FINAL

ENVIRONMENTAL PEER REVIEW REPORT

East Lake Sammamish Trail Segment B

Prepared for:

Lindsey Ozbolt, David Pyle
City of Sammamish
Department of Community Development
801 – 228th Avenue SE
Sammamish, WA 98075

Prepared by:

THE WATERSHED COMPANY

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

March 22, 2017

The Watershed Company Reference Number:
161005.5

Cite this document as:
The Watershed Company. March 2017. East Lake Sammamish Trail Segment B – Environmental Peer Review.

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

ENVIRONMENTAL PEER REVIEW REPORT

EAST LAKE SAMMAMISH TRAIL SEGMENT B

1 EXECUTIVE SUMMARY

The Watershed Company conducted an environmental peer review of King County's East Lake Sammamish Trail Segment B project to inform City planning staff as they process the County's permit application. Some documentation gaps and discrepancies in the submitted reports were identified in our review. A few discrepancies in critical area boundaries and classifications were also identified.

The main elements to be addressed are project concurrence with the FEIS conclusions, critical area designation discrepancies, and compliance with the City's Critical Areas Ordinance and shoreline regulations -in place at the time of adoption of the 2011 SMP O2011-308. Specific recommendations are provided in Section 5 of this report.

The information contained in this letter or report is based on the application of technical guidelines currently accepted as the best available science. All discussions, conclusions and recommendations reflect the best professional judgment of the author(s) and are based upon information available to us at the time the study was conducted. All work was completed within the constraints of budget, scope, and timing.

2 PROJECT OVERVIEW

The Watershed Company was contracted by the City of Sammamish Department of Community Development to conduct an environmental peer review of the King County East Lake Sammamish Trail Segment B shoreline substantial development permit application. This review scope is limited to stream, wetland, and wildlife habitat critical areas within the 3.5 mile length of Trail Segment B (see Figure 1). The provided reports were reviewed for completeness and accuracy. Proposed impacts and mitigation were reviewed for consistency with the Final Environmental Impact Statement (FEIS) conclusions and compliance with the City's critical area and shoreline regulations. The FEIS was issued in 2010 and the project is vested to the City's Critical Areas Ordinance and shoreline regulations in place at the time of adoption of the 2011 SMP O2011-308, which are the most recent regulations at the time the project was deemed

complete by the City of Sammamish. The Critical Areas Study was updated and issued in 2016.

King County's Segment B of the East Lake Sammamish Trail project proposes to convert the existing eight to ten-foot wide interim trail (former railroad bed) to a paved 12-foot wide trail with two-foot shoulders and one-foot clear zones, for a total width of 18-ft. The proposed trail improvements will incur permanent and temporary impacts to wetlands, streams, associated buffers, and shoreline setbacks. On-site mitigation is proposed to compensate for critical area impacts. Additionally, the project will replace eight existing culverts on six Type F streams with box culverts to comply with State and Federal requirements to provide adequate fish passage. Per King County, Trail Segment B is scheduled for construction in 2018.

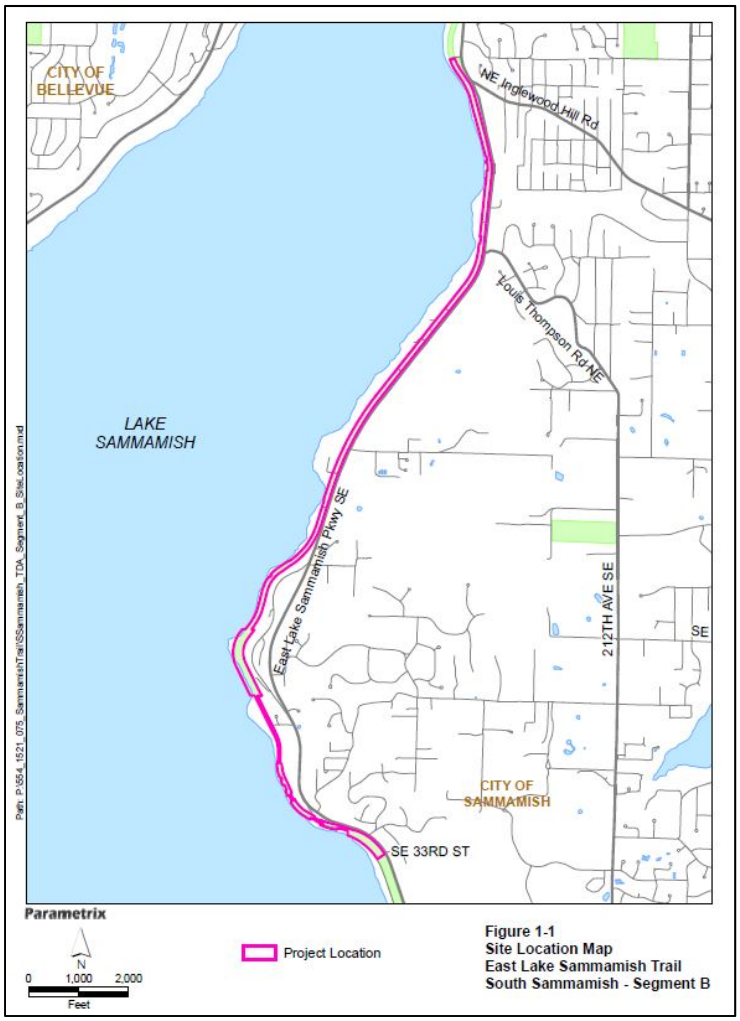

Figure 1. Excerpt from the submitted Critical Areas Study (Parametrix 2016). Trail Segment B (project location) extends from SE 33rd Street north to Kokomo Drive, approximately 3.5 miles in length.

Exhibit 42
SSDP2016-00415
005390

3 METHODS

3.1 Reports Reviewed

The following reports were submitted by the applicant for this review.

- *Critical Areas Study, East Lake Sammamish Master Plan Trail, South Sammamish Segment B.* (Parametrix October 2016)
- *East Lake Sammamish Master Plan Trail, South Sammamish Segment B, SE 33rd Street to Inglewood Hill Road, King County, Washington. Plan Set - Preliminary 60% Review Submittal, Not for Construction. 135 Sheets.* (60% ELST Plan Set)(Parametrix, September 2016)
- *NEPA/SEPA Final Environmental Impact Statement Volumes I, II and III, East Lake Sammamish Master Plan Trail.* (Parametrix, Environ Corp., Paragon Research Associates, ESA Adolfson, HWA GeoSciences, Inc. April 2010)

3.2 Wetlands

Ecologists from The Watershed Company walked the interim trail on several dates in February 2017 to review marked boundaries and wetland classifications reported by Parametrix. Privately used portions of the study area were reviewed to the extent feasible from the interim trail or through on-site investigation in cases where access permission was granted by property owners along the trail.

The study area was evaluated for wetlands using methodology from the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region Version 2.0* (Regional Supplement) (US Army Corps of Engineers [Corps] May 2010). Wetland boundaries were reviewed on the basis of an examination of vegetation, soils, and hydrology, as feasible given access restrictions. Areas exhibiting wetland characteristics, and documented as meeting the criteria set forth in the Regional Supplement were determined to be wetland.

The field review was conducted in February 2017 during a period of near-record high precipitation. Due to the fieldwork timing, some of the inundation observed was characterized as occasional and may not be indicative of wetland hydrology.

Identified wetlands within the study area were classified using the *Washington State Wetland Rating System for Western Washington, Version 2* (Publication #04-06-025) (Rating System). Wetland rating reviews are based on the wetland area that could be visually observed in the field along with reviews of aerial imagery.

3.3 Streams

Mapped streams were reviewed by Ecologists and a Senior Fisheries Biologist from The Watershed Company on multiple dates in February 2017.

The ordinary high water mark (OHWM) of surveyed streams were reviewed based on the definitions provided in City code (SMC 21A.15.825), the Washington Department of Fish and Wildlife, and Washington Administrative Code (WAC) 20-16-031 and Revised Code of Washington (RCW) 90.58.030. The OHWM is located by examining the bed and bank physical characteristics and vegetation to ascertain the water elevation for mean annual floods. Areas meeting the definition were determined to be the OHWM. Field observations were used to review provided stream classifications according to City of Sammamish Code.

3.4 Wildlife Habitat

Publicly available sensitive areas and habitat documentation for the study area were reviewed for this report. Sources include aerial photographs and publicly-available online data including Priority Habitat and Species (PHS) data from WDFW.

Staff Ecologists and a Wildlife Biologist screened the study area on multiple dates in February 2017. Vegetative structure and composition, special habitat features, presence of wildlife species and sign, and human disturbance were assessed.

4 FINDINGS

4.1 Existing Conditions

The provided Critical Areas Study (CAS) (Parametrix 2016) is a generally accurate portrayal of existing conditions within the project area. 37 wetlands and 18 streams were identified in the vicinity of Trail Segment B. A summary of field observations that warrant further review by the applicant is provided in Table 1 below. Field observations are organized by station number.

Table 1. Field observations that warrant further review by the applicant and recommendations.

Feature	Approximate Station	Field observations that differ from reported conditions
Potential wetland, not mapped*	291	Wet area at toe of slope under western red cedar, shallow sheet flow observed in private park to west on 2/17/17, above average precipitation. **Recommendation: Review and, if necessary delineate, flag and classify the area meeting wetland parameters.**
Stream 5	317	Stream 5 flows observed entering site via culvert near Station 324, north of extent mapped by Parametrix. Scour and sediment sorting in ditch. **Recommendation: Review and update Stream 5 mapping.**
Jurisdictional Ditch 11A	319-321	Observed flow direction differs from map (sheets EX5, EX6), flow splits directions near Station 324, waddle present. **Recommendation: Review and relabel Jurisdictional Ditch 11A relative to extent of Stream 5. Correct flow direction arrows on EX sheets.**
Wetland 15D	321-325	Mapped wetland overlaps with observed extent of Stream 5; wetland confined to ditch. **Recommendation: Review Wetland 15D relative to jurisdictional ditch criteria; update extent relative to Stream 5 comments above. Update maps accordingly.**
Wetland 15E	312-325	Wetland confined to ditch with no indications ditch was cut in historic feature. **Recommendation: Review Wetland 15E relative to jurisdictional ditch criteria; update maps accordingly.**
Wetland 18C	331	Inundation observed between Stations 329 and 333 -beyond and continuous with the surveyed wetland area. No access to neighboring properties. **Recommendation: Screen properties north and south of Wetland 18C within the project area for wetland conditions. Provide additional data, update maps accordingly.**
Wetland 21D	359-358	Steady flow observed in open pipe that empties to ditch, scour and sediment sorting observed in ditch (within Wetland 21D) parallel to trail. **Recommendation: Review ditched portion of Wetland 21D for stream characteristics.**
Wetland 22AB	361-367	Southern end of flagged Wetland 22B confined to ditch. **Recommendation: Review and update the boundary of Wetland 22B to distinguish jurisdictional ditch from wetland area.**
Wetland 22CD	368-370	South end of wetland confined to ditch. **Recommendation: Review and update the boundary of Wetland 22CD to distinguish jurisdictional ditch from wetland area.**

Feature	Approximate Station	Field observations that differ from reported conditions
Wetland 22E	365-366	Wetland conditions confined to ditch; however, likely historic wetland given proximity to Wetland 22AB. **Recommendations: Review and document jurisdictional ditch analysis.**
Wetland 24C	386-390	North end of wetland confined to ditch. **Recommendation: Review and update the boundary of Wetland 24C to distinguish jurisdictional ditch from wetland area.**
Potential wetland, not mapped*	409	Shallow inundation observed in lawn area, adjacent to southeast corner of parcel 3225069265. **Recommendation: Screen area, record a data point, update mapping as warranted.**
Jurisdictional ditch, not mapped*	438-439	Culvert on south side of driveway #22 drains to a ditch with wetland characteristics (see DP-1), drains to Jurisdictional Ditch 17. **Recommendation: Review ditch, update mapping accordingly.**
Wetland 28A	449-450	North end of wetland mapped within ditch, gravel/soil mix observed in that area. **Recommendations: Check north end of wetland delineation relative to King County ditch maintenance activities. Update documentation accordingly.**
Wetland 28D	453	Wetland confined to ditch. **Recommendation: Review Wetland 28D relative to jurisdictional ditch criteria; update maps accordingly.**

* Feature not mapped or addressed in the submitted CAR.

4.1.1 Critical Area Designations

Wetlands

Wetland Boundaries

Wetland boundaries were marked by Parametrix in most locations with orange survey flags and match observed wetland conditions. Inundation observed at three locations may be indicative of wetland area not captured by the wetland delineation survey. Potential wetlands areas were observed near Stations 291, 331 (Wetland 18C), and 409; these areas are described in Table X above.

The report does not include a discussion outlining the methodology used to differentiate between jurisdictional ditches versus jurisdictional wetlands. In some cases, jurisdictional ditches are indistinguishable from delineated wetlands. Wetlands 15D, 15E, and 28D are confined exclusively to excavated ditches with no indication of historic wetland conditions. Additionally, the delineated boundary of some wetlands, such as Wetlands 22AB, 22CD and 24C, include ditched areas that are not continuous with broader wetland area. A rationale for

the reported and mapped determinations, wetland or jurisdictional ditch, should be provided for consistent and accurate application of regulations.

As depicted on the existing conditions plan set, several wetland boundaries include constructed stairs. The stair areas do not meet wetland criteria and should be excluded from the wetland areas on the drawings and in impact calculations.

Streams

We generally concur with mapped stream presence, location, and, extent in the project area. Some stream channel sections are only marginally distinguishable from stormwater conveyance channels. In general, the CAS does not provide a rationale for categorization of ditch versus stream. We have applied our best professional judgment in most of these cases, but ask that further investigation be undertaken to provide confirmation for Streams 5 and 6, as itemized immediately below.

Stream 5 is mapped as extending upstream, northward along the east side of the trail within JD Ditch 11A from a trail crossing near Station 317+00 to end near Station 318+70. However, based on our field observations, Stream 5 should be shown extending considerably farther northward, upstream along the east side of the trail to near Station 324+00. Flow in the ditch is continuous with Stream 5 along the east side of the trail to that location, where flow enters the trail corridor from the east via a 12-18-inch corrugated metal pipe (CMP) perched 3 or 4 feet up a steep bank. The east side ditch at that location (Station 324+00) is at a high point along the ditch profile, so, without intervention, water could flow either to the north or to the south. However, water has been largely prevented from flowing northward by the recent placement of an obstruction in the ditch consisting of wooden stakes, gravel, and two lifts of straw wattle, though a minor amount of seepage still does flow to the north. This diversion structure may have been placed because the ditch to the north eventually is constricted by a small-diameter pipe (less than one-foot diameter) with little flow capacity.

Water in a defined channel flows to the southwest along the east side of the trail from approx. Sta 359+00 towards the mapped Stream 6 crossing at approximately Station 357+00. However, no stream is shown as mapped along that alignment. Scour and sorting of channel substrate was observed in the channel parallel to the trail. We recommend that this area be further investigated to determine if a stream channel segment should be mapped there. If not found to be a stream, the rationale used should be provided.

Shoreline

Shoreline Setback

As detailed in the Critical Areas Study (Parametrix 2016), the OHWM of Lake Sammamish is outside of the trail corridor and was therefore, approximated. Trail Segment B passes through portions of the Shoreline Residential environment designation and this approximation shows that the majority of the trail is outside of the required 50-foot lakeshore setback. Shoreline setback impacts, which are proposed toward the south end of the project area, are calculated from this approximation.

Shoreline Regulations

The existing conditions plan (EX- sheets) and the landscape plan (LA sheets) included in the Critical Areas Study both indicate the approximate extent of the 200-foot shoreline jurisdiction line (however, this line is incorrectly labeled as a buffer). Streams and wetlands within 200-feet of the shoreline are regulated under the Shoreline Master Program (SMC Title 25), including its 'no net loss' provisions. These shoreline features are not fully addressed in the provided Critical Areas Study. See further discussion in Section 4.2.3 below.

Wildlife Habitat

Wildlife habitat and species use of the study area appears to be consistent with the Critical Areas Study and FEIS conditions reported. The bald eagle nest located east of Station 383+00 was visible and intact. No bald eagles were observed at the nest or nest tree, however adults were observed in the general vicinity of the nest on two occasions in February 2017.

Pileated woodpeckers are discussed in the FEIS and not in the Critical Areas Study; the presumption being that they do not have a known "primary association" with habitat in the study area. Three individuals were observed foraging in the northern half of the trail segment on February 20, 2017. In addition, snags in and adjacent to the study area showed evidence of use by pileated woodpeckers. WDFW recommends management within use areas (home ranges) of pileated woodpeckers. Based on field observations, we conclude that the project area should be managed for pileated woodpecker habitat. Management recommendations include snag, large woody debris, and forest patch retention.

The study area corridor provides habitat for many other resident and migratory birds protected under the Migratory Bird Treaty Act. Those protections typically include timing restrictions and noise limitations.

4.1.2 Stream & Wetland Classifications

Stream Typing

The qualitative stream assessment Parametrix applied to classify streams in the project area is appropriate for the trail project and we generally concur with the reported classifications.

The stream summary table in the Critical Areas Study (Table 3-3) confuses stream classification with fish use, which are related, but not the same. There are separate columns for stream classification and fish use; however, fish use is also given under the classification column. The entire stream classification column needs to be reviewed and revised so that it is consistent with the stream typing criteria in the Sammamish SMC.

Wetland Ratings

Parametrix used the 2004 Ecology rating system, which is acceptable in Sammamish per the Code to which this project is vested. Some scoring inconsistencies were identified in our review of the wetland rating forms. For example, the hydrologic functions multiplier was applied to some wetlands and not others despite the common landscape context. A few wetlands were under-scored given proximity to priority habitats, most commonly "riparian" and "instream." Some of the contributing basin estimates appeared to be high or inconsistent; no figures were provided with the rating forms to clarify the basin estimates. However, only five out of the 37 wetland ratings require further review to resolve substantive scoring differences. Wetland rating forms for Wetlands 18C, 22E, 25F, 26C and 28E need to be reviewed and revised as noted in the table below.

Table 2. Summary of wetland ratings that require applicant review.

Wetland Name	Parametrix wetland rating (Category)	The Watershed Co. wetland rating (Category)
18C	III	II
22E	IV	III
25F	IV	III
26C	IV	III
28E	IV	III

Additionally, Wetlands 22E and 28D are less than 1/10th of an acre in size. Since the wetland rating system was calibrated using larger wetlands, the very small wetlands discussion in the guidance (Ecology Publication 04-06-025) should be reviewed for applicability to those two wetland ratings.

4.2 Mitigation Approach

4.2.1 Avoidance

The provided Critical Areas Study details critical area impacts the proposed trail improvements will incur, and characterizes those impacts as unavoidable. A brief summary of proposed impacts is provided in Table 3 below.

Table 3. Critical Areas Impact Summary (source: Parametrix 2016).

Critical Area	Impact Type	Impact Area
Wetlands	permanent	0.22 acre
	temporary	0.59 acre
Wetland buffers	permanent	1.48 acres
	temporary	2.37 acres
Streams	net gain of 60 lineal feet	24 lineal feet
Stream buffers	permanent	0.20 acre
	temporary	0.35 acre
Shoreline setback	permanent	0.09 acre
	temporary	0.17 acre
FWHCA	temporary	not quantified*
CARA	none	n/a

* Trail within 660 feet of bald eagle nest near Pine Lake Creek, located southeast of the intersection of SE 8th Street and East Lake Sammamish Pkwy SE.

The proposed trail alignment shifts east and west of the existing interim trail to avoid critical area impacts where feasible when applying the designed 18-foot trail width. However, the proposed trail design does not consider other avoidance measures, such as alternate trail designs that incorporate boardwalks, narrowing or "necking down" the trail where it crosses the critical area. Past regional trail projects have employed those avoidance measures. Further avoidance analysis is needed to demonstrate why additional avoidance measures, such as boardwalk and narrower trail segments, are not utilized in the proposed design.

4.2.2 Minimization

The 18-foot wide trail design King County chose for Segment B is the narrowest of the options considered through their master plan and FEIS process. The proposed plan utilizes retaining walls to minimize impacts. In total, retaining walls are proposed along approximately 1.5 miles of the 3.5 mile trail segment. Fencing, both chain link and split-rail, and signage are proposed. Timing restrictions and commonly employed best management practices (BMPs) are also listed minimization measures for the project. As noted above, narrowing or "necking down' the trail where it crosses critical areas is another way to

minimize impacts to critical areas and their buffers. This potential minimization tactic is not addressed in the submitted CAR.

4.2.3 Mitigation Planning

The proposed mitigation plan is detailed in the CAR and the 60% ELST Plan Set. It is comprised of the existing conditions plan (60% ELST Plan Set, sheets EX1-EX21), critical area impacts (CAR Appendix D, Figures 1-22), and the landscape plan (CAR Appendix E, sheets LA1-LA23), andeight proposed fish passage culvert replacements (60% ELST Plan Set, sheets FP1-FP8). The critical area impacts figures hatch each impact type, with one notable exception. All wetland impacts are hatched as, 'Temp. Wetland Impact.' Permanent wetland impacts are summarized in the Critical Areas Study report (Section 4.1.1), but are not identified or labeled on the impact figures.

The proposed mitigation plan seeks to off-set all critical area impacts summarized in Table 3 above with on-site mitigation, within the linear trail corridor. Content-based comments on the proposed mitigation plan are tied to City Code requirements and FEIS findings and recommendations. Therefore, those comments are provided in the corresponding subsections below.

Review for concurrence with FEIS recommendations

The submitted Critical Areas Study does not include a section that specifically addresses FEIS recommendations, including mitigation commitments and potential additional measures.

The proposed mitigation approach presented in the Critical Areas Study does not adequately address all of the FEIS statements and conclusions. For example:

- Section 3.3.3 – Wetlands, Affected Environment of the FEIS describes wetland buffers in the project area as, "…too narrow to effectively protect the wetland from adjacent high-impacts land uses." No discussion of how the proposed mitigation, within a long linear corridor, addresses this issue is provided. For example, wetland creation area near Station 368 (Wetland 22CD) would have little or no buffer between its new boundaries and the new trail or East Lake Sammamish Parkway.
- Section 3.3.7 – Wetlands, Mitigation Measures
    - Stated strategies to avoid and minimize wetland impacts include, "evaluating options to bridge sensitive areas to reduce fill." No discussion of alternative design options, such as boardwalks, is provided.
    - Reducing trail widths is recommended to avoid and minimize critical area impacts. The proposed mitigation utilizes retaining walls in place of fill slopes to reduce impacts, but no discussion of alternate trail width designs is provided.

    - Mitigation banking is discussed in detail in the FEIS, but is not mentioned or considered in the Critical Areas Study. Specifically, the trail project is reported to be within the service area of the King County Mitigation Reserves Program (MRP), an in-lieu fee (ILF) mitigation program, with an ILF site near the headwaters of Laughing Jacobs Creek. Other MRP sites have been developed since the FEIS was issued. Listed benefits of the ILF include higher success rate, higher ecological functions relative to onsite mitigation, and landscape-scale benefits. Another banking alternative, the Keller Farm, is anticipated to be approved soon and should have a service area that covers this segment of Lake Sammamish.
- Section 3.4 – Vegetation and Wildlife, states that bald eagle nests in the project vicinity will be screened by planting native conifers between nest sites and the trail. This detail needs to be more clearly addressed in the provided Landscape Plan.

The FEIS, Appendix A: Environmental Commitments, states mitigation commitments and potential additional measures. Fisheries mitigation commitments and additional measures include mitigating for riparian buffer impacts, onsite and offsite potentially. Wetland mitigation commitments include continuing avoidance and minimization design analysis. Potential additional measures to help minimize wetland and vegetation impacts includes exploring mitigation banking options for unavoidable wetland and buffer impacts. Again, mitigation banking is not mentioned in the Critical Areas Study. Mitigation commitments for wildlife include consultation with the U.S. Fish and Wildlife Service regarding bald eagle protection measures. The Critical Areas Study references bald eagle guidelines, but does not document the required consultation. Mitigation commitments and potential additional measures for fisheries, wetlands and vegetation, and wildlife, are not clearly addressed in the Critical Areas Study.

Review for City Code Compliance

Critical Areas Ordinance

When impacts to critical areas are proposed, applicants must first demonstrate impact avoidance pursuant to SMC 21A.50.135. The trail design is presented as the narrowest option, but further analysis or supporting justifications are not provided. Impact avoidance must be demonstrated.

Mitigation plans are required to include a supporting review of best available science and an analysis of the likelihood of success (SMC 21A.50.145). In our experience, small disjointed mitigation sites are less successful than larger

connected areas because they are difficult to irrigate, weed/maintain and track during monitoring. The mitigation sequencing section of the CAS does not provide an adequate discussion of how the proposed mitigation will maintain critical area functions and values.

Mitigation for unavoidable impacts must be in-kind and in the same sub-basin pursuant to SMC 21A.50.150 and SMC 21A.50.310. SMC 21A.50.310, states that off-site mitigation may be used if it has a "greater likelihood of providing equal or improved wetland functions than the impacted wetland." The code does allow for mitigation banking pursuant to SMC 21A.50.315.

Pursuant to SMC 21A.50.290(4), enhanced or replaced wetland area is required to have an adequate buffer. Adequate buffers are not proposed for wetland creation and enhancement areas in this constrained linear corridor.

Consistent with best available science practices, as included in the wetland buffer averaging criteria, buffer addition areas should be continuous with the wetland being buffered. Some of the proposed buffer addition areas, such as those in the vicinity of Wetland 18C, are not continuous with the wetland itself.

Further documentation is necessary to demonstrate compliance with the stream mitigation standards in SMC 21A.50.350, which requires a demonstration that equivalent or greater functions be realized by the project.

Shoreline Regulations

A concept central to the City of Sammamish Shoreline Master Program (SMP) (2011) is "no net loss." The City's SMP elaborates on the concept of no net loss in SMC 25.02.010(58):

> (58) No Net Loss. The concept of "no net loss" as used herein, recognizes that any development has potential or actual, short-term or long-term impacts and that through application of appropriate development standards and employment of mitigation measures in accordance with the mitigation sequence, those impacts will be addressed in a manner necessary to assure that the end result will not diminish the shoreline resources and values as they currently exist. Where uses or development that impact ecological functions are necessary to achieve other objectives of RCW 90.58.020, master program provisions shall, to the greatest extent feasible, protect existing ecological functions and avoid new impacts to habitat and ecological functions before implementing other measures designed to achieve no net loss of ecological functions.

The Critical Areas Study acknowledges the applicability of the no net loss concept in Section 5.3.3. In this context, the CAS indicates that a 1:1 mitigation

ratio for impacts to the shoreline setback is proposed by applying enhancement at a 1:1 ratio. However, overall the CAS lacks detail concerning how the project would result in no net loss of shoreline ecological functions. The CAS should include an assessment of the impact that the project will have on existing ecological functions present within shoreline jurisdiction, as well as justification for how proposed mitigation can result in no net loss of those functions.

The above definition of no net loss states that "uses and development … shall, to the greatest extent feasible, protect existing ecological functions and avoid new impacts to habitat and ecological functions before implementing other measures designed to achieve no net loss of ecological functions." Similarly, SMC 25.06.020(1) provides the required sequencing of mitigation measures, with avoidance and minimization of impacts the first two measures in the sequence, respectively. Although the CAS generally discusses impact avoidance and minimization measures for the project as a whole in Section 5.1 (page 5-1), the document provides limited detail concerning how the project avoids and minimizes impacts on shoreline ecological functions. For example, in Section 4.3 (page 4-8), the CAS states that "some permanent and temporary impacts on the outermost portion of the 50-foot shoreline setback are unavoidable (see Appendix D)"; however, no evidence has been provided for why these impacts are unavoidable, or what specific minimization measures were employed. Absent this information, the project's compliance with SMC 25.06.020(1) cannot be verified.

Additionally, the CAS does not articulate how no net loss of shoreline ecological functions is achieved for other areas within shoreline jurisdiction, but outside of the shoreline setback, that provide shoreline ecological functions. Such areas include shoreline critical areas including streams and wetlands located outside of the shoreline setback. Such areas also include several shoreline-associated wetlands that extend beyond the typical shoreline jurisdiction of 200 feet from the OHWM. In the CAS, impacts to such shoreline areas are addressed together with critical areas of the same type located outside of shoreline jurisdiction. While the CAS identifies how impacts to streams and wetlands will be mitigated for the project as a whole, the CAS does not demonstrate how the proposed mitigation for such features located in shoreline jurisdiction would result in no net loss of shoreline ecological functions.

Culvert Replacements / Fish Passage

The eight proposed culvert replacements appear to be compliant with fish passage design requirements. One discrepancy was noted in the description of Pine Lake Creek (CAS Section 4.2.1). The proposed post-construction length of the Pine Lake Creek open channel is described in text as increasing 9-feet in length, but the footnote for summary Table 4-2 states an additional 15-feet. This discrepancy needs to be clarified or corrected.

4.2.4 Wildlife Habitat and Corridor Connections

The proposed trail improvements are located in an urban residential environment near the eastern shore of Lake Sammamish. Habitat corridor connections are truncated by the existing interim trail (former railway) in addition to numerous arterial roads, access driveways, parking, ornamental landscaping, fences, residences and other buildings, and private lakeshore amenities. Still, vegetated patches provide valued habitat for wildlife.

The proposed mitigation seeks to "increase fish and wildlife habitat and improve biological diversity by planting with a variety of native wetland and buffer plant species and installing habitat features (habitat logs and brush piles)" (Parametrix 2016). Habitat logs, brush piles, and habitat rock piles are included in the mitigation planting details (sheet LA22). However, it is not clear where these habitat features will be placed or what quantities will be installed. Additionally, snag creation is not incorporated into the landscape plan and is recommended to provide additional wildlife habitat features.

Regarding bald eagle protections, the provided landscape plan does not clearly indicate that conifers will be concentrated in the adjacent enhancement areas located near Stations 367 – 379. Additional in-fill conifer planting may also be warranted in Wetland 24A (Stations 379-385) to adequately screen the nest near SE 8th Street.

Many common local birds are federally protected under the Migratory Bird Treaty Act (MBTA) which prohibits the take of any migratory bird, nest, and/or egg without a permit. Minimization and mitigation measures, such as construction timing restrictions, to reduce impacts to migratory birds should be considered in the mitigation plan.

5 RECOMMENDATIONS

As submitted, the CAS does not address all the required criteria. The following study elements require revision to comply with City Code and align with FEIS conclusions.

5.1 Critical Area Designations & Classifications

- Review and address the field observations and associated recommendations in Table 1.
- Update the CAS to include jurisdictional ditch methodology and findings.
- Review and report on the wetland rating category discrepancies identified in Table 2.

- Review the ratings of Wetlands 22E and 28D with respect to the very small wetlands guidance (Ecology Publication 04-06-025).
- Review Stream 12 for potential typing (currently piped).
- Add pileated woodpecker to the Fish and Wildlife Habitat Conservation Areas sections of the CAS.

5.2 FEIS Review

- Update the CAS to include a summary of mitigation commitments and potential additional measures for fisheries, wetlands and vegetation, and wildlife.
- Provide a response to each mitigation commitment and potential additional measure to show how it is addressed in the proposed impacts and mitigation planning.

5.3 Mitigation Approach

- Update the CAS for consistency with FEIS conclusions.
- Update the mitigation sequencing section of the CAS with a more thorough avoidance, minimization, and compensatory mitigation analysis that is reflective of FEIS conclusions.
    - Avoidance: The submittal needs to address design strategies not covered in the CAR, specifically the use of boardwalk and narrower trail segments.
    - Minimization: Additional minimization should be considered, such as "necking-down" or narrowing trail segments.
    - Compensatory Mitigation: The submittal needs to address offsite compensatory mitigation options, such as the King County Mitigation Reserves Program, in the CAR. As concluded in the FEIS (Volume I, Section 3.3.7), mitigation banking would yield greater ecological value for this linear project. Mitigation is proposed at 21 sites along the 3.5 mile trail segment. Review and revise or support the proposed mitigation design. Include rationale for why mitigation banking or use of the King County MRP are not appropriate. Provide a detailed assessment documenting how the proposed mitigation will maintain critical area functions and values.
- Review and revise proposed buffer addition areas for consistency with City Code. Buffer addition areas must be continuous with a wetland or stream.

- Permanent wetland impacts need to be distinguished from temporary wetland impacts on the critical area impact figures plan set. Currently, this in unclear.

- Bald eagle nest protections require USFWS consultation and more detailed mitigation planning.
- The mitigation plan notes (sheet LA23) do not match the CAS report text. This must be updated accordingly.
- Performance Standard recommendations (Section 5.4.2):
    - Wetlands: 1) A plant species diversity standard for trees, shrubs, and groundcover is recommended. 2) The survival, (diversity), and cover standards should indicate whether native volunteers are counted.
    - Streams: 1) Habitat elements need to be quantified and mapped on the landscape plan or as-built to facilitate quantitative monitoring. 2) Provide an explanation for limiting performance monitoring for this standard to only three years as written.
    - Buffers/Setbacks: A plant species diversity standard for trees, shrubs, and groundcover is recommended.
    - Invasive Species: 1) Provide a justification for the proposed 20 percent invasive plant cover standard; typically a 10 percent standard is applied on most City projects. 2) Recommend making an allowance for higher cover in existing reed canarygrass monocultures as long as plant driplines are maintained.
    - Wildlife Habitat: 1) Issue a standard to ensure conifer trees are established between the trail and the bald eagle nest near SE 8th Street. 2) Set a quantifiable standard for habitat features.
- Provide a more detailed description of the contingency measures the County will implement if wetland creation and/or other proposed mitigation areas are unsuccessful.

5.4 Shoreline Regulations

- To better demonstrate consistency with the City's SMP, the CAS should include more specific information about how impacts on shoreline ecological functions are avoided and minimized.
- The CAS should articulate how no net loss of shoreline ecological functions is achieved for other areas within shoreline jurisdiction, but outside of the shoreline setback, that provide shoreline ecological functions. To assist with this, all features contributing to shoreline ecological functions in the project area should be identified. Depictions of project critical area impacts should include a line indicating the landward extent of shoreline jurisdiction. Project impacts to features that may affect shoreline ecological functions should be identified on impact maps.
- The CAS should address how the proposed mitigation for impacts to shoreline features will ensure no net loss of shoreline ecological functions.