CITY OF MERCER ISLAND

COMMUNITY PLANNING & DEVELOPMENT
9611 SE 36TH STREET | MERCER ISLAND, WA 98040
PHONE: 206.275.7605 | www.mercergov.org

STAFF REPORT

CRITICAL AREA DETERMINATION

Project No.:	CAO19-004
Description:	Request for a critical area determination to average the buffer of a Type 2 watercourse in order to construct a new single-family dwelling. The applicant is proposing to conduct development activity within 478 square feet of the watercourse's buffer, while adding 500 square feet to the buffer elsewhere on the property.
Applicant / Owner:	Michael McFadden (Stuart Silk Architects) / Alexandra Boyle and Charles Lee
Site Address:	4150 Boulevard Place, Mercer Island, WA 98040; Identified by King County Assessor tax parcel number 362350-0174.
Zoning District:	Single Family Residential (R-15)
Staff Contact:	Andrew Leon, Planner
Exhibits:	1. Development Application, dated March 7, 2019 2. Development Plan Set, received by the City of Mercer Island on March 7, 2019 3. Project Narrative, dated March 7, 2019 4. Critical Areas Report, received by the City of Mercer Island on March 7, 2019 5. Peer Review Memorandum prepared by Environmental Science Associates, dated May 10, 2019 6. Bond Quantity Worksheet, dated March 15, 2019 7. Comment email from the Muckleshoot Indian Tribe dated May 14, 2019

INTRODUCTION

I. Project Description

The applicant has applied for a Critical Area Determination to average the buffer of a Type 2 watercourse in order to construct a new single-family dwelling. The proposal involves encroaching onto 478 square feet of the buffer on the east side of the property for the construction of the dwelling, while adding 500 square feet to the buffer on the west side of the property. The portion of the buffer to be reduced will not be reduced below the minimum width allowed.

II. Site Description and Context

1. The proposed activity is to occur at 4150 Boulevard Place, Mercer Island, WA 98040. This site is designated Single Family Residential (zoned R-15).

2. Adjacent properties to the east, west, and south are also within the R-15 zone. Adjacent properties to the north are within the R-9.6 zone. All adjacent properties contain residential uses.

Findings of Fact & Conclusions of Law

III. Application Procedure

1. The application for a Critical Area Determination was received by the City of Mercer Island on March 15, 2019. The application was determined to be complete on April 7, 2019 and a letter of completeness was sent to the applicant on April 9, 2019.

2. Under MICC 19.15.030, Table A, applications for Critical Area Determinations must undergo Type III review. Type III reviews require notice of application (discussed below). A notice of decision is issued once the project review is complete.

3. The City of Mercer Island provided public notice of application for this Critical Area Determination application, as set forth in MICC 19.15.090. The comment period for the public notice period lasted for 30 days, from April 15, 2019 to May 15, 2019. The following methods were used for the public notice of application:

    1) A mailing sent to neighboring property owners within 300 feet of the subject parcel.
    2) A sign posted on the subject parcel.
    3) A posting in the City of Mercer Island's weekly permit bulletin.

    a. Karen Walter of **The Muckleshoot Indian Tribe** provided comments (Exhibit 7) about the potential of the stream to provide fish habitat. The comments state that the Washington State Department of Fish and Wildlife's online fish passage GIS shows a fish passage barrier on the stream downstream from the subject lot. Ms. Walter requested that the City consider the fish passage barrier on the stream's potential to provide fish habitat.

    Staff Response: Environmental Science Associates (ESA) preformed a peer review of the critical areas report provided by the applicant (Exhibit 4) and visited the site on May 6, 2019. In their peer review memorandum (Exhibit 5), ESA reported that due to the topography change from the east side (upstream) of the property to the west side (downstream) the stream would not support fish.

IV. State Environmental Policy Act (SEPA)

This proposal is categorically exempt from SEPA pursuant to WAC 197-11-800(1)(b)(i).

V. Consistency with the Critical Areas Code

1. The general provisions for Critical Area Determinations are listed in MICC 19.07.020:

a. Applicability. Any alteration of a critical area or buffer shall meet the requirements of Chapter 19.07 MICC unless an allowed alteration or reasonable use exception applies pursuant to MICC 19.07.030.

Staff Analysis: The applicant has applied for a critical area determination to average the buffer of a Type 2 watercourse. The project meets the buffer averaging requirements of MICC 19.07.070(B)(3), as discussed in Section V.2 of this staff report below.

b. Public Notice – Critical Area Determination. A critical area determination requires public notice pursuant to MICC 19.15.100. A decision on a critical area determination may be appealed to the hearing examiner following the appeals process described in MICC 19.15.130.

Staff Analysis: As discussed in Section III.3 of this staff report above, the City of Mercer Island provided public notice for this project pursuant to MICC 19.15.100.

c. Critical Area Designation and Mapping. The approximate location and extent of critical areas are shown on the City's critical area maps, as now existing or hereafter amended. These maps are to be used as a reference only. The applicant is responsible for determining the scope, extent and boundaries of any critical areas to the satisfaction of the code official.

Staff Analysis: The applicant has provided a critical area study (Exhibit 4) and survey (within Exhibit 2) of the site that show the location of the Type 2 watercourse and it associated buffer.

d. Compliance with Other Federal, State or Local Laws. All approvals under the chapter, including critical area determinations and reasonable use exceptions, do not modify an applicant's obligation to comply in all respects with the applicable provisions of any other federal, state, or local law or regulation.

Staff Analysis: The applicant is responsible for complying with all federal, state, and local regulations. This decision further conditions that the applicant provide documentation to the City should compliance with federal, state, and local regulations change the scope of the proposal.

2. MICC 19.07.070(B)(3) – Averaging of Buffer Widths. The code official may allow the standard buffer width to be averaged if all of the following criteria are met:

a. The proposal will result in a net improvement of critical area function.

Staff Analysis: The critical areas report provided by the applicant (Exhibit 4) indicates that the proposal will result in an improvement of critical area function. The area that is proposed to be added to the buffer was not previously planted in native vegetation, as it is proposed to be as a part of the proposal. The peer review memorandum prepared by ESA (Exhibit 5) concurs that the proposal will improve the function of the critical area. This criterion is met.

b. The proposal will include replanting of the averaged buffer using native vegetation.

Staff Analysis: The critical areas report (Exhibit 4) indicates that the 500 square foot area added to the buffer will be planted with native vegetation. A band of native vegetation is also proposed at the top of the bank of the watercourse. The proposed vegetation is being installed in conjunction with a project to remove invasive plants and plant native vegetation conducted on the lot's steep slopes by the applicant and the King County Conservation District. This criterion is met.

c. The total area contained in the averaged buffers on the development proposal site is not decreased below the total area that would be provided if the maximum width were not averaged.

Staff Analysis: Sheet CA-1.0 of Exhibit 2 shows that the buffer is being reduced by 478 square feet on the east side of the lot, while 500 square feet is being added to the buffer on the west side of the lot. The total area of the buffer will not be reduced below the area of the buffer if it were not averaged, thereby meeting this criterion.

d. The standard buffer width is not reduced to a width that is less than the minimum buffer width at any location.

Staff Analysis: Under MICC 19.07.070(B)(1), the standard buffer for a Type 2 watercourse is 50 feet and can be reduced to 25 feet. At its closest point the proposed development will be taking place approximately 32 feet from the watercourse, as shown on Exhibit 2. The standard buffer is not proposed to be reduced below the minimum buffer width at any location. This criterion is met.

e. That portion of the buffer that has been reduced in width shall not contain a steep slope.

Staff Analysis: As shown on sheet CA-1.0 of Exhibit 2, the proposed portion of the buffer to be reduced does not contain a steep slope. This criterion is met.

3. MICC 19.07.040 – Review and construction requirements.

a. Timing. All alterations or mitigation to critical areas shall be completed prior to the final inspection and occupancy of a project.

Staff Analysis: This decision conditions that the proposed mitigation to the critical area and its buffer be completed prior to the final inspection of the building permit associated with this project.

b. Maintenance and Monitoring
    1. Landscape maintenance and monitoring may be required for up to five years from the date of project completion if the code official determines such condition is necessary to ensure mitigation success and critical area protection.
    2. Where monitoring reveals a significant variance from predicted impacts or a failure of protection measures, the applicant shall be responsible for appropriate corrective action, which may be subject to further monitoring.

Staff Analysis: This decision conditions that maintenance and monitoring shall be required for the proposed mitigation landscaping, for a term of five years from the date of project completion. In accordance with MICC 19.01.060(C)(1), a financial guarantee (e.g. bond or assignment of funds) shall be required for the installation and maintenance of the mitigation planting for this project. The amount of the financial guarantee is based on the total on the Bond Quantity Worksheet (Exhibit 6). The financial guarantee shall be received by the City prior to issuance of building permits.

CONDITIONS OF APPROVAL

1. The project proposal shall be in substantial conformance with Exhibit 2 and all applicable development standards contained within Mercer Island City Code (MICC) Chapter 19.07.

2. The applicant is responsible for documenting any required changes in the project proposal due to conditions imposed by any applicable local, state and federal government agencies.

3. All alterations or mitigation to critical areas shall be completed prior to the final inspection and occupancy of the project.

4. Prior to approval of building permit 1902-087, the applicant shall submit a financial guarantee, whether it is a bond or an assignment of funds, for the installation and maintenance of the mitigation planting. The amount shall be 150% of the total stated in to Bond Quantity Worksheet (Exhibit 6).

5. Upon completion of the mitigation plantings, a letter written by a qualified professional detailing compliance with the approved mitigation plan shall be submitted to the City of Mercer Island Community Planning and Development Department. The compliance letter shall be accompanied by a set of as-built drawings depicting the type and location of mitigation plantings. A maintenance and monitoring memo shall be shall be submitted to the City of Mercer Island Community Planning and Development Department annually for a period of five years. Plant survival rates are to meet or exceed those set out in Exhibit 4.

6. A City of Mercer Island Building Permit may be required for construction of this project proposal. The Building Official may require an appropriate performance and maintenance bond in an amount to be determined prior to Building Permit issuance to ensure all required vegetation installation is completed in compliance with applicable code requirements.

7. Construction of this project proposal shall only occur during approved construction hours by the City of Mercer Island and/or as otherwise restricted by the Building Official.

8. Construction or substantial progress toward construction of a development for which a permit has been granted must be undertaken within three years after the approval of the permit or the permit shall terminate. The code official shall determine if substantial progress has been made.

DEVELOPMENT REGULATION COMPLIANCE – DISCLOSURE

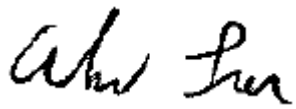
1. The applicant is responsible for obtaining any required permits or approvals from the appropriate Local, State, and Federal Agencies. The applicant is responsible for meeting the conditions required by the agencies pursuant to MICC 19.07.020(E).

2. All required permits must be obtained prior to the commencement of construction.

DECISION

Based upon the above noted Findings of Fact and Conclusions of Law, Critical Area Determination application CAO19-004, as depicted in Exhibit 2, is hereby **APPROVED**. This decision is final, unless appealed in writing consistent with adopted appeal procedures, MICC 19.15.130, and all other applicable appeal regulations.

Approved this 26th day of August, 2019



_____

Andrew Leon
Planner
Community Planning & Development
City of Mercer Island

If you desire to file an appeal, you must submit the appropriate form, available from the department of Community Planning and Development, and file it with the City Clerk within fourteen (14) days from the date after the notice of decision is made available to the public and applicant pursuant to MICC 19.15.120. Upon receipt of a timely complete appeal application and appeal fee, an appeal hearing will be scheduled. To reverse, modify or remand this decision, the appeal hearing body must find that there has been substantial error, the proceedings were materially affected by irregularities in procedure, the decision was unsupported by material and substantial evidence in view of the entire record, or the decision is in conflict with the city's applicable decision criteria.

Please note that the City will provide notice of this decision to the King County Department of Assessment, as required by State Law (RCW 36.70B.130). Pursuant to RCW 84.41.030(1), affected property owners may request a change in valuation for property tax purposes notwithstanding any program of revaluation by contacting the King County Department of Assessment at (206) 296-7300.

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PHONE: 206.275.7605 | www.mercergov.org

CITY USE ONLY		
PROJECT#	RECEIPT #	FEE
Date Received:		
Received By:		

DEVELOPMENT APPLICATION

STREET ADDRESS/LOCATION	ZONE
4150 BOULEVARD PL	R-15
COUNTY ASSESSOR PARCEL #'S	PARCEL SIZE (SQ. FT.)
362350-0174	18,878

PROPERTY OWNER *(required)*	ADDRESS *(required)*	CELL/OFFICE *(required)*
ALEXENDRA BOYLE & CHARLES LEE	7929 SE 37TH ST MERCER ISLAND, WA 98040	206-728-9500 E-MAIL *(required)* feretsole2001@yahoo.com
PROJECT CONTACT NAME	ADDRESS	CELL/OFFICE
MICHAEL MCFADDEN	2400 N 45TH ST SEATTLE, WA 98103	206-728-9500 E-MAIL michaelm@stuartsilk.com
TENANT NAME	ADDRESS	CELL PHONE E-MAIL

DECLARATION: I HEREBY STATE THAT I AM THE OWNER OF THE SUBJECT PROPERTY OR I HAVE BEEN AUTHORIZED BY THE OWNER(S) OF THE SUBJECT PROPERTY TO REPRESENT THIS APPLICATION, AND THAT THE INFORMATION FURNISHED BY ME IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE.

SIGNATURE — 03/07/2019 DATE

PROPOSED APPLICATION(S) AND CLEAR DESCRIPTION OF PROPOSAL (PLEASE USE ADDITIONAL PAPER IF NEEDED):
WATERCOURSE BUFFER AVERAGING FOR A PROPOSED NEW SINGLE FAMILY RESIDENCE WITH ATTACHED GARAGE ON A VACANT LOT

ATTACH RESPONSE TO DECISION CRITERIA IF APPLICABLE

CHECK TYPE OF LAND USE APPROVAL REQUESTED:

APPEALS	DEVIATIONS	WIRELESS COMMUNICATIONS FACILITIES
☐ Building (+cost of file preparation)	☐ Changes to Antenna requirements	☐ Wireless Communications Facilities-6409 Exemption
☐ Code Interpretation	☐ Changes to Open Space	☐ New Wireless Communications Facility
☐ Land use (+cost of verbatim transcript)	☐ Critical Areas Setback	**VARIANCES (Plus Hearing Examiner Fee)**
☐ Right-of-Way Use	☐ Wet Season Construction Moratorium	☐ Type 1**
CRITICAL AREAS	**ENVIRONMENTAL REVIEW (SEPA)**	☐ Type 2***
☒ Determination	☐ Checklist: Single Family Residential Use	**OTHER LAND USE**
☐ Reasonable Use Exception	☐ Checklist: Non-Single Family Residential Use	☐ Accessory Dwelling Unit
DESIGN REVIEW	☐ Environmental Impact Statement	☐ Code Interpretation Request
☐ Administrative Review	**SHORELINE MANAGEMENT**	☐ Comprehensive Plan Amendment (CPA)
☐ Design Review- **Major**	☐ Exemption	☐ Conditional Use (CUP)
☐ Design Review – **Minor**	☐ Semi-Private Recreation Tract (modification)	☐ Lot Line Revision/ Lot Consolidation
☐ Design Review – **Study Session**	☐ Semi-Private Recreation Tract (new)	☐ Noise Exception
SUBDIVISION SHORT PLAT	☐ Substantial Dev. Permit	☐ Reclassification of Property (Rezoning)
☐ Short Plat	**SUBDIVISION LONG PLAT**	☐ ROW Encroachment Agreement (*requires separate ROW Use Permit*
☐ Short Plat Amendment	☐ Long Plat	☐ Zoning Code Text Amendment
☐ Deviation of Acreage Limitation	☐ Subdivision Alteration to Existing Plat	
☐ Final Short Plat Approval	☐ Final Subdivision Review	

***Includes all variances of any type or purpose in all zones other than single family residential zone: B,C-O,PBZ,MF-2,MF2L,MF-2L, MF-3,TC,P)*
****Includes all variances of any type or purpose in single family residential zone: R-8.4, R-9.6, R-12, R-15)*

TOPOGRAPHIC & BOUNDARY SURVEY

LEGAL DESCRIPTION

(PER CHICAGO TITLE COMMITMENT NUMBER: 0144086-ETU DATED FEBRUARY 15, 2019)

THAT PORTION OF TRACT 14, REPLAT OF ISLAND PARK, ACCORDING TO THE PLAT THEREOF, RECORDED IN VOLUME 13 OF PLATS, PAGE 58, IN KING COUNTY, WASHINGTON, AS DESCRIBED IN KING COUNTY SUPERIOR COURT CAUSE NO. 14-2-18504-9, AS FOLLOWS:

BEGINNING AT THE INTERSECTION OF THE NORTHERLY LINE OF SOUTHEAST 42 ND STREET, FORMERLY FRANKLIN AVENUE, AND THE SOUTHEASTERLY LINE OF 78TH AVENUE SOUTHEAST, FORMERLY WALTHEW AVENUE; THENCE EASTERLY ALONG SAID NORTHERLY LINE OF SOUTHEAST 42 ND STREET, 426 FEET TO A POINT 600 FEET WEST OF THE SOUTHEAST CORNER OF SAID TRACT 14; THENCE NORTH 00°07'07" EAST A DISTANCE OF 172.23 FEET, MORE OR LESS, TO THE CENTER LINE OF A CREEK WHICH IS THE TRUE POINT OF BEGINNING; THENCE CONTINUING NORTH 00°07'07" EAST A DISTANCE OF 211.77 FEET, MORE OR LESS TO AN INTERSECTION WITH THE EASTERLY LINE OF SAID WALTHEW AVENUE; THENCE SOUTH 49°01'56" WEST ALONG SAID SOUTHEASTERLY LINE OF WALTHEW AVENUE A DISTANCE OF 132.6888 FEET; THENCE SOUTH 00°07'07" WEST 148 FEET MORE OR LESS TO THE CENTER LINE OF SAID CREEK; THENCE EASTERLY ALONG THE CENTER LINE OF SAID CREEK TO THE TRUE POINT OF BEGINNING;

TOGETHER WITH THE FOLLOWING DESCRIBED PARCEL:

THAT PORTION OF LOT "C" OF SHORT PLAT BY J. BENJ. HAYES & ASSOCIATES CIVIL ENGINEER AND LAND SURVEYOR DATED SEPTEMBER 28, 1949, DESCRIBED AS FOLLOWS:

BEGINNING AT THE NORTHERLY CORNER OF SAID LOT "C"; THENCE SOUTH 47°51'00" WEST ALONG THE NORTHERLY LINE OF 78 TH AVENUE SOUTHEAST A DISTANCE OF 10.20 FEET; THENCE SOUTH 08°42'04" EAST A DISTANCE OF 50.35 FEET MORE OR LESS TO THE EASTERLY LINE OF SAID LOT "C"; THENCE NORTH 00°03'12" WEST ALONG THE EASTERLY LINE OF SAID LOT "C", A DISTANCE OF 56.61 FEET MORE OR LESS TO THE POINT OF BEGINNING.

SURVEYOR'S NOTES

1. THE TOPOGRAPHIC SURVEY SHOWN HEREON WAS PERFORMED IN AUGUST OF 2015. THE FIELD DATA WAS COLLECTED AND RECORDED ON MAGNETIC MEDIA THROUGH AN ELECTRONIC THEODOLITE. THE DATA FILE IS ARCHIVED ON DISC OR CD. WRITTEN FIELD NOTES MAY NOT EXIST. CONTOURS ARE SHOWN FOR CONVENIENCE ONLY. DESIGN SHOULD RELY ON SPOT ELEVATIONS.
2. BURIED UTILITIES SHOWN BASED ON RECORDS FURNISHED BY OTHERS AND VERIFIED WHERE POSSIBLE IN THE FIELD. GEODIMENSIONS ASSUMES NO LIABILITY FOR THE ACCURACY OF THOSE RECORDS OR ACCEPT RESPONSIBILITY FOR UNDERGROUND LINES WHICH ARE NOT MADE PUBLIC RECORD. FOR THE FINAL LOCATION OF EXISTING UTILITIES IN AREAS CRITICAL TO DESIGN CONTACT THE UTILITY OWNER/AGENCY. AS ALWAYS, CALL 1-800-424-5555 BEFORE CONSTRUCTION.
3. SUBJECT PROPERTY TAX PARCEL NO. 3623500174
4. SUBJECT PROPERTY AREA PER THIS SURVEY IS 18881± S.F. (0.43± ACRES)
5. ALL TITLE INFORMATION SHOWN ON THIS MAP HAS BEEN EXTRACTED FROM CHICAGO TITLE INSURANCE COMPANY'S "GUARANTEE", CERTIFICATE NO. 0144086-ETU, DATED FEBRUARY 15, 2019. IN PREPARING THIS MAP, TERRANE, INC. HAS CONDUCTED NO INDEPENDENT TITLE SEARCH NOR IS TERRANE, INC. AWARE OF ANY TITLE ISSUES AFFECTING THE SURVEYED PROPERTY OTHER THAN THOSE SHOWN ON THE MAP AND DISCLOSED BY THE REFERENCED "GUARANTEE". TERRANE, INC. HAS RELIED WHOLLY ON CHICAGO TITLE INSURANCE COMPANY'S REPRESENTATIONS OF THE TITLE'S CONDITION TO PREPARE THIS SURVEY AND TERRANE, INC. QUALIFIES THE MAP'S ACCURACY AND COMPLETENESS TO THAT EXTENT.
6. INSTRUMENTATION FOR THIS SURVEY WAS A TRIMBLE ELECTRONIC DISTANCE MEASURING UNIT. PROCEDURES USED IN THIS SURVEY WERE DIRECT AND REVERSE ANGLES, NO CORRECTION NECESSARY. MEETS STATE STANDARDS SET BY WAC 332-130-090.

BASIS OF BEARINGS

NAD 83(2011) WASHINGTON NORTH COORDINATE SYSTEM PER GPS OBSERVATIONS, THE CENTERLINE OF BOULEVARD PL BEARS N40°57'32"W BETWEEN FOUND MONUMENTS.

REFERENCES

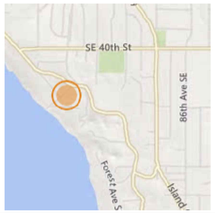
1. REPLAT OF ISLAND PARK; VOL. 13, PG 58

VERTICAL DATUM

NAVD 88, PER GPS OBSERVATION

VICINITY MAP

N.T.S.

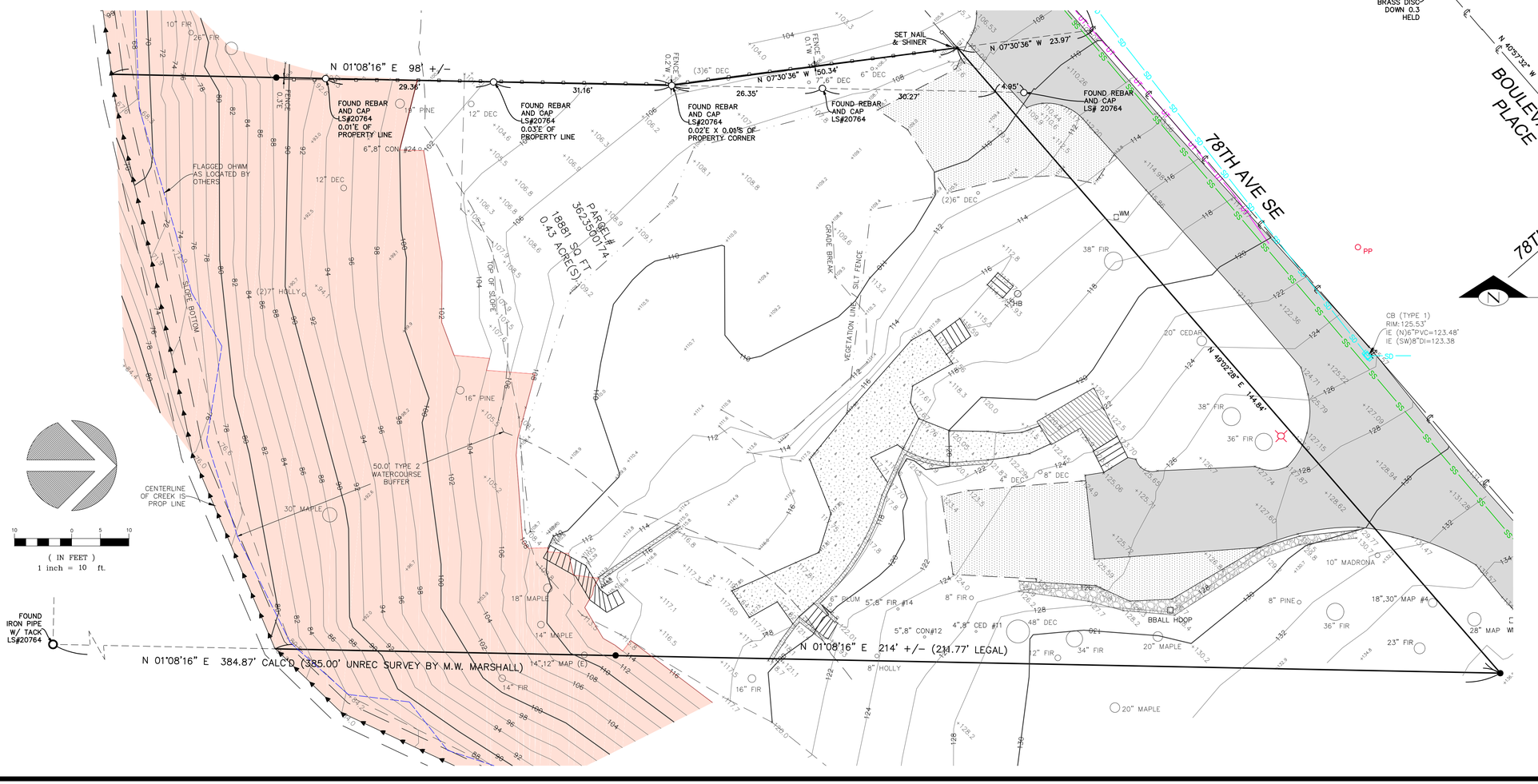


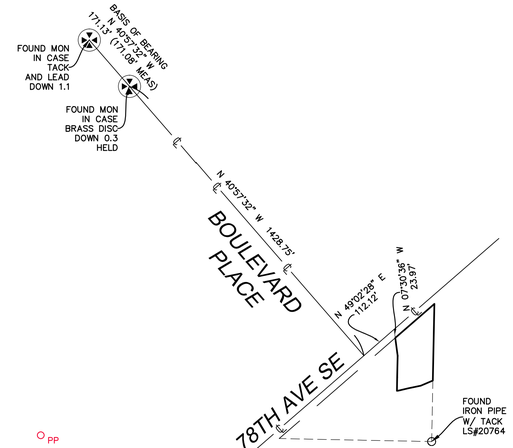
LEGEND

- BUILDING
- CENTERLINE ROW
- CONCRETE SURFACE
- CONCRETE WALL
- CONTOUR (MAJOR)
- CONTOUR (MINOR)
- DECK
- CENTERLINE OF CREEK
- GAS METER
- GRAVEL SURFACE
- INLET (TYPE 250A)
- IRON PIPE (FOUND)
- MONUMENT IN CASE (FOUND)
- POWER METER
- POWER (OVERHEAD)
- POWER POLE
- REBAR AS NOTED (FOUND)
- ROCKERY
- SEWER LINE
- SEWER MAINTENANCE
- TREE (AS NOTED)
- WATER METER
- STEEP SLOPE >40%

SCHEDULE B ITEMS

ITEM 1
COVENANTS, CONDITIONS, RESTRICTIONS, RECITALS, RESERVATIONS, EASEMENTS, EASEMENT PROVISIONS, DEDICATIONS, BUILDING SETBACK LINES, NOTES, STATEMENTS, AND OTHER MATTERS, IF ANY, BUT OMITTING ANY COVENANTS OR RESTRICTIONS, IF ANY, INCLUDING BUT NOT LIMITED TO THOSE BASED UPON RACE, COLOR, RELIGION, SEX, SEXUAL ORIENTATION, FAMILIAL STATUS, MARITAL STATUS, DISABILITY, HANDICAP, NATIONAL ORIGIN, ANCESTRY, OR SOURCE OF INCOME, AS SET FORTH IN APPLICABLE STATE OR FEDERAL LAWS, EXCEPT TO THE EXTENT THAT SAID COVENANT OR RESTRICTION IS PERMITTED BY APPLICABLE LAW, AS SET FORTH ON SURVEY OF RECORD:
RECORDING NO: 20160418900028 (SHOWN HEREON)

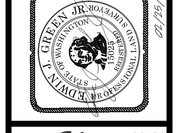




measure success

TOPOGRAPHIC & BOUNDARY SURVEY
NW 1/4 OF NE 1/4 SEC 13, TWP. 24 N., RGE 04 E., W.M.
PARCEL NO. 3623500174

LEE/BOYLE RESIDENCE
4150 BOULEVARD PL
MERCER ISLAND, WA

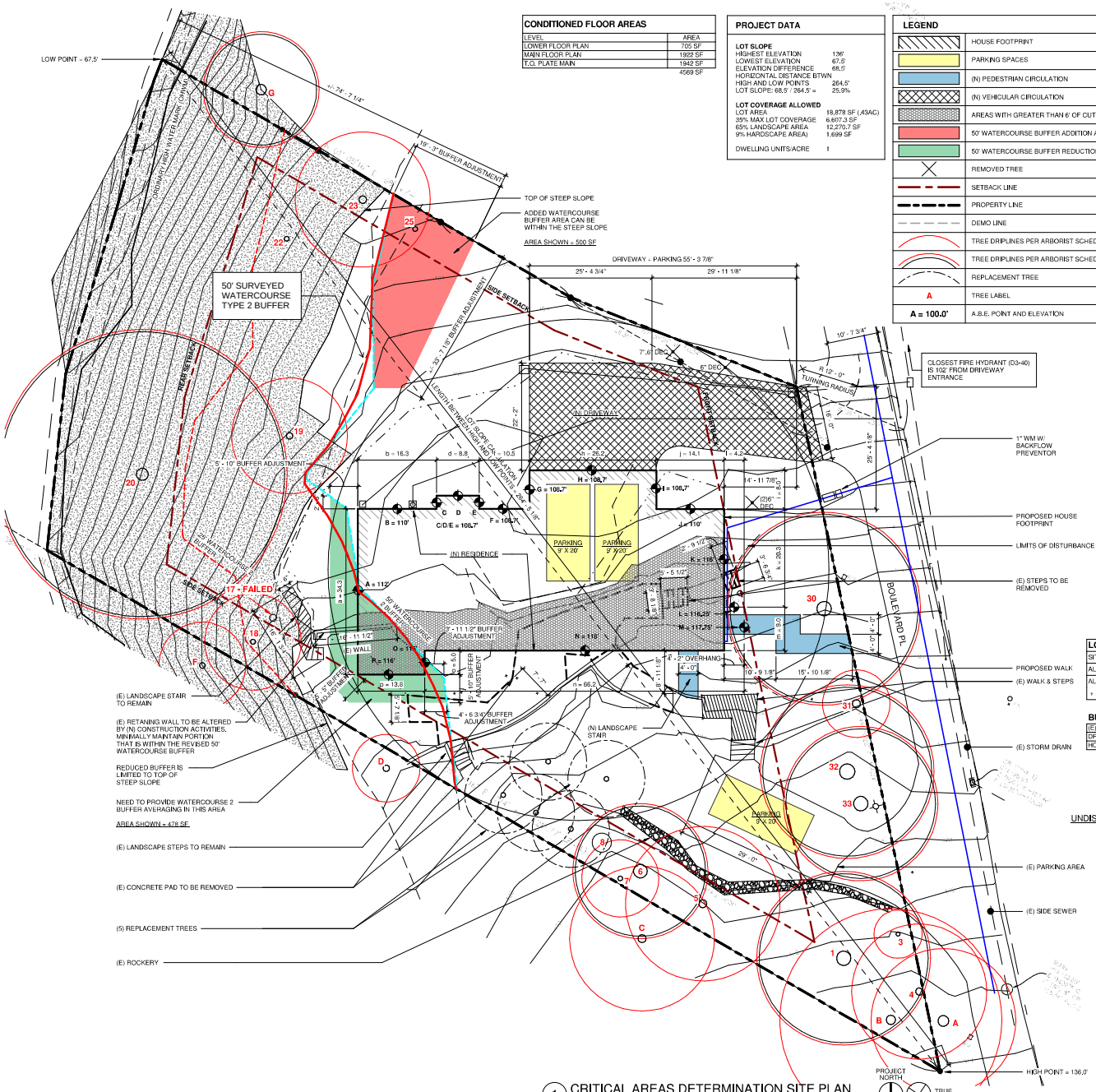


Terrane
10801 Main Street, Suite 102, Bellevue, WA 98004
phone 425.458.4488 support@terrane.net
www.terrane.net

JOB NUMBER:	151132
DATE:	9/3/2015
DRAFTED BY:	AB/RLS
CHECKED BY:	EJG/JPS
SCALE:	1"= 10'

REVISION HISTORY	
2/7/19	UPDATE SITE FEATS.
2/22/19	ADD ECA AREAS
2/25/19	ADJUST SETBACK

SHEET NUMBER
1 OF 1



1 CRITICAL AREAS DETERMINATION SITE PLAN
1" = 10'-0"

CONDITIONED FLOOR AREAS	
LEVEL	AREA
LOWER FLOOR PLAN	705 SF
MAIN FLOOR PLAN	1922 SF
T.O. PLATE MAIN	1942 SF
	4569 SF

PROJECT DATA	
LOT SLOPE	
HIGHEST ELEVATION	136'
LOWEST ELEVATION	67.5'
ELEVATION DIFFERENCE	68.5'
HORIZONTAL DISTANCE BTWN HIGH AND LOW POINTS	264.5'
LOT SLOPE: 68.5' / 264.5' =	25.9%
LOT COVERAGE ALLOWED	
LOT AREA	18,878 SF (.43AC)
35% MAX LOT COVERAGE	6,607.3 SF
65% LANDSCAPE AREA	12,270.7 SF
9% HARDSCAPE AREA)	1,699 SF
DWELLING UNITS/ACRE	1

LEGEND	
	HOUSE FOOTPRINT
	PARKING SPACES
	(N) PEDESTRIAN CIRCULATION
	(N) VEHICULAR CIRCULATION
	AREAS WITH GREATER THAN 6' OF CUT AND/OR FILL
	50' WATERCOURSE BUFFER ADDITION AREA
	50' WATERCOURSE BUFFER REDUCTION AREA
	REMOVED TREE
	SETBACK LINE
	PROPERTY LINE
	DEMO LINE
	TREE DRIPLINES PER ARBORIST SCHEDULE, 24" OR SMALLER
	TREE DRIPLINES PER ARBORIST SCHEDULE, GREATER THAN 24"
	REPLACEMENT TREE
A	TREE LABEL
A = 100.0'	A.B.E. POINT AND ELEVATION

AVERAGE BUILDING ELEVATION (A.B.E.)				
ELEVATION MARK	MIDPOINT ELEVATION	WALL SEGMENT MARK	WALL SEGMENT LENGTH (FT)	PRODUCT
A	112.0	a	34.3	3,841.6
B	110.0	b	16.3	1,793.0
C	108.7	c	2.7	293.5
D	108.7	d	8.8	956.6
E	108.7	e	2.7	293.5
F	108.7	f	10.4	1,130.5
G	108.7	g	8.0	869.6
H	108.7	h	26.3	1,540.0
I	108.7	i	8.0	869.6
J	110.0	j	14.0	1,540.0
K	116.0	k	20.3	2,354.8
L	116.25	l	4.2	488.3
M	117.75	m	9.0	1,059.8
N	118.0	n	66.2	7,811.6
O	116.0	o	5.0	580.0
P	116.0	p	13.8	1,600.8
		TOTALS	250.0	28,341.8
A.B.E. - SUM PRODUCTS / SUM WALL LENGTHS			**113.4 FT**	
MAXIMUM HEIGHT ALLOWED = A.B.E. + 30'			**143.4 FT**	
PROPOSED BUILDING HEIGHT			**140.2 FT (140'-2")**	

TREE SCHEDULE				
MARK	SPECIES	DSH (IN)	DRIPLINE EXTENT	RATING
1	DOUGLAS FIR	35	18' RADIAL	EXCEPT
3	MADRONE	10	5' RADIAL	EXCEPT
4	BIG LEAF MAPLE	18.5	14' RADIAL	REG
5	BIG LEAF MAPLE	20	16' RADIAL	REG
6	DOUGLAS FIR	30	14' RADIAL	EXCEPT
7	DOUGLAS FIR	14	8' RADIAL	REG
8	BIG LEAF MAPLE	48	HABITAT SPAR	N/A
17	BIG LEAF MAPLE	18	N/A	FAILED
18	BIG LEAF MAPLE	13	10' RADIAL	REG
19	AUSTRIAN PINE	17	12' RADIAL	REG
20	BIG LEAF MAPLE	43	30' RADIAL	EXCEPT
22	FLOWERING PLUM	8,10	N/A	N/A
23	SCOTS PINE	21	14' RADIAL	REG
25	FLOWERING PLUM	9,8	N/A	N/A
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NOTE: SEE ARBORIST REPORT DATED 02.01.2016 AND ADDENDA DATED 01.03.2019

LOT COVERAGE	
SITE AREA	18,878 SF
ALLOWABLE COVERAGE (35%)	6,607.3 SF
ALLOWABLE HARDSCAPE (9%)	1,699 SF + (2,318 SF)
+ LEFTOVER LOT COVERAGE	= 4,017 SF

BUILDING & DRIVING SURFACES	
(E) PARKING	634 SF
DRIVE	1088 SF
HOUSE	2567 SF
	4289 SF (23%)

HARDSCAPE	
(E) HARDSCAPE 1	50 SF
(E) HARDSCAPE 2	63 SF
(E) HARDSCAPE 3	124 SF
(E) HARDSCAPE 4	142 SF
(N) HARDSCAPE 1	108 SF
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(N) HARDSCAPE 3	36 SF
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LANDSCAPE	
LANDSCAPE 1	11862 SF
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LANDSCAPE 3	869 SF
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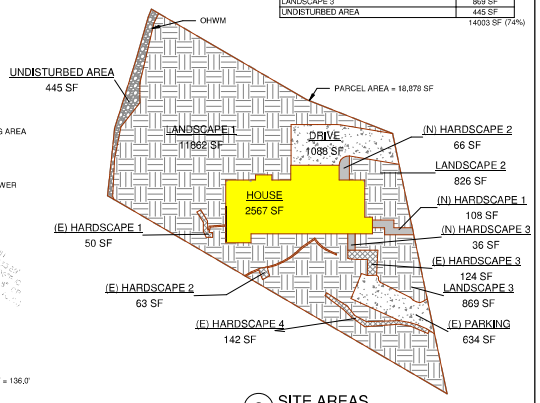


2 SITE AREAS
1/32" = 1'-0"

3257 REGISTERED ARCHITECT
Stuart Silk
STUART MARION SILK
STATE OF WASHINGTON

DESIGN	SNS, JDB, MM
DRAWN	EB
CHECKED	AC
SHEET ISSUE DATE	03/07/19
DRAWING SETS	
	PERMIT SET 03/12/2019
	-
	-
	-
REVISIONS	

#	DATE	DESCRIPTION

Stuart Silk Architects

2400 N. 45th Street
Seattle, WA 98103

WWW.STUARTSILK.COM

LEE-BOYLE

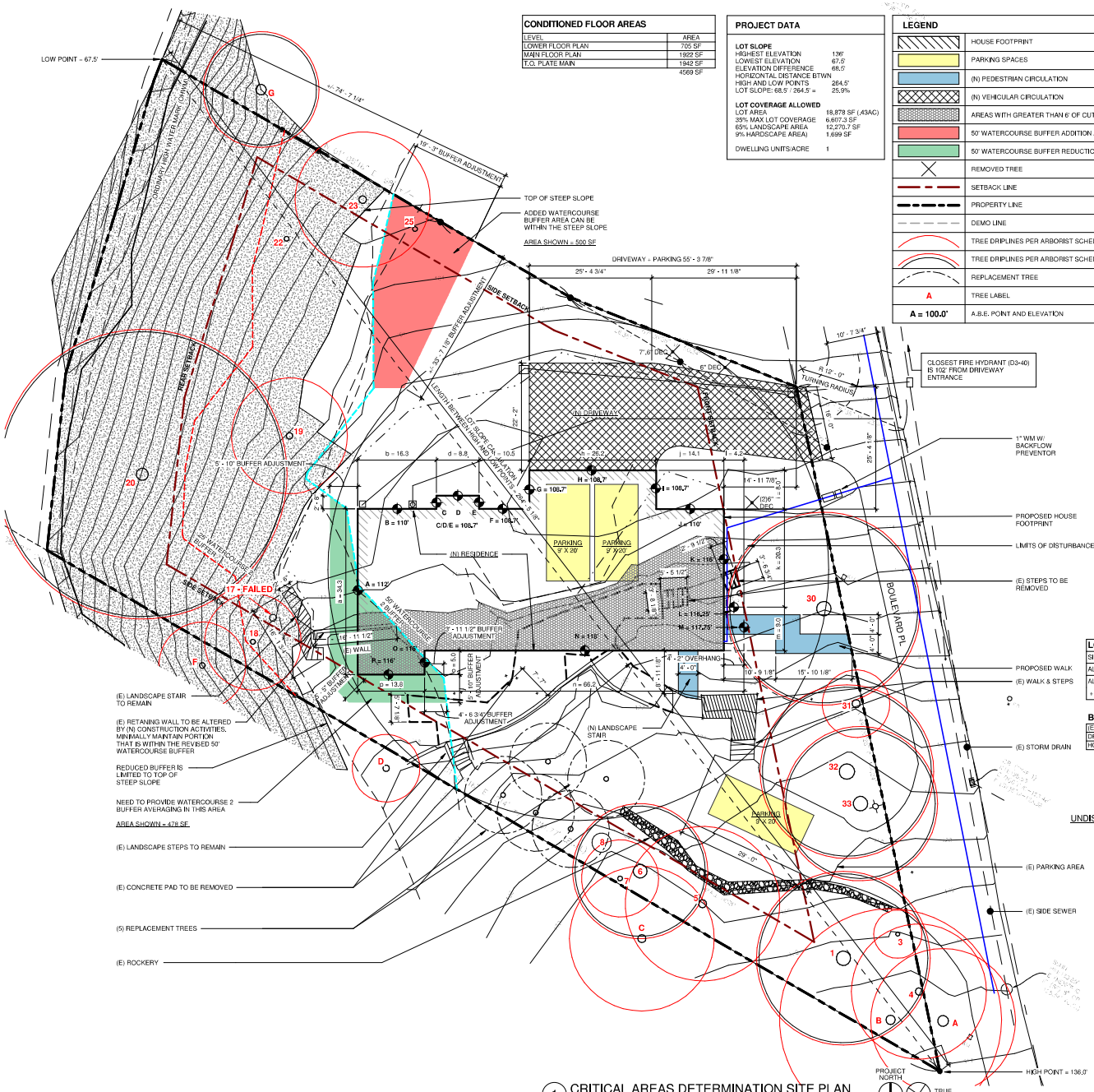
4150 BOULEVARD PLACE
MERCER ISLAND, WA

CRITICAL AREAS DETERMINATION

SITE PLAN

CA-1.0

PLOT DATE: 3/5/2019 5:28 PM



1 CRITICAL AREAS DETERMINATION SITE PLAN
1" = 10'-0"

CONDITIONED FLOOR AREAS	
LEVEL	AREA
LOWER FLOOR PLAN	705 SF
MAIN FLOOR PLAN	1922 SF
T.O. PLATE MAIN	1942 SF
	4569 SF

PROJECT DATA	
LOT SLOPE	
HIGHEST ELEVATION	136'
LOWEST ELEVATION	67.5'
ELEVATION DIFFERENCE	68.5'
HORIZONTAL DISTANCE BTWN HIGH AND LOW POINTS	264.5'
LOT SLOPE: 68.5' / 264.5' =	25.9%
LOT COVERAGE ALLOWED	
LOT AREA	18,878 SF (.43AC)
35% MAX LOT COVERAGE	6,607.3 SF
65% LANDSCAPE AREA	12,270.7 SF
9% HARDSCAPE AREA)	1,699 SF
DWELLING UNITS/ACRE	1

LEGEND	
	HOUSE FOOTPRINT
	PARKING SPACES
	(N) PEDESTRIAN CIRCULATION
	(N) VEHICULAR CIRCULATION
	AREAS WITH GREATER THAN 6' OF CUT AND/OR FILL
	50' WATERCOURSE BUFFER ADDITION AREA
	50' WATERCOURSE BUFFER REDUCTION AREA
	REMOVED TREE
	SETBACK LINE
	PROPERTY LINE
	DEMO LINE
	TREE DRIPLINES PER ARBORIST SCHEDULE, 24" OR SMALLER
	TREE DRIPLINES PER ARBORIST SCHEDULE, GREATER THAN 24"
	REPLACEMENT TREE
A	TREE LABEL
A = 100.0'	A.B.E. POINT AND ELEVATION

AVERAGE BUILDING ELEVATION (A.B.E.)				
ELEVATION MARK	MIDPOINT ELEVATION	WALL SEGMENT MARK	WALL SEGMENT LENGTH (FT)	PRODUCT
A	112.0	a	34.3	3,841.6
B	110.0	b	16.3	1,793.0
C	108.7	c	2.7	293.5
D	108.7	d	8.8	956.6
E	108.7	e	2.7	293.5
F	108.7	f	10.4	1,130.5
G	108.7	g	8.0	869.6
H	108.7	h	26.3	1,540.0
I	108.7	i	8.0	869.6
J	110.0	j	14.0	1,540.0
K	116.0	k	20.3	2,354.8
L	116.25	l	4.2	488.3
M	117.75	m	9.0	1,059.8
N	118.0	n	66.2	7,811.6
O	116.0	o	5.0	580.0
P	116.0	p	13.8	1,600.8
		TOTALS	250.0	28,341.8
A.B.E. - SUM PRODUCTS / SUM WALL LENGTHS			**113.4 FT**	
MAXIMUM HEIGHT ALLOWED = A.B.E. + 30'			**143.4 FT**	
PROPOSED BUILDING HEIGHT			**140.2 FT (140'-2")**	

TREE SCHEDULE				
MARK	SPECIES	DSH (IN)	DRIPLINE EXTENT	RATING
1	DOUGLAS FIR	35	18' RADIAL	EXCEPT
3	MADRONE	10	5' RADIAL	EXCEPT
4	BIG LEAF MAPLE	18.5	14' RADIAL	REG
5	BIG LEAF MAPLE	20	16' RADIAL	REG
6	DOUGLAS FIR	30	14' RADIAL	EXCEPT
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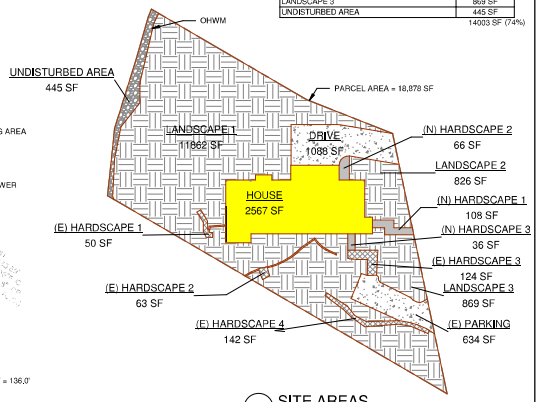

2 SITE AREAS
1/32" = 1'-0"

3257 REGISTERED ARCHITECT Stuart Silk STUART MARION SILK STATE OF WASHINGTON

DESIGN	SNS, JDB, MM
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	PERMIT SET 03/12/2019
	-
	-
	-
REVISIONS	

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Stuart Silk Architects

2400 N. 45th Street
Seattle, WA 98103

WWW.STUARTSILK.COM

LEE-BOYLE

4150 BOULEVARD PLACE
MERCER ISLAND, WA

CRITICAL AREAS DETERMINATION

SITE PLAN

CA-1.0

PLOT DATE: 3/5/2019 5:28 PM

NORTH

10 0 10
SCALE IN FEET

NOTES

1. ALL WORK SHALL BE DONE IN ACCORDANCE WITH TOWN OF MERCER ISLAND CURRENT STANDARD SPECIFICATIONS.
2. GRATES ON CATCH BASINS SHALL BE PER ARCHITECT OR LANDSCAPE ARCHITECT. CONTRACTOR TO SUBMIT GRATES FOR REVIEW PRIOR TO PURCHASE.
3. ALL SD PIPE SHALL BE SDR 35 PVC PIPE.
4. AREA DRAINS SHALL BE BLACK NDS PART #1200 WITH GRATE OPENING PER NDS.
5. PAVEMENT RESTORATION LIMITS SHALL MATCH SAME FULL DEPTH PAVEMENT LIMITS AS EX. ASPHALT. INSPECTOR TO DETERMINE IF GRIND AND OVERLAY REQUIRED.

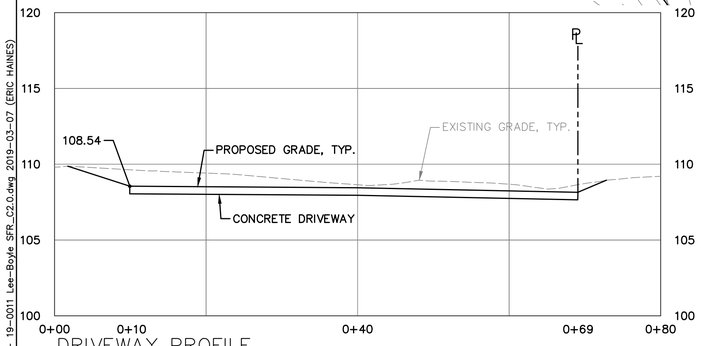
IMPERVIOUS SURFACE AREAS				
SURFACE	DESCRIPTION	BMP	AREA (SF)	AREA (AC)
S1	SFR (Roof)		2,567	0.059
S2	Concrete DWY		1,088	0.025
S3	Walkways		210	0.005
				-
	IMPERVIOUS TOTAL		***3,865***	**0.089**
PERVIOUS SURFACE AREAS				
SURFACE	DESCRIPTION	BMP	AREA (SF)	AREA (AC)
A			3,117	0.072
B				-
	PERVIOUS TOTAL		***3,117***	**0.072**
UNDISTURBED AREA				
SURFACE	DESCRIPTION	BMP	AREA (SF)	AREA (AC)
U1	Concrete DWY		634	0.01455
U2	Stairs		83	0.00191
U3	Retaining Walls		50	0.00115
U4	Deck		78	0.00179
U5	Rockery		142	0.00326
U6	Concrete Pad		26	0.0006
U7	Forest		10,886	0.24991
	UNDISTURBED TOTAL		***11,899***	**0.273**
TOTALS				
	TOTAL LOT		***18,881***	**0.433**

QUANTITIES (FOR PERMITTING ONLY)	CY
CUT	145 CY
FILL	98 CY
NET CUT/FILL	47 CY

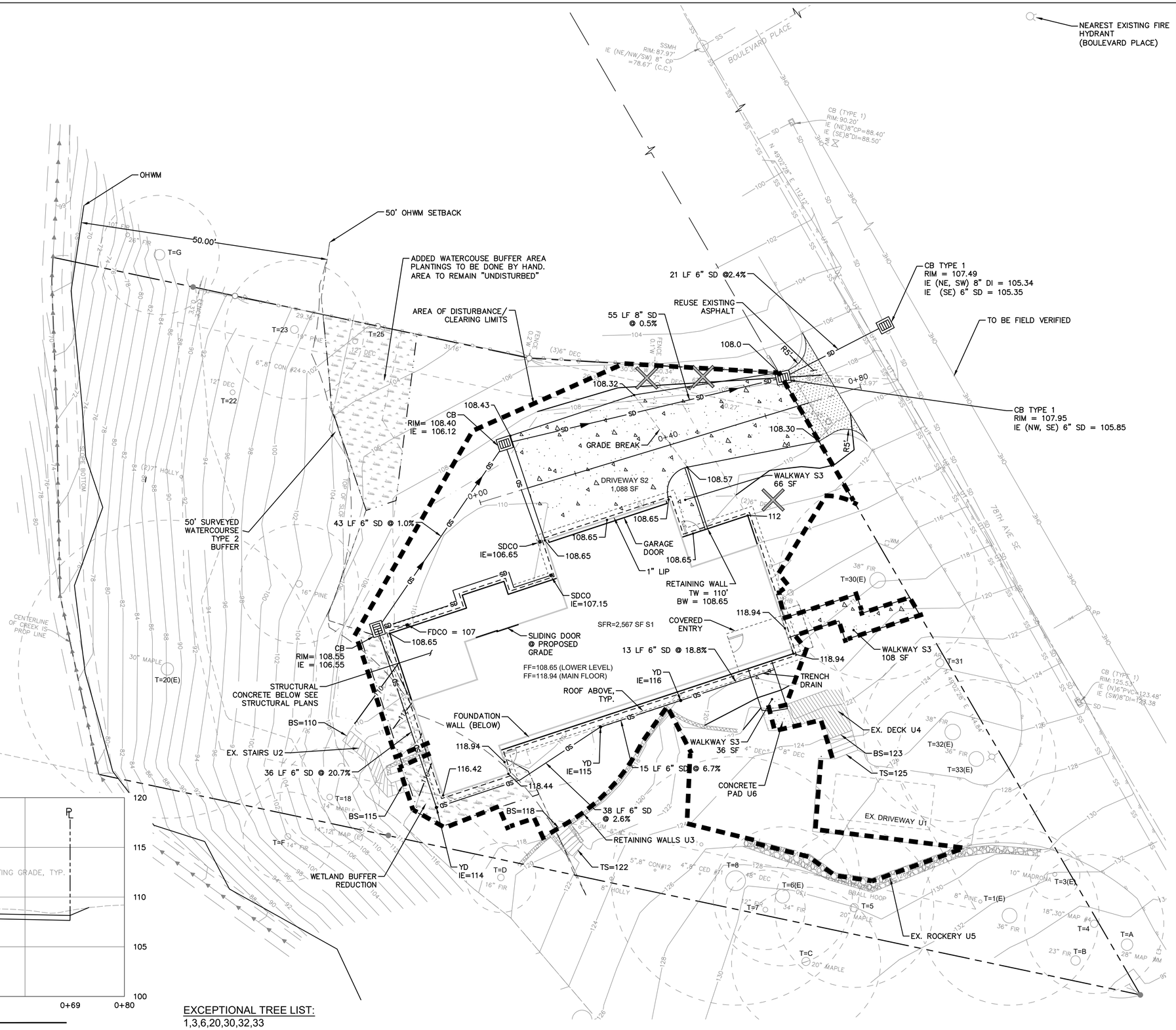
*DOES NOT INCLUDE BUILDING FOOTPRINT

EXISTING ASPHALT PAVEMENT

CLASS 4000 CONC W/ REINFORCEMENT



DRIVEWAY PROFILE
V: 1"=5'
H: 1"=10'



EXCEPTIONAL TREE LIST:
1,3,6,20,30,32,33

22"x34" - 19-0011 Lee-Boyle SFR_C2.0.dwg 2019-03-07 (ERIC HAINES)

RED BARN ENGINEERING INC.
6610 NE 181ST ST, STE 2
KENMORE, WA 98028
PH. (425) 419-4979
REDBARN-ENGINEERING.COM

811
CALL BEFORE YOU DIG

REBEKKAH J. WESTON
STATE OF WASHINGTON
45286
REGISTERED PROFESSIONAL ENGINEER
3/5/19

DESIGN	RJW
DRAWN	RJW
CHECKED	RJW

REV/SUBMITTAL DATE

PROJECT NAME:
LEE-BOYLE SFR

PROJECT ADDRESS:
4150 BOULEVARD PLACE,
MERCER ISLAND WA 98040

SHEET TITLE:
GRADING, DRAINAGE & UTILITIES PLAN

SHEET NO.:
C2.0

RB PROJECT NO.:
19-0011

Stuart Silk Architects

March 7, 2019

Project Number: 1902-087
Project Address: 4150 Boulevard Pl

Critical Area Determination, Critical Areas Study

We are requesting alterations to a critical area that is a geologic hazard area per MICC 19.07.060. We are proposing a watercourse buffer averaging, see attached Site Plan A-1.2.

Project Narrative

The site slopes toward the south at varying degrees from approx. 10% in the upper land to greater than 30% for the southern area. According to the geotechnical report the site has glacial outwash with lacustrine deposits, which is consistent with the perennial stream that traverses the lower portion of the site adjacent to the southern property line. The stream is a Type 2 stream according to the Stream Map prepared by Watershed dated in 2004 at the following link: https://www.mercergov.org/files/watershedcompany_11x17.pdf . The headwaters of the stream start near Homestead Field and then migrate through the channel to Lake Washington. A Type 2 buffer according to Mercer Island City Code (MICC) 19.07.070 requires a 50-ft buffer for the perennial stream. In addition, a steep slope setback of 10-feet is required for the structure to the face of steep slope. The site was previously developed and is well maintained with vegetation and large trees. A planned residence is proposed to the site, such that the orientation impacts the 50-ft buffer. It is proposed to use buffer averaging that is currently allowed with the City. The site plan attached shows the buffer averaging proposed for which we are requesting a pre-application meeting to discuss further.

A more detailed stream delineation showing the OHWM and any associated riparian wetlands is being prepared for the formal submittal.

The proposed scope of the project is to construct a new single family residence with basement and attached on a vacant, unbuilt lot. The new residence will be excavated into the hillside, creating cuts between 6-11 feet in overall height at the project south side of the residence. The new residence will be supported as mat slab on grade with supporting spread footings per structural details, sheet S3.2. Over excavated areas shall be backfilled with lean concrete or per Geotechnical recommendations. Minor sloughing or slides shall be caught with proposed TESC measures per civil engineering TESC plan, sheet C2.1.

2400 N. 45th St., Suite 200, Seattle WA 98103
p: 206.728.9500 | f: 206.448.1337 | www.stuartsilk.com

The Mercer Island City code reads under MICC 19.07.060 D Site Development:

D. Site Development.

1. Development Conditions. Alterations of geologic hazard areas may occur if the code official concludes that such alterations:

a. Will not adversely impact other critical areas;

b. Will not adversely impact (e.g., landslides, earth movement, increase surface water flows, etc.) the subject property or adjacent properties;

c. Will mitigate impacts to the geologic hazard area consistent with best available science to the maximum extent reasonably possible such that the site is determined to be safe; and

d. Include the landscaping of all disturbed areas outside of building footprints and installation of all impervious surfaces prior to final inspection.

The proposed scope for this project will satisfy these requirements per the Mercer Island Code. The proposed residence will not adversely impact other critical areas. The development on the site is in compliance with the required side and rear yard setbacks. These include a combined 17.6' (17'-7") side yard per MICC 19.02.020C(1)(C)(ii) and 25'-0" rear yard.

The proposed scope for the excavation at the west side of the lot will not impact the steep slope critical areas located at the west side of the lot. Please refer to the TESC PLAN, sheet C2.1, in the included plan set. This sheet illustrates the location of a proposed silt fence to catch any sediments from traveling due west towards the property line and Watercourse 2. Construction limits are clearly defined at the property line boundaries. Existing vegetation adjacent to the property will be protected. Please refer to recommendations in the attached Geotechnical Study dated June 21, 2018.

The proposed scope for this project will not adversely impact the subject properties or adjacent properties in terms of landslides, earth movement, increase to surface water flows, etc. Please refer to the attached civil engineering preliminary report, dated February 19, 2019. All minimum requirements (numbers 1 – 9) per Figure 2.4.2 of Volume 1 of the Ecology Manual shall

be met. Flow control is not required for the project because the site discharges to Lake Washington per civil engineering report, section 1, page 1. Infiltration and Low Impact Development (LID) are not feasible because the site is mapped as an Erosion Hazard Area by Mercer Island. A silt fence is proposed at downslope limits of the construction area and existing vegetation will be protected. Care will be taken to control storm water runoff with sumps and trenches and handled with designated discharge areas. Any soils will be removed immediately from site or protected from wet weather with plastic sheeting. The geotechnical engineer will be notified by the contractor if any changes need to be made by the TESC measures to achieve the intended result.

Wet Weather Conditions' states a site visit from the geotechnical special inspector shall occur during each day of active grading and in the event of significant rainfall which might compromise stabilization measures between November 1 and March 31.

On Sheet SH1 of the general shoring notes, under section '12. Shoring Monitoring:' states that a systematic program of monitoring shall be conducted during the project execution to determine the effect of construction on adjacent facilities and structures in order to protect them from damage. Section '14. Wet Weather Conditions' states a site visit from the geotechnical special inspector shall occur during each day of active grading and in the event of significant rainfall which might compromise stabilization measures between November 1 and March 31.

Please refer to civil sheet Grading and Drainage Plan and Details, C3.1 for proposed systems for collecting water and discharge. 6" and 4" area drains in addition to footing and roof drains shall be provided per C3.1. A drain mat is proposed to collect and drain water from the face of the foundation wall into the new storm water system.

Existing vegetation will remain on the hillside above the area of excavation. Sheet C2.1 illustrates the limits of construction on the hillside. One 11" deciduous existing tree located due south of the property line will remain on the hillside and will be protected. Other vegetation on the west and south steep slope areas shall remain without disturbance.

Care has been taken for existing vegetation and trees to remain to be protected during construction. The TESC plan clearly defines areas to not be disturbed during construction. Impervious surface has been limited per code to under 35% of the net lot area, with up to 9% of net lot area for additional hardscape.

Per the city code of Mercer Island MICC 19.07.060:

> *2. Statement of Risk. Alteration within geologic hazard areas may occur if the development conditions listed above are satisfied and the geotechnical professional provides a statement of risk with supporting documentation indicating that one of the following conditions can be met:*
>
> > *a. The geologic hazard area will be modified, or the development has been designed so that the risk to the lot and adjacent property is eliminated or mitigated such that the site is determined to be safe;*
> >
> > *b. Construction practices are proposed for the alteration that would render the development as safe as if it were not located in a geologic hazard area;*
> >
> > *c. The alteration is so minor as not to pose a threat to the public health, safety and welfare; or*
> >
> > *d. An evaluation of site specific subsurface conditions demonstrates that the proposed development is not located in a geologic hazard area.*

The proposed project will meet the condition that “a. The geologic hazard area will be modified, or the development has been designed so that the risk to the lot and adjacent property is eliminated or mitigated such that the site is determined to be safe;”. Kyle R. Campbell, in his plan review letter dated_____, 2019 states:

> *“FINAL REVIEW LETTER LANGUAGE GOES HERE. . .”*

Per the city code of Mercer Island MICC 19.07.060:

> *4. Seasonal Limitations. Land clearing, grading, filling, and foundation work within geologic hazard areas are not permitted between October 1 and April 1. The code official may grant a waiver to this seasonal development limitation if the applicant provides a geotechnical report of the site and the proposed construction activities that concludes erosion and sedimentation impacts can be effectively controlled on-site consistent with adopted storm water standards and the proposed construction work will not subject people or property, including areas off-*

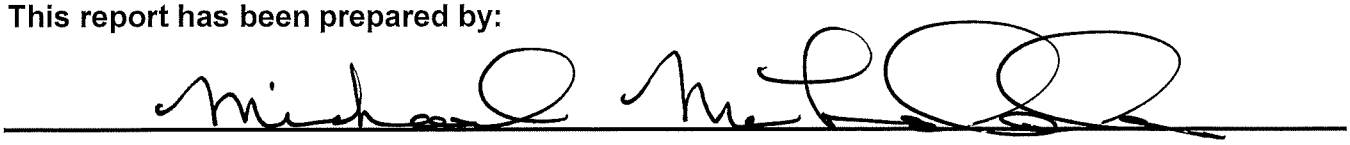
site, to an increased risk of the hazard. As a condition of the waiver, the code official may require erosion control measures, restoration plans, and/or an indemnification/release agreement. Peer review of the geotechnical report may be required in accordance with subsection C of this section. If site activities result in erosion impacts or threaten water quality standards, the city may suspend further work on the site and/or require remedial action. (Ord. 05C-12 § 5).

Excavation and construction of the shoring wall should be done during the drier season and avoided between October 1 and April 1. When the shoring wall is installed, additional excavation may occur during the wet season if a grading extension is obtained with the possibility of additional erosion control measures being required. Upon completion of the project, exposed soils in the work area will be protected by a landscape plan that will permanently stabilize disturbed portions of the slope and the site against surficial erosion.

Included submittals:

Geotechnical Engineering Study. See attached.
Plan set. See attached.

This report has been prepared by:



Michael McFadden, Stuart Silk Architects

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p: 206.728.9500 | f: 206.448.1337 | www.stuartsilk.com

Lee Boyle Residential Development

Critical Areas Report

Prepared for

Alexandra Boyle and Charles Lee
4150 Boulevard Place
Mercer Island, WA 98040

Prepared by

Northwest
Environmental Consulting, LLC

Northwest Environmental Consulting, LLC
3639 Palatine Avenue North
Seattle, WA 98103
206-234-2520

March 2019

Table of Contents

Introduction

The landowner at 4150 Boulevard Place, Mercer Island, Washington is proposing to build a single-family house on the property (see Figure 1 – Vicinity Map). A stream is present along the southern border of the property, and the corner of the house will encroach on the stream buffer.

This critical areas report provides details on the impacts to the buffer. It also describes the buffer averaging and buffer enhancements proposed by the landowner to mitigate these impacts, including goals, objectives, performance standards and dates of completion of the mitigation proposal, as well as a monitoring, maintenance, and contingency plan.

The City of Mercer Island requires that a critical areas study be prepared when a project will encroach on critical areas such as wetlands, steep slopes, or fish and wildlife conservation areas.

Mercer Island's city code (19.07.050) requires that this study's Critical Areas Report presents a mitigation and restoration plan, including the following:

- Delineation of critical areas on site, including streams, wetlands, fish and wildlife conservation areas, and any known threatened or endangered species on site.
- Description of impacts to critical areas
- Mitigation planned, and the number of replacement vegetation
- Proposed monitoring plan

These items are included in the body of this report. In addition, the Mercer Island Critical Areas code (19.07.050) requires the following:

- Site survey, construction plans, proposed grading, and erosion control plan (included in Appendix A)
- Stormwater plan (included as Appendix E)
- Locations of existing trees and vegetation (shown on site plan in Appendix A) and proposed removals (no significant tree removals are proposed)

Biologists from Northwest Environmental Consulting, LLC (NWEC) conducted office-based research, as well as a site visit on February 20, 2019 to determine the presence of any critical areas at the project site. Photos of the visit are presented as Appendix B.

Project Site

The project is located in King County, in the City of Mercer Island at 4150 Boulevard Place, Mercer Island, Washington 98040. See Figures 1 and 2.

The site was previously developed and is well maintained with vegetation and large trees. The existing house has been removed; a few retaining walls, paths, and building pads were still present at the time of the visit. The site slopes toward the south at varying degrees from approximately 10% in the upper land to greater than 30% for the southern area. According to the

geotechnical study (Appendix D), the site has glacial outwash with lacustrine deposits, which is consistent with a perennial stream that traverses the lower portion of the site adjacent to the southern property line.

Some nonnative weeds are present on the property within the buffer, including Himalayan blackberry (*Rubus armeniacus*), English ivy (*Hedera helix*), and English holly (*Ilex aquifolium*). Nonnative ornamental plants such as English laurel are also present along the stream on the adjacent property. Weed control has already been performed along the slope and the owners have volunteered as part of a King County Conservation District grant to enhance the steep slope and riparian corridor with native vegetation. See Appendix C for the plans from this grant.

Project Description

A planned 2,500-square-foot residence is proposed to the site. Other planned improvements are a 1,050-square-foot driveway, an 84-square-foot walkway, and 14,600 square feet of landscaping (see Drawing Sheet CA-1.0 in Appendix A). The house is planned with a standard allowable building footprint, with 90 degree corners and angled to keep the house parallel with other developments in the area.

The house has been sited to minimize impacts to critical area buffers, but due to the parcel's size and topography, it is not feasible to entirely avoid the 50-foot stream buffer. The southeast corner of the proposed house and construction limits will impact 478 square feet of buffer.

The landowner is proposing to use buffer averaging that is currently allowed with the City. The site plan attached shows the buffer averaging proposed. The buffer averaging will increase an area of buffer along the top of the southwest corner of the steep slope by 500 feet.

Critical Areas On Site

Northwest Environmental Consulting, Inc. (NWEC) visited the site on February 20, 2019 to confirm the presence of the known stream, and to check if any wetlands or other fish and wildlife conservation areas are present onsite.

Stream

NWEC confirmed the presence and location of the stream, which traverses the lower portion of the site adjacent to the southern property line. This matches the observations during a previous assessment by the Watershed Company in 2004. The 2004 assessment team categorized the stream is a Type 2 stream, under the City of Mercer Island definition (year-round flow and no fish use). The headwaters of the stream start near Homestead Field and then migrate through the channel to Lake Washington. No evidence of fish use was observed in the stream.

At the time of the February 2019 site visit, NWEC staked the Ordinary High Water Mark (OHWM) at the upstream and downstream portion of the stream along property line. The stream appeared to have experienced some flashy flows, and erosion was occurring along the steep stream banks. The OHWM was placed along areas that had evidence of erosion and traces of a wrack line; this wrack line indicated where a high water mark had occurred during high flows this winter.

The stream is a steep-gradient stream with step-pools and a streambed consisting of gravel and cobble with occasional glacial till layers exposed. See Appendix B for photos of the stream.

Wetlands

NWEC walked the site to look for wetland conditions. Established vegetation on the site was typical of uplands and included red alder, Douglas fir, and big leaf maple with an understory of sword fern, beaked hazelnut, evergreen huckleberry, salmonberry, and snowberry. No wetland hydrology was observed on site, so no test pits were required to determine if wetland conditions existed on the site. NWEC also checked the National Wetlands Inventory (NWI) mapping database and Washington Department of Fish and Wildlife (WDFW) Priority Habitats and Species (PHS) database. Neither database maps any wetlands on this property or on adjacent properties.

Fish and Wildlife Conservation Areas

Vegetation and physical features on the site are typical of developed suburban properties in the area. NWEC did not observe any habitats that would indicate the presence of threatened or endangered species on site. The WDFW PHS database also does not list any priority habitats on site, or within 0.5 mile of the property. King County does not list any critical areas on site in their iMap database (see Figure 2).

Steep Slopes

Slopes are present on the property, ranging from approximately 10% in the upper land to greater than 30% for the southern area (see topographic survey maps included in Appendix A). These are addressed in the geotechnical assessment (Appendix D). None are listed under King County's mapping for potential steep slope hazard areas (see Figure 2).

Critical Areas Regulations

Under the Mercer Island City Code (MICC) 19.07.070, a Type 2 stream receives a 50-foot standard buffer, or a minimum 25-foot buffer with appropriate enhancement and/or buffer averaging

The City allows buffer averaging (19.07.070.3) with the following requirements:

- The proposal will result in a net improvement of critical area function;
- The proposal will include replanting of the averaged buffer using native vegetation;
- The total area contained in the averaged buffers on the development proposal site is not decreased below the total area that would be provided if the maximum width were not averaged;
- The standard buffer width is not reduced to a width that is less than the minimum buffer width at any location; and
- That portion of the buffer that has been reduced in width shall not contain a steep slope.

Impacts

The southeast corner of the proposed house foundation will encroach 478 square feet into the stream buffer. In addition, impact will occur from excavation of the foundations and access for equipment during construction, a 5' 10" area around the foundation will be impacted by construction. A construction fence and silt fence will be installed along the limits of construction

around the foundation work in the stream buffer and near the steep slope. Areas impacted by construction will be restored with vegetation and landscaping features typical along the side of residential houses.

None of these impacts will encroach closer than 25 feet from the stream; 25 feet is the minimum buffer width allowed with enhancement (MICC 19.07.070).

The impacts to the buffer and proposed averaging will all occur above the steep slope, so that no impacts occur to the steep slope.

The new impervious surface requires stormwater detention. The stormwater system will be drained to the public system along the street via a 6-inch pipe system. The stormwater routing will not enter or impact the critical areas buffer.

Buffer Mitigation Proposal

Strategy

Reasonable efforts made to apply mitigation sequencing to avoid or compensate for impacts to ecological functions provided by the property's critical areas. This sequence has three steps:

1. Avoid
2. Minimize
3. Mitigate impacts

Avoidance and Minimization

Complete avoidance to the stream buffer is unavoidable to construct the house. The stormwater system, which is required by code, was routed to entirely avoid the critical area buffer. The system will control flows and improve water quality before being discharged into the public water system.

The house footprint has been placed to meet specific code requirements, and minimize its encroachment into the stream buffer and still construct the house that the owners wish to construct on the property. The owner has elected to use buffer averaging as allowed by Mercer Island to compensate for encroachment into the wetland buffer.

Mitigation Approach

The mitigation approach involves averaging the buffer by widening the stream buffer north of the encroachment point, and enhancing this area with native plantings, which will effectively widen the functional buffer along the stream and protect the top of the steep slope. The proposed, 500 square feet of enhanced area is more than required to offset the proposed 478 square feet of impacts from construction for buffer averaging.

Enhanced areas will be prepared by removing any invasive species found (Himalayan blackberry) and planting with a native understory of native shrubs. Existing vegetation will remain undisturbed. A mix of natives will be used that will provide wildlife value and winter screening (e.g., evergreen huckleberry). Some of the plants will be placed along the top of the bank to help stabilize the bank and provide overhanging vegetation along the stream.

Plants specified in the attached planting plan (see Drawings W-1 and W-2 in Appendix A) will be ordered and installed on the site. The site will be maintained and monitored as needed to ensure proper plant establishment.

In addition, the owners applied for and received a voluntary matching grant from the King County Conservation District (KCD) to remove invasive species and plant native vegetation on the steep slope, which is within the stream critical areas buffer. They are enhancing 4,800 square feet of the riparian forest by removing holly, laurel and ivy and replacing these areas with over 200 plantings of native shrubs and trees. The KCD will be maintaining the project for up to 5 years; the owners will maintain the project for at least 10 years after that, and providing the city with proof of maintenance. Appendix C contains details of the restoration project.

Function and Values Improvements

Enhancing stream buffers on the site will increase filtering of runoff that occurs from the development, increase habitat values by creating a greater diversity of structure and food sources along the riparian corridor, and provide screening of the stream from lighting and activities in the proposed house and neighboring lots. The additional plants along the top of the steep slope will function to reduce potential erosion along this sensitive environment, and will provide additional food sources and shelter for birds and other wildlife.

The planting efforts and maintenance of the site will increase the value of the buffer area over the existing condition. Invasive species such as Himalayan blackberry will be removed during construction, and these species will be controlled so that they don't become reestablished.

Proposed Mitigation

Planting Plan

The proposed mitigation will enhance 500 square feet of buffer edge that was used as part of the yard by the past residents. Additional plants will be located along the stream. Table 1 lists the plant species that will be installed. See Drawings W-1 and W-2 for additional details.

Table 1. Proposed native species to be used in the planting plan

Common Name	Scientific Name
Black twinberry	*Lonicera involucrata*
Evergreen huckleberry	*Vaccinium ovatum*
Indian plum	*Oemleria cerasiformis*
Red osier dogwood	*Cornus sericea*
Small Oregon grape	*Mahonia nervosa*
Snowberry	*Symphoricarpos albus*
Sword fern	*Polystichum munitum*
Vine maple	*Acer circinatum*

Mitigation Goals

Mitigation goals are as follows:

- Plant 500 square feet with native plants to expand the buffer width west of the encroachment site, for buffer averaging.
- Plant a band of native vegetation along the top of bank in addition to what has been completed as part of the King County Conservation District Grant.
- Control Himalayan blackberry and other invasive plant species in the enhanced area.

Performance Standards

Buffer plantings shall maintain a 100% survival for the first year and achieve 80% survival in years 2 through 5. For proper functioning, species diversity will be maintained. The planting areas will maintain a minimum of 4 shrub species for the 5-year monitoring period.

Invasive species shall be controlled so that they do not reach more than 10% aerial coverage for the 5-year monitoring period.

Schedule and Maintenance

Plantings shall be containerized plants or bare root. Watering of the installed plants may be required if drought conditions occur during the summer months. Invasive plants will be removed throughout the year as they occur.

Proposed Monitoring, Reporting and Contingency

To ensure that the performance standards are met, plantings will be counted in August or September for survival for the first year. The site will be monitored for five years from the time of completion of site construction by a qualified individual(s) who is experienced or trained in wetland vegetation and monitoring techniques.

Valid monitoring data are critical to making meaningful management decisions that help the mitigation site meet its objectives. Monitoring plans are based on mitigation site conditions and plant community development. These factors together with the wetland mitigation objectives are to be incorporated into a site-specific monitoring plan that will be developed at the beginning of each monitoring season. The annual monitoring plan will use standard vegetation sampling methodology to measure site performance standards such as actual counts, line intercept methods or belt transect methods.

The monitoring team will be responsible for taking a representative sample of the site and determining an appropriate sample size.

Monitoring Reports

Monitoring reports will be completed and submitted to the City by December 31 for each of the monitoring years.

Contingency Actions

All dead plantings will be replaced so that 100% survival is reached for the first year. A sub-sample can be completed to assure that the 100% survival is reached. In years 2 through 5 all

plantings will maintain an 80% survival rate. Himalayan blackberry, English ivy, and English holly will also be manually removed from the enhancement area if they reach 10% or greater coverage during the five-year period.

Conclusion

The project meets the requirements of the City of Mercer Island code for buffer averaging as summarized below.

- **The proposal results in a net improvement of critical area function**. The proposed enhanced buffer will remove area that was previously used as yard before the removal of the previous house. This area will be planted with native shrubs along the top of the slope that will provide wildlife habitat by providing additional food sources and structure, screening from the driveway area of the house, and help stabilize the top of the steep slope. The buffer averaging area is not on a steep slope.

- **The proposal will include replanting of the averaged buffer using native vegetation**.

- **The total area contained in the averaged buffers onsite will not decrease the total buffer area** (that would be provided by maximum, unaveraged buffer). In fact, the overall buffer area will *increase* by about 20 square feet.

- **The standard buffer width is not reduced to less than the minimum buffer width at any location**.

- **The reduced area of the buffer does not include a steep slope.** All work will occur above the top of the bluff.

- The owners of the property have volunteered to enhance the entire steep slope with matching funds from the King County Conservation District. This will improve riparian habitat conditions by removing invasive plants and enhance buffering of the stream by providing additional screening from the proposed single-family home and increasing food sources and vertical structure in the riparian area.

Document Preparers

Brad Thiele	Biologist	25 years of experience	Northwest Environmental Consulting, LLC. (NWEC)
Emily Drew	Ecologist	20 years of experience	NWEC

Northwest Environmental Consulting, LLC followed standard acceptable field methods and protocols at the time work was performed. The conclusions and findings in this report are based on field observations and measurements and represent our best professional judgment and to some extent rely on other professional service firms and available site information. Within the limitations of project scope, budget, and seasonal variations, we believe the information provided herein is accurate and true to the best of our knowledge. Northwest Environmental Consulting does not warrant any assumptions or conclusions not expressly made in this report, or based on information or analyses other than what is included herein.

References

City of Mercer Island Municipal Code, Chapter 20. Accessed at https://mercerisland.municipal.codes/

King County. 2016. iMap. Interactive mapping database. Viewed on February 20, 2019 at http://kingcounty.gov/services/gis/Maps/imap.aspx.

Washington Department of Fish and Wildlife (WDFW). 2019a. Priority Habitat and Species Map interactive mapping utility. http://wdfw.wa.gov/mapping/phs/. Queried February 20, 2019.

Washington Department of Fish and Wildlife (WDFW). 2019b. SalmonScape interactive mapping utility. http://wdfw.wa.gov/mapping/salmonscape/. Queried February 20, 2019.

City of Mercer Island. 2004. GIS map, last updated November 4, 2004. Watercourse information based on Watershed Company field assessment in 2002. Accessed at: https://www.mercergov.org/files/watershedcompany_11x17.pdf .

Appendix A: Project Drawings and Figures

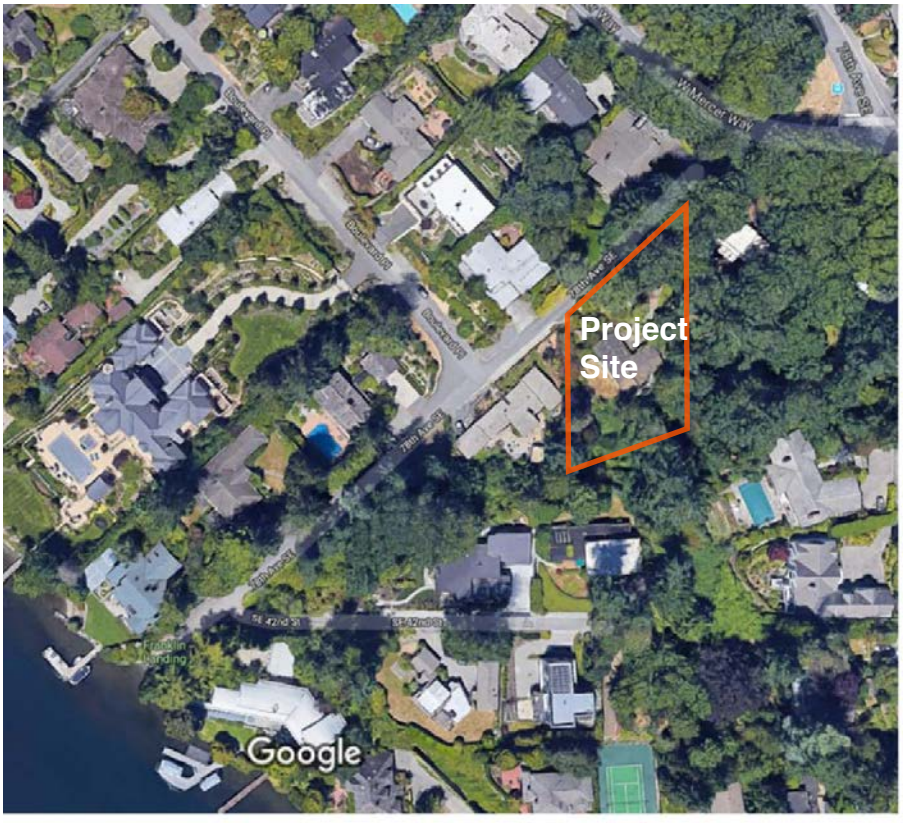


Figure 1 - Vicinity Map

King County iMap

Legend

- Address points
- Address labels
- Parcels
- Potential landslide hazard areas (2016, see explanation--->)
- Potential steep slope hazard areas (2016, see explanation--->)

Stream (1990 SAO)

- class 1
- class 2 perennial
- class 2 salmonid
- class 3
- unclassified

- Wetland (1990 SAO)
- Sensitive area notice on title

Date: 2/20/2019 Notes:

N

King County

Figure 2 - King County Critical Areas Map

CONDITIONED FLOOR AREAS

LEVEL	AREA
LOWER FLOOR PLAN	705 SF
MAIN FLOOR PLAN	1922 SF
T.O. PLATE MAIN	1942 SF
	4569 SF

PROJECT DATA

LOT SLOPE

HIGHEST ELEVATION	136'
LOWEST ELEVATION	67.5'
ELEVATION DIFFERENCE	68.5'
HORIZONTAL DISTANCE BTWN HIGH AND LOW POINTS	264.5'
LOT SLOPE: 68.5' / 264.5' =	25.9%

LOT COVERAGE ALLOWED

LOT AREA	18,878 SF (.43AC)
35% MAX LOT COVERAGE	6,607.3 SF
65% LANDSCAPE AREA	12,270.7 SF
9% HARDSCAPE AREA)	1,699 SF

DWELLING UNITS/ACRE 1

LEGEND

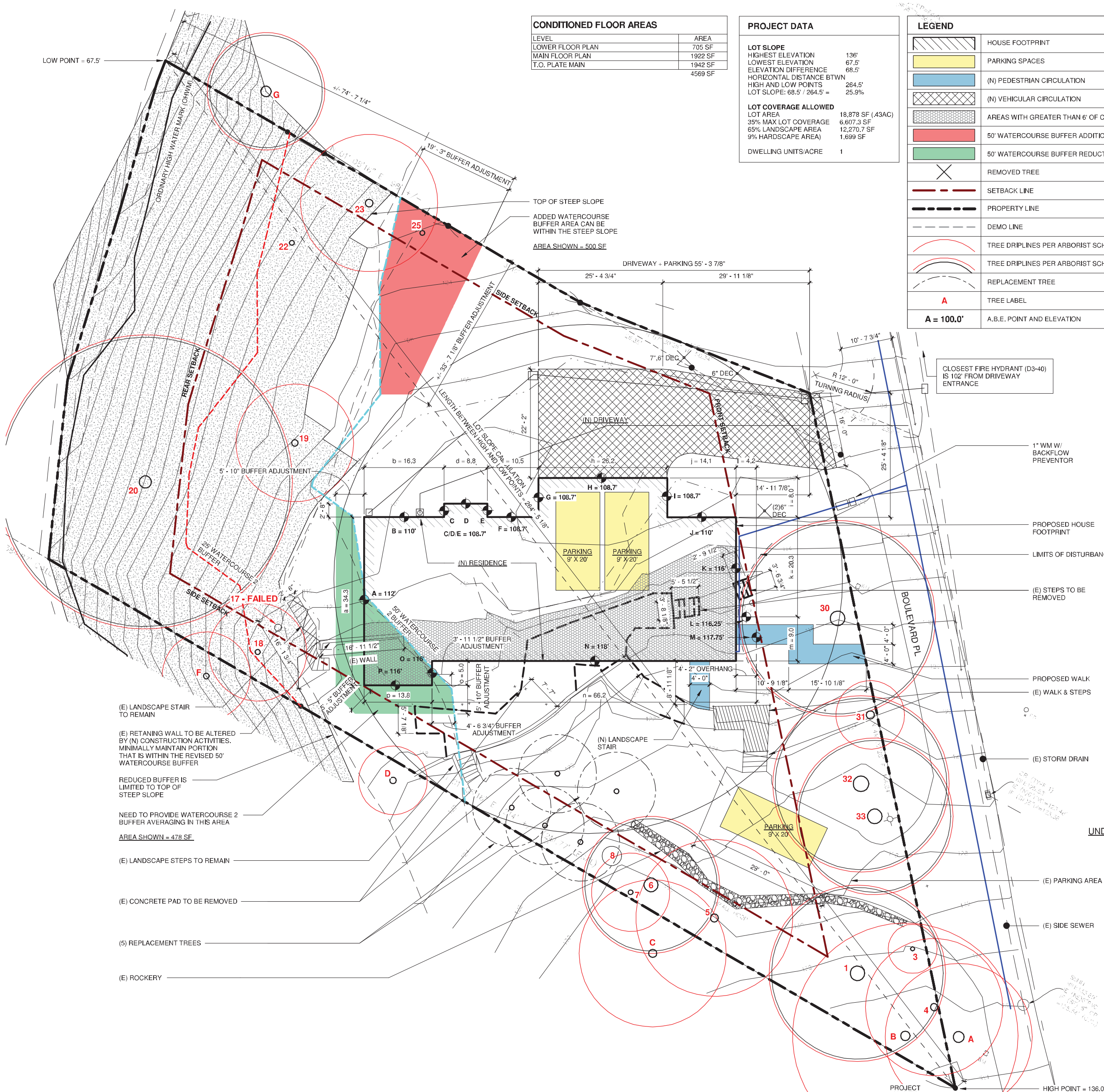
	HOUSE FOOTPRINT
	PARKING SPACES
	(N) PEDESTRIAN CIRCULATION
	(N) VEHICULAR CIRCULATION
	AREAS WITH GREATER THAN 6' OF CUT AND/OR FILL
	50' WATERCOURSE BUFFER ADDITION AREA
	50' WATERCOURSE BUFFER REDUCTION AREA
	REMOVED TREE
	SETBACK LINE
	PROPERTY LINE
	DEMO LINE
	TREE DRIPLINES PER ARBORIST SCHEDULE, 24" OR SMALLER
	TREE DRIPLINES PER ARBORIST SCHEDULE, GREATER THAN 24"
	REPLACEMENT TREE
A	TREE LABEL
A = 100.0'	A.B.E. POINT AND ELEVATION

AVERAGE BUILDING ELEVATION (A.B.E.)

ELEVATION MARK	MIDPOINT ELEVATION	WALL SEGMENT MARK	WALL SEGMENT LENGTH (FT)	PRODUCT
A	112.0	a	34.3	3,841.6
B	110.0	b	16.3	1,793.0
C	108.7	c	2.7	293.5
D	108.7	d	8.8	956.6
E	108.7	e	2.7	293.5
F	108.7	f	10.4	1,130.5
G	108.7	g	8.0	869.6
H	108.7	h	26.3	1,540.0
I	108.7	i	8.0	869.6
J	110.0	j	14.0	1,540.0
K	116.0	k	20.3	2,354.8
L	116.25	l	4.2	488.3
M	117.75	m	9.0	1,059.8
N	118.0	n	66.2	7,811.6
O	116.0	o	5.0	580.0
P	116.0	p	13.8	1,600.8
		TOTALS	250.0	28,341.8
		A.B.E. - SUM PRODUCTS / SUM WALL LENGTHS	**113.4 FT**	
		MAXIMUM HEIGHT ALLOWED = A.B.E. + 30'	**143.4 FT**	
		PROPOSED BUILDING HEIGHT	**140.2 FT (140'-2")**	

TREE SCHEDULE

MARK	SPECIES	DSH (IN)	DRIPLIINE EXTENT	RATING
1	DOUGLAS FIR	35	18' RADIAL	EXCEPT
3	MADRONE	10	5' RADIAL	EXCEPT
4	BIG LEAF MAPLE	18.5	14' RADIAL	REG
5	BIG LEAF MAPLE	20	16' RADIAL	REG
6	DOUGLAS FIR	30	14' RADIAL	EXCEPT
7	DOUGLAS FIR	14	8' RADIAL	REG
8	BIG LEAF MAPLE	48	HABITAT SPAR	N/A
17	BIG LEAF MAPLE	18	N/A	FAILED
18	BIG LEAF MAPLE	13	10' RADIAL	REG
19	AUSTRIAN PINE	17	12' RADIAL	REG
20	BIG LEAF MAPLE	43	30' RADIAL	EXCEPT
22	FLOWERING PLUM	8,10	N/A	N/A
23	SCOTS PINE	21	14' RADIAL	REG
25	FLOWERING PLUM	9,8	N/A	N/A
30	DOUGLAS FIR	38	20' RADIAL	EXCEPT
31	CEDAR	20	7' RADIAL	REG
32	DOUGLAS FIR	35	18' RADIAL	EXCEPT
33	DOUGLAS FIR	31	16' RADIAL	EXCEPT
A	BIG LEAF MAPLE	19	15' RADIAL	REG
B	DOUGLAS FIR	18	21' RADIAL	REG
C	BIG LEAF MAPLE	20	16' RADIAL	REG
D	DOUGLAS FIR	12	7' RADIAL	REG
F	DOUGLAS FIR	14	9' RADIAL	REG
G	DOUGLAS FIR	26	12' RADIAL	REG
NOTE: SEE ARBORIST REPORT DATED 02.01.2016 AND ADDENDA DATED 01.03.2019				



1 CRITICAL AREAS DETERMINATION SITE PLAN
1" = 10'-0"

LOT COVERAGE

SITE AREA	18,878 SF
ALLOWABLE COVERAGE (35%)	6,607.3 SF
ALLOWABLE HARDSCAPE (9%) + LEFTOVER LOT COVERAGE	1,699 SF + (2,318 SF) = 4,017 SF

BUILDING & DRIVING SURFACES

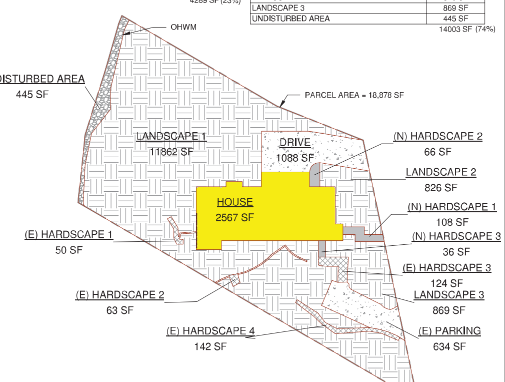
(E) PARKING	634 SF
DRIVE	1088 SF
HOUSE	2567 SF
	4289 SF (23%)

HARDSCAPE

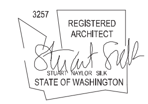
(E) HARDSCAPE 1	50 SF
(E) HARDSCAPE 2	63 SF
(E) HARDSCAPE 3	124 SF
(E) HARDSCAPE 4	142 SF
(N) HARDSCAPE 1	108 SF
(N) HARDSCAPE 2	66 SF
(N) HARDSCAPE 3	36 SF
	589 SF (3%)

LANDSCAPE

LANDSCAPE 1	11862 SF
LANDSCAPE 2	826 SF
LANDSCAPE 3	869 SF
UNDISTURBED AREA	445 SF
	14003 SF (74%)



2 SITE AREAS
1/32" = 1'-0"



DESIGN	SNS, JDB, MM
DRAWN	EIB
CHECKED	AC
SHEET ISSUE DATE	03/07/19

DRAWING SETS

PERMIT SET 03/12/2019

-

-

-

REVISIONS

#	DATE	DESCRIPTION

Stuart Silk Architects

2400 N. 45th Street
Seattle, WA 98103

WWW.STUARTSILK.COM

LEE-BOYLE

4150 BOULEVARD PLACE
MERCER ISLAND, WA

CRITICAL AREAS DETERMINATION

SITE PLAN

CA-1.0

TOPOGRAPHIC & BOUNDARY SURVEY

LEGAL DESCRIPTION

(PER CHICAGO TITLE COMMITMENT NUMBER: 0144086-ETU DATED FEBRUARY 15, 2019)

THAT PORTION OF TRACT 14, REPLAT OF ISLAND PARK, ACCORDING TO THE PLAT THEREOF, RECORDED IN VOLUME 13 OF PLATS, PAGE 58, IN KING COUNTY, WASHINGTON, AS DESCRIBED IN KING COUNTY SUPERIOR COURT CAUSE NO. 14-2-18504-9, AS FOLLOWS:

BEGINNING AT THE INTERSECTION OF THE NORTHERLY LINE OF SOUTHEAST 42 ND STREET, FORMERLY FRANKLIN AVENUE, AND THE SOUTHEASTERLY LINE OF 78TH AVENUE SOUTHEAST, FORMERLY WALTHEW AVENUE; THENCE EASTERLY ALONG SAID NORTHERLY LINE OF SOUTHEAST 42 ND STREET, 426 FEET TO A POINT 600 FEET WEST OF THE SOUTHEAST CORNER OF SAID TRACT 14; THENCE NORTH 00°07'07" EAST A DISTANCE OF 172.23 FEET, MORE OR LESS, TO THE CENTER LINE OF A CREEK WHICH IS THE TRUE POINT OF BEGINNING; THENCE CONTINUING NORTH 00°07'07" EAST A DISTANCE OF 211.77 FEET, MORE OR LESS TO AN INTERSECTION WITH THE EASTERLY LINE OF SAID WALTHEW AVENUE; THENCE SOUTH 49°01'56" WEST ALONG SAID SOUTHEASTERLY LINE OF WALTHEW AVENUE A DISTANCE OF 132.6888 FEET; THENCE SOUTH 00°07'07" WEST 148 FEET MORE OR LESS TO THE CENTER LINE OF SAID CREEK; THENCE EASTERLY ALONG THE CENTER LINE OF SAID CREEK TO THE TRUE POINT OF BEGINNING;

TOGETHER WITH THE FOLLOWING DESCRIBED PARCEL:

THAT PORTION OF LOT "C" OF SHORT PLAT BY J. BENJ. HAYES & ASSOCIATES CIVIL ENGINEER AND LAND SURVEYOR DATED SEPTEMBER 28, 1949, DESCRIBED AS FOLLOWS:

BEGINNING AT THE NORTHERLY CORNER OF SAID LOT "C"; THENCE SOUTH 47°51'00" WEST ALONG THE NORTHERLY LINE OF 78 TH AVENUE SOUTHEAST A DISTANCE OF 10.20 FEET; THENCE SOUTH 08°42'04" EAST A DISTANCE OF 50.35 FEET MORE OR LESS TO THE EASTERLY LINE OF SAID LOT "C"; THENCE NORTH 00°03'12" WEST ALONG THE EASTERLY LINE OF SAID LOT "C", A DISTANCE OF 56.61 FEET MORE OR LESS TO THE POINT OF BEGINNING.

SURVEYOR'S NOTES

1. THE TOPOGRAPHIC SURVEY SHOWN HEREON WAS PERFORMED IN AUGUST OF 2015. THE FIELD DATA WAS COLLECTED AND RECORDED ON MAGNETIC MEDIA THROUGH AN ELECTRONIC THEODOLITE. THE DATA FILE IS ARCHIVED ON DISC OR CD. WRITTEN FIELD NOTES MAY NOT EXIST. CONTOURS ARE SHOWN FOR CONVENIENCE ONLY. DESIGN SHOULD RELY ON SPOT ELEVATIONS.
2. BURIED UTILITIES SHOWN BASED ON RECORDS FURNISHED BY OTHERS AND VERIFIED WHERE POSSIBLE IN THE FIELD. GEODIMENSIONS ASSUMES NO LIABILITY FOR THE ACCURACY OF THOSE RECORDS OR ACCEPT RESPONSIBILITY FOR UNDERGROUND LINES WHICH ARE NOT MADE PUBLIC RECORD. FOR THE FINAL LOCATION OF EXISTING UTILITIES IN AREAS CRITICAL TO DESIGN CONTACT THE UTILITY OWNER/AGENCY. AS ALWAYS, CALL 1-800-424-5555 BEFORE CONSTRUCTION.
3. SUBJECT PROPERTY TAX PARCEL NO. 3623500174
4. SUBJECT PROPERTY AREA PER THIS SURVEY IS 18881± S.F. (0.43± ACRES)
5. ALL TITLE INFORMATION SHOWN ON THIS MAP HAS BEEN EXTRACTED FROM CHICAGO TITLE INSURANCE COMPANY'S "GUARANTEE", CERTIFICATE NO. 0144086-ETU, DATED FEBRUARY 15, 2019. IN PREPARING THIS MAP, TERRANE, INC. HAS CONDUCTED NO INDEPENDENT TITLE SEARCH NOR IS TERRANE, INC. AWARE OF ANY TITLE ISSUES AFFECTING THE SURVEYED PROPERTY OTHER THAN THOSE SHOWN ON THE MAP AND DISCLOSED BY THE REFERENCED "GUARANTEE". TERRANE, INC. HAS RELIED WHOLLY ON CHICAGO TITLE INSURANCE COMPANY'S REPRESENTATIONS OF THE TITLE'S CONDITION TO PREPARE THIS SURVEY AND TERRANE, INC. QUALIFIES THE MAP'S ACCURACY AND COMPLETENESS TO THAT EXTENT.
6. INSTRUMENTATION FOR THIS SURVEY WAS A TRIMBLE ELECTRONIC DISTANCE MEASURING UNIT. PROCEDURES USED IN THIS SURVEY WERE DIRECT AND REVERSE ANGLES, NO CORRECTION NECESSARY. MEETS STATE STANDARDS SET BY WAC 332-130-090.

BASIS OF BEARINGS

NAD 83(2011) WASHINGTON NORTH COORDINATE SYSTEM PER GPS OBSERVATIONS, THE CENTERLINE OF BOULEVARD PL BEARS N40°57'32"W BETWEEN FOUND MONUMENTS.

REFERENCES

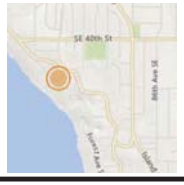
1. REPLAT OF ISLAND PARK; VOL. 13, PG 58

VERTICAL DATUM

NAVD 88, PER GPS OBSERVATION

VICINITY MAP

N.T.S.

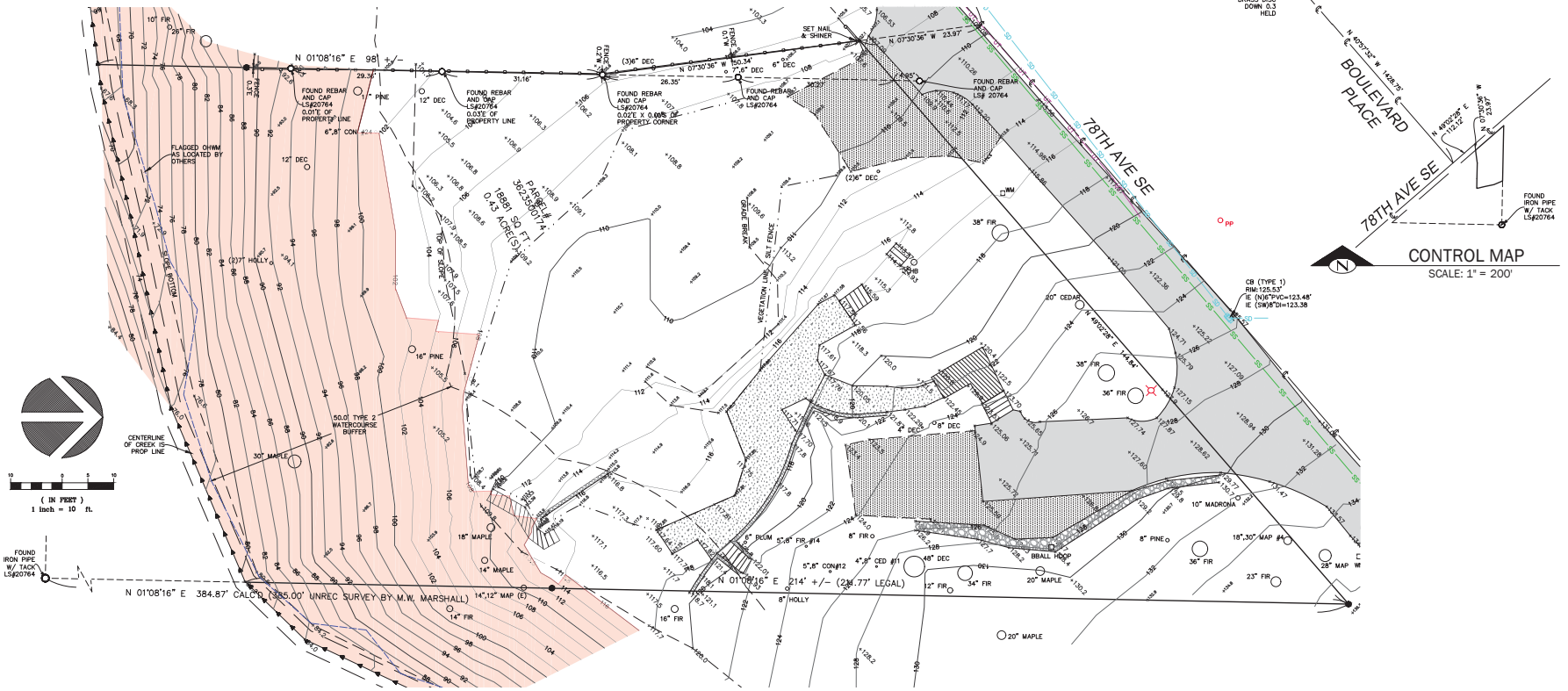


LEGEND

BUILDING
CENTERLINE ROW
CONCRETE SURFACE
CONCRETE WALL
CONTOUR (MAJOR)
CONTOUR (MINOR)
DECK
CENTERLINE OF CREEK
GAS METER
GRAVEL SURFACE
INLET (TYPE 250A)
IRON PIPE (FOUND)
MONUMENT IN CASE (FOUND)
POWER METER
POWER (OVERHEAD)
POWER POLE
REBAR AS NOTED (FOUND)
ROCKERY
SEWER LINE
SEWER MAINTENANCE
TREE (AS NOTED)
WATER METER
STEEP SLOPE >40%

SCHEDULE B ITEMS

ITEM 1
COVENANTS, CONDITIONS, RESTRICTIONS, RECITALS, RESERVATIONS, EASEMENTS, EASEMENT PROVISIONS, DEDICATIONS, BUILDING SETBACK LINES, NOTES, STATEMENTS, AND OTHER MATTERS, IF ANY, BUT OMITTING ANY COVENANTS OR RESTRICTIONS, IF ANY, INCLUDING BUT NOT LIMITED TO THOSE BASED UPON RACE, COLOR, RELIGION, SEX, SEXUAL ORIENTATION, FAMILIAL STATUS, MARITAL STATUS, DISABILITY, HANDICAP, NATIONAL ORIGIN, ANCESTRY, OR SOURCE OF INCOME, AS SET FORTH IN APPLICABLE STATE OR FEDERAL LAWS, EXCEPT TO THE EXTENT THAT SAID COVENANT OR RESTRICTION IS PERMITTED BY APPLICABLE LAW, AS SET FORTH ON SURVEY OF RECORD:
RECORDING NO: 20160418900028 (SHOWN HEREON)



TOPOGRAPHIC & BOUNDARY SURVEY
NW 1/4 OF NE 1/4 SEC 13, TWP. 24 N., RGE 04 E. W.M.
PARCEL NO. 3623500174

LEE/BOYLE RESIDENCE
4150 BOULEVARD PL
MERCER ISLAND, WA

measure success

Terrane
10801 Main Street, Suite 102, Bellevue, WA 98004
phone 425.458.4488 support@terrane.net
www.terrane.net

JOB NUMBER:	151132
DATE:	9/3/2015
DRAFTED BY:	AB/RLS
CHECKED BY:	EJG/JPS
SCALE:	1"= 10'

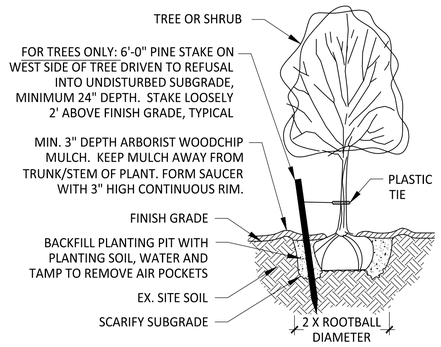
REVISION HISTORY

2/7/19	UPDATE SITE FEATS.
2/22/19	ADD ECA AREAS
2/25/19	ADJUST SETBACK

SHEET NUMBER
1 OF 1

PLANT SCHEDULE

Common Name	Scientific Name	Container size	Minumum Height	Spacing	Zone 1 QTY	Zone 2 QTY
Indian plum	*Oemleria cerasiformis*	#2	18"	4'	5	
Vine maple	*Acer circinatum*	#2	18"	4'	5	
Snowberry	*Symphoricarpos albus*	#2	18"	4'	5	
Sword fern	*Polystichum munitum*	#1	6"	4'	10	
Evergreen huckleberry	*Vaccinium ovatum*	#2	18"	4'	5	
Black Twinberry	*Lonicera involucrata*	#2	18"	4'		15
Salmonberry	*Rubus spectabilis*	#2	18"	4'		10
Small Oregon Grape	*Mahonia nervosa*	#2	6"	4'	10	

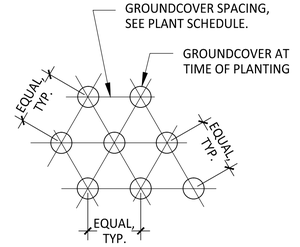


TYPICAL TREE OR SHRUB PLANTING

NOT TO SCALE

NOTES:

1) MULCH COMPLETELY BETWEEN ALL PLANTS.
2) STAKE TREES 5' IN HEIGHT OR GREATER.
3) PLANT SO THAT TOP OF ROOT BALL IS EVEN WITH FINISHED GRADE.
4) COMPLETELY REMOVE ALL WIRE AND LOOSEN FABRIC ON BALLED & BURLAPPED PLANTS.
5) SCARIFY SIDES OF PLANTING PITS PRIOR TO BACKFILLING.



TYPICAL GROUNDCOVER SPACING

NOT TO SCALE

GENERAL NOTES:

1. ALL NATIVE VEGETATION SHOULD BE LEFT IN PLACE. REMOVE ALL HIMALAYAN BLACKBERRY, JAPANESE KNOTWEED, BAMBOO, ENGLISH IVY FROM THE SITE USING KING COUNTY RECOMMENDATIONS. PHYSICAL REMOVAL IS PREFERRED.

2. PLANT SPECIES PER PLANTING SCHEDULE, OFFSETTING PLANTS FROM EXISTING VEGETATION AS APPROPRIATE PRIORITIZING, GENERALLY 3 FEET FROM EXISTING SHRUBS AND 5 TO 10 FEET FROM PLANTED AND MATURE TREES RESPECTIVELY. AREAS OF INTENSIVE PLANTING ARE NOTED BY AREAS OF LESS TREES.

3. PLANTING GUIDE NOTES SHOULD BE FOLLOWED FOR EACH PLANTING ZONE.

4. THE CONTRACTOR SHALL SUBMIT DOCUMENTATION SPECIFYING THE QUANTITY AND SPECIES OF PLANTS WITH NAMES OF SUPPLIERS, ADDRESSES, AND PHONE NUMBERS.

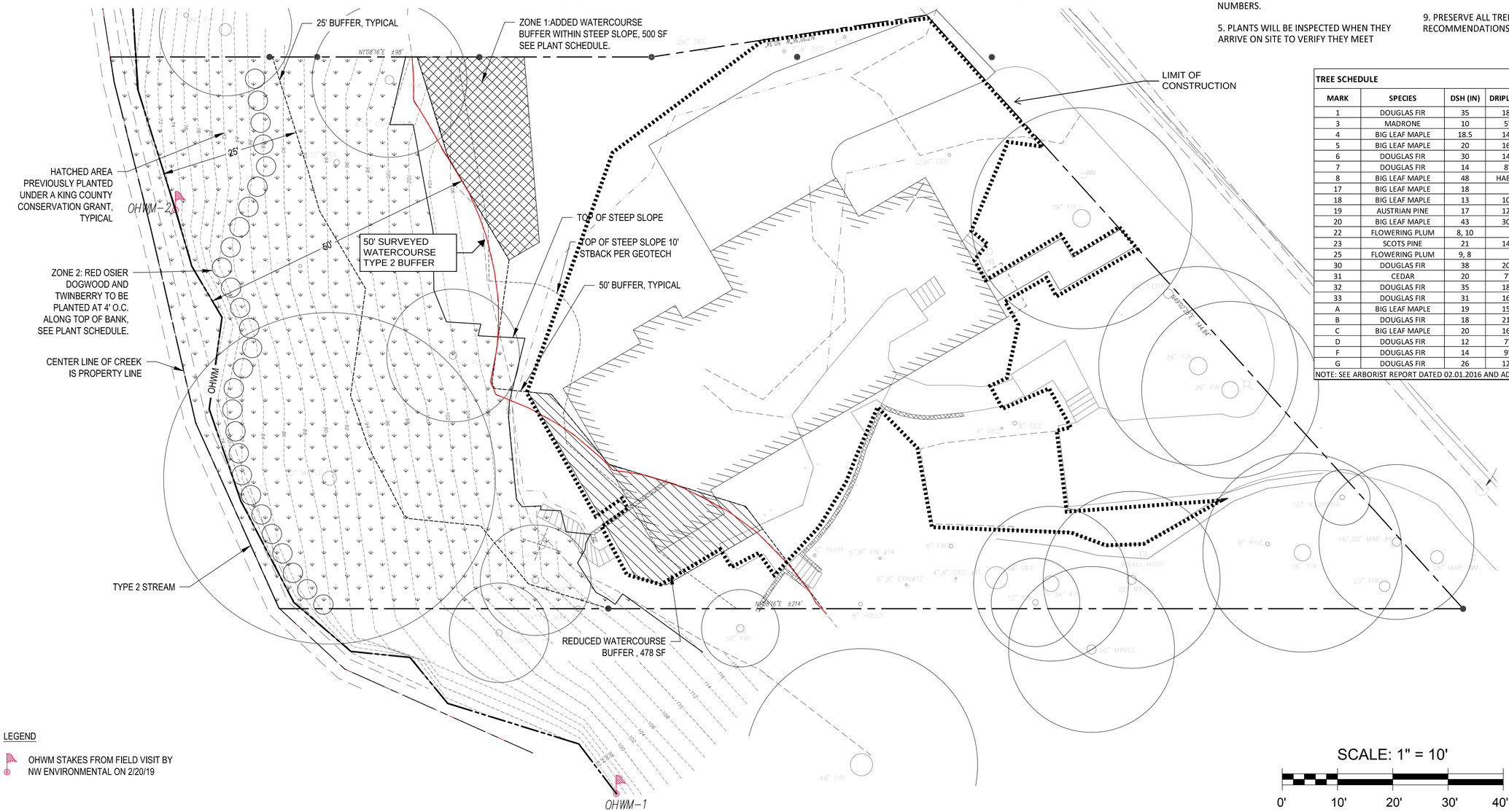
5. PLANTS WILL BE INSPECTED WHEN THEY ARRIVE ON SITE TO VERIFY THEY MEET NURSERY STOCK STANDARDS. THE INSPECTOR RESERVES THE RIGHT TO REFUSE ANY AND ALL MATERIAL IF IT IS DETERMINED THAT PLANT MATERIAL DOES NOT SPECIFICATIONS.

6. SUBSTITUTIONS OF PLANT SPECIES OR SIZES MAY BE PERMITTED BASED ON PLANT AVAILABILITY, BUT ONLY WITH PRIOR APPROVAL BY THE MITIGATION CONSTRUCTION MONITOR.

7. PLANT MATERIAL SHALL CONFORM TO AMERICAN STANDARD FOR NURSERY STOCK (ANSI Z601-2004 OR MOST RECENT EDITION) FOR PLANT SIZE AND CONDITION FOR SPECIFIED MATERIAL.

8. PLACE 2, 5-GALLON BUCKETS OF MULCH OR ARBORIST CHIPS AROUND EACH PLANTING AND PULL BACK TO MAKE RING OR BROADCAST MULCH WITH 3 INCHES OF MULCH OR ARBORIST CHIPS.

9. PRESERVE ALL TREES PER ARBORIST RECOMMENDATIONS.



TREE SCHEDULE				
MARK	SPECIES	DSH (IN)	DRIPLINE EXTENT	RATING
1	DOUGLAS FIR	35	18' RADIAL	EXCEPT
3	MADRONE	10	5' RADIAL	EXCEPT
4	BIG LEAF MAPLE	18.5	14' RADIAL	REG
5	BIG LEAF MAPLE	20	16' RADIAL	REG
6	DOUGLAS FIR	30	14' RADIAL	EXCEPT
7	DOUGLAS FIR	14	8' RADIAL	REG
8	BIG LEAF MAPLE	48	HABITAT SPAR	N/A
17	BIG LEAF MAPLE	18	N/A	FAILED
18	BIG LEAF MAPLE	13	10' RADIAL	REG
19	AUSTRIAN PINE	17	12' RADIAL	REG
20	BIG LEAF MAPLE	43	30' RADIAL	EXCEPT
22	FLOWERING PLUM	8, 10	N/A	N/A
23	SCOTS PINE	21	14' RADIAL	REG
25	FLOWERING PLUM	9, 8	N/A	N/A
30	DOUGLAS FIR	38	20' RADIAL	EXCEPT
31	CEDAR	20	7' RADIAL	REG
32	DOUGLAS FIR	35	18' RADIAL	EXCEPT
33	DOUGLAS FIR	31	16' RADIAL	EXCEPT
A	BIG LEAF MAPLE	19	15' RADIAL	REG
B	DOUGLAS FIR	18	21' RADIAL	REG
C	BIG LEAF MAPLE	20	16' RADIAL	REG
D	DOUGLAS FIR	12	7' RADIAL	REG
F	DOUGLAS FIR	14	9' RADIAL	REG
G	DOUGLAS FIR	26	12' RADIAL	REG

NOTE: SEE ARBORIST REPORT DATED 02.01.2016 AND ADDENDA DATED 01.03.2019

LEGEND

OHWM STAKES FROM FIELD VISIT BY NW ENVIRONMENTAL ON 2/20/19

SCALE: 1" = 10'

0' 10' 20' 30' 40'

3639 PALATINE AVE N
SEATTLE, WA 98103
206-634-9193

Northwest Environmental Consulting, LLC

PLANTING PLAN AND DETAILS

LEE-BOYLE
4150 BOULEVARD PL
MERCER ISLAND, WA

REVISION:

DATE:	DESCRIPTION:

DATE: 3/7/2019

SHEET NO. W-1

OF SHEETS

Appendix B: Site Photos

Photo 1. Stream typical with bank erosion on left bank.

Photo 2. Photo of typical step pools in stream.

Photo 3. OHWM flag along debris line near lower property line.

Photo 4. Steep slope conditions.

Photo 5. Stream conditions with OHWM flag at in background near upper property corner.

Appendix C: King County Conservation Grant Plan

King Conservation District

Alexandra Boyle- 4150 Boulevard Place, Mercer Island - Aq. Area Enhancement

40 20 0 40 Feet

1:469

N

Resource Specialist II: Rachel Konrady

February 15, 2018

Document Path: M:\Shared Resources\KCD Conservation Projects\Projects\Con Pro ACTIVE\Urban\Boyle, Alexandra\GIS\Boyle_Map.mxd

King Conservation District

JOB SHEET

Aquatic Area Buffer Planting- Riparian Forest Buffer

Landowner: Boyle	Lifetime of Practice: 15 years

Purpose (check all that apply)	
☒ Create shade to lower or maintain water temperatures to improve habitat for aquatic organisms	☒ Improve forest health reducing the potential of damage from pests and moisture stress
☒ Create or improve riparian habitat and provide a source of detritus and large woody debris	☒ Restore natural riparian plant communities
☐ Reduce excess amounts of pollutants in surface runoff and reduce excess nutrients and chemicals in shallow groundwater flow	☐ Improve wildlife habitat
☐ Reduce pesticide drift entering water body	☒ Increase carbon storage in vegetation and soils, and increase biomass in soils

Current Site Conditions *Provide a summary of the resource management problems addressed by the BMP. Also note any other current conditions pertinent to the project (slopes, erosion, flow, drainage)*

The project is located on an unnamed and unmapped tributary that runs year-around and that flows directly to Lake Washington, WRIA 8. The project area faces south and slopes from 105 feet to 75 feet. The northern half of the property is mapped as an erosion hazard (1990 SAO), but the project is not located in this area. There is currently partial canopy cover with mature Douglas Fir, Western Red Cedar, Pine and Big-leaf Maple. The shrub layer is sparse with mixed native and invasive species and the ground cover is dominated by English Ivy.

Riparian Forest Buffer Practice and Details Provide the following:
1) a basic description of the proposed planting area
2) calculate and record the square footage (acreage) of the planting area, the number of trees and shrubs to be planted, the linear footage of stream enhanced, the average and minimum width of the buffer:
3) list any native plant species currently existing on site
4) list native trees and shrubs selected for the project
5) please attach your proposed planting plan

1) **And 2) This project will enhance 4,800 sq. ft. of riparian forest buffer along 100 feet of an unnamed tributary to Lake Washington. Invasive species include holly, laurel, and ivy. They will be removed and replaced with native trees and shrubs. Straw wattles will be installed along the hill contour at intervals of 15 feet. Exposed soil will be protected through the installation of mulch. 210 trees and shrubs will be installed. The average buffer width is 45 feet.**

3) **Western Red Cedar, Shore Pine, Douglas Fir, Evergreen Huckleberry, Oceanspray, Tall Oregon Grape, Beaked Hazelnut, Vine Maple, Snowberry, and Sword Fern**

4) **Western Red Cedar, Cascara, Douglas Fir, Western Hemlock, Red Elderberry, Salmonberry, Evergreen Huckleberry, Hazelnut, Indian Plum, Pacific Rhododendron, Snowberry, Vine Maple, Low Oregon Grape, Salal, and Sword Fern**

5) **See attached planting plan**

Permits *Are there any permits necessary for the project? If so, please list below and include a copy of the permit*

Yes, Aquatic Noxious Weed General Permit has been obtained from the Washington State Department of Ecology and Washington State Department of Agriculture: Permit #WAG993000.

City of Mercer Island will review project design.

Aquatic Areas:
There may be permits needed to apply herbicide in aquatic areas or their buffers. See the WA State Department of Ecology website for further details: http://www.ecy.wa.gov/programs/wq/pesticides/

King County Jurisdiction:
Stream and wetland restoration projects that occur on property within the jurisdiction of King County may require a clearing and grading permit. Contact King County Permitting Office (www.kingcounty.gov/property/permits.aspx)

Municipal Jurisdiction of a Local City:
Stream and wetland projects that occur on property within the jurisdiction of a city may require a permit. Contact the Public Works Department of the local jurisdiction.

State and Federal Permit Requirements:
In addition to the above permit requirements, a Joint Aquatic Resources Permit Application (JARPA) may be necessary to obtain all relevant permits from state and federal agencies. Contact the State Department of Ecology Permit Assistance Center at (360) 407-7037.

Type and Source of Plant Material *Will you use potted plants, bareroot plants, b&b plants or a combination? Where will you get the plants from and when?*

Plant material will be native species adapted to the site to minimize maintenance and care.

King CD, the contractor, will plant 1 and 2 gallon containers, live stakes, and/or bareroot material that have been sourced from the Puget Sound region. If additional plant material is purchased to augment the initial planting, that material can be bareroot, live stake, or potted nursery stock. There are a number of local native plant nurseries where native trees, shrubs and emergents can be purchased. Refer to the attached list of native plant nurseries for local King County sources of native plant material as well as sources in the greater Puget Sound region.

Site Preparation *List what method(s) of site preparation will be used, who will be doing the work, when will the work be done.*

Specific weed control prescriptions are detailed below. If brush and debris are removed from the stand, all material will be hauled off-site or masticated /chipped in a staging area. If masticated material is intended for use as mulch on the site, invasive species should not be included in the masticating/chipping process.

Weed Control Prescriptions:

Himalayan & Evergreen Blackberry Control –

- *Manual control*: Mow or cut the blackberry canes to less than 1 foot in height, then grub/dig out the roots attached to the cut canes. Thorough removal of blackberry roots in this manner, while labor intensive can reduce the blackberry population and cover in the prepared area by 90 – 95%. Monitor for re-growth in the following growing seasons; dig up any re-growth.
- *Chemical Control*: An alternative control method includes herbicide. One technique involves cutting/mowing the canes and swabbing the freshly cut canes with an approved herbicide. Foliar

spray of blackberry is another effective control method. It is recommended that blackberry is mowed early in the summer and sprayed on the foliar re-growth the next fall (September/October). Do not spray planted seedlings. **Always follow label rates and instructions**.

English Ivy Control –

- *Manual Control*:
  1) Recommended manual methods include digging and pulling. First, remove any flowering or fruiting portion within reach and bag for removal from the site. Next, hand dig and pull out all accessible portions of plants including roots. Note that all cut stems/roots must be removed from soil contact. If composting on site, use cardboard or wood to create a raised platform. Consider wearing gloves and protective clothing as ivy sap is known to cause a reaction in some individuals. Mulching an area will significantly reduce re-growth of ivy. To properly mulch, apply an 8 inch thick mulch layer. Plants should be cut and removed and then mulched, preferably with a layer of cardboard below the mulch.
  2) Vertical ivy is controlled by girdling. To girdle vertical vines, cut the ivy vines at shoulder height and slightly above ground level. Remove the cut ivy section from the tree. This eliminates nutrient transport from the roots of ground ivy to the leaves and stems growing into the canopy of the tree. The lower cut section of ivy stems and roots must be pulled at least 6 feet away from tree. Root and stem fragments can re-grow and must be composted in a manner similar to ground ivy.

Holly & Laurel Control-

- *Chemical Control*: Large Holly and Laurel trunks should be cut as close to the ground as possible. Immediately (within minutes) treat the cut stump with an application of glyphosate herbicide (such as Rodeo or Roundup). An alternate technique, called frilling, involves incising deep cuts through bark into trunks at a 45 degree angle. Immediately treat the frills by pouring glyphosate herbicide into the cuts. Best results are achieved during periods of active growth and after full leaf expansion. Monitor for re-growth (seedlings and re-sprouting) and treat accordingly. Do not spray herbicide directly holly and laurel leaves, which have a waxy layer that prevents chemicals from being absorbed. **Always follow label rates and instructions**.

Care and Temporary Storage of Purchased Plant Material *Upon receiving the plant material, where will you store it and how will you care for it?*

All plant material should be stored in a cool location and well watered prior to planting. In the case of bare root plants, inventory should be held in the source refrigerated facility as long as possible prior to planting. Bare root plants can be stored in the field for up to one to three weeks prior to planting by placing them in a shaded location where they will remain cool. Such a location should prevent freezing as well as exposure to warm temperatures. Additionally, bareroot inventory should be covered with a tarp to prevent drying. Bareroot stock that is expected to emerge from dormancy prior to planting should be "healed" into a soil bed. To heal-in, dig a v-shaped trench to a depth that accommodates covering the seedling roots when back-filled with soil.

Installation *Provide the following details: 1) Plant Installation Prescription: 2)Plant Protection Prescription: 3) Weed Suppression Prescription: 4)Erosion Control Prescription*

1) Plant Installation Prescription:

Live Stake Inventory: Live Stakes and whips should be planted using a planting bar. Stakes and whips are to be 3 to 4 feet long, and a minimum of ½ inch in diameter. Stakes should be stored in a bucket of water until planted. Buds should face up in the bucket. Soaking before planting greatly increases the survival of live stakes and whips. Refer also to the attached planting instructions in *Planting Live Hardwood Stakes.*

Potted & Plug Inventory: Potted plant material should be shovel planted to the same depth that they grew in the pot. Plants will be well watered prior to planting. Prior to digging a hole for the plant, prepare the planting location by removing a grass sod within a 1.5 feet diameter circle, being careful to remove roots as well as above ground portions of the plant. Dig a hole for the container in the center of this cleared circle twice the size of the plant's pot. Backfill the hole with soil while using care to avoid leaving air pockets in the soil. Refer also to the attached planting instructions in *Planting Container Trees and Shrubs.*

Bareroot Inventory: Bare root seedlings should be shovel planted to the same depth that they grew in the nursery fields. Roots will remain moist once they are removed from the shipping bundles until they are planted. Roots will be placed in a natural position in the soil without being crowded or turned up. Soil will be packed firmly around the root system, leaving no air pockets. Prior to digging a hole for the plant, prepare the planting location by removing all grass sod within a 1.5-foot diameter circle, being careful to remove roots as well as above ground grass. Dig a hole for the bare root plant in the center of this cleared circle. Refer also to the attached planting instructions in *Planting Bare Root Trees and Shrubs.*

2) Plant Protection Prescription:

None needed

3) Weed Suppression Prescription

Mulching: In locations where ongoing weed suppression is a concern, prepare the area around each plant by placing a barrier of cardboard around the plant. After placing the barrier, apply a layer of mulch over the weed barrier to a depth of 4-6 inches. Mulching options include wood chips, fully composted organic material such as a commercial compost product, or weed free straw. Mulch should be weed free, if possible, to avoid introducing new weeds to the project site. Mulch is not necessary in the emergent plant zones.

4) Erosion Control Prescription

Mulch: In addition to weed suppression mulch products are effective for preventing soil erosion. Mulch may be used in areas with exposed soil that will need protection for less than 30 days (before plants are installed). Materials may include straw, wood fiber cellulose, compost, arborist chips, or chipped site vegetation (must not include live invasive plant material). Product will be applied 2 inches thick at a minimum.

Wattles: Wattles are erosion and sediment barriers consisting of straw wrapped in a tubular encasing material. Wattles are placed in shallow trenches and staked along the contour of disturbed or newly constructed slopes.

1) Wattles are installed perpendicular to the flow direction and parallel to the slope contour.
2) Narrow trenches should be dug across the slope, on contour, to a depth of 3 to 5 inches on clay soils and soils with gradual slopes. On loose soils, steep slopes, and during high rainfall events, the trenches should be dug to a depth of 5 to 7 inches, or ½ to 2/3 of the thickness of the wattle.
3) Start construction of trenches and installing wattles from the base of the slope and work uphill. Excavated material should be spread evenly along the uphill slope and compacted using hand tamping or other method. Construct trenches at contour intervals of 3 to 30 feet apart depending on the steepness of the slope, soil type, and rainfall. The steeper the slope the closer together the trenches should be constructed.
4) Install the wattles snuggly in to the trenches and abut tightly end to end. Do no overlap the ends.
5) Install stakes at each end of the wattle, and at 4 foot centers along the entire length of the wattle.
6) If required, install pilot holes for the stakes using a straight bar to drive holes through the wattle and into the soil.
7) At a minimum, wooden stakes should be approximately ¾ x ¾ x 24 inches. Willow cuttings or 3/8 inch rebar can also be used for stakes.
8) Stakes should be driven through the middle of the wattle, leaving 2 to 3 inches of the stake protruding above the wattle.

Fencing *Is fencing going to be installed? If so, what type, who will install it and when?*

No fencing needed

Planting Project Maintenance and Monitoring *The planting must be inspected periodically and protected from damage so proper function is maintained. The goal for the project is to reach 80% survival after 3 years. Please describe the maintenance and monitoring plan.*

King CD will maintain the project for 3-5 growing seasons. Maintenance activities will include control of invasive species and replanting if survivorship falls below 80%. The landowner is responsible for maintaining the project and providing photo documentation for the remaining 10-12 years of the practice. Photos must be submitted by 9/1 of each year.

Treatments must be inspected periodically and protected from damage so proper function is maintained and resource damage is minimized, including assessment of insects, disease and other pests, storm damage, and damage by trespass. The results of inspections shall determine the need for additional treatment under this practice.

Replace dead or dying trees and shrubs and control competing vegetation to support successful establishment. Periodic application of mulch may be needed to maintain plant vigor. Periodic harvest of trees and shrubs (thinning and brushing) may be necessary to maintain the health and vigor of the stand and support its development toward more mature stand conditions. Keep large dead and dying trees for cavity nesting wildlife and bird species and as a source of downed wood in the forest understory and in adjacent or interior aquatic habitats.

If areas were brushed in order to plant trees, maintain these openings until the leader of the tree surpasses the height of the surrounding vegetation.

Where droughty soils and hot growing conditions are anticipated, supplemental watering is recommended. In such cases the District recommends watering planted nursery stock for a minimum of 3 summers following planting. Young bare root, container, and ball/burlap plants have a reduced root system that hampers their ability to survive during the dry summer months (July through October). Watering a minimum of once every two weeks during the dry summer will promote greater rates of survival. Watering once per week is preferable.

Monitor treatment areas for re-growth of non-native/invasive species and control accordingly. Utilize weed control techniques prescribed in the Site Preparation section of the Job Sheet. Species to monitor include **English Ivy, Holly, Laurel** and any listed King County Noxious weeds.

All plant protection materials as well as any other non-biodegradable materials installed on-site will be removed within the 3-5 year project maintenance window.

Additional Specifications and Notes:

Planting Plan - Boyle

2/22/2018

Project Description: This project will enhance 4,800 sq. ft. of riparian forest buffer along 100 feet of an unnamed tributary to Lake Washington. Invasive species: holly, laurel, and ivy will be removed and replaced with native trees and shrubs. The project slopes from 105 feet of elevation to 75 feet of elevation. Light conditions are part sun to part shade. The aspect faces south.

Soil Type: Kitsap Silt Loam, 15 to 30 percent slopes

Zone 1: 4,800 sq. ft. (estimated 30% coverage- 3,360 sq. ft. plantable)

Targets	
Trees 18'oc	Shrubs +GC 4' oc
10	200

Type	Species	Total	Zone 1	Moisture, Sunlight	Spacing	Cluster
Trees - Wetter						
	Western Red Cedar (*Thuja plicata*)	**4**	4	Wet/moist, full shade/part sun		
	Cascara (*Rhamnus purshiana*)	**2**	2	Moist, part shade/full sun		
Trees - Drier						
	Douglas fir (*Pseudotsuga menziesii*)	**2**	2	Moist/dry, sun/shade		
	Western Hemlock (*Tsuga heterophylla*)	**2**	2	Moist, part shade/full sun		
	Trees Total	**10**	**10**			
Shrubs - Wetter						
	Red Elderberry (*Sambucus racemosa*)	**10**	10	Moist, shade/part sun		
	Red Osier Dogwood (*Cornus sericea*)	**0**		Wet/moist, part shade/full sun		
	Salmonberry (*Rubus spectabilis*)	**50**	50	Wet/moist, part shade/part sun		
Shrubs - Drier						
	Evergreen Huckleberry (*Vaccinium ovatum*)	**15**	15	Dry/Moist, shade/part sun		
	Hazelnut (*Corylus cornuta*)	**5**	5	Moist/Dry, part shade/part sun		
	Indian plum (*Oemleria cerasiformis*)	**10**	10	Moist, shade/part sun		
	Mock Orange (*Phyladelphus lewisii*)	**0**		Moist, part shade/part sun		
	Ocean Spray (*Holodiscus discolor*)	**0**		Dry/Moist, part shade/part sun		
	Red Flowering Current (*Ribes sanguineum*)	**0**		Dry/Moist, part shade/full sun		
	Pacific Rhododendron (*Rhododendron Macrophyllum)*	**5**	5	Moist, shade/part sun		
	Snowberry (*Symphoricarpos albus*)	**30**	30	Moist/dry, part shade/full sun		
	Thimbleberry (*Rubus parviflora*)	**0**		Moist, full sun, some shade		
	Vine Maple (*Acer circinatum*)	**5**	5	Moist, part shade/part sun		
	Shrubs Total	**130**	**130**			
Groundcover						
	Low Oregon Grape (Mahonia nervosa)	**20**	20	Dry/Moist, shade/part sun		
	Salal (Gaultheria shallon)	**20**	20	Dry/Moist, shade/part sun		
	Sword Fern (Polystichum munitum)	**30**	30	Moist, full shade/part sun		
	Groundcover Total	**70**	**70**			

Project Implementation

Cooperator: Boyle, Alexandra Date: 2/22/2018

Land Use: Urban residential. Contains unnamed tributary to Lake Washington (WRIA 8)			
Zones	Planned Amount	Planned mo/yr	Land use Treatment/Conservation Practices (See Specification Sheets section for details)
Project Boundary	4,800 sq. ft	April 2018	**Site Preparation** – Invasive species present within the project are English Ivy, Blackberry, English Holly, Laurel, and vinca. King CD, the Contractor, will use an integrated pest management (IPM) approach following King County Noxious Weeds Best Management Practices to remove invasive or noxious weeds. It is planned that ivy and vinca will be removed by hand, and that holly, laurel, and balckberry will be cut down and receive a cut-stump herbicide treatment. Herbicide formulations will be aquatic approved if applying near the creek and will be limited to the following active ingredients of triclopyr, imazapyr or glyphosate. Herbicides will be applied by a WSDA Licensed Applicator.
Project Boundary	4,800 sq. ft	After Site Prep	**Erosion Control** - Install straw wattles along the contour of the hill through areas that have been exposed by removal of ivy. Straw wattles will be installed approximately 15 feet apart where needed. Protect exposed soils through the installation of burlap sacks and mulch.
Project Boundary	4,800 sq. ft	April 2018	**Planting –** King CD will install a diverse mix of native trees and shrubs. See the included "Planting Plan_Boyle" for the specific species selected for the project. Plant stock will be either stakes, bareroot, or 1 gallon potted material. **Protection & Mulching -** Install a ring of mulch (3-4 inches in depth) around each plant.
Project Boundary	4,800 sq. ft	Summers 2018-2021	**Maintenance -** The project site will be maintained for 3 consecutive growing seasons following project installation. Maintenance will involve removal and control of invasive species that re-grow during the growing season. Techniques will include manual, mechanical and chemical controls. Herbicide formulations will be will be limited to the following active ingredients of triclopyr, imazapyr or glyphosate. If applying near the stream, herbicides will be applied by a WSDA Licensed Applicator with an aquatic endorsement. If plant mortality is more than 20% , replanting will occur the following planting season.

The owner/operator is responsible for obtaining all right of ways, and/or easements that are needed to implement this plan. The owner/operator is responsible for contacting utilities and assuring the work does not harm their facilities. The owner/operator is responsible for compliance with all federal, state, and local laws, ordinances, codes, and regulations.

ESA

5309 Shilshole Avenue, NW
Suite 200
Seattle, WA 98107
206.789.9658 phone
206.789.9684 fax

www.esassoc.com

memorandum

date	May 10, 2019
to	Andrew Leon, Planner
from	Jessica Redman, Ecologist
subject	Lee Boyle Residence – 4150 Boulevard Place Critical Areas Review

Environmental Science Associates (ESA) has prepared this memorandum on the behalf of the City of Mercer Island (City). The purpose of this memo is to verify the accuracy of the critical areas study submitted with the development application and to confirm whether the proposed project complies with Mercer Island City Code (MICC) Chapter 19.07 – *Environment*.

The site is an undeveloped parcel located at 4150 Boulevard Place (King County Tax Parcel 3623500174). The parcel was previously developed; however, after purchasing the parcel the applicant demolished the house. A few retaining walls, stairs, and building pads still remain. The north and central portions of the parcel are relatively flat, with the southern portion steeply sloping to the south. A stream is located at the toe of the steep slope. The applicant proposes to construct a 2,500 square foot (SF) single-family residence on the site. The proposed development also includes a 1,050 SF driveway, an 84 SF walkway, and 14,600 SF of landscaping.

At the request of the City, ESA reviewed the *Lee Boyle Residential Development Critical Areas Report* (prepared by Northwest Environmental Consulting, LLC [NWEC] and dated March 2019). Our scope of work included review of regulations for wetlands, streams, and their buffers; ESA did not review steep slopes or geological hazard regulations. ESA also conducted a site visit on May 6, 2019, meeting onsite with the applicant, a NWEC biologist, and City planner Andrew Leon.

Report Summary

According to the *Lee Boyle Residential Development Critical Areas Report* (hereinafter referred to as the NWEC Report) the stream is the only regulated critical area located within the project area. The NWEC Report, as well as the City's stream maps, indicate the stream is a Type 2 watercourse (perennial, non-fish bearing) and therefore is allotted a 50-foot standard buffer per MIMC 19.07.070.B.

The majority of the buffer occurs in the portion of the parcel characterized by the steep slope, with some buffer extending across the top of slope. According to the NWEC Report, the house has been sited and designed to avoid

impacts to the stream buffer to the extent possible. However, due to the size and topography of the parcel, the proposed development will impact 458 SF of stream buffer. To offset the impacts to the stream buffer, the applicant is proposing buffer averaging and an additional 500 SF of buffer will be created adjacent to the northwestern boundary of the standard buffer. This area will subsequently be planted with native shrub species. The NWEC Report also includes a five-year vegetation monitoring plan. Per MICC 19.07.07(B)(3), the City allows buffer averaging if the following conditions are met:

- The proposal will result in a net improvement of critical area function;
- The proposal will include replanting of the average buffer using native vegetation;
- The total area contained in the averaged buffers on the development proposal site is not decreased below the total area that would be provided if the maximum width were not averaged;
- The standard buffer width is not reduced to a width that is less than the minimum buffer width (25 feet) at any location; and
- That portion of the buffer that has been reduced in width shall not contain a steep slope.

The applicant has also received a grant from the King Conservation District (KCD) to remove invasive vegetation and install native plants along the sloped portion of the parcel to improve stream conditions; most of this work has been completed. The proposed 500 SF of new buffer is outside of this area.

Review and Site Findings

Due to the steep topography of the ravine, the stream could not be observed during the May 6, 2019 site visit. However, water could be heard flowing through the ravine when standing on the top of the slope. The City has mapped this stream a Type 2 watercourse that is allotted a 50-foot buffer per MICC 19.07.070(B)(1). Based on the topography change between the western and eastern portions of the onsite stream channel, we also agree that the stream would not support fish and therefore, is a Type 2 watercourse. ESA did not view the ordinary high water mark (OHWM) of the stream, and therefore, could not locate the exact edge of the buffer in the field. However, based on our experience with streams in the City, we believe the OHWM of the stream is likely narrow, and confined to the lower portions of the ravine. Based on aerial imagery and GIS analysis, we agree with the NWEC Report that the majority of the 50-foot stream buffer would occur on the slope. Based on the 50-foot buffer's location on the parcel, it was concluded that the minimum 25-foot buffer is located along the slope.

During the May 6, 2019 site visit, ESA observed the majority of the plants associated with the KCD grant had been installed and were primarily located on the steep slope. The area of proposed buffer addition had not been planted and was characterized by lawn and ornamental shrubs. According to the proposed planting schedule, this area will be enhanced with native vegetation and the applicant, not KCD, will be responsible for the monitoring requirements of this area.

Based on our review of the NWEC Report and MICC, as well as the site visit, ESA concludes the following:

- The proposed buffer enhancement with native plantings, coupled with the plantings by the KCD, will improve buffer conditions at the site and result in an ecological lift in functions.
- Both the buffer reduction and buffer addition areas are located at the top of the slope and not on the steep slope per code requirements.

Therefore, we believe the proposed project has met all requirements for buffer averaging under MICC 19.07.07(B)(3) and is compliant with MICC Chapter 19.07 – *Environment.*

If you have any questions, please call us at (206) 789-9658.

Site Improvement Bond Quantity Worksheet

				Existing Right-of-Way		Future Public Right of Way & Drainage Facilities		Private Improvements		
		Unit Price	Unit	Quant.	Cost	Quant.	Cost	Quant.	Cost	
GENERAL ITEMS	**No.**									
Backfill & Compaction- embankment	GI - 1	$ 6.00	CY							
Backfill & Compaction- trench	GI - 2	$ 9.00	CY							
Clear/Remove Brush, by hand	GI - 3	$ 1.00	SY							
Clearing/Grubbing/Tree Removal	GI - 4	$ 10,000.00	Acre					1	10,000.00	Estimated across mult
Excavation - bulk	GI - 5	$ 2.00	CY							
Excavation - Trench	GI - 6	$ 5.00	CY							
Fencing, cedar, 6' high	GI - 7	$ 20.00	LF							
Fencing, chain link, vinyl coated, 6' high	GI - 8	$ 20.00	LF							
Fencing, chain link, gate, vinyl coated, 20'	GI - 9	$ 1,400.00	Each							
Fencing, split rail, 3' high	GI - 10	$ 15.00	LF							
Fill & compact - common barrow	GI - 11	$ 25.00	CY							
Fill & compact - gravel base	GI - 12	$ 27.00	CY							
Fill & compact - screened topsoil	GI - 13	$ 39.00	CY							
Gabion, 12" deep, stone filled mesh	GI - 14	$ 65.00	SY							
Gabion, 18" deep, stone filled mesh	GI - 15	$ 90.00	SY							
Gabion, 36" deep, stone filled mesh	GI - 16	$ 150.00	SY							
Grading, fine, by hand	GI - 17	$ 2.50	SY							
Grading, fine, with grader	GI - 18	$ 2.00	SY							
Monuments, 3' long	GI - 19	$ 250.00	Each							
Sensitive Areas Sign	GI - 20	$ 7.00	Each							
Sodding, 1" deep, sloped ground	GI - 21	$ 8.00	SY							
Surveying, line & grade	GI - 22	$ 850.00	Day							
Surveying, lot location/lines	GI - 23	$ 1,800.00	Acre							
Traffic control crew (2 flaggers)	GI - 24	$ 120.00	HR							
Trail, 4" chipped wood	GI - 25	$ 8.00	SY							
Trail, 4" crushed cinder	GI - 26	$ 9.00	SY							
Trail, 4" top course	GI - 27	$ 12.00	SY							
Wall, retaining, concrete	GI - 28	$ 55.00	SF							
Wall, rockery	GI - 29	$ 15.00	SF							
		SUBTOTAL							10,000.00	

*KCC 27A authorizes only one bond reduction.

Unit prices updated: 03/02/2015
Version: 03/02/2015
Report Date: 3/15/2019

Site Improvement Bond Quantity Worksheet

Web date: 04/03/2015

				Existing Right-of-way		Future Public Right of Way & Drainage Facilities		Private Improvements		
		Unit Price	Unit	Quant.	Cost	Quant.	Cost	Quant.	Cost	
ROAD IMPROVEMENT	**No.**									
AC Grinding, 4' wide machine < 1000sy	RI - 1	$ 30.00	SY							
AC Grinding, 4' wide machine 1000-2000s	RI - 2	$ 16.00	SY							
AC Grinding, 4' wide machine > 2000sy	RI - 3	$ 10.00	SY							
AC Removal/Disposal	RI - 4	$ 35.00	SY							
Barricade, type III (Permanent)	RI - 6	$ 56.00	LF							
Curb & Gutter, rolled	RI - 7	$ 17.00	LF							
Curb & Gutter, vertical	RI - 8	$ 12.50	LF							
Curb and Gutter, demolition and disposal	RI - 9	$ 18.00	LF							
Curb, extruded asphalt	RI - 10	$ 5.50	LF							
Curb, extruded concrete	RI - 11	$ 7.00	LF							
Sawcut, asphalt, 3" depth	RI - 12	$ 1.85	LF							
Sawcut, concrete, per 1" depth	RI - 13	$ 3.00	LF							
Sealant, asphalt	RI - 14	$ 2.00	LF							
Shoulder, AC, (see AC road unit price)	RI - 15	$ -	SY							
Shoulder, gravel, 4" thick	RI - 16	$ 15.00	SY							
Sidewalk, 4" thick	RI - 17	$ 38.00	SY							
Sidewalk, 4" thick, demolition and disposal	RI - 18	$ 32.00	SY							
Sidewalk, 5" thick	RI - 19	$ 41.00	SY							
Sidewalk, 5" thick, demolition and disposal	RI - 20	$ 40.00	SY							
Sign, handicap	RI - 21	$ 85.00	Each							
Striping, per stall	RI - 22	$ 7.00	Each							
Striping, thermoplastic, (for crosswalk)	RI - 23	$ 3.00	SF							
Striping, 4" reflectorized line	RI - 24	$ 0.50	LF							

SUBTOTAL _____ _____ _____

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Unit prices updated: 03/02/2015
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Report Date: 3/15/2019

Site Improvement Bond Quantity Worksheet

Web date: 04/03/2015

				Existing Right-of-way		Future Public Right of Way & Drainage Facilities		Private Improvements		
		Unit Price	Unit	Quant.	Cost	Quant.	Cost	Quant.	Cost	
ROAD SURFACING	**No.**	(4" Rock = 2.5 base & 1.5" top course) 9 1/2" Rock= 8" base & 1.5" top course)								
Additional 2.5" Crushed Surfacing	RS - 1	$ 3.60	SY							
HMA 1/2" Overlay, 1.5"	RS - 2	$ 14.00	SY							
HMA 1/2" Overlay 2"	RS - 3	$ 18.00	SY							
HMA Road, 2", 4" rock, First 2500 SY	RS - 4	$ 28.00	SY							
HMA Road, 2", 4" rock, Qty. over 2500 SY	RS - 5	$ 21.00	SY							
HMA Road, 3", 9 1/2" Rock, First 2500 SY	RS - 6	$ 42.00	SY							
HMA Road, 3", 9 1/2" Rock, Qty Over 250	RS - 7	$ 35.00	SY							
Not Used	RS - 8									
Not Used	RS - 9									
HMA Road, 6" Depth, First 2500 SY	RS - 10	$ 33.10	SY							
HMA Road, 6" Depth, Qty. Over 2500 SY	RS - 11	$ 30.00	SY							
HMA 3/4" or 1", 4" Depth	RS - 12	$ 20.00	SY							
Gravel Road, 4" rock, First 2500 SY	RS - 13	$ 15.00	SY							
Gravel Road, 4" rock, Qty. over 2500 SY	RS - 14	$ 10.00	SY							
PCC Road (Add Under Write-Ins w/Desig	RS - 15									
Thickened Edge	RS - 17	$ 8.60	LF							

SUBTOTAL _____ _____ _____

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App_B_Bond_Quantity_Wksht.xls

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Site Improvement Bond Quantity Worksheet

Web date: 04/03/2015

				Existing Right-of-way		Future Public Right of Way & Drainage Facilities		Private Improvements		
		Unit Price	Unit	Quant.	Cost	Quant.	Cost	Quant.	Cost	
DRAINAGE (CPP = Corrugated Plastic Pipe, N12 or Equivalent)				For Culvert prices, Average of 4' cover was assumed. Assume perforated PVC is same price as solid pipe.						
Access Road, R/D	D - 1	$ 21.00	SY							
Bollards - fixed	D - 2	$ 240.74	Each							
Bollards - removable	D - 3	$ 452.34	Each							
* (CBs include frame and lid)										
CB Type I	D - 4	$ 1,500.00	Each	1	1,500.00			3	4,500.00	
CB Type IL	D - 5	$ 1,750.00	Each							
CB Type II, 48" diameter	D - 6	$ 2,300.00	Each							
for additional depth over 4'	D - 7	$ 480.00	FT							
CB Type II, 54" diameter	D - 8	$ 2,500.00	Each							
for additional depth over 4'	D - 9	$ 495.00	FT							
CB Type II, 60" diameter	D - 10	$ 2,800.00	Each							
for additional depth over 4'	D - 11	$ 600.00	FT							
CB Type II, 72" diameter	D - 12	$ 3,600.00	Each							
for additional depth over 4'	D - 13	$ 850.00	FT							
Through-curb Inlet Framework (Add)	D - 14	$ 400.00	Each							
Cleanout, PVC, 4"	D - 15	$ 150.00	Each					2	300.00	
Cleanout, PVC, 6"	D - 16	$ 170.00	Each							
Cleanout, PVC, 8"	D - 17	$ 200.00	Each							
Culvert, PVC, 4"	D - 18	$ 10.00	LF							
Culvert, PVC, 6"	D - 19	$ 13.00	LF							
Culvert, PVC, 8"	D - 20	$ 15.00	LF							
Culvert, PVC, 12"	D - 21	$ 23.00	LF							
Culvert, CMP, 8"	D - 22	$ 19.00	LF							
Culvert, CMP, 12"	D - 23	$ 29.00	LF							
Culvert, CMP, 15"	D - 24	$ 35.00	LF							
Culvert, CMP, 18"	D - 25	$ 41.00	LF							
Culvert, CMP, 24"	D - 26	$ 56.00	LF							
Culvert, CMP, 30"	D - 27	$ 78.00	LF							
Culvert, CMP, 36"	D - 28	$ 130.00	LF							
Culvert, CMP, 48"	D - 29	$ 190.00	LF							
Culvert, CMP, 60"	D - 30	$ 270.00	LF							
Culvert, CMP, 72"	D - 31	$ 350.00	LF							

SUBTOTAL 1,500.00 4,800.00

*KCC 27A authorizes only one bond reduction.

App_B_Bond_Quantity_Wksht.xls

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Site Improvement Bond Quantity Worksheet

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DRAINAGE CONTINUED				Existing Right-of-way		Future Public Right of Way & Drainage Facilities		Private Improvements		
	No.	Unit Price	Unit	Quant.	Cost	Quant.	Cost	Quant.	Cost	
Culvert, Concrete, 8"	D - 32	$ 25.00	LF							
Culvert, Concrete, 12"	D - 33	$ 36.00	LF							
Culvert, Concrete, 15"	D - 34	$ 42.00	LF							
Culvert, Concrete, 18"	D - 35	$ 48.00	LF							
Culvert, Concrete, 24"	D - 36	$ 78.00	LF							
Culvert, Concrete, 30"	D - 37	$ 125.00	LF							
Culvert, Concrete, 36"	D - 38	$ 150.00	LF							
Culvert, Concrete, 42"	D - 39	$ 175.00	LF							
Culvert, Concrete, 48"	D - 40	$ 205.00	LF							
Culvert, CPP, 6"	D - 41	$ 14.00	LF							
Culvert, CPP, 8"	D - 42	$ 16.00	LF							
Culvert, CPP, 12"	D - 43	$ 24.00	LF							
Culvert, CPP, 15"	D - 44	$ 35.00	LF							
Culvert, CPP, 18"	D - 45	$ 41.00	LF							
Culvert, CPP, 24"	D - 46	$ 56.00	LF							
Culvert, CPP, 30"	D - 47	$ 78.00	LF							
Culvert, CPP, 36"	D - 48	$ 130.00	LF							
Ditching	D - 49	$ 9.50	CY							
Flow Dispersal Trench (1,436 base+)	D - 50	$ 28.00	LF					80	3676	
French Drain (3' depth)	D - 51	$ 26.00	LF							
Geotextile, laid in trench, polypropylene	D - 52	$ 3.00	SY							
Mid-tank Access Riser, 48" dia, 6' deep	D - 54	$ 2,000.00	Each							
Pond Overflow Spillway	D - 55	$ 16.00	SY							
Restrictor/Oil Separator, 12"	D - 56	$ 1,150.00	Each							
Restrictor/Oil Separator, 15"	D - 57	$ 1,350.00	Each							
Restrictor/Oil Separator, 18"	D - 58	$ 1,700.00	Each							
Riprap, placed	D - 59	$ 42.00	CY							
Tank End Reducer (36" diameter)	D - 60	$ 1,200.00	Each							
Trash Rack, 12"	D - 61	$ 350.00	Each							
Trash Rack, 15"	D - 62	$ 410.00	Each							
Trash Rack, 18"	D - 63	$ 480.00	Each							
Trash Rack, 21"	D - 64	$ 550.00	Each							

SUBTOTAL _____ _____ 3676

*KCC 27A authorizes only one bond reduction.

App_B_Bond_Quantity_Wksht.xls

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Site Improvement Bond Quantity Worksheet

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				Existing Right-of-way		Future Public Right of Way & Drainage Facilities		Private Improvements		
		Unit Price	Unit	Quant.	Price	Quant.	Cost	Quant.	Cost	
PARKING LOT SURFACING					Not To Be Used For Roads Or Shoulders					
	No.									
2" AC, 2" top course rock & 4" borrow	PL - 1	$ 21.00	SY	NA		NA				
2" AC, 1.5" top course & 2.5" base cours	PL - 2	$ 28.00	SY	NA		NA				
4" select borrow	PL - 3	$ 5.00	SY	NA		NA				
1.5" top course rock & 2.5" base course	PL - 4	$ 14.00	SY	NA		NA				
UTILITY POLES & STREET LIGHTING					Utility pole relocation costs must be accompanied by **Franchise Utility's Cost Estimate**					
Utility Pole(s) Relocation	UP-1	Lump Sum								
Street Light Poles w/Luminaires	UP-2	$ 7,500.00	Each							
WRITE-IN-ITEMS										
(Such as detention/water quality vaults.)	No.									
Stormwater Vault	WI - 1	$ 380,000.00	Each							
Block Wall	WI - 2	$ 16.00	SY							
Yard Drain	WI - 3	$ 225.00	CY					3	675	
Permeable Pavers	WI - 4	$ 2,500.00	SF							
Concrete Pavement	WI - 5	$ 40.00	SY					40	1,600.00	
	WI - 6									
	WI - 7									
	WI - 8									
	WI - 9									
	WI - 10									

SUBTOTAL			
SUBTOTAL (SUM ALL PAGES):	1,500.00		20,751.00
30% CONTINGENCY & MOBILIZATION:	450.00		6,225.30
GRANDTOTAL:	1,950.00		26,976.30
COLUMN:	**B**	**C**	**D**

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App_B_Bond_Quantity_Wksht.xls

Unit prices updated: 03/02/2015
Version: 03/02/2015
Report Date: 3/15/2019

Andrew Leon

From: Karen Walter <KWalter@muckleshoot.nsn.us>
Sent: Tuesday, May 14, 2019 10:12 AM
To: Andrew Leon
Subject: Boyle and Lee Single Family Residence, Critical Areas Buffer Averaging, CAO19-004, Notice of application

Andrew,

We have reviewed the Boyle/Lee proposed Critical Areas Buffer Averaging proposal to accommodate a new single family residence. The buffer averaging proposal and stream enhancement plan as described in the project documents is fine assuming the stream classification is correct. However, the City of Mercer Island should be aware that WDFW has found fish passage barriers on the stream in question, which arguably makes the stream a potential fish bearing water. See https://geodataservices.wdfw.wa.gov/hp/fishpassage/index.html. This information was not included in the critical areas report.

The stream was also not assessed for its potential to provide fish habitat based on the physical criteria from WAC 222-16-031 (i.e. >=2 feet bankfull width; and streambed gradient of 20%). The Critical Areas Report noted that the stream has perennial flow. From a review of the site's photographs in the Critical Areas Report, the stream appears to have potential fish habitat if not for the downstream fish passage barrier.

The City should consider this information as part of the proposal.

Thank you,
Karen Walter
Watersheds and Land Use Team Leader

Muckleshoot Indian Tribe Fisheries Division
Habitat Program
39015-A 172nd Ave SE
Auburn, WA 98092
253-876-3116