

# TECHNICAL MEMORANDUM

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Date: October 21, 2020  
To: Subu Sankra Subramanan & Sellapriya Ramaiyah  
From: Ryan Kahlo, PWS, Senior Ecologist  
Project Name: Mercer Island Ramaiyah  
Project Number: 200832

## Subject: 7466 E. Mercer Way Critical Areas Evaluation

This memorandum describes the findings of a critical areas evaluation for the property located at 7466 E. Mercer Way (Parcel #2579500136) in the City of Mercer Island. A site inspection was conducted on September 11, 2020, to evaluate the jurisdictional status of the watercourse, which is mapped as a “piped watercourse” on the subject property by the City of Mercer Island. City GIS mapping (Mercer Island GIS Portal) also depicts an open channel, Type Np, segment of the same watercourse immediately downstream of the subject property on Parcel #3024059114. Additionally, the site was assessed for fish and wildlife habitat conservation areas, specifically related to a nearby bald eagle nest. This memorandum also includes a discussion of the regulatory implications of our findings.

### Site Inspection

During the inspection, I evaluated the on-site watercourse characteristics and visually observed areas farther upstream to the extent feasible from publicly accessible areas. I have confirmed that a piped watercourse (Watercourse A) is located on the subject property (Figure 1). While Watercourse A conveys stormwater during rain events, it also conveys natural flows and is, therefore, regulated as a watercourse under Mercer Island City Code (MICC). Upstream and downstream segments of Watercourse A were flowing at the time of the inspection, which occurred during a prolonged dry period with no measurable rainfall.

Watercourse A originates from two tributaries located in wetlands approximately 600 feet northwest of the subject property on Parcel #2579500190. Watercourse A flows southeast towards the subject property alternating open channel and piped segments before being piped beneath E. Mercer Way and the access drive serving the subject and neighboring properties. As the watercourse is conveyed beneath E. Mercer Way, the flow is combined with untreated stormwater runoff from the road. Watercourse A is then piped in a southwestern direction at the base of a steep slope immediately west of

the subject residence before continuing southeast towards the southern property boundary. Watercourse A continues as a piped watercourse towards the southeast, eventually daylighting and flowing east along the southern property line on Parcel #3024059114, where it discharges into Lake Washington approximately 150 feet southeast of the subject property. I did not observe an open channel segment immediately south of the subject property as depicted on the City GIS map; the open channel begins immediately south of the primary residence on Parcel #3024059114 (Figure 1).

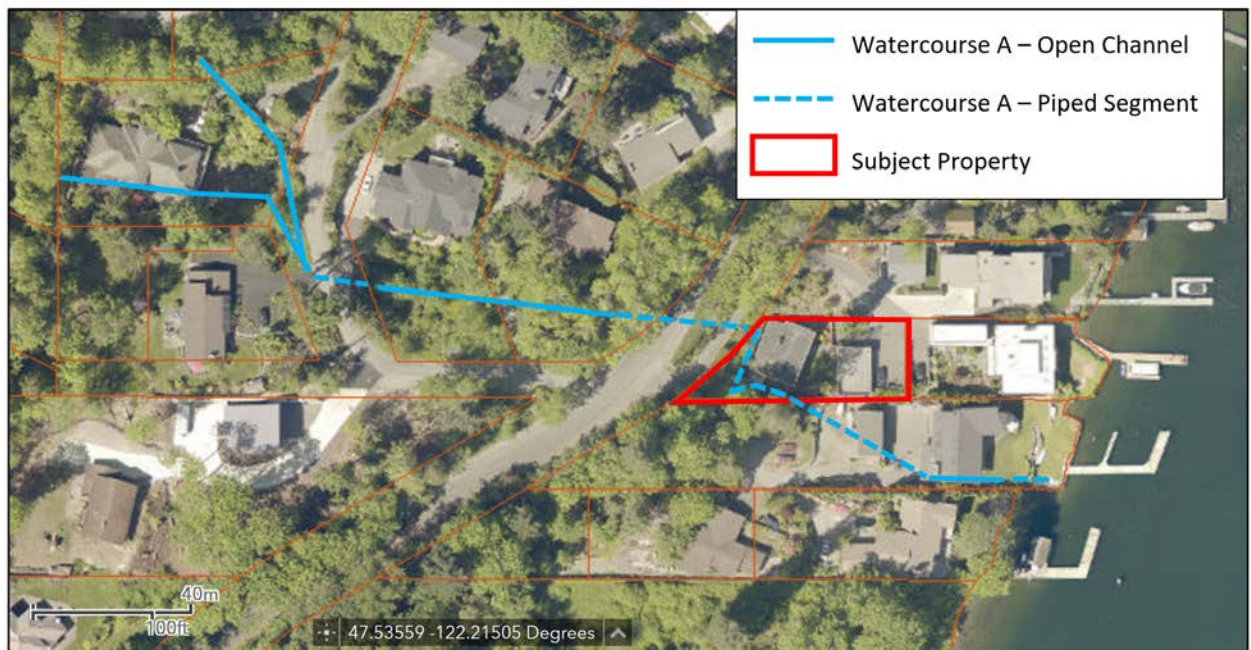


Figure 1. Approximate location of Watercourse A



Figure 2. Watercourse A on the subject property, facing southeast (9/11/20)



Figure 3. Location where open channel segment of Watercourse A is mapped south of subject property, facing southeast (10/16/20).

No wetlands or fish and wildlife habitat conservation areas were observed on-site or within the immediate vicinity. A bald eagle nest was verified in Clarke Beach Park approximately 325 feet southwest of the subject property. Bald eagle nests are classified as a fish and wildlife habitat conservation area under MICC. The nest, which is located on top of a western hemlock tree in relatively poor health, is visible from the subject property. The precise location was verified in the Park and recorded (Figure 4).



Figure 4. Bald eagle nest location relative to subject property.



Figure 5. Bald eagle nest viewed through spotting scope from subject property (10/16/20).

## Regulations

Per MICC 19.07.180.C.6.b, piped watercourses require a 45-foot setback. Per MICC 19.07.180.C.6.c, piped watercourses setback widths shall be reduced to a 15-foot buffer when the portion of the piped watercourse on the applicant's property is daylighted and where the watercourse has been restored to an open channel, provided a restoration plan demonstrates:

- i. The watercourse channel will be stable and is not expected to cause safety risks or environmental damage; and

- ii. No additional impact nor encumbrance by watercourse buffer or critical area setback is added to properties neighboring the applicant(s) property.

Per MICC 19.07.180.C.6.d, piped watercourse setback widths shall be reduced to 10 feet on lots with a lot width of 50 feet or more, when daylighting is determined by qualified professional(s) to result in one or more of the following outcomes:

- i. Increased risk of landslide or other potential hazard that cannot be mitigated;
- ii. Increased risk of environmental damage (e.g., erosion, diminished water quality) that cannot be mitigated;
- iii. The inability of a legally established existing lot to meet the vehicular access requirements of this title; or
- iv. The inability of a legally established existing lot to meet the building pad standards in MICC 19.09.090.

The piped segment of Watercourse A is located beneath the canopy of and within the critical root zone of an old-growth California redwood tree (*Sequoia sempervirens*) on the adjacent property to the south (Parcel #3024059114) (Figure 6). Based on visual estimates from the subject property, the redwood tree has a diameter at breast height of greater than 60 inches. Daylighting Watercourse A would necessitate the removal of this tree. The City prioritizes the retention of exceptional trees, and a redwood tree of this size and age is generally irreplaceable. The removal of the tree would represent an unnecessary risk of environmental damage due to the irreplaceable loss of habitat, soil stability, and evapotranspiration functions provided by this rare, old-growth tree, which conflicts with the requirements of MICC 19.07.180.C.6.d.ii. The environmental benefit of daylighting this short watercourse segment would not compensate for the loss of this tree, and it is not possible to completely mitigate the loss of this tree. Additionally, the redwood tree is not located on the subject property, meaning its removal would cause an additional impact on a neighboring property, which is in conflict with the requirements of MICC 19.07.180.C.6.c.ii. Daylighting Watercourse A would also create a watercourse buffer on the adjacent property where none currently exists, which conflicts with the same provision.



Figure 6. Watercourse A with old-growth redwood tree in background, facing southeast (9/11/20)

The portion of Watercourse A located immediately adjacent and upslope of the existing residence is at the base of a steep slope and retaining wall. It seems likely that creating an open channel in this location could risk slope stability and structural stability of the residence. The Watershed Company does not provide geotechnical analysis, but it is our understanding that a geotechnical engineer will assess the associated risk of this potential action.

Based on the environmental damage resulting from the removal of an old-growth redwood tree, both on the subject property and the adjacent property, as well as the additional buffer encumbrance daylighting Watercourse A would create on the neighboring property, it is our opinion that daylighting Watercourse A is not feasible or environmentally beneficial at this location. Therefore, in accordance with MICC 19.07.180.C.6.d, a 10-foot setback should be required for Watercourse A.

The following may be allowed in the critical area setback (MICC 19.07.180.C.8):

- a. Landscaping;
- b. Uncovered decks less than 30 inches above existing or finished grade, whichever is lower;
- c. Building overhangs if such overhangs do not extend more than 18 inches into the setback area;
- d. Hardscape and driveways; provided, that such improvements may be subject to requirements in Chapter 15.09 MICC, Storm Water Master Program;
- e. Split-rail fences;
- f. Trails, consistent with the requirements of this chapter; and
- g. Subgrade components of foundations; provided, that any temporary impacts to building setbacks shall be restored to their previous condition or better.

Under MICC 19.07.170.A.3, “*Areas used by bald eagles for foraging nesting and roosting, or within 660 feet of a bald eagle nest*” are regulated as a fish and wildlife conservation area. A bald eagle nest has been verified within 660 feet of the subject property. The general review requirements under 19.07.170.B.1 include the following:

- a. *Identification of the species referenced in subsection A of this section that has a primary association with the habitat on or in the vicinity of the site;*

A bald eagle (*Haliaeetus leucocephalus*) nest has been confirmed approximately 325 feet southwest of the subject property and approximately 350 southwest of the existing residence. Active use of the nest was not confirmed during the October 16, 2020, site inspection, and no eagles were observed. However, the site



inspection did not coincide with the nesting season, and eagles may return to nests after several years of inactivity.

- b. *Extent of wildlife habitat areas, including acreage, and required buffers based on the species;*

Federal bald eagle management guidelines recommend 330-foot and 660-foot projection areas for bald eagles, depending upon the scope of the proposed project and the existing conditions surrounding the nest. MICC stipulates that all areas within 660 feet of a bald eagle nest are regulated as fish and wildlife habitat conservation areas.

- c. *Vegetative, faunal, and hydrologic conditions;*

The nest is located near the top of a western hemlock tree in Clarke Beach Park. The area immediately surrounding the nest, within the park, is well vegetated, native forest dominated by Douglas-fir (*Pseudotsuga menziesii*) and bigleaf maple (*Acer macrophyllum*) trees. Beyond the park, the landscape is single-family residential interspersed with individual mature redwood, Douglas-fir, and western red cedar (*Thuja plicata*) trees. Any of the taller trees in the area could be used for perching and foraging.

- d. *Evaluation of direct and indirect potential impacts on habitat provided by the project, including impacts to water quality;*

The proposed project is to demolish and reconstruct an existing single-family residence. There are no trees on the property that could be used for nesting, perching, or foraging. The closest large tree to the subject property is the aforementioned mature redwood immediately south of the property. The only potential risk to this tree, which could be used for perching/foraging, would be if Watercourse A is daylighted. By not daylighting Watercourse A, the tree will be preserved. Therefore, the project will have no direct impacts on bald eagle habitat. Indirect impacts are limited to visual and auditory disturbances during construction activities. Indirect impacts are expected to be minor, since any nesting birds in this location are already tolerant of residential land uses. Significant noise disturbances during the egg-laying/incubation period could lead to nest abandonment, although this risk is reduced near or after hatching, or nest flushing that could leave unattended eggs, resulting in loss of moisture and

cooling of the eggs. Noise and visual impacts, when occurring after the incubation periods, could lead to flushing and potentially missed feedings.

- e. *A discussion of any federal, state, or local special management recommendations, including Washington State Department of Fish and Wildlife habitat management recommendations that have been developed for the species or habitats; and*

Bald eagles are no longer considered a priority species by Washington Department of Fish and Wildlife (WDFW). As such, WDFW does not maintain its previous management recommendations and, instead, directs individuals to the federal management recommendations from the U.S. Fish and Wildlife Service (USFWS). For building construction, one or two story, with a project footprint of ½-acre or less, and if the activity will be visible from the nest, USFWS recommends 660 feet, or as close as existing tolerated activity of similar scope; landscape buffers are recommended. For temporary noise-generating uses, such as use of heavy machinery, USFWS recommends limiting these activities to outside of the breeding season.

Single-family residential land uses occur within approximately 200 feet of the eagle nest, and proposed construction activities will be approximately 350 feet from the nest. It is not possible to construct the new residence farther from the nest given the location of the lot. The nest-building and egg-laying/incubation periods are the most sensitive periods for bald eagles. In the Pacific region, these activities generally occur from January through April. Temporary noise-generating activities, such as loud machinery, can be conducted outside of these times without causing disturbance.

- f. *A discussion of avoidance, minimization, and mitigation of impacts pursuant to MICC 19.07.100.*

The construction of a new single-family residence on the subject property will avoid all direct impacts to bald eagle habitat. Indirect effects, including visual and auditory disturbance, will be minor. By adhering to the timing restrictions identified by USFWS, when nests are at their most vulnerable (January through April), the project will minimize potential adverse effects to nesting bald eagles.

The information contained in this memorandum 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. The findings of this report are subject to verification and agreement by the appropriate local, State and Federal regulatory authorities. No other warranty, expressed or implied, is made.