

CITY OF MERCER ISLAND 9611 SE 36th Street • Mercer Island, WA 98040-3732 (206) 275-7605 • FAX (206) 275-7726 www.mercergov.org

CRITICAL AREAS DETERMINATION

NOTICE OF DECISION

October 30, 2017

Project Number:	CAO16-003
Description:	Request to reduce a Type II watercourse buffer to 25 feet and reduce Category III wetland buffer to 25 feet in order to accommodate additions to an existing Single Family Residence and construction of a new structure containing an ADU and garage.
Decision:	Approved with conditions
Applicant:	Teresa Russell Russell Architecture 1004 163 rd Ave SE Bellevue WA 98008
Owner:	Eileen and Derek Cheshire 7615 E Mercer Way Mercer Island WA 98040
Site Address:	7615 E Mercer Way, Mercer Island WA 98040; Identified by King County Assessor tax parcel number 3024059036
Zoning District:	R-9.6
SEPA Compliance:	The proposal is categorically exempt from SEPA review per WAC 197-11- 800(6)(e).
Exhibits:	 Development Application for a Critical Area Determination, signed June 17, 2016 Revised Plan Set, submitted June 7, 2017 Revised Critical Area Study, prepared by The Watershed Company, dated May 2017 Updated Peer Review memo prepared by ESA, dated July 17, 2017
	5. Email from Kevin Nelson, dated November 4, 2016

I. FINDINGS OF FACT

1. Application Description:

The request is for approval to reduce a Type II watercourse buffer from 50 to 25 feet and reduce Category III wetland buffer from 50 to 25 feet in order to accommodate additions to an existing Single Family Residence and construction of a new structure containing an ADU and garage.

2. Zoning:

The existing zoning of the subject site is Single Family Residential R-9.6 (Residential, 9,600 square foot minimum lot area).

3. Adjacent Land Use:

Land uses adjacent to the subject site include of single family residences to the north, east, south, and west. Clarke Beach Park is located across E Mercer Way to the southeast.

4. Consistency with Land Use Code/Zoning Requirements:

Mercer Island City Code (MICC) 19.07.070(B)(2) allows for wetland and watercourse buffers to be reduced "in accordance with an approved critical area study when he/she determines that a smaller area is adequate to protect the watercourse, the impacts will be mitigated by using combinations of the below mitigation options, and the proposal will result in no net loss of watercourse and buffer functions. However, in no case shall a reduced buffer contain a steep slope." Exhibit 2 indicates there is an area of steep slopes that coincide with the Type II watercourse buffer. In these areas, no buffer reduction is proposed.

The applicant must provide mitigation as described in MICC 19.07.070(B)(2)(b). The applicant's revised critical areas study and mitigation plan (Exhibit 3) has been peer reviewed (Exhibit 4) and verifies that a reduced buffer is adequate to protect the watercourse and the proposal will result in no net loss of watercourse and buffer functions, based on the analysis below.

5. State Environmental Policy Act (SEPA) Compliance:

The proposal is categorically exempt from SEPA review per WAC 197-11-800(6)(e).

6. Public Noticing and Comments:

There is no public hearing requirement for a critical areas determination (an administrative action) per MICC 19.15.010(E) and 19.15.020(F)(1). On October 31, 2016, City staff sent a Public Notice of Application to all property owners within 300 feet of the subject property and placed the Public Notice of Application in the City Weekly Permit Bulletin. A public comment period ran from October 31, 2016 through 5:00 P.M. on November 14, 2016. The City received one comment letter during the public comment period (Exhibit 5) containing a request to be made a party of record.

The commenter has been made a party of record, and will be sent a copy of this decision upon issuance.

7. MICC 19.07.070(A):

Watercourses – Designation and Typing. Watercourses shall be designated as Type 1, Type 2, Type 3 and Restored according to the following criteria:

- 1. Type 1 Watercourse. Watercourses or reaches of watercourses used by fish, or are downstream of areas used by fish.
- 2. Type 2 Watercourse. Watercourses or reaches of watercourses with year-round flow, not used by fish.
- 3. Type 3 Watercourse. Watercourses or reaches of watercourses with intermittent or seasonal flow and not used by fish.
- 4. Restored Watercourse. Any Type 1, 2 or 3 watercourses created from the opening of previously piped, channelized or culverted watercourses.

The applicant provided a critical areas study (Exhibit 3) that identifies the watercourse as a Type 2.

8. MICC 19.07.070(B)(1):

Watercourse Buffer Widths. Standard buffer widths shall be as follows, measured from the ordinary high water mark (OHW), or top of bank if the OHW cannot be determined through simple nontechnical observations.

Watercourse Type	Standard (Base) Buffer Width (feet)	Minimum Buffer Width with Enhancement (feet)
Type 1	75	37
Type 2	50	25
Type 3	35	25
Restored or Piped	25	Determined by the code official

Staff Analysis:

Both the City's resources and the applicant's critical area study (Exhibit 3) identify the existing watercourse as a Type 2. Type 2 watercourses are subject to a 50 foot regulated buffer that may be reduced to 25 feet with an approved critical areas determination.

9. MICC 19.07.080(B):

Wetland Ratings. Wetlands shall be rated as Category I, Category II, Category III or Category IV according to the wetland classification system.

Staff Analysis:

The applicant provided a critical areas study (Exhibit 3) that identifies the watercourse as a Category III.

10. MICC 19.07.080(C): 1. Standard Wetland Buffer Widths. The following standard buffer widths shall be established from the outer edge of wetland boundaries:

Wetland Type	Standard (Base) Buffer Width (feet)	Minimum Buffer Width with Enhancement (feet)
Category I	100	50
Category II	75	37
Category III	50	25
Category IV	35	25

Staff Analysis:

Both the City's resources and the applicant's critical areas study (Exhibit 3) identify the existing wetland as a Category III. Category III wetlands are subject to a 50 foot regulated buffer that may be reduced to 25 feet with an approved critical area determination.

11. MICC 19.07.070(B)(2)(a):

Reduction of Buffer Widths. The code official may allow the standard buffer width to be reduced to not less than the above listed minimum width in accordance with an approved critical area study when he/she determines that a smaller area is adequate to protect the watercourse, the impacts will be mitigated by using combinations of the below mitigation options, and the proposal will result in no net loss of watercourse and buffer functions. However, in no case shall a reduced buffer contain a steep slope.

Staff Analysis:

The applicant is requesting to reduce the buffers of both the Type 2 watercourse and the Category III wetland on site to the minimum buffer widths allow by code (25 feet for both the watercourse and wetland). The applicant is proposing to enhance the watercourse and wetland buffer by installing native plantings, woody debris, and a bioswale (Exhibit 2). An analysis provided in the Critical Area Study (Exhibit 3) states that these measures will create no net loss of ecological function by the reduce buffer width. A peer review of the Critical Area Study (Exhibit 4) concluded that with recommended revisions to the tree retention portion of the plan, the proposed mitigation would create no net loss of ecological function (Exhibit 3). The tree retention portion of the plan has been reviewed by the City Arborist under permit 1707-320, addressing the suggested revision items, meeting this criterion.

MICC 19.16.010 defines a "steep slope" as "any slope of 40 percent or greater calculated by measuring the vertical rise over any 30-foot horizontal run. Steep slopes do not include artificially created cut slopes or rockeries." Measurement of slopes presented in Exhibit 2 indicate there are no slopes within the reduced buffer that meet the definition of steep slope. Where these areas are within a watercourse or wetland buffer, the buffers are not proposed to be reduced in width, in accordance with this code provision.

12. MICC 19.07.040(J)(1):

Maintenance and Monitoring. 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.

Staff Analysis

The project approval is conditioned with a five years maintenance bond or assignment of funds.

13. MICC 19.07.040(J)(2):

Maintenance and Monitoring. 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

Staff finds that this requirement is appropriate as a condition of approval.

14. Permit Expiration:

MICC 19.15.020(K) states "Except for building permits or unless otherwise conditioned in the approval process, permits shall expire one year from the date of notice of decision if the activity approved by the permit is not exercised. Responsibility for knowledge of the expiration date shall be with the applicant."

Staff Analysis

A condition of approval has been added to this decision, setting an expiration date consistent with this code standard.

II. CONCLUSIONS OF LAW

Based on the above Findings of Facts, the following Conclusions of Law have been made:

- 1. The subject property contains a Type 2 watercourse and Category III wetland which require buffers as described in MICC 19.07.070 and MICC 19.07.080.
- 2. The buffers will not be less than the minimum widths specified in MICC 19.07.070(B)(1) and MICC 19.07.080(C)(1).
- 3. A critical area study consistent with MICC 19.07.050 was submitted (Exhibit 2).
- 4. The proposed buffer widths plus mitigation measures will cause no net loss of ecological function.
- 5. As shown in Exhibit 1, no portion of the reduced buffer is on a steep slope.

III. DECISION

Based upon the above noted Findings of Fact and Conclusions of Law, critical areas determination application CAO16-003 to reduce the width of a Type 2 watercourse buffer from 50 feet to 25 feet, and to reduce the Category II wetland buffer from 50 feet to 25 feet as depicted by Exhibit 2, is

hereby **APPROVED** subject to the Conditions of Approval. This decision is final, unless appealed in writing consistent with adopted appeal procedures.

IV. CONDITIONS OF APPROVAL

- 1. The following conditions shall be binding on the "Applicant," which shall include the owner or owners of the property, heirs, assign and successors.
- 2. The approval of the permit is based on the proposal complying with the submittal, as demonstrated in Exhibits 2.
- 3. Prior to approval of a building permit authorizing construction of the primary residence addition, the applicant shall submit a bond quantity worksheet for the proposed mitigation, which will provide the basis for a potential future financial guarantee.
- 4. Upon completion of the mitigation work, a letter written by a qualified professional detailing compliance with the approved mitigation plan shall be submitted to the City of Mercer Island Development Services Group. The compliance letter shall be accompanied by a set of as-built drawings depicting type and location of mitigation plantings. A maintenance and monitoring memo shall be submitted to the City of Mercer Island Development Services Group annually for a period of five years. Plant survival rates are to meet or exceed the performance standards listed in Exhibit 2.
- 5. This permit approval shall expire one year from the date of notice of decision if the activity approved by the permit is not exercised.
- 6. The applicant shall install and have inspected full temporary erosion and sediment control measures prior to construction.
- 7. The applicant is responsible for obtaining any necessary approvals from other agencies, including Hydraulic Project Approval for any development within the wetland or watercourse.
- 8. Prior to issuance of building permit #1603-077, the applicant shall provide an updated mitigation plan reflecting any changes to impacts that may have occurred due to project design changes.

Approved this 30th day of October, 2017.

Robin Proebsting, Senior Planner Development Services Group City of Mercer Island

Parties of record have the right to appeal the decision on this action when it is issued. If at that time you desire to file an appeal, you must submit the appropriate form, available from the Development Services Group, and file it with the City Clerk within fourteen (14) days from the date this decision is signed. 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.

CITY OF MERCER ISLAND DEVELOPMENT SERVICES GROUP



FEE	CITY USE ONLY			
	PERMIT#			

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

DEVELOPMENT APPLICATI	ON	Received By:	ann bha na mar ann an an an an ann ann ann an ann an
7615 E. MERCER WA	٩Y	R-9.6	ZONE SF-9600
COUNTY ASSESSOR PARCEL#S 302405-9036		88557	PARCEL SIZE (SQ. FT.) S, F,
PROPERTY OWNER EILEEN & DEREK CHESHIRE	ADDRESS 7615 E. ME	secer WAY	CELL/OFFICE: (206) 399 -9301 E-MAIL:
PROJECT CONTACT NAME TERESA RUSSELL, ARCHT.	ADDRESS 1004 1 BELLEVUE	63rd AVE SE , WA 98008	CELL/OFFICE: (206)799-1653 E-MAIL: teresaarussell 2
TENANT NAME	ADDRESS		CELL PHONE: gmail.com 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.			

6-17-2016 DATE SIGNATURE PROPOSED APPLICATION(S) AND CLEAR DESCRIPTION OF PROPOSAL: buffer reduction ritical Area Determination ption proposa (Please use additional paper if needed) ATTACH RESPONSE TO DECISION CRITERIA IF APPLICABLE CHECK TYPE OF USE PERMIT(S) REQUESTED (3% Technology Fee is included in fees below): APPEALS **DEVIATIONS** (Continued) SUBDIVISION SHORT PLAT Building (+cost of file preparation) \$898.16 **Critical Areas Setback** \$2,779.97 Two Lots \$4,633.97 Land use (+cost of verbatim transcript) \$898.16 Impervious Surface (5% Lot overage) \$2.779.97 Three Lots \$5,560.97 Code Interpretation G Shoreline \$898.16 \$3,706.97 G Four Lots \$6,486.94 G Wet Season Construction Moratorium CRITICAL AREAS Deviation of Acreage Limitations \$966.14 \$927.00 A Determination \$2,778.94 Short Plat Amendment \$2,316.47 Reasonable Use Exception **ENVIRONMENTAL REVIEW (SEPA)** \$5,560.97 Final Short Plat Approval \$927.00 Checklist: Single Family Residential Use \$556.20 Fire Review \$126.69/Hr **DESIGN REVIEW** Checklist: Non-Single Family Residential Use \$1,854.00 VARIANCES (Plus Hearing Examiner Fee) Administrative Review (of sign & colors) \$444.96 Environmental Impact Statement \$2,779.97 Type 1* \$3,706.97 Administrative Review (Revision = 40% of Fee) □ Type 2** \$1,979.66 (of other than sign & colors) \$742.63 Change to Final Design Approval SHORELINE MANAGEMENT \$742.63 OTHER LAND USE Design Commission Study Session \$742.63 C Exemption \$449.08 Accessory Dwelling Unit (ADU) \$186.43 O Permit Revision \$741.60 Code Interpretation Request (+\$149.35/hr. over 6 hrs.) \$899.19 **DESIGN REVIEW & WIRELESS COMMUNICATIONS FACILITIES** Semi-Private Recreation Tract (modification) \$741.60 Comp Plan Amendment (CPA) \$4,263,17 \$0-5,000 \$742.63 Semi-Private Recreation Tract (new) \$1,854.00 Conditional Use Permit (CUP) \$7,413.94 \$5,001-25,000 \$1,852,97 G Substantial Dev. Permit \$2,779.97 Lot Line Revision \$2,779.97 \$25,001-50,000 \$2,779.97 Lot Line Consolidation \$927.00 \$50,001-\$100,000 \$4,262.14 SUBDIVISION LONG PLAT Noise Variance (+\$149.35/hr. over 3 hrs.) \$449.08 2-3 Lots Over \$100,001 Valuation \$7,413.94 \$9,257.94 Reclassification of Property (Rezoning) \$4,633.97 4-5 Lots \$12,974.91 Right-of-Way Encroachment Agreement DEVIATIONS 6 Lots or greater \$16,680.85 (Requires Separate ROW Use Permit) \$550.02 Changes to Antenna requirements \$1.854.00 Subdivision Alteration to Existing Plat \$4,633.97 Zoning Code Text Amendment \$4,263.17 Changes to Open Space G Final Subdivision Review \$1,854.00 \$3,706.97 Fence Height G Fire Review \$927.00 \$126.69/Hr Includes all variances of any type or purpose in all zones other than single family residential zone: 8,C-C
 ** includes all variances of any type or purpose in single family residential zone: R-8,4, R-9,6, R-12, R-15) dential zone: B,C-O,PBZ,MF-2,MF2L,MF-2L, MF-3,TC,P)

CITY USE ONLY	
	Permit Fee:
SEPA Categorically Exempt Yes No	Permit See
SEPA Checklist Required: Yes No	r Grint r ee.
	Total Fees:



Exhibit 2







	JOB NUM
	DATE:
-\/	DRAFTED
Z Y	СНЕСКЕС
	SCALE:
ON HISTORY	REVISI
06/20/2016	DATE:
07/12/2016	SHEET
03/24/2017	1

DATE:

DATE:

DATE:

BEARING MERIDIAN	SURVEYOR'S NOTES	
BEARING MERIDIAN A BEARING OF S50 *21 ' 13 "W BETWEEN TWO FOUND MONUMENTS, "A" AND "B", PER THE PLAT OF TARYWOOD PARK, AS RECORED IN VOLUME 127 OF PLATS, PAGES 46-50, RECORDS OF KING COUNTY, WA. VERTICAL DATUM (NAVD 68) (VISITED 07/08/2013) FOUND "4" "X4"" CONC W/COPPER TACK IN LEAD (DN 1.0') ", LOCATED "250FT S, INTX E MERCER WAY & SE 76TH ST". ELEVATION = 104.47' METHOD OF SURVEY INSTRUMENTATION FOR THIS SURVEY WAS A LEICA 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.	 SURVEYOR'S NOTES THE TOPOGRAPHIC SURVEY SHOWN HEREON WAS PERFORMED IN JULY OF 2013. 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 CONVIENENCE ONLY. DESIGN SHOULD RELY ON SPOT ELEVATIONS. SUBJECT PROPERTY TAX PARCEL NO. 3024059036. SUBJECT PROPERTY AREA PER THIS SURVEY IS 88, 557 S0.FT.+/ A TITLE REPORT WAS NOT FURNISHED AND THEREFORE, EASEMENTS IF ANY, ARE NOT SHOWN ON THIS MAP. THE TOP/TOE OF SLOPE SHOWN ON THIS SURVEY IS THE FIELD CREWS INTERPRETATION OF THE TOP/TOE OF SLOPE. THIS DOES NOT REPRESENT THE LIMITS OF A "40%" SLOPE AREA. 	✦●⊗♂⊠ⓒ * ⊑ × ়ো ♥ ▮ ◙ ▮ ◑ ⊑ ©





TOPOGRA NE 1/4 OF THE OF SEC. CITY OF 1

	LEGEND		
FOUND MONUMENT AS NOTED SET REBAR & CAP AS NOTED FOUND REBAR & CAP AS NOTED UTILITY POLE CATCH BASIN SANITARY SEWER MANHOLE FINISHED FLOOR ELEVATION ELECTRIC METER SPOT ELEVATION FIRE HYDRANT STORM DRAIN MANHOLE WATER VALVE GAS VALVE ELECTRIC TRANSFORMER CABLE TV POLE TELEPHONE RISER TELEPHONE MANHOLE	ASPHALT SURFACE STAIRS DECK GRAVEL SURFACE R-O-W RIGHT-OF-WAY () RECORD AS NOTED "TYP" TYPICAL CENTERLINE OF ROAD SLOPE AS NOTED LINE CUY WIRE	の参覧大学学会	COTTON TREE (NOT SHOWN TO SCALE) TRUNK DIA SHOWN IN INCHES. REDWOOD TREE (NOT SHOWN TO SCALE) TRUNK DIA SHOWN IN INCHES. CEDAR TREE (NOT SHOWN TO SCALE) TRUNK DIA SHOWN IN INCHES. ALDER TREE (NOT SHOWN TO SCALE) TRUNK DIA SHOWN IN INCHES. MAPLE TREE (NOT SHOWN TO SCALE) TRUNK DIA SHOWN IN INCHES. HEMLOCK TREE (NOT SHOWN TO SCALE) TRUNK DIA SHOWN IN INCHES. FIR TREE (NOT SHOWN TO SCALE) TRUNK DIA SHOWN IN INCHES. DECIDUOUS TREE (NOT SHOWN TO SCALE) TRUNK DIA SHOWN IN INCHES.

OGRAPHIC & BOUNDARY SURVEY /4 OF THE SW 1/4 AND THE NW 1/4 OF THE SE 1/4 OF SEC. 30, TWP. 24N., RGE. 5E., W.M. CITY OF MERCER ISLAND, KING COUNTY, WA.	
CHESHIRE RESIDENCE 7615 E. MERCER WAY	measure success
MERLEH IJLAND, WA. 98040	



Section 30, Township 24N, Range 5E W.M.







1. 1:1 MITIGATION FOR ENCROACHMENT INTO BUFFER ZONE.

2. LARGE WOODY DEBRIS (LWD) TO BE COLLECTED ON SITE, 12'-24'



PLANTING SCHEDULE: QTY. BOTANICAL NAME COMMON NAME BOTANICAL NAME TREES: $-\chi h$ \sum (4558 SF) THUJA PLICATA WESTERN RED CEDAR CORNUS NUTTALLI PACIFIC DOGWOOD +FRANGULA PURSHIANA CASCARA ROSA NUTKANA ACER CIRCINATUM VINE MAPLE 11 ••• CORYLUS CORNUTA

MATERIALS LEGEND:

ASPHALT

VEHICULAR PAVING

CRUSHED ROCK

CAST IN PLACE CONCRETE - TYPE I

CAST IN PLACE CONCRETE - TYPE II

NON-VEHICULAR PAVING

0

PRECAST CONCRETE PAVERS, 1' X 6'

LARGE WOODY DEBRIS (LWD)

WEATHERED GRANITE BOULDERS

PATH LIGHT

BUFFER ENHANCEMENT FOR UNAVOIDABLE BUFFER IMPACTS

MITIGATION PLANTING FOR REDUCED BUFFER

FOREST UNDERSTORY:

SHRUBS: (550) 1 GALLON AT 5' O.C. EQUAL NUMBERS

MAHONIA AQUIFOLIUM GAULTHERIA SHALLON VACCINIUM OVATUM SYMPHORICARPOS ALBUS RUBUS PARVIFLORUS RIBES SANGUINEUM OEMLERIA CERASIFORMIS OREGON GRAPE SALAL EVERGREEN HUCKLEBERRY SNOWBERRY THIMBLEBERRY RED FLOWERING CURRANT NOOTKA ROSE INDIAN PLUM BEAKED HAZLENUT

COMMON NAME

BOTANICAL NAME

COMMON NAME

GROUNDCOVER: (3350) 1 GALLON AT 24" O.C. EQUAL NUMBERS

OXALIS OREGANA POLYSTICHUM MUNITUM ASARUM CAUDATUM ACHLYS TRIPHYLLA CORNUS CANADENSIS TIARELLA TRIFOLIATA

REDWOOD SORREL WESTERN SWORD FERN WILD GINGER VANILLA LEAF BUNCHBERRY FOAMFLOWER

PERENNIALS (FIELD LOCATE W/ LANDSCAPE ARCHITECT): (500) 1 GALLON AT 18" O.C. EQUAL NUMBERS

VANCOUVERIA HEXANDRA AQUILEGIA FORMOSA DICENTRA FORMOSA ERYTHRONIUM REVOLUTUM LUZULA PARVIFLORA

INSIDE-OUT FLOWER WESTERN COLUMBINE BLEEDING HEART TROUT LILY WOOD RUSH

GRASSES (FIELD LOCATE W/ LANDSCAPE ARCHITECT): (1000)PLUGS AT 12" O.C. EQUAL NUMBERS

DESCHAMPSIA CESPITOSA FESTUCA ROEMERI

PACIFIC HAIRGRASS ROEMER'S FESCUE

WATERCOURSE

WETLAND BOUNDARY

REDUCED BUFFER

50' STANDARD BUFFER (PER SURVEY)

Z20 X20 – MITIGATION PLANTING 25' STREAM BUFFER AREA E. MERCER BLVD.

BUFFER ENCROACHMENT AREA (2722 SF)



WA Mer Way, Ž ш 7615



dence

S

Re

Cheshire

CONSTRUCTION **DOCUMENTS/PERMIT**

SET ISSUE DA 06.05.2017 REVISIONS: \triangle

04.21.2017

drawn/checked: JM/JH

MITIGATION PLANTING

Exhibit 2





SCALE: 1/16"=1'-0"

MITIGATION AND RESTORATION PLAN

Summary

A comprehensive five-year maintenance and monitoring plan is included as part of the buffer enhancement. The plan details methods of invasive species removal, specifies appropriate species for planting and planting techniques, describes proper maintenance activities, and sets forth performance standards to be met yearly during monitoring. This will ensure that restoration plantings will be maintained, monitored, and successfully established within the first five years following implementation.

Proposed restoration begins with removing invasive weeds such as Himalayan blackberry, English ivy, and English laurel. Weed removal will be followed by installation of native tree, shrub, and groundcover species suitable to the site. Four native tree species are proposed including western red cedar, Pacific dogwood, cascara, and vine maple. Six native shrub species are proposed and include Oregon grape, evergreen huckleberry, snowberry, thimbleberry, Indian plum, and beaked hazelnut. Six native groundcover species are proposed and include redwood sorrel, western sword fern, wild ginger, vanilla leaf, bunchberry, and foamflower. The plan calls for new plantings within the reduced buffers of on-site critical areas. Native plantings are intended to increase native plant cover, improve native species diversity, increase vegetative structure, and provide food and other habitat resources for wildlife.

Goals

1. Enhance wetland and watercourse buffers.

- Remove and control all invasive woody species in the restoration areas including but not limited to Himalayan blackberry, English ivy, and English laurel.
- Establish dense and diverse native tree, shrub and groundcover vegetation throughout the mitigation areas.

Performance Standards

The standards listed below will be used to judge the success of the plan over time. If the standards are met at the end of the five-year monitoring period, the City shall issue release of the performance bond.

- 1. Survival:
 - a. 100% survival of all trees and shrubs at the end of Year One. This standard may be met through establishment of installed plants or by replanting as necessary to achieve the required numbers.
 - b. 80% survival of all trees and shrubs at the end of Year Two. This standard may be met through establishment of installed plants or by replanting as necessary to achieve the required numbers.
 - i. Survival beyond Year Two is difficult to track. Therefore, a diversity standard is proposed in place of survival (see #3, below).
- Native vegetation cover in planted areas:
 - a. Achieve at least 60% cover of native plants by the end of Year 3. Volunteer species may count towards this standard. Total native plant cover must include a minimum of 40% tree and shrub cover.
 - b. Achieve at least 80% cover of native plants by the end of Year 5. Volunteer species may count towards this standard. Total native plant cover must include a minimum of 60% tree and shrub cover.
- 3. Species diversity in planted areas:
 - a. Establish at least two native tree species, four native shrub species and three native perennial or groundcover species throughout the buffer area by Year
 5. Volunteer species may count towards this standard.
- Invasive species standard: No more than 10% cover of invasive species in the planting area, in any monitoring year. Invasive species are defined as any Class A, B, or C noxious weeds as listed by the King County Noxious Weed Control Board.

Monitoring Methods

This monitoring program is designed to track the success of the mitigation site over time by measuring the degree to which the performance standards listed above are being met. An as-built plan will be prepared within 30 days of substantially complete construction of the mitigation areas. The as-built plan will document conformance with these plans and will disclose any substitutions or other non-critical departures. The asbuilt plan will establish baseline plant installation quantities, photopoints, and three 50foot monitoring transects that will be used throughout the monitoring period to measure the performance standards.

Monitoring will occur twice annually for five years. The first monitoring visit will take place in the spring. This visit will record necessary weeding, invasive control, and other maintenance needs. The **restoration specialist** will then notify the owner and/or maintenance crews of necessary early season maintenance. The late-season visit will occur in late summer or fall and will record the following and be submitted in an annual report to the City:

- 1. General summary of the spring visit.
- First- and second-year counts of surviving and dead/dying plants by species in the planting areas.
- Estimates of native species cover using the line-intercept method along the monitoring transects.
- 4. Estimates of invasive species cover using the line-intercept method along the monitoring transects.
- 5. Counts of established native species to determine species richness.
- 6. Photographic documentation at permanent photopoints.
- 7. Intrusions into the planting areas, erosion, vandalism, trash, and other actions detrimental to the overall health of the mitigation areas.
- 8. Recommendations for maintenance in the mitigation areas.
- Recommendations for replacement of all dead or dying plant material with same or like species and number as on the approved plan.

Construction Notes and Specifications

Specifications for items in **bold** can be found under "Material Specifications and Definitions."

General Notes

The restoration specialist will oversee the following:

- 1. Invasive weed clearing; and
- 2. Plant material inspection.
- a) Plant delivery inspection.
- b) 50% plant installation/layout inspection.
- c) 100% plant installation inspection.

Work Sequence

- 1. Clear the planting area of all invasive woody vegetation including but not limited to Himalayan blackberry, English ivy, and English laurel.
- 2. Manually or mechanically remove all invasive woody vegetation roots. Cut ivy growing on trees at approximately eye-level and remove roots from the soil. Rake out remaining roots to the maximum extent practical.
- 3. Remove gravel pad surrounding the play structure, and loosen all compacted soils in the area. Rototill three inches of **compost** into the upper nine inches of the soil where decompaction is necessary.
- All plant installation will take place during the dormant season (October 15 to March 1).
- 5. Layout vegetation to be installed per the planting plan and plant schedule.
- 6. Prepare a planting pit for each plant and install per the planting details.
- 7. Mulch each tree, shrub and fern with a circular **wood chip mulch** ring, 4 inches thick and extending 9 inches from the base of the plant (18-inch diameter).
- Install a temporary or permanent irrigation system as needed to insure that all plants receive at least one inch of water per week from June 1st – September 30th. Maintain irrigation system in working condition for at least two summers after initial plant installation.

Maintenance

This site will be maintained for five years following completion of the plant installation. Specifications in **bold** can be found under "Material Specifications and Definitions."

- 1. Replace each plant found dead in the summer monitoring visit during the upcoming fall dormant season (October 15to March 1).
- 2. Follow the recommendations noted in the spring monitoring site visit.
- 3. Invasive species maintenance plan:
- a) Himalayan blackberry, English ivy, English laurel, and other invasive woody vegetation will be grubbed out by hand on an ongoing basis, with care taken to grub out roots except where such work will jeopardize the roots of installed or volunteer native plants.
- b) If it is likely that hand removal will not be completely effective or will damage desirable species, then application of an herbicide approved for use in aquatic areas may be used. Herbicide applications must be conducted only by a statelicensed applicator. Applications should be done between mid-spring and midsummer to maximize uptake by plants. Application should be a targeted method such as spot spray (preferred for Himalayan blackberry), or wick.
- 4. At least twice yearly, remove by hand all competing weeds and weed roots from beneath each installed plant and any desirable volunteer vegetation to a distance of 18 inches from the main plant stem. Weeding should occur as needed during the spring and summer. Frequent weeding will result in lower mortality and lower plant replacement costs.
- Do not weed the area near the plant bases with string trimmer (weed whacker). Native plants are easily damaged or killed, and weeds easily recover after trimming.

r to each installed plant annually in the spring

ι plant with **wood chip mulch** as necessary to -inch-diameter mulch ring.

be operated to ensure that plants receive a sek from June 1 through September 30 for the Irrigation beyond the second year may be significant replanting.

efinitions

equivalent product. 100% vegetable compost d, gravel, sawdust, or other non-organic

<u>>sphorous-free</u> fertilizer. Follow cation. Keep fertilizer in a weather-tight tilizer is to be applied only in Years 2 through 5

d Company [(425) 822-5242] personnel or other nental restoration projects.

naterial approximately 1 inch minimum to 3 awdust or coarse hog fuel). Mulch shall not age, plastic, metal, soil, and dimensional ebris. Pacific Topsoil sells suitable woodchip many of their locations. Pacific Topsoil: (800) generally contain weed seeds and are not a

7615 E Mercer Way, Mercer Island, WA



dence

S

Re

Cheshire

CONSTRUCTION DOCUMENTS/PERMIT

SET ISSUE DATE 06.05.2017

04.21.2017

DRAWN/CHECKED: JM/JH

MITIGATION PLANTING NOTES



Exhibit 2





SCALE: 1/16"=1'-0"



ld, WA Mercer Way, 7615 E Merce



idence

Cheshire Res

DOCUMENTS/PERMIT

SET ISSUE DATE: 06.05.2017 REVISIONS: Δ

04.21.2017

drawn/checked: JM/JH

SHEET NAME: TREE PROTECTION PLAN



Exhibit 2



[©] Copyright- The Watershed Comp

Cheshire Residence: Wetland and Watercourse Buffer Reduction, Revised

Prepared for:

Teresa Russell Russell Architecture 1004 163rd Avenue SE Bellevue, WA 98008

c/o Jason Henry Berger Partnership 1721 8th Avenue N Seattle, WA 98109-3015

Prepared by:



750 Sixth Street South Kirkland . WA 98033 *p* 425.822.5242 *f* 425.827.8136

watershedco.com

May 2017

The Watershed Company Reference Number: 160528

Cite this document as: The Watershed Company. May 2017. Critical Area Study, Cheshire Residence: Wetland and Watercourse Buffer Reduction, Revised.

TABLE OF CONTENTS

1	Int	roduction1
2	Ex	isting Conditions1
	2.1	Setting1
	2.2	Wetland3
	2.3	Watercourse
	2.4	Critical Area Buffers4
	2.5	Wildlife Habitat Conservation Areas
3	Re	gulations
	3.1	Local Regulations8
4	Pre	oject Purpose and Approach9
	4.1	Mitigation Sequencing
	4.2	Unpermitted Vegetation Removal
5	Im	pact Assessment
	5.1	No net loss
	5.2	Bald Eagle Nest Management13
6	Mi	tigation and Restoration plan14
	6.1	Overview14
	6.2	Goals14
	6.3	Performance Standards14
	6.4	Monitoring Methods15
	6.5	Construction Notes and Specifications16
	6.6	Maintenance17
	6.7	Material Specifications and Definitions18
7	Su	mmary
Α	ppen	dix Ai

LIST OF FIGURES

Figure 1.	A vicinity map showing the location of the site (imagery source: Google Maps).
Figure 2.	An aerial view of the subject property (imagery source: Mercer Island online mapping portal)
Figure 3.	Photo of the forest understory east of the existing residence (photo taken 5/23/2016)4
Figure 4.	Photo of critical area buffer located west of the existing residence (photo taken 5/23/3016)5
Figure 5.	Photo of sparsely vegetated understory of berm located in critical area buffer north and west of the existing residence (photo taken 5/23/2016)6
Figure 6.	Photo of Douglas-fir tree in which the nearby bald eagle nest is located (photo taken 5/23/2016)7
Figure 7.	Mapped nest location (red square) in vicinity of subject parcel showing 330-foot buffer (blue dashed-line) and 660-foot buffer (brown dashed-line) from the nest (imagery source: Mercer Island online mapping portal)7
Table 1:	Impacts and Mitigation Areas11

CRITICAL AREA STUDY

CHESHIRE RESIDENCE

1 INTRODUCTION

This critical area study is prepared as part of a proposal to permit proposed site improvements at 7615 E. Mercer Way in Mercer Island, Washington (parcel number 3024059036). Proposed site improvements consist of an addition to the existing singlefamily residence, driveway expansion, and construction of a detached accessory dwelling unit (ADU) on the property.

The site contains wetland and stream (watercourse) critical areas as documented in the *Cheshire Residence – Wetland and Watercourse Delineation Study* prepared by The Watershed Company in June 2016. The wetland is classified as a Category III wetland, which requires a standard buffer width of 50 feet. The open channel of the watercourse meets the criteria for Type 2, also requiring a standard buffer width of 50 feet; the piped portion of the watercourse requires a buffer width of 25 feet.

The applicant proposes to reduce the portions of the standard 50-foot buffer of on-site critical areas to 25 feet through buffer enhancement. Unavoidable buffer impacts will be mitigated through on-site enhancement of remaining portions of the standard 50-foot buffer. This report is intended to satisfy the requirements of the Mercer Island City Code (MICC). It provides a description of existing site conditions, proposed wetland and watercourse buffer reductions, and includes compensatory mitigation to ensure no net loss of critical area or buffer functions.

2 EXISTING CONDITIONS

2.1 Setting

The subject parcel (parcel number 3024059036) is located at 7615 E. Mercer Way in Mercer Island, Washington; in Section 30 of Township 24 North, Range 5 East of the Public Land Survey System (PLSS). It is approximately 2.1 acres in size and situated in the Mercer Island sub-basin of the Cedar-Sammamish Watershed (Water Resource Inventory Area [WRIA] 8; Figure 1). The subject parcel is zoned residential (R-9.6).

The study area currently includes a 2,660-square foot single-family residence with attached garage built in 1970, a gravel driveway, maintained lawn areas, and a children's play structure. The site slopes downhill to the east.

The entire parcel is mapped as Kitsap silt loam, 15 to 30 percent slopes, by the Natural Resources Conservation Service's (NRCS) Web Soil Survey (USDA 2016). Steep slope areas (40% or greater) dominate the west side of the site; the east side of the parcel also contains some steep slope areas, but to a lesser extent. One wetland and one stream are present near the project area and are discussed below.



Figure 1. A vicinity map showing the location of the site (imagery source: Google Maps).



Figure 2. An aerial view of the subject property (imagery source: Mercer Island online mapping portal).

2.2 Wetland

One wetland (Wetland A) is present near the project area. Wetland A is located west of the existing single-family residence on the property at the base of the steep slope. It is a slope wetland that contains forested and emergent vegetation classes. Common plants observed in the wetland include western red cedar and bigleaf maple (partially rooted near wetland edges and growing in upland hummocks within the wetland boundary) in the canopy, with salmonberry, Devil's club, skunk cabbage, lady fern, and giant horsetail in the understory. The hydrologic regimes of wetland soils include saturated-only and occasionally flooded. Wetland A is supported by groundwater seeps. Surface water and groundwater flowing downslope through the wetland eventually form a distinct channel on the north side of the wetland, described in this study as Watercourse A. Wetland A is classified as a Category III wetland.

2.3 Watercourse

One watercourse (Watercourse A) is present in the project area. Watercourse A is approximately four feet wide and forms within the boundaries of Wetland A in the north-central portion of the property. It generally flows southeast through the study area and is eventually is conveyed under E. Mercer Way upon leaving the subject property; Mercer Island's GIS Portal indicates that off-site, this watercourse flows through Clarke Beach Park then discharges into Lake Washington. Watercourse A is classified as a Type 2 watercourse.

2.4 Critical Area Buffers

Outside of wetland and watercourse critical areas and existing developed portions of the property, the site is predominantly forested. Much of the upland forested areas are also located on steep slopes (40% or greater). Forested areas are composed of mostly bigleaf maple; Douglas-fir and western red cedar are also present to a lesser extent. Tree size varies some, but is generally estimated at less than 20 inches diameter-at-breast-height (DBH) on average.

Understory vegetative structure is low on the east side of the residence; there is little to no sub-canopy present, and shrubs and groundcover plants are generally less than 10 feet in height (Figure 3). Understory plants are composed of native and non-native species. The most common plant species observed in this area include English ivy, sword fern, low Oregon grape, English laurel, beaked hazelnut, and Indian plum.



Figure 3. Photo of the forest understory east of the existing residence (photo taken 5/23/2016).

The critical area buffer immediately north and west of the residence is sparsely vegetated. Existing buffer intrusions are located in this area and include portions of a children's play structure with a compact gravel base and maintained lawn area (Figure 4). Vegetation in this portion of the buffer is maintained as lawn or is a sparsely

vegetated berm (Figures 4 and 5). Common plants include bigleaf maple in the canopy and giant horsetail in the understory.



Figure 4. Photo of critical area buffer located west of the existing residence (photo taken 5/23/3016).



Figure 5. Photo of sparsely vegetated understory of berm located in critical area buffer north and west of the existing residence (photo taken 5/23/2016).

2.5 Wildlife Habitat Conservation Areas

As indicated by both the City of Mercer Island's online mapping portal and PHS maps (WDFW 2016), an active bald eagle nest is present southwest of the subject property. The nest was visually confirmed during a May 2016 site inspection. The nest is located in a large and prominent Douglas-fir tree with a broken leader (Figure 6). According to online sources, the study area is located within 660 feet of the nest site (Figure 7). No other sensitive species are known to occur within or immediately adjacent to the project area.



Figure 6. Photo of Douglas-fir tree in which the nearby bald eagle nest is located (photo taken 5/23/2016).



Figure 7. Mapped nest location (red square) in vicinity of subject parcel showing 330-foot buffer (blue dashed-line) and 660-foot buffer (brown dashed-line) from the nest (imagery source: Mercer Island online mapping portal).

3 REGULATIONS

3.1 Local Regulations

In the City of Mercer Island, wetlands are regulated under the Mercer Island City Code (MICC), Chapter 19.07 – Environment. Wetland buffers are designated based on the wetland classification (MICC 19.07.080). Wetlands on Mercer Island are classified using the 2004 Ecology Rating System (MICC 19.16.10). Wetland A rates as a Category III wetland, with a total functions score of 30 points (6 water quality function points, 10 hydrologic function points, and 14 habitat function points). Per MICC 19.07.080(C), Category III wetlands require a standard buffer width of 50 feet. Type 2 watercourses also require a standard buffer of 50 feet. Where the watercourse is piped, the standard buffer with is 25 feet.

Category III wetland buffers and Type 2 watercourse buffers may be reduced to 25 feet, provided it is shown that a smaller area is adequate to protect the wetland/watercourse, the impacts will be mitigated by using a combination of options, and the proposal will result in no net loss of wetland, watercourse, and buffer functions (MICC19.07.070 and MICC 19.07.080). Buffer areas containing a steep slope may not be reduced.

Construction of new driveways may be allowed within critical area buffers as long as construction is consistent with best management practices, the facility is designed and located to minimize impacts to critical areas consistent with best available science, and impacts to critical areas are mitigated to the greatest extent reasonably feasible so there is no net loss of critical area functions (MICC 10.07.030[A][6]).

Wildlife habitat conservation areas are also regulated as critical areas; they are defined as "those areas the city council determine are necessary for maintaining species in suitable habitat within their natural geographic distribution so that isolated subpopulations are not created..." in MICC 19.16.010. Areas used by bald eagles for nesting and breeding were considered wildlife habitat conservation areas when the species was protected under the Endangered Species Act. Since the MICC was written, bald eagles have been de-listed and are no longer considered threatened or endangered. Currently, the City of Mercer Island directs applicants potentially conducting activities that may disturb bald eagles to follow recommendations outlined in the US Fish and Wildlife Service's (FWS) *National Bald Eagle Management Guidelines* (FWS 2007).

4 PROJECT PURPOSE AND APPROACH

The purpose of the project is to construct an addition to the existing single-family residence and add a detached ADU on the property. These improvements also require an expansion of the existing driveway on-site per fire code requirements. In addition, the project seeks to protect critical areas located on the property.

In order to achieve the purpose of the project and protect the wetland, watercourse, and buffer areas located on the property, wetland and watercourse buffer reduction is proposed with buffer enhancement. Buffer reduction will not extend into steep slope areas and is only proposed where necessary to allow for the proposed improvements. The proposed reduction will result in no net loss of critical area or buffer functions and will utilize the following mitigation options as provided by the MICC:

- 1. Installation of biofiltration/infiltration mechanisms such as bioswales, created and/or enhanced wetlands, or ponds supplemental to existing storm drainage and water quality requirements;
- 2. Removal of noxious weeds, replanting with native vegetation and five-year monitoring.

Additionally, existing intrusions into the buffer area west of the residence will be removed and the area restored with native vegetation. Proposed impacts to buffer areas are limited to the access driveways, as required by the fire department and allowed as an "allowed alteration" within critical area buffers per MICC 19.07.030(A)(6).

4.1 Mitigation Sequencing

The project has been designed to avoid, minimize and compensate for impacts to the greatest extent possible given the constraints of the site. The following describes how the mitigation sequencing requirements of the MICC have been met.

Avoid

The project area contains one wetland and one watercourse and their associated critical area buffers. Direct impacts to critical areas will be avoided. Buffer impacts will be avoided to the extent possible through thorough site planning and by reducing and enhancing the wetland and watercourse standard buffers. Buffer enhancement will ensure that the proposed conditions will achieve no net loss of critical area or buffer functions.

Minimize

Impacts to the reduced critical areas buffers will be a result of driveway expansion as required by the fire department. These impacts have been minimized by maintaining

the existing location of the driveway to be expanded and by using a bioretention area to filter runoff from portions of the new driveway. The bioretention area will receive runoff from the upper portion of the driveway and parking area west of the proposed ADU. The bioretention area has been adequately sized to treat 91% of the runoff volume through the 18-inch thick bioretention soil layer, for the required water quality treatment. Due to the underlying low permeable native soils, native infiltration in the soil subgrade is not anticipated. The bioretention area will be equipped with a perforated underdrain located within a gravel sub-base that will collect the treated runofffrom the bioretention soil layer and will convey the flows east, eventually connecting into the existing drainage system along the north side of East Mercer Way

During the construction phase, impacts will be minimized through implementation of best management practices (BMPs). Unavoidable buffer impacts will be mitigated at a 1.6:1 ratio through on-site buffer enhancement.

Mitigate

Compensatory mitigation measures are proposed for impacts resulting from driveway expansion in reduced on-site critical area buffers. All of the reduced 25-foot buffer will be enhanced to maintain equivalent buffer function. Despite the buffer reduction, it is not possible to construct the entirety of the access drive outside of the reduced buffer. A total of 2,722 square feet of the reduced buffer will be impacted by the driveway expansion. Mitigation for unavoidable impacts within the reduced buffer will be mitigated by enhancing a portion of the standard 50-foot buffer east of the new residence at a 1.6:1 ratio.

Buffer enhancement will include removal those portions of the existing play structure and compact gravel base from the reduced buffer area (72 square feet) and replacing the structure entirely outside of the reduced buffer; removal of invasive species and installation of a dense native tree, shrub, and groundcover community; and installation of large woody debris. A total of 16,825 square feet (SF) of critical area buffer will be enhanced on the property, including the entirety of the reduced buffer (12,267 square feet) and 4,558 square feet of the standard buffer. A total of 23 logs are proposed in the buffer enhancement areas. The logs, including bigleaf maple, Douglas-fir, western red cedar, and western hemlock, will be harvested on-site during approved clearing activities associated with the driveway expansion. Trees proposed for use as large woody debris are 18-24-inch in diameter. Since the vast majority of the trees that will be removed from buffer areas are located in the stream buffer, the large woody debris will be placed generally east of the proposed residence within the enhanced stream buffer areas. A rain garden will also be installed as a biofiltration mechanism near the ADU as described above.

Proposed Impact	Proposed Mitigation
Reduce standard buffer from 50' to 25'	Enhance entire reduced buffer – 12,267 sf
Permanent buffer loss from driveway expansion – 2,722 sf	Removal of play structure and gravel base from reduced buffer – 72 sf; Enhance portion of standard 50-foot buffer – 4,558 sf

Table 1:	Impacts	and	Mitigation	Areas
----------	---------	-----	------------	-------

Monitor

A five-year monitoring and maintenance plan is proposed to ensure the success of mitigation areas over time.

4.2 Unpermitted Vegetation Removal

The City has noted that vegetation removal occurred within the buffer areas sometime between 2012 and 2015, and there is no record of appropriate permits for this clearing activity (*Request for Information for File No. CAO16-003 Cheshire Critical Area Determination 7615 E Mercer Way / Mercer Island WA 98040; King County Tax Parcel #: 3024059036* [Robin Proebsting, Senior Planner, City of Mercer Island Development Services Group, 1/13/2016 (sic)]). Based on a review of Google Earth aerial photographs, the vegetation clearing took place prior to April 2015. According to the King County recorder's office, the transfer of ownership to the current property owners took occurred after the clearing took place (transfer recorded May 30, 2014). As such, they cannot address the specifics of the prior permitting history, or lack thereof. However, under the current proposal, the areas which were cleared appear to be within the reduced 25-foot buffer or are within areas of the standard buffer, which are proposed for reduction under as part of this project. All portions of the reduced buffers will be restored and enhanced under this proposal, including any unauthorized clearing that occurred prior to the current ownership.

5 IMPACT ASSESSMENT

The proposal is to expand the existing residence from a footprint of 1,655 SF to 2,726 SF and build a detached 900-SF ADU with 1,440 SF of garage (footprint). The proposal also includes widening the existing gravel driveway to approximately 20 feet and upgrading to asphalt paving as required by the fire department. Most of these site improvements occur outside of the reduced wetland and watercourse buffers. Impacts to the reduced 25-foot critical area buffers is limited to driveway expansion as required by the fire

department. Driveway impacts occurring in the reduced buffer total 2,722 SF; this does not include existing driveway areas located in the critical area buffers.

Buffer impacts will take the form of vegetation removal and minor grading and result in increased impervious surfaces. To compensate for these impacts and for reduction of the critical area buffer, buffer enhancement will occur. A total of 16,825 SF of critical area buffer will be enhanced on-site by removing existing buffer intrusions, removing non-native vegetation, and installing native plants and large woody debris. The total enhancement area includes 4,558 square feet of the standard 50-foot wetland buffer to remain, as mitigation for unavoidable buffer impacts (ratio of 1.6:1). With mitigation, a net improvement of on-site buffers is expected.

5.1 No net loss

Without mitigation, a slight decrease in hydrologic, water quality, and habitat function could be anticipated to occur under the proposed project due to the increase of impervious surfaces on-site and some vegetation removal. The mitigation plan is designed to ensure no net loss of ecological function as a result of the proposed improvements.

Proposed mitigation will benefit on-site critical area buffers by increasing the ability of the buffer vegetation to store/trap sediments and nutrients, increasing the ability of the buffer to attenuate flood flow during heavy rain, and improving cover and forage opportunities for wildlife. Mitigation areas include all portions of the reduced buffer, including areas of previous unauthorized clearing activities that occurred prior to the current ownership, degraded portions of the existing 25-foot buffer, and a portion of the standard 50-foot buffer that will not be reduced.

Table 1, below, summarizes how the proposed mitigation will achieve no net loss of ecological functions on-site.

Critical Area Buffer Function	Existing Conditions	Proposed Conditions	Determination
Water Quality	The current water quality function of the critical area buffers is limited by sparsely vegetated buffer areas and buffer intrusions.	Vegetative density to be substantially increased in critical area buffers through planting of native trees, shrubs, and groundcovers. Bioswale to be installed.	Increasing amount of dense, rigid vegetation as well as the bioswale will improve the ability to slow surface water flowing towards the stream and help filter and capture nutrients and sediments that might otherwise enter the waterbody.
Hydrology	The current hydrologic function of the critical area buffers is limited by sparsely vegetated areas and buffer intrusions.	Vegetative density to be substantially increased in critical area buffers through planting of native trees, shrubs, and groundcovers. Rain garden to be installed.	The addition of trees, shrubs, groundcover plants, and rain garden will help attenuate flood flow during heavy rain events.
Habitat	The habitat function of the critical area buffers is limited by low understory vegetative density, low structural diversity, and prevalence on non-native plant species.	Non-native plant species to be removed. Vegetative density to be substantially increased in critical area buffers through planting of native trees, shrubs, and groundcovers. Woody debris to be installed.	Woody debris installation and understory planting of trees, shrubs, and groundcover plants will increase vegetative density and structural diversity, improving cover and forage opportunities for wildlife. Non-native plant species removed or significantly reduced.
Overall	Moderate to low functioning critical area buffer in the project area. Existing vegetated areas have significant amounts non-native plant species and are characterized by a relatively open or sparsely vegetated understory.	Removal of non-native plant species buffer areas. Planting of trees, shrubs, and groundcovers in existing vegetated stream buffer areas. Installation of rain garden.	The proposed project is expected to improve ecological functions over existing conditions. This includes habitat, hydrology, and water quality functions of the critical area buffers. Overall no net loss of functions is expected.

Table 2.	Summary showing no net loss of critical area buffer functions with proposed
	conditions.

5.2 Bald Eagle Nest Management

A verified bald eagle nest is located approximately 500 feet southwest of the project area. The applicant has discussed the potential effects and limitations regarding the nest with USFWS staff. Since project construction is planned for July (the latter half of the nesting season), project activities will occur more than 330 feet from the nest, and existing vegetative screening areas will remain undisturbed, the project complies with regular building construction requirements; therefore, USFWS permits are not required (Jamie Hanson, USFWS, email communication, April 2017).

6 MITIGATION AND RESTORATION PLAN

6.1 Overview

A comprehensive five-year maintenance and monitoring plan is included as part of the buffer enhancement. The plan details methods of invasive species removal, specifies appropriate species for planting and planting techniques, describes proper maintenance activities, and sets forth performance standards to be met yearly during monitoring. This will ensure that restoration plantings will be maintained, monitored, and successfully established within the first five years following implementation.

Proposed restoration begins with removal of invasive weeds such as Himalayan blackberry, English ivy, and English laurel and placement of woody debris in the buffer. This will be followed by installation of native tree, shrub, and groundcover species suitable to the site (Appendix A). Four native tree species, six native shrub species, and thirteen native groundcover, perennial, or grass species are proposed in the mitigation area. The plan calls for new plantings within the reduced buffers of on-site critical areas. Native plantings and woody material are intended to increase native plant cover, improve native species diversity, increase vegetative structure, and provide food and other habitat resources for wildlife.

6.2 Goals

- 1. Enhance wetland and watercourse buffers.
 - a. Remove and control all invasive woody species in the restoration areas including but not limited to Himalayan blackberry, English ivy, and English laurel.
 - b. Establish dense and diverse native tree, shrub and groundcover vegetation throughout the mitigation areas.

6.3 Performance Standards

The standards listed below will be used to judge the success of the plan over time. If the standards are met at the end of the five-year monitoring period, the City shall issue release of the performance bond.

- 1. Survival:
 - a. 100% survival of all trees and shrubs at the end of Year One. This standard may be met through establishment of installed plants or by replanting as necessary to achieve the required numbers.

- b. 80% survival of all trees and shrubs at the end of Year Two. This standard may be met through establishment of installed plants or by replanting as necessary to achieve the required numbers.
 - i. Survival beyond Year Two is difficult to track. Therefore, a diversity standard is proposed in place of survival (see #3, below).
- 2. Native vegetation cover in planted areas:
 - a. Achieve at least 60% cover of native plants by the end of Year 3. Volunteer species may count towards this standard. Total native plant cover must include a minimum of 40% tree and shrub cover.
 - b. Achieve at least 80% cover of native plants by the end of Year 5. Volunteer species may count towards this standard. Total native plant cover must include a minimum of 60% tree and shrub cover.
- 3. Species diversity in planted areas:
 - a. Establish at least two native tree species, four native shrub species and five native groundcover, perennial, or grass species throughout the buffer area by Year 5. Volunteer species may count towards this standard.
- 4. Invasive species standard: No more than 10% cover of invasive species in the planting area, in any monitoring year. Invasive species are defined as any Class A, B, or C noxious weeds as listed by the King County Noxious Weed Control Board.

6.4 Monitoring Methods

This monitoring program is designed to track the success of the mitigation site over time by measuring the degree to which the performance standards listed above are being met. An as-built plan will be prepared within 30 days of substantially complete construction of the mitigation areas. The as-built plan will document conformance with these plans and will disclose any substitutions or other non-critical departures. The asbuilt plan will establish baseline plant installation quantities, photopoints, and three 50foot monitoring transects that will be used throughout the monitoring period to measure the performance standards.

Monitoring will occur twice annually for five years. The first monitoring visit will take place in the spring. This visit will record necessary weeding, invasive control, and other maintenance needs. The **restoration specialist** will then notify the owner and/or maintenance crews of necessary early season maintenance. The late-season visit will occur in late summer or fall and will record the following and be submitted in an annual report to the City:

1. General summary of the spring visit.

- 2. First- and second-year counts of surviving and dead/dying plants by species in the planting areas.
- 3. Estimates of native species cover using the line-intercept method along the monitoring transects.
- 4. Estimates of invasive species cover using the line-intercept method along the monitoring transects.
- 5. Counts of established native species to determine species richness.
- 6. Photographic documentation at permanent photopoints.
- 7. Intrusions into the planting areas, erosion, vandalism, trash, and other actions detrimental to the overall health of the mitigation areas.
- 8. Recommendations for maintenance in the mitigation areas.
- 9. Recommendations for replacement of all dead or dying plant material with same or like species and number as on the approved plan.

6.5 Construction Notes and Specifications

Specifications for items in **bold** can be found under "Material Specifications and Definitions."

General Notes

The restoration specialist will oversee the following:

- 1. Clearing, soil preparation, and placement of woody debris;
- 2. Invasive weed clearing; and
- 3. Plant material inspection.
 - a) Plant delivery inspection.
 - b) 50% plant installation/layout inspection.
 - c) 100% plant installation inspection.

Work Sequence

- 1. Clear the planting area of all invasive woody vegetation including but not limited to Himalayan blackberry, English ivy, and English laurel.
- 2. Manually or mechanically remove all invasive woody vegetation roots. Cut ivy growing on trees at approximately eye-level and remove roots from the soil. Rake out remaining roots to the maximum extent practical.

- 3. Remove gravel pad surrounding the play structure, and loosen all compacted soils in the area. Rototill three inches of **compost** into the upper nine inches of the soil where decompaction is necessary.
- 4. Place woody debris retained from constructions activities in critical area buffers as shown in plans. Woody debris will be placed by hand, when feasible. Alternatively, for those pieces too large for manual transport, woody debris shall be placed by a boom truck from adjacent paved areas. Woody debris will not be placed in the active stream channel; log anchors are not necessary.
- 5. All plant installation will take place during the dormant season (October 15 to March 1).
- 6. Layout vegetation to be installed per the planting plan and plant schedule.
- 7. Prepare a planting pit for each plant and install per the planting details.
- 8. Mulch each tree, shrub and fern with a circular **wood chip mulch** ring, 4 inches thick and extending 9 inches from the base of the plant (18-inch diameter).
- Install a temporary or permanent irrigation system as needed to insure that all plants receive at least one inch of water per week from June 1st – September 30th. Maintain irrigation system in working condition for at least two summers after initial plant installation.

6.6 Maintenance

This site will be maintained for five years following completion of the plant installation. Specifications in **bold** can be found under "Material Specifications and Definitions."

- 1. Replace each plant found dead in the summer monitoring visit during the upcoming fall dormant season (October 15to March 1).
- 2. Follow the recommendations noted in the spring monitoring site visit.
- 3. Invasive species maintenance plan:
 - a) Himalayan blackberry, English ivy, English laurel, and other invasive woody vegetation will be grubbed out by hand on an ongoing basis, with care taken to grub out roots except where such work will jeopardize the roots of installed or volunteer native plants.
 - b) If it is likely that hand removal will not be completely effective or will damage desirable species, then application of an herbicide approved for use in aquatic areas may be used. Herbicide applications must be conducted only by a statelicensed applicator. Applications should be done between mid-spring and midsummer to maximize uptake by plants. Application should be a targeted method such as spot spray (preferred for Himalayan blackberry), or wick.

- 4. At least twice yearly, remove by hand all competing weeds and weed roots from beneath each installed plant and any desirable volunteer vegetation to a distance of 18 inches from the main plant stem. Weeding should occur as needed during the spring and summer. Frequent weeding will result in lower mortality and lower plant replacement costs.
- 5. Do not weed the area near the plant bases with string trimmer (weed whacker). Native plants are easily damaged or killed, and weeds easily recover after trimming.
- 6. Apply slow release granular **fertilizer** to each installed plant annually in the spring (by June 1) of <u>Years 2 through 5</u>.
- 7. Mulch the weeded areas beneath each plant with **wood chip mulch** as necessary to maintain a minimum 4-inch-thick, 18-inch-diameter mulch ring.
- 8. The temporary irrigation system will be operated to ensure that plants receive a minimum of one inch of water per week from June 1 through September 30 for the first two years following installation. Irrigation beyond the second year may be needed based on site performance or significant replanting.

6.7 Material Specifications and Definitions

- 1. **Compost:** Cedar Grove Compost or equivalent product. 100% vegetable compost with no appreciable quantities of sand, gravel, sawdust, or other non-organic materials.
- 2. **Fertilizer**: <u>Slow release, granular phosphorous-free</u> fertilizer. Follow manufacturer's instructions for application. Keep fertilizer in a weather-tight container while on site. Note that fertilizer is to be applied only in Years 2 through 5 and <u>not in the first year</u>.
- 3. **Restoration specialist**: The Watershed Company [(425) 822-5242] personnel or other person qualified to evaluate environmental restoration projects.
- 4. **Wood chip mulch:** Chipped woody material approximately 1 inch minimum to 3 inches in maximum dimension (not sawdust or coarse hog fuel). Mulch shall not contain appreciable quantities of garbage, plastic, metal, soil, and dimensional lumber or construction/ demolition debris. Pacific Topsoil sells suitable woodchip mulch called "Wood Chip Mulch" at many of their locations. Pacific Topsoil: (800) 884-7645. Note: Arborist woodchips generally contain weed seeds and are not a reliable alternative.
- 5. **Woody debris**: Large pieces of downed wood such as logs, rootwads, and limbs which are placed on the ground. These pieces of downed wood should have a diameter of at least 12 inches and a minimum length of 10 feet. Debris to be placed to maximize ground contact.

7 SUMMARY

The applicant proposes the expansion of an existing single-family residence and driveway and construction of a detached ADU on a property encumbered by steep slope, wetland, and watercourse critical areas and their associated buffers. In order to allow the proposed improvements, a 50 percent reduction critical area buffers is proposed, where necessary, through the buffer reduction allowances outlined in MICC 19.07.070 and 19.07.080. Reduction of the buffer will be mitigated through the removal of existing buffer intrusions, removal of non-native vegetation, installation of native plantings and large woody material, and installation of a rain garden. Driveway and parking expansion would occur within the reduced 25-foot wetland/watercourse buffer area as an allowed alteration to critical area buffers (MICC 19.07.030). Impacts for these unavoidable buffer impacts will be mitigated by enhancing portions of the standard 50foot buffer, which will not be reduced. The buffer reduction/enhancement proposal will also restore areas where unauthorized vegetation removal took place prior to the current ownership. An enhancement plan has been developed that details the plantings proposed to mitigate for the allowed buffer impacts and buffer reduction. A total of 16,825 square feet of native plantings is proposed within the on-site buffer areas.

The mitigation plantings and large woody material proposed within the reduced wetland and watercourse buffers would increase habitat function value and improve overall buffer functions. The proposed planting plan incorporates a diversity of native plant species, including trees, shrubs, and groundcover plants. The proposed plan will provide better protection of the on-site critical area functions and values than exists under current conditions.

Additionally, a comprehensive five-year maintenance and monitoring plan has been prepared. This plan will ensure that proposed enhancement plantings will be maintained, monitored, and successfully established within the first five years following implementation. Overall, a net gain in on-site critical area functions and values is the expected result of the implemented project.

REFERENCES

Jamie Hanson (FWS). April 2017. Personal email communication.

- US Department of Agriculture (USDA). Accessed May 2016. Natural Resources Conservation Service: Web Soil Survey. Website: <u>http://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm</u>.
- US Fish and Wildlife Service (FWS). May 2007. National Bald Eagle Management Guidelines. Available online: <u>https://www.fws.gov/southdakotafieldoffice/NationalBaldEagleManagementGuidelines.</u> <u>pdf.</u>
- Washington Department of Fish and Wildlife (WDFW). Accessed May 2016. Priority Habitats and Species (PHS): PHS on the Web. Website: <u>http://wdfw.wa.gov/mapping/phs/</u>.

APPENDIX A

Mitigation and Restoration Plan



1. 1:1 MITIGATION FOR ENCROACHMENT INTO BUFFER ZONE.

2. LARGE WOODY DEBRIS (LWD) TO BE COLLECTED ON SITE, 12'-24'



PLANTING SCHEDULE: QTY. BOTANICAL NAME COMMON NAME BOTANICAL NAME TREES: $-\chi h$ \sum (4558 SF) THUJA PLICATA WESTERN RED CEDAR CORNUS NUTTALLI PACIFIC DOGWOOD +MAHONIA AQUIFOLIUM FRANGULA PURSHIANA CASCARA RIBES SANGUINEUM ROSA NUTKANA ACER CIRCINATUM VINE MAPLE 11 ••• CORYLUS CORNUTA

MATERIALS LEGEND:

ASPHALT

CRUSHED ROCK

VEHICULAR PAVING

CAST IN PLACE CONCRETE - TYPE II NON-VEHICULAR PAVING

CAST IN PLACE CONCRETE - TYPE I

0

PRECAST CONCRETE PAVERS, 1' X 6'

LARGE WOODY DEBRIS (LWD)

WEATHERED GRANITE BOULDERS

PATH LIGHT

BUFFER ENHANCEMENT FOR UNAVOIDABLE BUFFER IMPACTS

MITIGATION PLANTING FOR REDUCED BUFFER

FOREST UNDERSTORY:

SHRUBS: (550) 1 GALLON AT 5' O.C. EQUAL NUMBERS

GAULTHERIA SHALLON VACCINIUM OVATUM SYMPHORICARPOS ALBUS RUBUS PARVIFLORUS OEMLERIA CERASIFORMIS

OREGON GRAPE SALAL EVERGREEN HUCKLEBERRY SNOWBERRY THIMBLEBERRY RED FLOWERING CURRANT NOOTKA ROSE INDIAN PLUM BEAKED HAZLENUT

COMMON NAME

BOTANICAL NAME

COMMON NAME

GROUNDCOVER: (3350) 1 GALLON AT 24" O.C. EQUAL NUMBERS

OXALIS OREGANA POLYSTICHUM MUNITUM ASARUM CAUDATUM ACHLYS TRIPHYLLA CORNUS CANADENSIS TIARELLA TRIFOLIATA

REDWOOD SORREL WESTERN SWORD FERN WILD GINGER VANILLA LEAF BUNCHBERRY FOAMFLOWER

PERENNIALS (FIELD LOCATE W/ LANDSCAPE ARCHITECT): (500) 1 GALLON AT 18" O.C. EQUAL NUMBERS

VANCOUVERIA HEXANDRA AQUILEGIA FORMOSA DICENTRA FORMOSA ERYTHRONIUM REVOLUTUM LUZULA PARVIFLORA

INSIDE-OUT FLOWER WESTERN COLUMBINE BLEEDING HEART TROUT LILY WOOD RUSH

GRASSES (FIELD LOCATE W/ LANDSCAPE ARCHITECT): (1000)PLUGS AT 12" O.C. EQUAL NUMBERS

DESCHAMPSIA CESPITOSA FESTUCA ROEMERI

PACIFIC HAIRGRASS ROEMER'S FESCUE

WATERCOURSE

WETLAND BOUNDARY

REDUCED BUFFER

50' STANDARD BUFFER (PER SURVEY)

Z20 X20 – MITIGATION PLANTING 25' STREAM BUFFER AREA E. MERCER BLVD.

BUFFER ENCROACHMENT AREA (2722 SF)



WA Mer Way, Ž ш 7615



dence

S

Re

Cheshire

CONSTRUCTION **DOCUMENTS/PERMIT**

05.24.2017 REVISIONS: \triangle

04.21.2017

drawn/checked: JM/JH

MITIGATION PLANTING

Exhibit 3





SCALE: 1/16"=1'-0"

MITIGATION AND RESTORATION PLAN

Summary

A comprehensive five-year maintenance and monitoring plan is included as part of the buffer enhancement. The plan details methods of invasive species removal, specifies appropriate species for planting and planting techniques, describes proper maintenance activities, and sets forth performance standards to be met yearly during monitoring. This will ensure that restoration plantings will be maintained, monitored, and successfully established within the first five years following implementation.

Proposed restoration begins with removing invasive weeds such as Himalayan blackberry, English ivy, and English laurel. Weed removal will be followed by installation of native tree, shrub, and groundcover species suitable to the site. Four native tree species are proposed including western red cedar, Pacific dogwood, cascara, and vine maple. Six native shrub species are proposed and include Oregon grape, evergreen huckleberry, snowberry, thimbleberry, Indian plum, and beaked hazelnut. Six native groundcover species are proposed and include redwood sorrel, western sword fern, wild ginger, vanilla leaf, bunchberry, and foamflower. The plan calls for new plantings within the reduced buffers of on-site critical areas. Native plantings are intended to increase native plant cover, improve native species diversity, increase vegetative structure, and provide food and other habitat resources for wildlife.

Goals

1. Enhance wetland and watercourse buffers.

- a. Remove and control all invasive woody species in the restoration areas including but not limited to Himalayan blackberry, English ivy, and English laurel
- b. Establish dense and diverse native tree, shrub and groundcover vegetation throughout the mitigation areas.

Performance Standards

The standards listed below will be used to judge the success of the plan over time. If the standards are met at the end of the five-year monitoring period, the City shall issue release of the performance bond.

- 1. Survival:
 - a. 100% survival of all trees and shrubs at the end of Year One. This standard may be met through establishment of installed plants or by replanting as necessary to achieve the required numbers.
 - b. 80% survival of all trees and shrubs at the end of Year Two. This standard may be met through establishment of installed plants or by replanting as necessary to achieve the required numbers.
 - i. Survival beyond Year Two is difficult to track. Therefore, a diversity standard is proposed in place of survival (see #3, below).
- Native vegetation cover in planted areas:
 - a. Achieve at least 60% cover of native plants by the end of Year 3. Volunteer species may count towards this standard. Total native plant cover must include a minimum of 40% tree and shrub cover.
 - b. Achieve at least 80% cover of native plants by the end of Year 5. Volunteer species may count towards this standard. Total native plant cover must include a minimum of 60% tree and shrub cover.
- 3. Species diversity in planted areas:
 - a. Establish at least two native tree species, four native shrub species and three native perennial or groundcover species throughout the buffer area by Year 5. Volunteer species may count towards this standard.
- 4. Invasive species standard: No more than 10% cover of invasive species in the planting area, in any monitoring year. Invasive species are defined as any Class A, B, or C noxious weeds as listed by the King County Noxious Weed Control Board.

Monitoring Methods

This monitoring program is designed to track the success of the mitigation site over time by measuring the degree to which the performance standards listed above are being met. An as-built plan will be prepared within 30 days of substantially complete construction of the mitigation areas. The as-built plan will document conformance with these plans and will disclose any substitutions or other non-critical departures. The asbuilt plan will establish baseline plant installation quantities, photopoints, and three 50foot monitoring transects that will be used throughout the monitoring period to measure the performance standards.

Monitoring will occur twice annually for five years. The first monitoring visit will take place in the spring. This visit will record necessary weeding, invasive control, and other maintenance needs. The restoration specialist will then notify the owner and/or maintenance crews of necessary early season maintenance. The late-season visit will occur in late summer or fall and will record the following and be submitted in an annual report to the City:

- 1. General summary of the spring visit.
- 2. First- and second-year counts of surviving and dead/dying plants by species in the planting areas.
- 3. Estimates of native species cover using the line-intercept method along the monitoring transects.
- 4. Estimates of invasive species cover using the line-intercept method along the monitoring transects.
- 5. Counts of established native species to determine species richness.
- Photographic documentation at permanent photopoints.
- 7. Intrusions into the planting areas, erosion, vandalism, trash, and other actions detrimental to the overall health of the mitigation areas.
- 8. Recommendations for maintenance in the mitigation areas.
- 9. Recommendations for replacement of all dead or dying plant material with same or like species and number as on the approved plan.

Construction Notes and Specifications

Specifications for items in **bold** can be found under "Material Specifications and Definitions."

General Notes

The restoration specialist will oversee the following:

- 1. Invasive weed clearing; and
- 2. Plant material inspection.
- a) Plant delivery inspection.
- b) 50% plant installation/layout inspection.
- c) 100% plant installation inspection.

Work Sequence

- 1. Clear the planting area of all invasive woody vegetation including but not limited to Himalayan blackberry, English ivy, and English laurel.
- 2. Manually or mechanically remove all invasive woody vegetation roots. Cut ivy growing on trees at approximately eye-level and remove roots from the soil. Rake out remaining roots to the maximum extent practical.
- 3. Remove gravel pad surrounding the play structure, and loosen all compacted soils in the area. Rototill three inches of **compost** into the upper nine inches of the soil where decompaction is necessary.
- 4. All plant installation will take place during the dormant season (October 15 to March
- 5. Layout vegetation to be installed per the planting plan and plant schedule.
- 6. Prepare a planting pit for each plant and install per the planting details.
- 7. Mulch each tree, shrub and fern with a circular wood chip mulch ring, 4 inches thick and extending 9 inches from the base of the plant (18-inch diameter).
- 8. Install a temporary or permanent irrigation system as needed to insure that all plants receive at least one inch of water per week from June 1st – September 30th. Maintain irrigation system in working condition for at least two summers after initial plant installation.

Maintenance

This site will be maintained for five years following completion of the plant installation. Specifications in **bold** can be found under "Material Specifications and Definitions,"

- Replace each plant found dead in the summer monitoring visit during the upcoming fall dormant season (October 15to March 1).
- 2. Follow the recommendations noted in the spring monitoring site visit.
- 3. Invasive species maintenance plan:
- a) Himalayan blackberry, English ivy, English laurel, and other invasive woody vegetation will be grubbed out by hand on an ongoing basis, with care taken to grub out roots except where such work will jeopardize the roots of installed or volunteer native plants.
- b) If it is likely that hand removal will not be completely effective or will damage desirable species, then application of an herbicide approved for use in aquatic areas may be used. Herbicide applications must be conducted only by a statelicensed applicator. Applications should be done between mid-spring and midsummer to maximize uptake by plants. Application should be a targeted method such as spot spray (preferred for Himalayan blackberry), or wick.
- 4. At least twice yearly, remove by hand all competing weeds and weed roots from beneath each installed plant and any desirable volunteer vegetation to a distance of 18 inches from the main plant stem. Weeding should occur as needed during the spring and summer. Frequent weeding will result in lower mortality and lower plant replacement costs.
- 5. Do not weed the area near the plant bases with string trimmer (weed whacker). Native plants are easily damaged or killed, and weeds easily recover after trimming.

- (by June 1) of Years 2 through 5.

Material Specifications and Definitions

- materials.
- and **not** in the first year.
- reliable alternative.

6. Apply slow release granular fertilizer to each installed plant annually in the spring

7. Mulch the weeded areas beneath each plant with wood chip mulch as necessary to maintain a minimum 4-inch-thick, 18-inch-diameter mulch ring.

8. The temporary irrigation system will be operated to ensure that plants receive a minimum of one inch of water per week from June 1 through September 30 for the first two years following installation. Irrigation beyond the second year may be needed based on site performance or significant replanting.

1. Compost: Cedar Grove Compost or equivalent product. 100% vegetable compost with no appreciable quantities of sand, gravel, sawdust, or other non-organic

2. Fertilizer: Slow release, granular phosphorous-free fertilizer. Follow manufacturer's instructions for application. Keep fertilizer in a weather-tight container while on site. Note that fertilizer is to be applied only in Years 2 through 5

3. Restoration specialist: The Watershed Company [(425) 822-5242] personnel or other person qualified to evaluate environmental restoration projects.

4. Wood chip mulch: Chipped woody material approximately 1 inch minimum to 3 inches in maximum dimension (not sawdust or coarse hog fuel). Mulch shall not contain appreciable quantities of garbage, plastic, metal, soil, and dimensional lumber or construction/ demolition debris. Pacific Topsoil sells suitable woodchip mulch called "Wood Chip Mulch" at many of their locations. Pacific Topsoil: (800) 884-7645. Note: Arborist woodchips generally contain weed seeds and are not a



MA d, Way, ш S 761



dence

S

Re

CONSTRUCTION **DOCUMENTS/PERMIT**

05.03.2017

REVISIONS: Δ

04.21.2017

DRAWN/CHECKED: JM/JH

MITIGATION PLANTING NOTES



Exhibit 3



memorandum

date	July 17, 2017
to	Robin Proebsting, Senior Planner
from	Jessica Redman, Ecologist, ESA
subject	Cheshire Residence: Proposed Wetland and Watercourse Buffer Reduction, Revised (CA016-003) – Environmental Review

Environmental Science Associates (ESA) has prepared this revised memorandum on behalf of the City of Mercer Island (City). The purpose of the revised memo is to verify the accuracy of the findings within the revised critical area study submitted with the application for CAO16-003 and to confirm whether the proposed mitigation measures adequately mitigate proposed impacts and achieve the standard of no net loss of ecological function. The site is located at 7615 E. Mercer Way within the City of Mercer Island, Washington (Parcel #302405-9036). Proposed development of the site includes an addition to the existing single-family residence and construction of a detached accessory dwelling unit (ADU). In addition, the existing gravel driveway will be expanded to approximately 20 feet in width and upgraded to asphalt as required by the City's fire code. The site contains two critical areas; one Category III wetland and one Type II stream (watercourse). According to Mercer Island City Code (MICC) both of these critical areas require a 50-foot standard buffer. The project proposes to reduce the standard 50-foot buffer to 25 feet and implement buffer enhancement.

Construction of the ADU and expansion of the driveway will result in an increase in impervious surface and therefore, an increase in surface water flows. Additional stormwater improvements have been proposed that will direct the majority of water off the driveway to flow into the existing stormwater system. However, an increase in impervious surface, removal of vegetation, and minor grading will still result in some buffer impact. Generally, the project proposes to mitigate for these impacts using the following options as provided by the MICC; installation of a bioswale; removal of noxious weeds; enhancing buffer habitat with woody debris installations; and replanting with native vegetation. The mitigation plan includes a five-year monitoring plan for plant installations. The buffer will further be enhanced by the removal of existing buffer intrusions (i.e., a playset in the back yard).

ESA previously reviewed an earlier version of the project's critical areas study and proposed mitigation plan (*Cheshire Residence: Wetland and Watercourse Buffer Reduction*, The Watershed Company, May 2017). Results of this previous review were submitted to the City in a technical memorandum dated January 12, 2016 which included several concerns and recommendations regarding the implications of City environmental regulations on the proposed development. The applicant then submitted a revised Critical Areas Study (*Cheshire Residence: Wetland and Watercourse Buffer Reduction, Revised*, The Watershed Company, May 2017) to address our various concerns of the proposed project achieving the City's requirement of no net loss of ecological functions. The revised Critical Areas Study (hereinafter referred to as the Revised Study) and the accompanying Revised Mitigation Planting Plan (Berger, May 24, 2017) are the focus of this review. The original concerns and

recommendations presented in ESAs 2016 memo followed by how the Revised Study addresses them, are presented below.

Installation of Bioswale

Concern – The Study reports that the bioswale, in addition to plantings, will ensure that no loss of hydrologic buffer functions occur if the buffer is reduced. However, no bioswale plans or details are provided with the submittal to ensure design is appropriate and will aid in improving the hydrologic and water quality functions of the reduced buffer.

Recommendation – A stormwater study should be submitted by a licensed stormwater engineer to ensure the bioswale dimensions are adequate for the expected rate of infiltration post-construction.

Revised Study – Comment addressed. It is unknown if a stormwater study was submitted by a licensed stormwater engineer. However, the Revised Study provides sufficient details on the bioswale design. Based on our review of the Revised Study and the Mitigation Planting Plan, impacts to hydrologic and water quality functions are not anticipated.

Use of Pervious Surfaces

Concern – The Study states that as an impact minimization measure the proposed development will use pervious materials for portions of the new driveway. Though the MICC supports the use of pervious surface, it is unclear where these materials will be placed. Currently, the *Grading and Drainage* figure (Sheet C2.0) only shows locations of asphalt and gravel surfacing. The location of pervious surfaces will provide rationale to support the argument that they are providing a functional lift post-construction.

Recommendation – It is recommended that a figure is provided that shows where pervious material will be installed as opposed to impervious surfaces. It also worthy to note that according to MICC 19.16.010, any area used for vehicular use, whether constructed of gravel or asphalt, is considered an impervious surface. We recommend that if pervious surface is being used as a mitigation strategy, it covers as much as the paved portion of the reduce buffer as possible.

It is also recommended that the applicant submit a pervious pavement maintenance plan or strategy. Vegetation debris and sediment frequently collect in permeable pavement and render them much less permeable. Debris and sediment collection are often worse in areas that are covered by a vegetative canopy such as the project site. Regular inspection and maintenance is necessary to ensure the surface is infiltrating properly and support a no net loss of buffer water quality and hydrologic function.

Revised Study – Comment addressed. The proposed development is no longer considering the use of permeable pavement as a mitigation strategy.

<u>Tree Removal</u>

Concern – The *Tree Protection Plan* shows 22 trees as being removed from the reduced 25' wetland buffer and 4 from the wetland itself. According to the *Mitigation Planting Plan*, tree plantings are provided at a 1:1 ratio. According to MICC 19.10.060 – *Tree Replacement*, the city arborist shall apply a replacement ratio based on a sliding scale of 0:1 up to 4:1. Trees are frequently replanted at a higher ratio in mitigation sites to offset the temporal lag in functions and canopy cover while the tree is maturing.

Recommendation – It is recommended that the applicant discuss the 1:1 replacement ratio with the City's arborist to ensure that it is adequate to ensure a no net loss of hydrologic, water quality, and habitat function. Also,

according to the Arborist's Report, two trees being removed from the wetland (#47 and 48) are of low risk. It is recommended that impacts to trees in the wetland be avoided to the extent possible.

Also, please clarify the tree survey in the arborist's report. It appears that the trees slated for removal on the *Proposed Tree Removal* figure are inconsistent with, and occur at much higher numbers than, those on the *Tree Protection Plan* provided by Berger Partnership. It is also recommended the wetland, stream, and buffers are included on the figures in the arborist report so impacts are accurately calculated.

Revised Study – Comment not addressed. It is unknown if the applicant has discussed the tree replacement ratio with the City's arborist. It is also unknown if wetland and stream buffers have been added to the figures in the arborist report. Updates to the Proposed Tree Removal figure or the Tree Protection Plan were not included in this review.

Proximity of Project to a Documented Bald Eagle Nest

Concern – The proposed project is located within 660 feet of a documented bald eagle nest.

Recommendation – It is recommended that construction and tree removal occur outside of the nesting season (January 1 to August 31) to the extent possible and the applicant follow the recommendations in the *National Bald Eagle Management Guidelines* (USFWS, May 2007).

Revised Study – Comment addressed. According to the Revised Study, the applicant has discussed the proposed development with USFWS staff, who determined that additional permits are not required based on the location of the nest and timing of construction.

<u>Buffer Enhancement</u>

Concern – The Report states that 12,474 square feet of buffer enhancement will occur for buffer impacts in the form of vegetation removal, minor grading, and an increase in impervious surfaces. It does not state however, what the total square footage of buffer impact is anticipated to be.

Recommendation – It is recommended that the Report include a table or figure that will quantify the area of each type of impact as well as the area of each type of mitigation proposed for each impact. Comparing the ratio of anticipated impacts to proposed mitigation could provide a quantitative analysis of no net loss.

Revised Study – Comment addressed. A table showing quantifying the areas of impacts and mitigation has been included in Section 4.1 of the Revised Study. The entire area of reduced buffer (12,267 square feet (SF)) will be planted. In addition, a total of 2,722 SF of impact will occur to reduced buffer, which will be offset by 4,558 SF buffer enhancement or a 1:1.6 ratio.

Concern – The project proposes the removal of the existing playset and compact gravel from the reduced buffer as a way to provide mitigation. Based on the site visit and review of the mitigation plans, it is not apparent that the playset is located in the reduced buffer area.

Recommendation – It is recommended the submittal plans be updated with the location of the playset and existing gravel pad so buffer impacts to mitigation ratio can be calculated.

Revised Study – Comment addressed. The Revised Study explains that the existing playset covers 72 square feet of the reduced buffer area. The Mitigation Planting Plan has also been revised to show the location of the playset.

Concern – The project proposes the installation of woody debris in portions of the site to mitigate for a loss of buffer habitat function. According to the Mitigation Planting Plan, there are two types of woody debris being installed. It appears larger pieces are being installed in the reduced stream buffer, downstream of the driveway; smaller pieces are being installed upstream. Several small pieces also appear to be proposed over the driveway. There is no placement proposed on the western side of the mitigation area within the wetland buffer. Placement of habitat structures within the buffers of critical areas is not a mitigation option under MICC 19.07.070.2.b. Though woody debris provides habitat for several small species of animals, and therefore, provides a functional lift to the buffer, the number of pieces proposed (+200) seems excessive for the size of the mitigation area.

Recommendation – It is recommended the Report be revised to provide a rationale on the location, types, and amount of proposed woody debris installations. It is also recommended that the legend of the Mitigation Planting plan is updated to include the different types of woody debris proposed. The mitigation and Planting Plan Notes should also be updated to include installation methods of these features.

Revised Study – Comment addressed. Confusion on the types of woody debris has been rectified. The revised Mitigation Planting Plan shows that only large pieces of woody debris are being installed onsite. What was previously interpreted as smaller pieces of wood are actually precast concrete pavers that are being installed near the proposed driveway. The Revised Study also includes rationale on the location of the wood installations and explains that generally, installations will occur where trees are being removed, primarily in the stream buffer.

Conclusions

Based upon the arborist's report stating low risk for these trees, we recommend retention of trees within the wetland unless they are deemed hazard trees under the MICC. In addition, the low tree replacement ratio has not been resolved. Other than the tree retention and replacement issue, we believe the Revised Study meets the environmental requirements of the MICC and will result in no net less to wetland and buffer functions. The applicant should address these issues in a revised tree plan, including discussion of the tree replacement with the City's arborist to ensure that a 1:1 replacement ratio is adequate to ensure a no net loss of hydrologic, water quality, and habitat function.

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

Robin Proebsting

From: Sent: To: Cc: Subject: Kevin Nelson <NelsonKevinS@hotmail.com> Monday, November 14, 2016 2:36 PM Robin Proebsting Kevin Nelson Re: Cheshire Accessory Dwelling Unit proposal information

Robin,

Thanks for taking the time to help me this afternoon. I really appreciate the effort you made to explain the application and process to me. Please include me in the 'parties of record' in order to receive information about the decisioning process and right of appeal.

Regards,

Kevin S Nelson Mobile 214.769.0086 NelsonKevinS@hotmail.com

From: Robin Proebsting <robin.proebsting@mercergov.org>
Sent: Monday, November 14, 2016 9:51 AM
To: nelsonkevins@hotmail.com
Subject: Cheshire Accessory Dwelling Unit proposal information

Hi Kevin,

It was good to speak with you this morning! Attached is a site plan and floor plan for the proposed ADU on the Cheshire property, showing the proposed location of the structure, as well as topography and proximity to streets.

I hope this helps. Please don't hesitate to be in touch if any further questions come up on this project!

Best regards, Robin

Robin Proebsting, Senior Planner City of Mercer Island Development Services Group 9611 SE 36th Street, Mercer Island, WA 98040

Direct: 206-275-7717 robin.proebsting@mercergov.org