designated as a primary basin in Kirkland. Type 2 wetlands in primary basins in the city of Kirkland are dedicated 75-foot protective buffers.

Tributary to Forbes Creek (Class A Stream): The on-site tributary enters the site from the east, flows south and then west within the on-site wetland. It generally parallels the wetland boundary. The stream is greater than 2 feet wide and has a direct connection to Forbes Creek. Based on these conditions, it appears that this stream could support salmonid habitat; and it is therefore classified as a Class A stream with a 75-foot protective buffer.

BUILDING SETBACK

Pursuant to KZC 90.45(2) and 90.90(2), structures must be set back at least 10 feet from the designated or modified buffer or a wetland or stream.

ENVIRONMENTALLY SENSITIVE AREAS

The on-site stream and buffer shall be designated as an Environmentally Sensitive Area (ESA). Environmentally Sensitive Areas are not to be disturbed in compliance with the city of Kirkland restrictions. An example of a Sensitive Area Sign is as follows:

ENVIRONMENTALLY SENSITIVE AREA
THIS WETLAND IS PROTECTED TO PROVIDE WILDLIFE HABITAT AND MAINTAIN WATER QUALITY
PLEASE DO NOT DISTURB THIS VALUABLE RESOURCE

BOUNDARY DETERMINATION REPORT

Methodology

Wetlands were identified using the on-site, routine methodology described in the 1987 *Corps of Engineers Wetlands Delineation Manual* and the U.S. Army Corps of Engineers *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (May*

2010). Where differences in the manuals occur, the Regional Supplement takes precedence over the 1987 Manual for applications in the Western Mountains, Valleys, and Coast Region.

In general, wetland delineation consisted of two tasks: (1) assessing vegetation, soil, and hydrologic characteristics to identify areas meeting the wetland identification criteria and recording the observations on field data forms, and 2) marking wetland boundaries. Access was denied to the parcel located off-site to the north and therefore it was not evaluated for wetland conditions.

Under the state and federal methodologies described above, the process for making a wetland determination is based on three sequential steps:

1.) Examination of the site for hydrophytic vegetation (species present and percent cover);

2.) If hydrophytic vegetation is found, then the presence of hydric soils is determined.

3.) The final step is determining if wetland hydrology exists in the area examined under the first two steps.

The following criteria descriptions were used in the boundary determination:

Vegetation Criteria

The 2010 Regional Supplement defines hydrophytic vegetation as "the community of macrophytes that occurs in areas where inundation or soil saturation is either permanent or of sufficient frequency and duration to exert a controlling influence of the plant species present." Field indicators were used to determine whether the vegetation meets the definition for hydrophytic vegetation.

Wetland Soils Criteria and Mapped Description:

The National Technical Committee for Hydric Soils, as described in the 2010 Regional Supplement, defines hydric soils as "a soil that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part." Field indicators were used to determine whether a given soil meets the definition for hydric soils.

The soils underlying this site are mapped in the *Natural Resources Conservation Service Web Soil Survey*, as Indianola loamy fine sand, 0 to 4 percent slopes. The Indianola series is described as very deep, somewhat excessively drained soils on terraces and outwash plains. These soils formed in sandy glacial outwash. The typical texture is loamy sand. Generally, the profile of this unit includes: very dark grayish brown (10YR 3/2) loamy sand and brown (10YR 5/3) within the upper 4 inches and dark yellowish brown (10YR 4/4) and light yellowish brown (10YR 6/4) from 4 to 24 inches. Indianola is not listed as a hydric soil.

Potential inclusions may consist of Norma, Shalcar, or Tukwila soils; all of which are listed as hydric soils.

Hydrology Criteria

As stated in the 2010 Regional Supplement, the "term wetland hydrology encompasses all hydrologic characteristics of areas that are periodically inundated or have soils saturated to the surface for a sufficient duration during the growing season." It also explains "areas with evident characteristics of wetland hydrology are those where the presence of water has an overriding influence on characteristics of vegetation and soils due to anaerobic and chemically reducing conditions, respectively."

Additionally, the US Army Corps of Engineers 1987 Wetland Delineation Manual states that "areas which are seasonally inundated and/or saturated to the surface for a consecutive number of days ≥12.5 percent of the growing season are wetlands, provided the soil and vegetation parameters are met. Areas inundated or saturated between 5 and 12.5 percent of the growing season in most years may or may not be wetlands. Areas saturated to the surface for less than 5 percent of the growing season are non-wetlands." Field indicators were used to determine whether wetland hydrology parameters were met on this site.

Boundary Determination Findings

Wetland A: The typical vegetation found within the on-site fringes of this wetland include: Scouler's willow (*Salix scouleriana*, Fac), Sitka willow (*Salix sitchensis*, FacW) pacific willow (*Salix lucida*, FacW), red alder (*Alnus rubra*, Fac), black cottonwood (*Populus balsamifera*, Fac), reed canarygrass (*Phalaris arundinacea*, FacW), creeping buttercup (*Ranunculus repens*, FacW), field horsetail (*Equicetum arvense*, Fac), Himalayan blackberry (*Rubus armeniacus*, FacU), and creeping nightshade (*Solanum dulcamara*, Fac).

Typical soils in this wetland have a surface layer color of very dark grayish brown (10YR 3/2) and a depleted sublayer of dark grayish brown with approximately 7% dark yellowish brown (10YR 4/4) redoximorphic features throughout. Also observed were gleyed sub-layers (Gley 2 5/10G) with up to 30% dark yellowish brown (10YR 4/4) redoximorphic features. The soils within the areas designated as wetlands were moist at the time of the site visit.

While saturation or inundation were not present at the time of the September 23rd site visit, the dominance of species rated "Facultative" or wetter, and the presence of hydric soil indicators and the geomorphic position in the landscape are all positive indicators that the areas identified as wetlands on this site are saturated to the surface for more than 12.5 percent of the growing season, thereby fulfilling wetland hydrology criteria.

Non-wetland: The non-site wetland areas primarily consist of tightly mowed lawn areas, which have been maintained this way for several decades. Plant species found in these areas include: red clover (*Trifolium pretense*, Fac), bentgrass (*Agrostis sp.*, Fac), creeping buttercup (*Ranunculus repens*, FacW), and trace amounts of common dandelion (*Taraximcum officinale*, FacU), English plantain (*Plantago lanceolata*, Fac), and dovefoot geranium (*Geranium molle*, FacU).

Typical soils in the upland portions of the property consist of very dark grayish brown (10YR 3/2), dark brown (10YR 3/3) or and dark grayish brown (10YR 4/2) loamy sand within the upper 16 inches. Very few (<2%) to no redoximorphic features were found within these soils. The soils examined in these areas identified as non-wetlands were dry at the time of the site visit.

Based on the lack of field indicators, it appears that areas of the site mapped as non-wetland are not saturated to the surface for more than 12.5 percent of the growing season, thereby not fulfilling wetland hydrology criteria.

FUNCTIONS AND VALUES ASSESSMENT

Methodology

The methodology for this functions and values assessment is based on professional opinion developed through past field analyses and interpretation. This assessment pertains specifically to the on-site wetland and stream system, but is typical for assessments of similar systems common to Western Washington.

Wetland Functional Components

Wetlands and streams in Western Washington perform a variety of ecosystem functions. Included among the most important functions provided by wetlands are stormwater control, water quality improvement, fish and wildlife habitat, aesthetic value, recreational opportunities and education. The most commonly assessed functions and their descriptions are listed below. Assessments of these functions for the project site are provided in the "Existing Conditions Analysis" section of this report.

Hydrologic Functions

Wetlands often function as natural water storage areas during periods of precipitation and flooding. By storing water that otherwise might be channeled into open flow systems, wetlands can attenuate or modify potentially damaging effects of storm events, reducing erosion and peak flows to downstream systems. Additionally, the soils underlying wetlands are often less permeable, providing long-term storage of stormwater or floodflow and controlling baseflows of downstream systems. Stormwater storage capacity and floodflow attenuation are generally a function of the size of the wetland and their topographic characteristics.

Water Quality

Surface water quality improvement is another evaluated function. Surface runoff during periods of precipitation increases the potential for sediments and pollutants to enter surface water. Wetlands improve water quality by acting as filters as water passes through them, trapping sediments and pollutants from surface water. Ponded areas within depressional wetlands also allow sediments to drop out of suspension, thereby increasing water quality. As development increases, the potential for polluted water to reach wetlands and streams also increases. Unnaturally high inputs of pollutants, which are often found in urbanized areas, along with the size of the wetlands and the vegetation structure within them are the main limiting factors of this function.

Wildlife Habitat

Wetlands have potential to provide diverse habitat for aquatic, terrestrial, and avian species for nesting, rearing, resting, cover, and foraging. Wildlife species are commonly dependent upon a variety of intermingled habitat types, including: wetlands, adjacent uplands, large bodies of water, and movement corridors between them. Human intrusion, including development within and adjacent to wetlands, and impacts to movement corridors are the most limiting factors for wildlife habitat functions.

Existing Conditions Analysis

The subject wetland contains both depressional and riverine hydrogeomorphic classes. It also contains a salmon-bearing stream, known as Forbes Creek, which flows off-site though approximately the center of the wetland. The hydrology of this wetland/stream complex connects to another larger wetland complex to the west and eventually to out to Lake Washington. Much of the eastern half of Forbes Creek basin, including the location of the subject property, has been developed with suburban residential development and road crossings. As such, the subject wetland is somewhat disjointed from the larger, contiguous Lake Washington systems to the west.

The subject wetland has potential to control and treat seasonal stormwater flows, due to its dense coverage of woody vegetation and depressional nature. These are increasingly important functions as development increases in upland areas surrounding the wetland.

The wetland also has potential to provide moderate habitat functions. It contains forest and shrub vegetation classes and some relatively small, permanently ponded components that are naturally occurring. Forbes Creek has been documented to contain Coho salmon, Sockeye salmon, and cutthroat trout. These fish species depend on the shade and protection provided by the forested/scrub-shrub vegetation communities within the wetland.

On the subject property, buffer vegetation has been cleared up to the edge of the wetland. A new development would not require any removal of native forest habitat on the site. Improvements to habitat functions could be achieved through enhancement in the form of native vegetation planting.

Overall, the on-site wetland offers moderate levels of typical wetland functions, which is evidenced by its score of 35 points on the City of Kirkland Wetland Field Data Form.

WILDLIFE

At the time of our investigation, few wildlife species were heard or observed.

The following avian species expected to use this site include: house sparrow (*Passer domesticus*), American crow (*Corvus brachyrhynchos),* American robin (*Turdus migratorius*), stellar's jay (*Cyanocitta stelleri*), black-capped chickadee (*Poecile atricapillus)*, dark eyed junco (*Junco hyemalis*), red-winged black *dia*), winter wren (*Troglodytes troglodytes*) house finch (*Carpodacus mexicanus*), brown creeper (*Certhia americana*), swainson's thrush (*Hyocichla ustulata*), varied thrush (*Ixoreus naevius*), barred owl (*Strix varia*), and sharp-shinned hawk (*Accipiter striatus*).

Mammalian species that may utilize this site include species that easily adapt to similar environments, such as: Eastern cottontail rabbits (*Sylvilagus floridanus*), shrews (*Sorex* spp.), moles (*Scapanus* spp.), bats (*Myotis* spp.), raccoons (*Procyon lotor*), skunks (*Mephitis* spp.), *Tamiasciurus douglasii*), deer mice (*Peromyscus maniculatus*), Virginia opossums (*Didelphis virginiana*), gray squirrel (*Sciurus carolinensis*), and Douglas squirrel (*Tamiasciurus douglasii*).

Expected reptilian/amphibian species include: northwestern garter snake (*Thamnophis ordinoides*), pacific tree frog (*Hyla regilla*), bullfrog (*Rana catesbeiana*), and northwestern salamander (*Ambystoma gracile*).

Documented fish species in Forbes Creek include: resident coastal cutthroat trout (*Oncorhynchus clarki*), Sockeye salmon (*Oncorynchus nerka*), and Coho salmon (*Oncorynchus kisutch*).

This list is not intended to be all-inclusive, and may omit species that currently utilize or could utilize the site.

Use of This Report

This Sensitive Areas Study is supplied to Kristal Wallstrom, Inc. as a means of describing jurisdictional wetland conditions, as required by the City of Kirkland during the permitting process. 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. Reports may be adversely affected due to the physical condition of the site and the difficulty of access, which may lead to observation or probing difficulties.

The laws applicable to wetlands are subject to varying interpretations and may be changed at any time by the courts or legislative bodies. This report is intended to provide information deemed relevant in the applicant's attempt to comply with the laws now in effect.

The work for this report has conformed to the standard of care employed by wetland ecologists. No other representation or warranty is made concerning the work or this report and any implied representation or warranty is disclaimed.

Wetland Resources, Inc.

Andrea Bachman
Senior Ecologist, PWS

REFERENCES

Classification of Wetlands and Deepwater Habitats of the United States. FWS/OBS-79/31. December 1979. U.S. Department of the Interior, Fish and Wildlife Service. Washington, D.C.

Corps of Engineers Wetlands Delineation Manual, 1987. Technical Report Y-87-1. Environmental Laboratory. U.S. Army Engineer Waterway Experiment Station. Vicksburg, MS.

Kirkland Zoning Code, Chapter 90. Kirkland, WA. December 9, 2003.

Lichvar, Tobert W. and J.T. Kartesz, 2012. National Wetland Plant List, Version 3.0, (http://wetland_plants.usace.army.mil). U.S. Army Corps of Engineers Engineer Research and Development Center Cold Regions Research and Engineering Laboratory, Hanover NH and BONAP, Chapel Hill, NC.

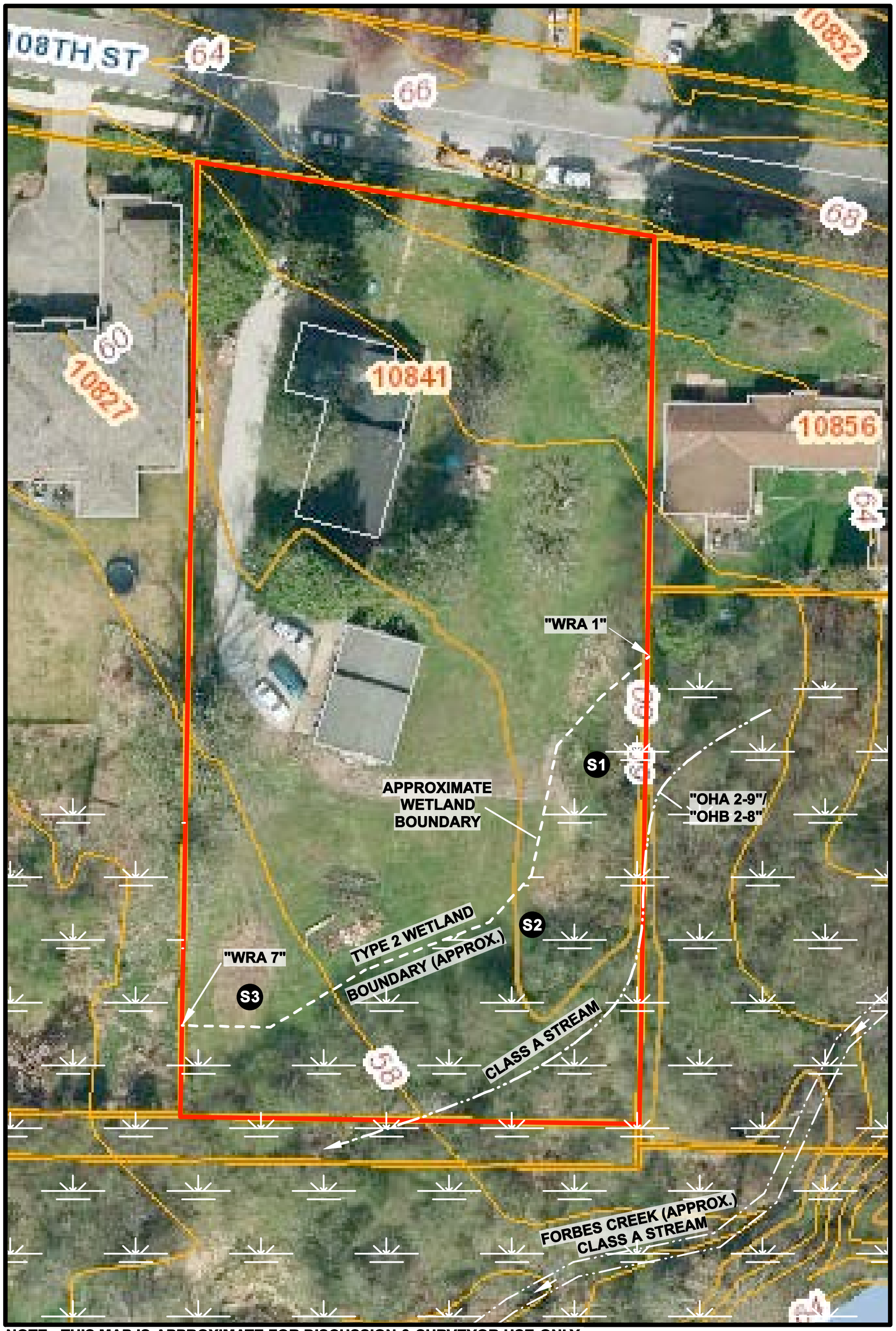
Soil Survey of King County Area Washington. November 1973. U.S. Department of Agriculture, Soil Conservation Service. Washington, D.C.

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 available online at http://www.fws.gov/wetlands/Data/mapper.html.

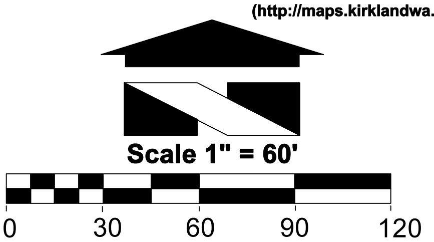
Washington State Wetlands Identification and Delineation Manual. Washington State Department of Ecology. Publication #96-94. March 1997.

APPROXIMATE WETLAND DELINEATION MAP
WALLSTROM - NE 108TH STREET
PORTION OF SECTION 32, TOWNSHIP 26N, RANGE 5E, W.M.



NOTE: THIS MAP IS APPROXIMATE FOR DISCUSSION & SURVEYOR USE ONLY. DELINEATION FLAGS ARE BRIGHT PINK & LABELED "WRA 1-7" FOR THE WETLAND AND "OHA 2-9" / "OHB 2-8" FOR THE ON-SITE STREAM CHANNEL ("OH 1" FLAGS WERE REMOVED BECAUSE THEY WERE INITIALLY PLACED TOO FAR OFF-SITE). SOURCE OF AERIAL IMPAGE & GIS DATA IS COURTESY OF CITY OF KIRKLAND (http://maps.kirklandwa.gov/SilverlightViewer).

S1—S3 = FIELD DATA SITES 1, 2 & 3



Wetland Resources, Inc.
Delineation / Mitigation / Restoration / Habitat Creation / Permit Assistance
9505 19th Avenue S.E. Suite 106 Everett,Washington 98208
Phone: (425) 337-3174
Fax: (425) 337-3045
Email: mailbox@wetlandresources.com

APPROXIMATE WETLAND DELINEATION MAP
WALLSTROM - NE 108TH STREET
CITY OF KIRKLAND, WA

Kristal Wallstrom
10841 NE 108th Street
Kirkland, WA 98033

Sheet 1/1
WRI Job #14214
Drawn by: AB
Date: 11/13/14

Plate 26—Wetland A (Wallstrom – NE 108th Street) **WETLAND FIELD DATA FORM**

(Note: Applicable to Chapter 90 KZC, but not Chapter 83 KZC)

WETLAND FIELD DATA FORM

BEGIN BY CHECKING ANY OF THE FOLLOWING (a. – e.) THAT APPLY:

a. The wetland is contiguous to Lake Washington;

b. The wetland contains at least 1/4 acre of organic soils, such as peat bogs or mucky soils;

c. The wetland is equal to or greater than 10 acres in size and having three or more wetland classes, as defined by the U.S. Fish & Wildlife Service (Cowardin et al., 1979), one of which is open water;

d. The wetland has significant habitat value to state or federally listed threatened or endangered wildlife species; or

e. The wetland contains state or federally listed threatened or endangered plant species.

IF ANY OF THE CRITERIA LISTED ABOVE ARE MET, THEN THE WETLAND IS CONSIDERED TO BE TYPE 1. IF THAT IS THE CASE, PLEASE CONTINUE TO COMPLETE THE ENTIRE FORM, BUT DO NOT ASSIGN POINTS.

IF THE WETLAND DOES NOT MEET THE CRITERIA LISTED ABOVE FOR TYPE 1, COMPLETE THE ENTIRE FORM, USING THE ASSIGNED POINTS TO DETERMINE IF IT IS A TYPE 2 OR TYPE 3 WETLAND.

Type 2 wetlands typically have at least two wetland vegetation classes, are at least partially surrounded by buffers of native vegetation, connected by surface water flow (perennial or intermittent) to other wetlands or streams, and contain or are associated with forested habitat.

1. Total wetland area

Estimate wetland area and score from choices	Acres		Point Value	Points
	>20.00	=	6	
	10-19.99	=	5	
	5-9.99	**=**	**4**	**4**
	1-4.99	=	3	
	0.1-0.99	=	2	
	<0.1	=	1	

2. Wetland classes: Determine the number of wetland classes that qualify, and score according to the table.

	# of Classes		Points
✔Open Water: if the area of open water is >1/3 acre or >10% of the total wetland area	1	=	1
Aquatic Beds: if the area of aquatic beds is >10% of the open water area or >1/2 acre	2	=	3
Emergent: if the area of emergent class is >1/2 acre or >10% of the total wetland area	**3**	**=**	**5**
✔Scrub-Shrub: if the area of scrub-shrub class is >1/2 acre or >10% of the total wetland area	4	=	7
✔Forested: if the area of forested class is >1/2 acre or >10% of the total wetland area	5	=	10

3. Plant species diversity.

For all wetland classes which qualified in 2 above, count the number of different plant species and score according to the table below. You do not have to name them.

e.g., if a wetland has an aquatic bed class with 3 species, and emergent class with 4 species and a scrub-shrub class with 2 species, you would circle 2, 2, and 1 in the second column (below).

Class	# of Species		Point Value	Class	# of Species		Point Value
Aquatic Bed	**1-2**	**=**	**1**	Scrub-Shrub	1-2	=	1
	3	=	2		3-4	=	2
	>3	=	3		**>4**	**=**	**3**
Emergent	1-2	=	1	Forested	1-2	=	1
	3-4	=	2		**3-4**	**=**	**2**
	>4	=	3		>4	=	3

4. Structural diversity.

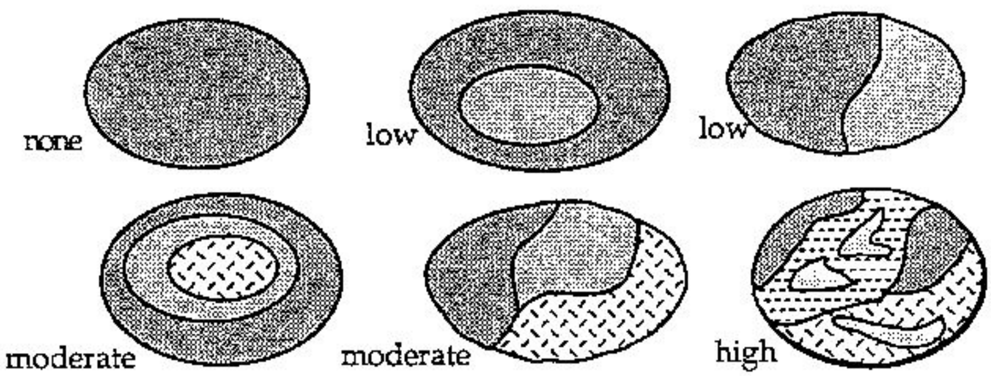
If the wetland has a forested class, add 1 point for each of the following attributes present:

Trees >50′ tall	=	**1**
Trees 20′ to 49′ tall	=	**1**
shrubs	=	**1**
Herbaceous ground cover	=	**1**

5. Interspersion between wetland classes.

Decide from the diagrams below whether interspersion between wetland classes is high, moderate, low or none

3	=	High
2	**=**	**Moderate**
1	=	Low
0	=	None



6. Habitat features

Add points associated with each habitat feature listed:	=	3
Is there evidence of current use by beavers?	=	2
Is a heron rookery located within 300′?	=	1
Are raptor nest(s) located within 300′?	=	1
Are there at least 2 standing dead trees (snags) per acre?	**=**	**1**
Are there any other perches (wires, poles, or posts)?	**=**	**1**
Are there at least 3 downed logs per acre?	**=**	**1**

7. Connection to streams

Is the wetland connected at any time of the year via surface water? (score one answer only)

Is the wetland connected at any time of the year via surface water?

To a perennial stream or a seasonal stream with fish	**=**	**5**
To a seasonal stream without fish	=	3
Is not connected to any stream	=	0

8. Buffers

Step 1: Estimate (to the nearest 5%) the percentage of each buffer or land-use type (below) that adjoins the wetland boundary. Then multiply these percentages by the factor(s) below and enter result in the column to the right.

	% of Buffer	Step 1	Width Factor	Step 2
Roads, buildings or parking lots	10% X 0 =	0	=1	
Lawn, grazed pasture, vineyards or annual crops	40% X 1 =	40	=1	40
Ungrazed grassland or orchards	0% X 2 =	0	=	0
Open water or native grasslands	0% X 3 =	0	=	
Forest or shrub	50% X 4 =	200	=1	200
			Add buffer total	**240**

Step 2: Multiply result(s) of step 1:

By 1 if buffer width is 25-50′

By 2 if buffer width is 50-100′

By 3 if buffer width is >100′

Enter results and add subscores

Step 3: Score points according to the following table:

Buffer Total

900-1200 = 4

600-899 = 3

300-599 = 2

100-299 = 1

9. Connection to other habitat areas:

Is there a riparian corridor to other wetlands within 0.25 of a mile, or a corridor >100′ wide with good forest or shrub cover to any other habitat area?	**=**	**5**
Is there a narrow corridor <100′ wide with good cover or a wide corridor >100′ wide with low cover to any other habitat area?	=	3
Is there a narrow corridor <100′ wide with low cover or a significant habitat area within 0.25 mile but no corridor?	=	1
Is the wetland and buffer completely isolated by development and/or cultivated agricultural land?	=	0

10. Scoring

Add the scores to get a total: __**35_**____

Question: Is the total greater than or equal to 22 points?

Answer:

Yes = Type 2, in a primary basin = 75'buffer

No = Type 3

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

Project/Site: Wallstrom - NE 108th Street City/County: Kirkland / King County Sampling Date: 9/23/14

Applicant/Owner: Kristal Wallstrom State: WA Sampling Point: 1

Investigator(s): AB Section, Township, Range: S32, T26N, R5E

Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): concave Slope (%): <1%

Subregion (LRR): LRR-A Lat: 47.696753° Long: -122.195718° Datum:

Soil Map Unit Name: Indianola loamy fine sand, 0 to 4 percent slopes NWI classification: None

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:	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1. Salix sitchensis	45	Y	FacW
2.			
3.			
4.			
	45	= Total Cover	
Sapling/Shrub Stratum (Plot size:)			
1. Rubus armeniacus	15	Y	FacU
2.			
3.			
4.			
5.			
	15	= Total Cover	
Herb Stratum (Plot size:)			
1. Phalaris arundinacea	35	Y	FacW
2. Ranunculus repens	20	Y	FacW
3. Equisetum arvense	15	N	Fac
4. Solanum dulcamara	10	N	Fac
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	80	= 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: 4 (A)

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

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

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = 0
FACW species ____	x 2 = 0
FAC species ____	x 3 = 0
FACU species ____	x 4 = 0
UPL species ____	x 5 = 0
Column Totals: 0 (A)	0 (B)

Prevalence Index = B/A = 4

Hydrophytic Vegetation Indicators:

- ☐ Rapid Test for Hydrophytic Vegetation
- ☑ Dominance Test is >50%
- ☐ Prevalence Index is ≤3.0[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:

SOIL

Sampling Point: 1

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 %	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 3/2		10YR 4/4	7			loamy sand	moist
12-18	10YR 4/2		10YR 4/4	7			loamy sand	moist

[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)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type:__________

Depth (inches):__________

Hydric Soil Present? **Yes** ☑ **No** ☐

Remarks:

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:

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

Project/Site: Wallstrom - NE 108th Street City/County: Kirkland / King County Sampling Date: 9/23/14

Applicant/Owner: Kristal Wallstrom State: WA Sampling Point: 2

Investigator(s): AB Section, Township, Range: S32, T26N, R5E

Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): concave Slope (%): <1%

Subregion (LRR): LRR-A Lat: 47.696753° Long: -122.195718° Datum:

Soil Map Unit Name: Indianola loamy fine sand, 0 to 4 percent slopes NWI classification: None

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:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1. Salix sitchensis	35	Y	FacW
2. Populus balsamifera	30	Y	Fac
3. Alnus rubra	30	Y	Fac
4.			
	95	= Total Cover	
Sapling/Shrub Stratum (Plot size:)			
1. Rubus armeniacus	20	Y	FacU
2.			
3.			
4.			
5.			
	20	= Total Cover	
Herb Stratum (Plot size:)			
1. Phalaris arundinacea	60	Y	FacW
2. Scirpus microcarpus	20	Y	Obl
3. Ranunculus repens	20	Y	FacW
4.			
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: 7 (A)

Total Number of Dominant Species Across All Strata: 8 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 88 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 = 0
FACW species		x 2 = 0
FAC species		x 3 = 0
FACU species		x 4 = 0
UPL species		x 5 = 0
Column Totals:	0 (A)	0 (B)

Prevalence Index = B/A = 4

Hydrophytic Vegetation Indicators:

- ☐ Rapid Test for Hydrophytic Vegetation
- ☐ Dominance Test is >50%
- ☑ Prevalence Index is ≤3.0[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:

SOIL

Sampling Point: 2

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 %	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 3/2						loamy sand	moist
10-18	Gley2 5/10G		10YR 4/4	30			loamy sand	moist

[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)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if present):
Type: ________
Depth (inches): ________

Hydric Soil Present? Yes ☑ No ☐

Remarks:

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:

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

Project/Site: Wallstrom - NE 108th Street City/County: Kirkland / King County Sampling Date: 9/23/14

Applicant/Owner: Kristal Wallstrom State: WA Sampling Point: 3

Investigator(s): AB Section, Township, Range: S32, T26N, R5E

Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): concave Slope (%): <1%

Subregion (LRR): LRR-A Lat: 47.696753° Long: -122.195718° Datum:

Soil Map Unit Name: Indianola loamy fine sand, 0 to 4 percent slopes NWI classification: None

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:

Upland vegetation consists of mowed/maintained lawn.

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size:)			
1.			
2.			
3.			
4.			
= Total Cover			
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
= Total Cover			
Herb Stratum (Plot size:)			
1. Trifolium pratense	35	Y	Fac
2. Agrostis sp.	15	Y	Fac
3. Ranunculus repens	15	Y	FacW
4. Geranium molle	10	N	FacU
5. Taraximcum officinale	5	N	FacU
6. Plantago lanseolata	5	N	Fac
7.			
8.			
9.			
10.			
11.			
= Total Cover	85		
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: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

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

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 = 0
FACW species		x 2 = 0
FAC species		x 3 = 0
FACU species		x 4 = 0
UPL species		x 5 = 0
Column Totals:	0 (A)	0 (B)

Prevalence Index = B/A = 4

Hydrophytic Vegetation Indicators:

- ☐ Rapid Test for Hydrophytic Vegetation
- ☐ Dominance Test is >50%
- ☐ Prevalence Index is ≤3.0[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:

vegetation was tightly mowed and exact species identification was difficult.

SOIL

Sampling Point: 3

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 %	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 3/2						salo	dry
6-16	10YR 4/2						salo	dry, no redox

[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)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ☐ **No** ☑

Remarks:

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: