

North Mercer Island Interceptor and Enatai Interceptor Upgrade Project

City of Mercer Island Code Compliance Narrative

Final



City of Mercer Island Code Compliance Narrative

September 2019

PREPARED FOR

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Department of Natural Resources and Parks
Wastewater Treatment Division**

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1. INTRODUCTION

This document is the *Code Compliance Narrative* (CCN) for the North Mercer Island Interceptor and Enatai Interceptor Upgrade Project (NME Project). The following information is provided to satisfy the requirements for land use permit applications, as identified in the pre-application letter from City of Mercer Island (Mercer Island) Development Services Group on October 23, 2018 (PRE18-047). A second pre-application meeting was conducted on September 11, 2019 (PRE19-042) to discuss the critical areas and shorelines within the NME Project and ensure compliance with the new Critical Areas Ordinance (CAO) and existing Shoreline Master Program (SMP). The new CAO was adopted by the Mercer Island council and took effect as of July 29, 2019. The revised SMP was adopted by Mercer Island, but is not yet approved by the Washington State Department of Ecology (Ecology). Guidance for how to address the pre-2019 CAO within the SMP was provided during the PRE19-042.

The goals of this document include:

- Examining the consistency of the proposed project with Mercer Island’s City Code (MICC) Titles 15.06 Sewer Utility Regulations, 19.07.010-180 Environment: Critical Areas, and 19.10 Trees
- Examining the consistency of the proposed project with Mercer Island’s SMP: MICC 19.13.050 Environment: Shoreline Master Program¹
- Examining the consistency of the proposed project with Mercer Island’s Comprehensive Plan

King County Wastewater Treatment Division (WTD) is applying for land use permits through the City of Mercer Island. The need for land use permits was triggered when WTD assessed the condition of an existing sewer pipeline from Mercer Island to Bellevue and identified a need for capacity upgrades for the North Mercer Island and Enatai interceptors. Section 1.1, below, describes the resulting proposed NME Project. As identified in the pre-application letter (PRE19-042), and subsequent discussions with Mercer Island, the NME Project is subject to the following land use permits through Mercer Island:

- Public Agency Exception: Type III
- Critical Area Review 2: Type III
- Shoreline Substantial Development Permit: Type III

On December 21, 2018, the Mercer Island planner indicated that a Conditional Use Permit is not needed for the new pipeline alignment. On September 11, 2019, it was identified that a Shoreline Conditional Use Permit is not necessary for NME Project. Proposed changes within the shoreline will be permitted through the SSDP process.

King County WTD will also be applying for a Wet Season Tree Removal Restriction Waiver to remove trees in the wet season, and a Seasonal Development Limitation Waiver to be able to do land clearing, grading, filling, and foundation work within landslide hazard areas from October 1 to April 1. Information on trees and wet season

¹ Note that this document uses the code references for the revised SMP (MICC 19.13), as provided by Mercer Island (2019) because the older SMP references (MICC 19.07.110) overlap with Critical Area Studies within the revised CAO.

work is included in the land use permitting package, but the final application materials will be provided in the construction permit applications (e.g., building, clearing and grading).

Please note that the State Environmental Policy Act (SEPA) compliance was completed by King County through a separate process, but may be referenced below. The information in this CCN, combined with information presented in the *Critical Area Study (CAS)* and other cited environmental documentation, satisfy the information requirements for all Mercer Island land use permits.

1.1 PROJECT OVERVIEW

King County WTD is applying for permits from Mercer Island for a project to improve reliability and increase the capacity of a portion of the existing regional wastewater system. As noted above, King County’s WTD identified a need for capacity upgrades for the North Mercer Island and Enatai interceptors. The NME Project is intended to improve the existing facility and pipeline components of the regional wastewater system to convey the 20-year peak wastewater flows projected through the year 2060 from service areas in North Mercer Island, the southwest portion of Bellevue, and the Town of Beaux Arts Village (Figure 1).

There are six work areas of the NME Project proposed within Mercer Island’s jurisdiction (Figure 2). Work within these areas includes constructing new pipe or upgrading pump stations of the regional wastewater system, and can be divided into five NME Project segments. The five segments that make up the proposed NME Project on Mercer Island overlap in terms of the geographical work areas where construction will take place (Table 1). Please note that the segment labeled as street right-of-ways (ROWs) and Interstate 90 (I-90) Trail² work area is the proposed North Mercer Island Interceptor alignment that primarily follows the I-90 Trail, but also includes private land, Mercer Island ROWs, Washington State Department of Transportation (WSDOT) ROWs, and WSDOT Limited Access ROWs.

Table 1. Construction Segments and Work Areas for the NME Project

NME Project Segment*	Work Area					
	NMPS and NMPS Stream	Street ROWs and I-90 Trail*	LS-11 (Fruitland Landing Park)	96 th Avenue Siphon	Mercer Island Boat Launch	East Channel
NMPS	●					
North Mercer Island Interceptor	●	●	●	●	●	
96 th Avenue Siphon				●		
LS-11			●			
East Channel Siphon						●

I-90 Trail = Interstate 90 Trail; LS-11 = Lift Station 11; NMPS = North Mercer Pump Station, ROW = right-of-way

● = at least a portion of the NME Project segment occurs in the identified work area.

*The North Mercer Island Interceptor proposed alignment primarily follows the I-90 Trail, but also includes private land, Mercer Island ROWs, and other WSDOT ROWs.

² The I-90 Trail is a multi-use path for biking, walking, and other recreational activities adjacent to the I-90 freeway. The trail begins in Seattle and stretches to the east for 10 miles across Lake Washington, Mercer Island, and into Mercer Slough Nature Park in Bellevue. The I-90 Trail is identified in Figure 1.

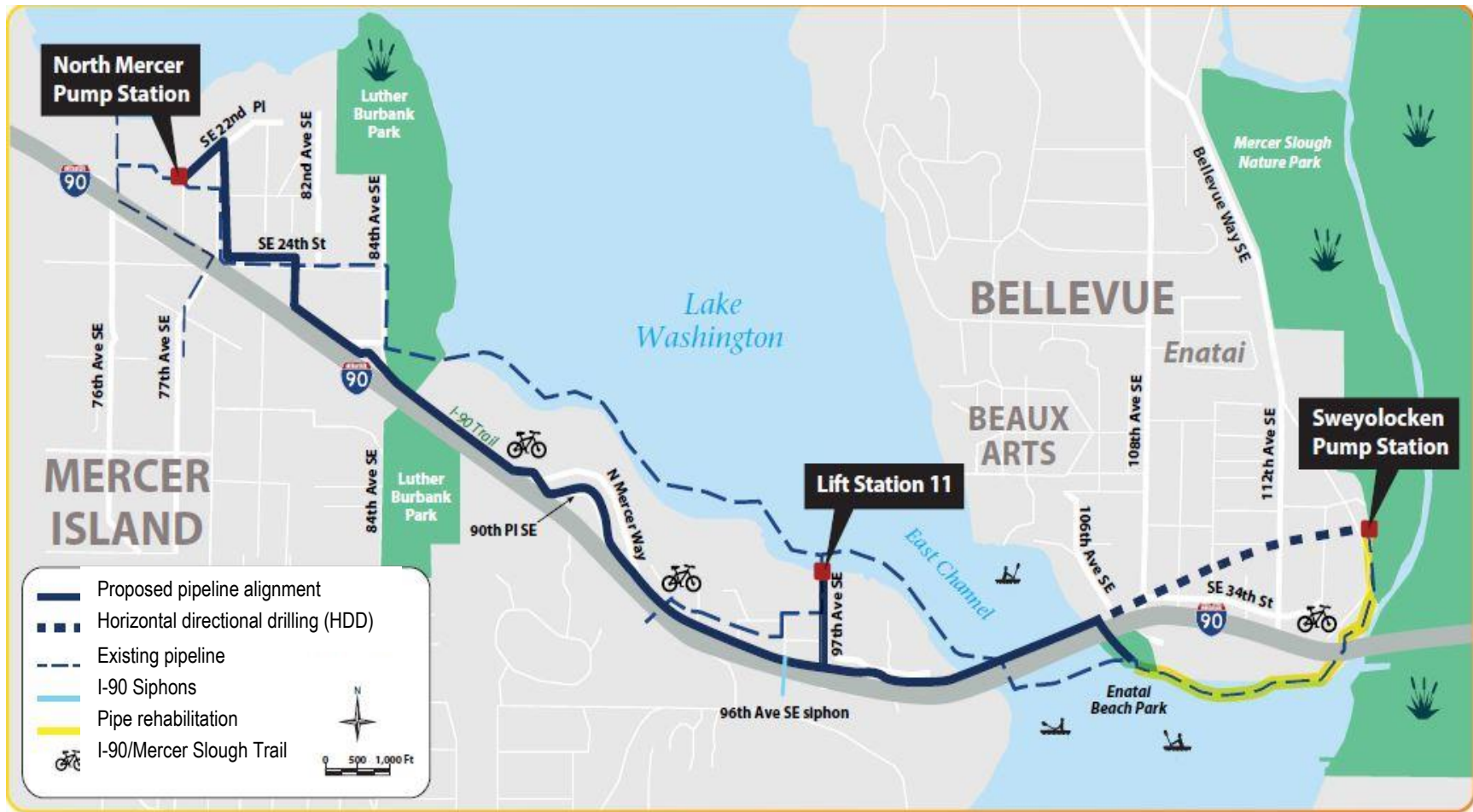


Figure 1 – NME Project Alignment Overview



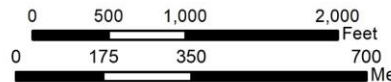
Pipeline Alignment

- Mercer Island Conveyance
- East Channel Siphon

Mercer Island Stream Classification

- Type F - Potential Fish
- Type Np - Perennial
- - - Type Ns - Seasonal
- Piped

- Stream Buffer (width based on type)
- Lake Washington OHWM
- Shoreland (OHWM 200-ft buffer)
- Park
- ROW (City and WSDOT)
- I-90 Trail System



*Note: I-90 Trail work area includes the extent of proposed pipeline along the I-90 trail



Figure 2 – Watercourses and Shorelines that Overlap with the NME Project Work Areas on Mercer Island

Construction of the NME Project on Mercer Island is proposed from April 2021 to December 2023. Activities within sensitive habitats were prioritized to occur for as short a period as possible; however, there are site-specific restrictions that will affect the timing and duration of construction activities. The expected sequence of work is as follows: updates to the NMPS will start as early as possible because this segment has the longest total duration (33 months); then work will progress in a linear fashion along the proposed North Mercer Island Interceptor pipeline alignment. At the same time, work will also start at the Mercer Island Boat Launch and proceed uphill toward the force main discharge to meet the work starting from NMPS. The exception to the linear workflow is the in-water work, which will occur during in-water work windows approved by the U.S. Army Corps of Engineers (Corps) and Washington Department of Fish and Wildlife (WDFW). It is anticipated that, for most of the work along the North Mercer Island Interceptor, construction activities will be in one area at a time (i.e., one street or continuous I-90 Trail segment) that is approximately 1,500 linear feet (LF) to 2,500 LF in length. The duration of the work within these segments will be for approximately 2 months to 6 months between mobilization and site restoration.

A summary of the proposed NME Project activities within each work area on Mercer Island is provided below. Detailed information of the development proposal is provided in the CAS (Section 4, Proposed Project). Note that the summary has references to the *Development Plan Set* (PLAN) sheets provided in the land use permitting package for each work area.

- **Work Area: NMPS and NMPS Stream** – The NME Project proposes to conduct facility improvements for the existing pump station located on Mercer Island. Facility improvements will include constructing a new building and concrete pad to house a standby generator and fuel tank, installing electrical service equipment, constructing a new restroom and odor control fan, and improving the existing access road.

Adjacent to the NMPS facility, the NME Project proposes to replace the existing pipe by installing new sewer pipe using typical open cut-and-cover construction methods across the stream adjacent to NMPS on King County property. This stream will be identified in this document as the “NMPS stream.” Access for the NMPS stream crossing work will be off the public ROW, and then through existing developed areas associated with the NMPS facility. Temporary access areas adjacent to the stream, on both banks, will be established for construction. The riparian area adjacent to the NMPS stream will be cleared of invasive vegetation and replanted with native vegetation throughout much of the stream length on the King County property.

Relevant PLAN Sheets:

- Boundary and Topo Survey: Volume 1: G012; Volume 2: G201
 - Critical Areas: Volume 1: G012, Volume 2: G201
 - Stormwater and Erosion Control Management Plan: Volume 1: C011-C015, C101; Volume 2: C001-C004
 - Restoration & Landscape Plans: Volume 1: L101-L104; Volume 2: C081-C085, C401
- **Work Area: Street ROWs and I-90 Trail** – The NME Project proposes to install new pipe from the NMPS Stream to the Mercer Island Boat Launch, primarily along street ROWs and the I-90 Trail. Construction will include typical open cut-and-cover methods for approximately 10,240 LF of new sewer pipe, widening the I-90 Trail along 5,000 LF of the proposed pipeline alignment, and installation of new maintenance holes, odor control vault, gravity sewer, and rock catcher. This work area also includes substantial replanting of vegetation along the I-90 Trail and other areas that are affected along the proposed alignment.

Relevant PLAN Sheets:

- Boundary and Topo Survey: Volume 2: G202-G231
 - Critical Areas: Volume 2: G202-G231
 - Stormwater and Erosion Control Management Plan: Volume 2: C001-C004
 - Restoration & Landscape Plans: Volume 2: C061-C067, C081-C085, C401-C432, C451-466
- **Work Area: Fruitland Landing Park (LS-11)** – Mercer Island Public Works has requested upgrades to the pump station at Fruitland Landing Park to allow decommissioning of existing pipe in Lake Washington around the northeast end of Mercer Island. The NME Project will also construct new pipe within upland areas.

Relevant PLAN Sheets:

- Boundary and Topo Survey: Volume 1: G602-603
 - Critical Areas: Volume 1: G602-603
 - Stormwater and Erosion Control Management Plan: Volume 1: C601-602
 - Restoration & Landscape Plans: Volume 1: C601, C602
- **Work Area: 96th Avenue Siphon** – The NME Project proposes to construct a new siphon close to an existing maintenance hole south of I-90 to allow decommissioning of existing pipe in Lake Washington around the northeast end of Mercer Island, and to construct new pipe within upland areas.

Relevant PLAN Sheets:

- Boundary and Topo Survey: Volume 2: G227, G240
 - Critical Areas: Volume 2: G227, G240
 - Stormwater and Erosion Control Management Plan: Volume 2: C001-C004
 - Landscape Plans: Volume 2: C081-C085, C118, C427
- **Work Area: Mercer Island Boat Launch** – The NME Project proposes to install pipe to connect the upland portions of the North Mercer Island Interceptor to the in-water portions of the East Channel Siphon. The upland work will require installation of a slide rail system (or similar system) to isolate the work area and transition into the work below the ordinary high water mark (OHWM). Upland areas on either side of the channel crossing will be restored with landscaping and habitat improvements (e.g., anchor logs, gravel). Further upland, the project will install an operations and maintenance access vault.

Relevant PLAN Sheets:

- Boundary and Topo Survey: Volume 2: G231-232
 - Critical Areas: Volume 2: C131
 - Stormwater and Erosion Control Management Plan: Volume 2: C001-C004
 - Restoration & Landscape Plans: Volume 2: C081-C085, C087, C132-134
- **Work Area: East Channel** – The NME Project proposes to install new pipe using open cut-and-cover trench methods across the East Channel of Lake Washington. From the new siphon inlet structure noted at the Mercer Island Boat Launch, the East Channel Siphon (consisting of 3 parallel pipes approximately 12-inch to 16-inch diameter) will be installed parallel to north side of the I-90 East Channel Bridge across the East Channel to Enatai Beach Park in Bellevue. Mercer Island jurisdiction is from the Mercer Island Boat Launch to the mid-point of the East Channel.

Relevant PLAN Sheets:

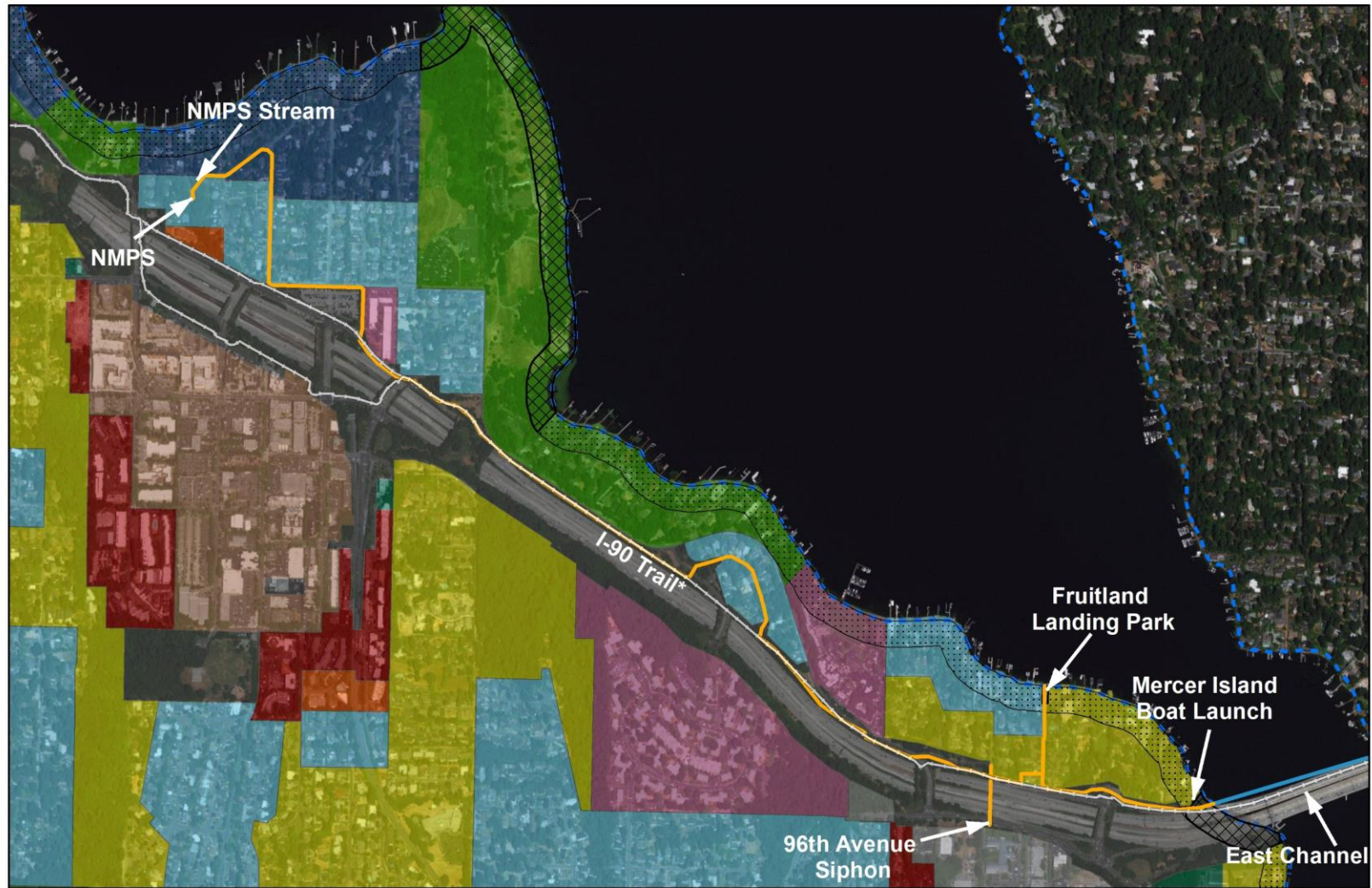
- Boundary and Topo Survey: Volume 2: G232-234
- Critical Areas: Volume 2: G232-234
- Stormwater and Erosion Control Management Plan: N/A
- Restoration Plans: Volume 2: C028-029

The NME Project will have impacts to trees in critical areas and shorelines. Impacts to the landscape will include tree and shrub removal, root cutting, tree clearance pruning, soil compaction, and landscape restoration (replanting). All trees within 20 feet of the proposed disturbance were evaluated (based on 60% design). There are 479 living trees that are listed for removal, 313 of which are within WSDOT ROW. This total also includes 19 exceptional trees. Details are provided in the *Arborist Report* (ARBR), PLAN, and *Tree Management Plan* (TMP).

1.2 ZONING AND LAND USE CONTEXT

Mercer Island is a suburban island community just over 5 miles long and 2 miles wide. Mercer Island consists of residential areas, a downtown business core, and preserved parks and open space, with a population of just over 24,000 people. The island is surrounded by Lake Washington, and the shoreline is nearly completely developed with residential properties. Land use in the NME Project area is composed primarily of residential parcels, Mercer Island ROWs, and WSDOT ROWs (e.g., I-90 Trail). Other significant land use elements include: King County utility parcels, I-90, the I-90 Trail, Mercer Island parks, I-90 East Channel Bridge, and the East Channel of Lake Washington.

Parcels within the NME Project site on Mercer Island include King County utility parcels (e.g., NMPS), residential parcels, Mercer Island ROWs, WSDOT ROWs (e.g., I-90 Trail), and Mercer Island parks (e.g., Luther Burbank Park, Fruitland Landing Park, and Mercer Island Boat Launch). The proposed NME Project pipeline alignment primarily follows surface streets (e.g., street ROWs), the I-90 Trail (e.g., WSDOT ROW), and WSDOT Limited Access ROW. The NME Project overlaps with several zoning districts and environmental designations (Figure 3). Based on data from Mercer Island (2019a), the zoning districts include residential (R-8.4, R-9.6, R-12, and R-15), multi-family (MF-3), and public institution (PI). Environmental designations along the proposed NME Project alignment include urban residential environment and urban park environment. Use regulations for the NME Project is under “Utility,” which is a permitted use within both the environmental designations (MICC 19.13.040).



Pipeline Alignment

- Mercer Island Conveyance
- East Channel Siphon

Shoreline Environment Designation

- Urban Park
- Urban Residential

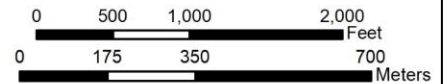
Zoning

- MF-2 - Multi-Family
- MF-2L - Multi-Family Limited
- MF-3 - Multi-Family
- R-12 - Single Family
- R-15 - Single Family

- R-8.4 - Single Family
- R-9.6 - Single Family
- B - Business
- PI - Public Institution
- C-O - Commercial Offices
- TC - Town Center

- Lake Washington OHWM
- I-90 Trail System

N



*Note: I-90 Trail work area includes the extent of proposed pipeline along the I-90 trail

Figure 3 – Zoning Districts and Environmental Designations on Mercer Island

2. CRITICAL AREAS, BUFFERS, AND SHORELINES

The proposed NME Project overlaps with several critical areas, their buffers, and shorelines. The Mercer Island Unified Land Development Code sections relevant to the project are identified within MICC Chapter 19.07 Environment – including sections 19.07.110 Critical Area Studies, 19.07.160 Geologically Hazardous Areas, 19.07.180 Watercourses, and 19.07.170 Fish and Wildlife Habitat Conservation Areas. In addition, the NME Project will comply with the revised SMP identified under MICC 19.13.050.

Table 2 lists critical areas that will be discussed within this document, as defined by local code. There are no wetland or wetland buffer impacts on Mercer Island associated with the NME Project. Shorelines also have specific code requirements under the SMP that will also be addressed in this document.

Table 2. Critical Areas and Shorelines in the City of Mercer Island

Critical Areas and Shorelines	Mercer Island Code	Buffer Width (feet)	Setback (feet)
Watercourses			
Stream adjacent to NMPS (Type F)	MICC 19.07.180	120	10
Stream adjacent to Luther Burbank Park parking lot and 96 th Avenue Siphon (Type Np) and the I-90 Trial (Type Ns)	MICC 19.07.180	60	10
Piped streams	MICC 19.07.180	No buffer	45 (covered) 15 (daylighted)
Geologically Hazardous Areas*			
Steep Slopes	MICC 19.07.160	75**	N/A
Shallow Landslide Hazard Areas	MICC 19.07.160	25	N/A
Deep-Seated Landslide Hazard Areas	MICC 19.07.160	75	N/A
Seismic Hazard Areas	MICC 19.07.160	50	N/A
Fish and Wildlife Habitat Conservation Areas			
Habitat for state or federally-listed endangered, threatened, sensitive, or candidate species, or species of local importance	MICC 19.07.170	Varied, species-specific	N/A
Priority habitats, as identified by WDFW	MICC 19.07.170	Varied, species-specific	N/A
Areas used by bald eagles for foraging, nesting, and roosting, or within 660 feet of a bald eagle nest	MICC 19.07.170	660 330 (minimum)	N/A
Watercourses and wetlands and their buffers	MICC 19.07.170	see watercourses	see watercourses
Biodiversity areas	MICC 19.07.170	N/A	N/A
Shoreline Master Program (SMP)			
Shorelands	MICC 19.13.050***	200****	25

*A geotechnical data report (GDR) and geotechnical design memorandum (GDM) were conducted for the NME Project (Shannon & Wilson 2018a,b).

**Buffer from top and toe of slope only.

***Note that this document uses the code references for the revised SMP (MICC 19.13), as provided by Mercer Island (2019b) because the older SMP references (MICC 19.07.110) overlap with Critical Area Studies within the revised CAO.

****200 feet is the definition of shorelands, which is not technically a "buffer."

Critical area designations for the NME Project include watercourses, geologically hazardous areas, fish and wildlife conservation areas, and associated buffers. The main purpose of identifying critical areas is to “maintain the functions and values of critical areas and enhance the quality of habitat to support the sustenance of native plants and animals” (MICC 19.07.010). The overlap between the NME Project and these critical areas are discussed in the CAS, and compliance with the land use code for critical areas is discussed in Section 4.2 below.

Shorelines of Mercer Island along Lake Washington and Mercer Slough overlap with the NME Project area. The shoreline environmental designations for the NME Project include urban residential environment and urban park environment. Figure 3 shows both the zoning and shoreline environmental designations that overlap with the NME Project in Mercer Island.

Lake Washington is not called out with an aquatic designation within MICC 19.13 (SMP), but is considered part of the shoreline as per Chapter 90.58 RCW (Washington Shoreline Management Act), and a shoreline of the state under WAC 173-20-370. It is also used by species that are defined under MICC 19.07.170 under fish and wildlife conservation habitat. Therefore, Lake Washington will be included within the discussion of critical areas and shorelines.

3. LAND USE CODE COMPLIANCE SUMMARY

Table 3 summarizes the applicable MICC sections to be addressed by the NME Project. The tables in the following sections describe how the NME Project complies with the identified local land use code.

Table 3. NME Project Consistency with Land Use Code Requirements		
MICC Section	MICC	MICC Title
Title 15 Water, Sewers, and Public Utilities		
15.06. Sewer Utility Regulations	15.06.070	Engineering and Design Standards
	15.06.150	Easements
	15.06.160	Trees and Shrubs
Title 19 Unified Land Development Code		
19.07 Environment	19.07.080	General Provisions
	19.07.090	Critical Area Reviews
	19.07.100	Mitigation Sequencing
	19.07.110	Critical Area Studies
	19.07.150	Public Agency Exception
	19.07.160	Geologically Hazardous Areas
	19.07.170	Fish and Wildlife Habitat Conservation Areas
	19.07.180	Watercourses
19.10 Trees	19.10.060	Tree Removal – Associated with a Development Proposal
	19.10.070	Tree Replacement
	19.10.080	Tree Protection Standards
	19.10.090	Application Requirements
	19.10.110	Seasonal Development Limitations
	19.10.140	Nuisance Abatement
19.13 Shoreline Master Plan*	19.13.020	General Regulations
	19.13.050	Shoreland Development Standards
*Note that this document uses the code references for the revised SMP (MICC 19.13), as provided by Mercer Island (2019b) because the older SMP references (MICC 19.07.110) overlap with Critical Area Studies within the revised CAO.		

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4. CONSISTENCY WITH MERCER ISLAND CITY CODE REQUIREMENTS

The following tables and narrative description of the NME Project’s compliance with policies and procedures of Mercer Island’s SMP, Comprehensive Plan, and other MICC requirements. This information is summarized from the reports that support the land use permit applications (e.g., CAS, ARBR, TMP). Please refer to the cited environmental reports if more details are needed to understand how the NME Project complies with the various Mercer Island codes.

4.1 TITLE 15 WATER, SEWERS, AND PUBLIC UTILITIES

The NME Project is an expansion of a regional wastewater system that supports Mercer Island. This section discusses applicable sections of MICC Title 15 – Water, Sewers, and Public Utilities. Table 4 responds to each applicable section and references the relevant supporting documents within this land use permitting package.

Table 4. Compliance of NME Project with MICC Title 15			
MICC Section	Code Standard	NME Project Documented Compliance	Environmental Report (Section)
Chapter 15.06 Sewer Utility Regulations			
15.06.070 Engineering and design standards.	B. <i>Sewer Facility Requirements</i> . Whenever property is developed or redeveloped, sewer mains shall be extended through and to the extremes of the property being developed, as required by the city, when needed for the orderly extension of the public sewer system. Whenever property is developed or redeveloped in any way such that sewage discharge is changed in content or volume, new sewer facilities shall be required whenever necessary to: 1. Meet hydraulic capacity requirements; or 2. Replace or relocate existing facilities as required or authorized by the city	The NME Project is proposed in order to complete the expansion of the utility infrastructure that is needed to accommodate current and future increased capacity needs. These changes are necessary to provide reliable sewer service for at least the next 20 years. The NME Project will comply with regional utility system standards for capacity requirements and facility upgrade requirements along the alignment. Proposed project description, construction methods, and conservation measures are described within the CAS.	CAS (Section 4)
15.06.150 Easements	An easement, in a form approved by the city engineer, is required whenever: A. A public sewer facility will be built on private property;	The NME Project on Mercer Island will involve an easement where the alignment crosses public property. This easement is known as the Burgess Easement. The properties are listed within the Parcel Appendix of the CCN and PLANS.	CCN (Appendix A) PLAN (V2: G228)

Table 4. Compliance of NME Project with MICC Title 15

MICC Section	Code Standard	NME Project Documented Compliance	Environmental Report (Section)
<p>15.06.160 Trees and Shrubs</p>	<p>A. No person shall plant within 35 feet of any public sewer any willow, poplar, cottonwood, soft maple, gum tree, or any other tree or shrub whose roots are likely to enter and obstruct the flow of sewers.</p>	<p>The NME project landscape and restoration plans will conform to the tree and shrub planting regulations set forth in MICC 15.06.160. Restoration and landscape planting has been included within the PLANS, and is discussed within both the ARBR and TMP.</p>	<p>PLAN (V1: L101-L104, C601-602; V2: C061-C067, C081-C085, C087, C118, C132-134, C401-C432, C451-466) ARBR (Section 4) TMP (Section 4)</p>
<p>Chapter 15.09 Storm Water Management Program</p>			
<p>15.09.020 Applicability</p>	<p>A. The provisions of this chapter and the program shall apply to all property and all projects within the limits of the city of Mercer Island. The provisions of this chapter and the program shall control all storm water management practices; provided, however, if other provisions of this code or any other city ordinance provides more protection of the quality of surface or ground water, it shall control.</p> <p>B. Applicants for construction projects which involve land disturbing activity shall provide a construction storm water pollution prevention plan (SWPPP) prior to the issuance of any permits.</p>	<p>A. The NME Project will adhere to the provisions in this chapter on storm water management.</p> <p>B. The NME Project will prepare a SWPPP for the construction permit package. For Mercer Island's land use package, a Temporary Erosion and Sediment Control (TESC) Plan has been prepared within the PLANS.</p>	<p>PLAN (V1: C011-C015, C101, C601-602; V2: C001-C004)</p>

4.2 TITLE 19 UNIFIED LAND DEVELOPMENT CODE

4.2.1 Section 19.07 Environment

The NME Project components are located within the critical areas and buffers of Mercer Island. This section discusses all applicable sections of MICC 19.07 Environment, which encompasses all critical areas. Table 5 responds to each applicable section and references the relevant supporting documents within this land use permitting package.

Table 5. Compliance of NME Project with MICC Chapter 19.07			
MICC Section	Code Standard	NME Project Documented Compliance	Environmental Report (Section)
19.07.080(B) General Provisions	<i>Timing.</i> All alterations or mitigation to critical areas shall be completed prior to the final inspection and occupancy of a project.	The NME Project will adhere to this general provision, as described below (MICC 19.07.080(C) & MICC 19.07.080(E)).	N/A
19.07.080(C) General Provisions	<i>Maintenance and Monitoring.</i> 1. Maintenance and monitoring shall be required for at least five years from the date of project completion if the code official determines such condition is necessary to ensure mitigation success and critical area protection. 2. A bond or assignment of funds pursuant to MICC 19.01.060(C) may be required to guarantee that approved mitigation plans will be undertaken and completed to the city’s satisfaction. 3. When monitoring is required, site visits and reporting shall be required two times per year for each of the first two years and once every 12 months for the subsequent years of the monitoring period. 4. Where monitoring reveals a significant difference 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.	The NME Project will provide a Site Restoration and Ecological Enhancement Plan, a 5-year Monitoring Plan, and a Contingency Plan consistent with MICC 19.07.080(C) criteria within critical areas.	CAS (Sections 6 – 8)
19.07.080(E) General Provisions	<i>Seasonal Limitations.</i> Land clearing, grading, filling, and foundation work may be limited to only certain times of year, pursuant to MICC 19.07.160(F)(2).	The NME Project construction will occur year-round. Therefore, the project will apply for a Wet Season Tree Removal Restriction Waiver (WSTRRW) and Seasonal Development Limitation Waiver (SDLW) during the construction permit process in order to complete the project on schedule. The NME Project schedule is described within the CAS. Construction within geologically hazardous areas during wet seasons are further discussed under MICC 19.07.160(B).	CAS (Section 4)
19.07.090(B) Critical Area Reviews	<i>Critical Area Review 2</i> 1. The purpose of a Critical Area Review 2 is to review critical area studies and mitigation plans in support of proposed buffer averaging and reduction of wetland and watercourse buffers.	The NME Project will conform to the review process of a Critical Area Review 2 with a CAS meeting the requirements of MICC 19.07.110 prior to construction authorization. The CAS consolidates a review of all the critical areas present within the NME Project area, including:	LUAM (2) CAS GDR GDM

Table 5. Compliance of NME Project with MICC Chapter 19.07

MICC Section	Code Standard	NME Project Documented Compliance	Environmental Report (Section)
	<p>2. Review timing and sequence</p> <p>a. When development and/or activity within a wetland, watercourse, fish and wildlife habitat conservation area or buffer associated with these critical area types is proposed, a Critical Area Review 2 is required to be reviewed and approved prior to construction authorization.</p> <p>b. When development and/or activity is proposed on a site containing only geologically hazardous areas, an applicant has the option of either:</p> <p style="padding-left: 20px;">(1) Applying for a Critical Area Review 2 in advance of construction permits, using the procedures required for a Type 3 land use review; or</p> <p style="padding-left: 20px;">(2) Requesting consolidation of the review of geologically hazardous areas together with construction permit review.</p> <p>c. When development and/or activity is proposed on a site containing geologically hazardous areas and one or more of the critical area types listed in subsection (B)(2)(a) or the associated buffer of one of those critical areas, a Critical Area Review 2 reviewing all critical areas is required to be reviewed and approved prior to construction authorization, using the procedures required for a Type III land use review.</p> <p>3. Requirements for a complete application include:</p> <p>a. A completed Development Application Coversheet;</p> <p>b. A critical area study, meeting the requirements of MICC 19.07.110 - Critical Area Studies; and</p> <p>c. Additional information required by the city to confirm compliance with this title.</p>	<ul style="list-style-type: none"> • Watercourse and Buffers (MICC 19.07.180) • Geologically Hazardous Areas (MICC 19.07.160) • Fish and Wildlife Habitat Conservation Areas (MICC 19.07.170) <p>There are no wetlands within the NME Project area on Mercer Island. Please note that the NME Project will require a Public Agency Exception (MICC 19.07.150) due to encroachment of the buffer associated with the NMPS stream. In addition, the project will require both a WSTRRW and SDLW in order to complete the project on schedule, which will be submitted during the construction permit process.</p> <p>Requirements for a complete application are contained within the Land Use Application Materials (LUAM), CAS (including Appendix D on the Public Agency Exception), and additional environmental documents and land use drawings (e.g., geotechnical data report [GDR], geotechnical design memorandum [GDM], TMP, ARBR, PLAN). Construction within geologically hazardous areas during wet seasons are further discussed under MICC 19.07.160(B).</p>	<p>TMP ARBR PLAN</p>
<p>19.07.100 Mitigation Sequencing</p>	<p>Except as otherwise provided in this chapter, an applicant for a development proposal or activity shall implement the following sequential measures, listed below in order of preference, to avoid, minimize, and mitigate impacts to environmentally critical areas and associated buffers. Applicants shall document how each measure has been addressed before considering and incorporating the next measure in the sequence:</p> <p>A. Avoiding the impact altogether by not taking a certain action or parts of an action. The applicant shall consider reasonable, affirmative steps and make best efforts to avoid critical area impacts. However, avoidance shall not be construed to mean mandatory withdrawal or denial of the development proposal or activity if the proposal or activity is an allowed, permitted, or conditional use in this title. In determining the extent to which the proposal should be redesigned to avoid the impact, the code official may consider the purpose, effectiveness, engineering feasibility, commercial availability of technology, best management practices, safety and cost of the proposal and identified changes to the proposal. Development proposals should seek to avoid, minimize and mitigate overall impacts based on the functions and values of all of the relevant critical areas and based on the recommendations of a critical area study. If impacts cannot be avoided through redesign, use of a setback deviation pursuant to MICC 19.06.110(C), or because of site conditions or project requirements, the applicant shall then proceed with the sequence of steps in subsections (B) through (E) of this section;</p>	<p>Avoidance of NME Project impacts are provided through design and construction methods proposed. The following methods have been selected to avoid unnecessary environmental impacts:</p> <ul style="list-style-type: none"> • Constructing a new pipeline in upland habitat and decommissioning a large portion of the degraded existing pipeline currently located in Lake Washington. Decommissioning this older pipe will avoid future impacts to sensitive aquatic habitat during regular maintenance or pipe failures • Using existing improved surfaces (e.g., concrete, asphalt) to construct the new pipeline under rather than vegetated habitat. For example, approximately 58% of the NME Project area currently has improved surfaces. • Crossing the East Channel of Lake Washington at its narrowest point to install the new East Channel Siphon, which will replace the existing pipe that is located farther to the south at a wider crossing of the channel. • Using shoring systems that avoid driving and removing sheet piling (e.g., slide rail or trench box system) for the shoreline transition work to and from the East Channel crossing for the East Channel Siphon work. 	<p>CAS (Sections 4 – 8)</p>

Table 5. Compliance of NME Project with MICC Chapter 19.07

MICC Section	Code Standard	NME Project Documented Compliance	Environmental Report (Section)
	<p>B. Minimizing impacts by limiting the degree or magnitude of the action and its implementation, using a setback deviation pursuant to MICC 19.06.110(C), using appropriate technology, or by taking affirmative steps to avoid or reduce impacts;</p> <p>C. Rectifying the impact by repairing, rehabilitating, or restoring the affected environment;</p> <p>D. Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action;</p> <p>E. Compensating for the impact by replacing, enhancing, or providing substitute resources or environments; and/or</p> <p>F. Monitoring the impact and taking appropriate corrective measures to maintain the integrity of compensating measures.</p>	<ul style="list-style-type: none"> Using best management practices (BMPs) to avoid and minimize impacts to critical areas and associated buffers during construction. Project BMPs are described in the CAS. <p>The NME Project will ensure no net loss of ecological functions and processes within critical areas. Although most impacts were avoided or minimized through NME Project design and construction BMPs, there are unavoidable impacts that will occur to critical areas and buffers. The majority (96%) of these impacts are temporary. Due to this temporary loss (or reduction) of habitat functions and values, the NME Project is proposing to increase habitat functions and values within specific locations along the pipeline route. This concept follows the Ecology (2010) framework to achieve no-net-loss of ecological functions. There are no required ratios for temporary impacts, but the NME Project proposes a ratio of 1:1 for site restoration to impacts. The additional restoration (beyond 1:1) increases ecological functions of the surrounding habitat.</p> <p>Overall, the NME Project provides a ratio that is larger than 1:1 for areas of site restoration and ecological enhancement (197,284 square feet [SF]) to areas of impacts (150,810 SF), resulting in no-net-loss of ecological functions along the pipeline alignment. An analysis of no net loss is included within the CAS.</p>	
19.07.110(A) Critical Area Studies	A critical area study shall be required when a development proposal will result in an alteration to one or more critical areas or critical area buffers or when required to determine the potential impact to a critical area.	There will be alterations to more than one critical area or critical area buffer by the NME Project. A CAS has been prepared for the NME Project in support of the land use and construction permit applications, adhering to all the criteria of MICC 19.07.110.	CAS
19.07.110(B) Critical Area Studies	<p>The critical area study shall be in the form of a written report supported by graphic information prepared by a qualified professional using guidance based on the best available science consistent with the standards in chapter 365-195 WAC and shall contain the following items, as applicable to adequately evaluate the proposal, proposed alterations, and mitigation:</p> <ol style="list-style-type: none"> 1. Disclosure of the presence of critical areas, including a delineation and type or category of critical area, on the development proposal site and any mapped or identifiable critical areas on- or off-site within the distance equal to the largest potential required buffer applicable to the development proposal area on the applicant's property; 2. A topographic and boundary survey; 3. A statement specifying the accuracy of the report and all assumptions made and relied upon; 4. A description of the methodologies used to conduct the critical area study, including references; 	<p>A CAS has been prepared for the NME Project in support of the land use permit application, adhering to all the criteria of MICC 19.07.110. The Land Use Permitting Package for Mercer Island contain all of the requirements for a CAS within the following environmental reports:</p> <ol style="list-style-type: none"> 1. Disclosure of the presence of critical areas – provided in the CAS and PLAN 2. A topographic and boundary survey – provided in the PLAN 3. A statement specifying accuracy – provided in the CAS (Section 9) 4. A description of methods – provided in the CAS (Section 2) 5. A scale map – provided in the PLAN 	<p>CAS GDR</p> <p>GDM TMP ARBR PLAN</p>

Table 5. Compliance of NME Project with MICC Chapter 19.07

MICC Section	Code Standard	NME Project Documented Compliance	Environmental Report (Section)
	<p>5. A scale map of the development proposal site;</p> <p>6. Photographic records of the site before the proposed alteration occurs;</p> <p>7. An assessment of the probable effects to critical areas and associated buffers, including impacts caused by the development proposal and associated alterations to the subject property and impacts to other properties and any critical areas or buffers located on them resulting from the development of the site and the proposed development;</p> <p>8. A description of mitigation sequencing implementation described in MICC 19.07.100 including steps taken to avoid and minimize critical areas impacts to the greatest extent feasible;</p> <p>9. Detailed studies, as required by this chapter, for individual critical area types in order to ensure critical area protection;</p> <p>10. Assessment of potential impacts that may occur on adjacent site, such as sedimentation or erosion, where applicable; and</p> <p>11. A post-design memorandum prepared by a qualified professional confirming that the proposed improvements comply with the design recommendations.</p>	<p>6. Photographic records of the site – provided in the CAS (Appendix C)</p> <p>7. An assessment of the probable effects – provided in the CAS (Section 5)</p> <p>8. A description of mitigation sequencing – provided in the CAS (Section 6)</p> <p>9. Detailed studies– provided in the CAS, ARBR, TMP, GDR, and GDM.</p> <p>10. Assessment of potential impacts – provided in the CAS (Section 5)</p> <p>11. A post-design memorandum – provided in the PLAN</p>	
<p>19.07.150(A) Public Agency Exception</p>	<p>The public agency shall provide project documents such information as needed for the code official to issue a decision, including but not limited to, permit applications to other agencies, critical area studies, SEPA documents, and other materials.</p>	<p>The requested documents are provided in the Land Use Application Package for review by the Mercer Island Community Planning & Development Department. There will be an encroachment into the buffer associated with the NMPS stream that will require a Public Agency Exception (CAS – Appendix D). Other potential needs that require a Public Agency Exception are addressed below and within the other NME Project documents.</p> <p>A Public Agency Exception is being requested for the following NME Project activities:</p> <ol style="list-style-type: none"> 1. NMPS work within the NMPS stream buffer (CAS – Appendix D). 2. Mercer Island operations requested updates to LS-11 (subsurface duplex pump station run by the city). There is a piped stream within the work area. Work within the piped stream buffer at LS-11 (includes a 25-foot buffer within the pre-2019 critical areas code within the SMP). <p>The justification for this request is provided below under 19.07.150(B).</p>	<p>CAS SEPA PLAN</p>

Table 5. Compliance of NME Project with MICC Chapter 19.07

MICC Section	Code Standard	NME Project Documented Compliance	Environmental Report (Section)
<p>19.07.150(B) Public Agency Exception</p>	<p>The code official may approve alterations to critical areas, buffers and critical area setbacks by an agency or utility when those alterations are not otherwise able to meet all of the standards in this chapter, and when the criteria in (B)(1) through (B)(3) of this section are demonstrated to be met.</p> <p>1. The activity or proposed development is described in an adopted city plan or project list, or has otherwise received city council approval;</p> <p>2. There is no other reasonable alternative to the activity or proposed development with less impact on the critical area. In determining what is a reasonable alternative to a proposed development, alteration or activity, the code official may consider the purpose, effectiveness, engineering feasibility, commercial availability of technology, best management practices, safety and cost of the alternative action or proposal. Reasonable alternatives are those that are capable of being carried out, taking into consideration the overall project purposes, needs, and objectives;</p>	<p>The criteria in this chapter will be met by the NME Project, including:</p> <p>1. The NMPS facility design is being reviewed by the Design Review Board, and the land use and construction applications will be reviewed by the Community Planning & Development Department. The proposed development has been discussed with Mercer Island through pre-application meetings and other design meetings to meet the needs of both the NME Project and the city.</p> <p>The piped stream at LS-11 will be moved by Mercer Island prior to the NME Project, but there is still an associated 25-foot buffer within the pre-2019 critical areas code that applies to the current SMP. Work within this buffer is requested by Mercer Island to upgrade the existing LS-11.</p> <p>2. Improvements to NMPS, along the proposed North Mercer Island Interceptor pipeline alignment and within the East Channel of Lake Washington, are necessary to accommodate the capacity increases that will be needed for the regional wastewater system. Because the watercourse buffer is within nearly the entire property, there is no place to move the proposed upgrades outside of the buffer. Because the watercourse extends well beyond the limits of the property (both upstream and downstream), there was no way to connect to the rest of the proposed pipeline without crossing the stream. These conditions are detailed in Appendix D of the CAS.</p> <p>Upgrades were located as far west from the stream as possible and behind existing impervious surfaces. The stream was crossed at a perpendicular angle to reduce impacts. Additional BMPs will be used to reduce potential impacts (see Mitigation Sequencing for NMPS Upgrades below). Construction will reduce the buffer from 28,960 SF to 23,180 SF of vegetated habitat.</p> <p>The improvements at LS-11 were requested by Mercer Island operations to provide future support at the existing duplex pump station. The improvements will expand the existing structure, rather than replacing it, and is the smallest footprint possible for the upgrades needed.</p> <p>Overall, improvements at NMPS and LS-11 cannot be completed without this exception. The upgrades required result in a need to expand the generator building to accommodate the increased capacity of the wastewater system. There is no reasonable alternative that would result in less impact.</p>	<p>CAS SEPA PLAN CNN (Section 4)</p>

Table 5. Compliance of NME Project with MICC Chapter 19.07

MICC Section	Code Standard	NME Project Documented Compliance	Environmental Report (Section)
	<p>Mitigation Sequencing for NMPS Upgrades:</p> <ol style="list-style-type: none"> 1. Design prioritizes areas that have limited buffer function (e.g., located as far west from the stream as possible and behind existing impervious surfaces). 2. Construction BMPs to avoid/minimize impacts during construction (as summarized from the CAS), including: <ul style="list-style-type: none"> • A Temporary Erosion and Sediment Control (TESC) Plan and a Source Control Plan will be developed and implemented for all clearing, vegetation removal, grading, ditching, filling, soil compaction, and excavation. • All temporary and permanent erosion and sedimentation control measures would be inspected, maintained, and repaired on a regular basis to assure continued performance of their intended function. • Erosion control blankets would be installed where ground-disturbing activities have occurred. This will prevent erosion and assist with establishment of native vegetation. • All exposed soils would be stabilized during the first available period, and no soils would remain without stabilization during wet seasons (e.g., October 1 to April 30). • Disturbed areas would be returned to existing or improved conditions (e.g., replanting or repaving) as soon as practical after construction is completed. • Turbidity monitoring will occur during trenching and filling of the pipeline alignment zone to ensure that water quality standards are met. • Seasonal restrictions (i.e., in-water work windows) will be applied to the project to avoid or minimize potential impacts on fish species, following approval from the regulatory agencies. • The contractor will be responsible for preparing and implementing the Construction Stormwater Pollution Prevention Plan. • Additional BMPs for tree management (TMP, ARBR). 3. The buffer for the NMPS stream encompasses the entire property. There is not enough room for buffer averaging or buffer reduction under the current code. 4. Buffer reduction from 28,960 SF to 23,180 SF of vegetated area (see red area) – although the area includes primarily invasive species. 5. Extensive landscape restoration, which includes removal of invasive species and planting native species along the length of the stream and throughout the King County property (see green area). 	<p>Similar BMPs will be used within the LS-11 work area to control potential erosion and sedimentation into Lake Washington.</p>	

Table 5. Compliance of NME Project with MICC Chapter 19.07

MICC Section	Code Standard	NME Project Documented Compliance	Environmental Report (Section)
<p>19.07.150(B) continued Public Agency Exception</p>	<p>3. The activity or development proposal is designed to avoid or minimize and mitigate the impact on critical areas and associated buffers consistent with the avoidance and mitigation sequencing requirements in 19.07.100 - Mitigation Sequencing;</p> <p>4. The proposal does not pose an unreasonable threat to the public health, safety, or welfare on or off the development proposal site; and</p> <p>5. The proposal is consistent with other applicable regulations and standards.</p>	<p>3. The NME Project will follow guidelines provided in MICC 19.07.100, Mitigation Sequencing (see the list above). The design process has included consideration of impacts to critical areas and shorelines. Where feasible, changes have been made to decrease the level of impact. For example, the generator building at NMPS is proposed as far west as feasible to limit stream buffer impacts. Similarly, the proposed pipeline alignment prioritizes areas that have limited function due to the presence of impervious surface area. There is no other reasonable alternative to further avoid or minimize impacts to critical areas or shorelines.</p> <p>The overall NME Project provides a ratio that is larger than 1:1 for areas of site restoration and ecological enhancement (197,284 SF) to areas of impacts (150,810 SF), resulting in no-net-loss of ecological functions along the pipeline alignment. An analysis of no net loss is included within the CAS.</p> <p>4. The underlying purpose of the entire NME project is to improve the public health, safety, and welfare.</p> <p>5. The NME Project will comply with all other local, state, and federal regulations.</p>	<p>CAS SEPA PLAN CNN (Section 4)</p>
<p>19.07.160(B) Geologically Hazardous Areas</p>	<p><i>General Review Requirements:</i> Alteration within geologically hazardous areas or associated buffers is required to meet the standards in this section, unless the scope of work is exempt pursuant to MICC 19.07.120 - Exemptions or a Critical Area Review 1 approval has been obtained pursuant to MICC 19.07.090(A).</p> <p>1. When an alteration within a landslide hazard area, seismic hazard area or buffer associated with 40 those hazards is proposed, the applicant must submit a critical area study concluding that the proposal can effectively mitigate risks of the hazard. The study shall recommend appropriate design and development measures to mitigate such hazards. The code official may waive the requirement for a critical area study and the requirements of (B)(2) and (B)(3) of this section when he or she determines that the proposed development is minor in nature and will not increase the risk of landslide, erosion, or harm from seismic activity, or that the development site does not meet the definition of a geologically hazardous area.</p> <p>2. Alteration of landslide hazard areas and seismic hazard areas and associated buffers may occur if the critical area study documents that the proposed alteration:</p> <ul style="list-style-type: none"> a. Will not adversely impact other critical areas; b. Will not adversely impact the subject property or adjacent properties; c. Will mitigate impacts to the geologically hazardous area consistent with best available science to the maximum extent reasonably possible such that the site is determined to be safe; and 	<p>1. Over 60% of the NME Project alignment in Mercer Island is within identified geologically hazardous areas or buffers. A GDR and GDM were prepared by a qualified geotechnical engineer for the NME Project area. Together, the reports identify the areas where the pipeline alignment and ancillary facilities are within geologically hazardous areas, the proposed construction methods within these areas, the subsurface soil and groundwater conditions, and an evaluation of risks and whether mitigation measures are necessary for these areas.</p> <p>Based on the geotechnical engineer's review and evaluation, it is the engineer's opinion that the NME Project elements and construction methods are minor in nature and will not increase the risk of landslide, erosion, or harm from seismic activity. In general, within the geologically hazardous areas, the pipeline and ancillary facilities of the NME Project will be constructed along in shallow trenches of 15 feet or less and will be backfilled to match the existing grade and surface conditions. In the landslide hazard areas, the pipeline and facilities are either located in glacially overridden very dense or hard deposits that are not susceptible to landslide activity, or will be constructed near the top of the landslide hazard area, which during construction, unloads the slope and reduces the risk of landslide activity. After installation, the pipeline and fill will weigh the same as or less than the existing condition. In the seismic hazard areas, the pipeline and facilities are either located in glacially overridden very dense or hard deposits that are not susceptible to</p>	<p>GDR GDM PLAN CAS (Sections 3.3, 4.3, 5.1, and 6.3)</p>

Table 5. Compliance of NME Project with MICC Chapter 19.07

MICC Section	Code Standard	NME Project Documented Compliance	Environmental Report (Section)
	<p>d. Include the landscaping of all disturbed areas outside of building footprints and installation of hardscape prior to final inspection.</p> <p>3. Alteration of landslide hazard areas, seismic hazard areas and associated buffers may occur if the conditions listed in subsection 2) are satisfied and the geotechnical professional provides a statement of risk matching one of the following:</p> <ul style="list-style-type: none"> a. An evaluation of site-specific subsurface conditions demonstrates that the proposed development is not located in a landslide hazard area or seismic hazard area; b. The landslide hazard area or seismic hazard area will be modified or the development has been designed so that the risk to the site and adjacent property is eliminated or mitigated such that the site is determined to be safe; c. Construction practices are proposed for the alteration that would render the development as safe as if it were not located in a geologically hazardous area and do not adversely impact adjacent properties; or d. The development is so minor as not to pose a threat to the public health, safety and welfare. 	<p>liquefaction or seismic-induced settlements are within magnitudes that can be mitigated by the pipe design. Given the NME Project topography, lateral spreading from seismic activity is not anticipated.</p> <p>2. Based on the geotechnical engineer's evaluation of the subsurface conditions and construction methods, it is the engineer's opinion that the NME Project, during and after construction, will not adversely impact the NME Project area or adjacent properties, the site will remain safe, and all disturbed ground will be landscaped or paved in accordance with the project plans and specifications.</p> <p>3. Because the NME Project will be constructed in limited lengths and depths and returned to the original grade and condition, it is the geotechnical engineer's opinion that the NME Project, when completed, will be as safe as if it were not located in a geologically hazardous area and will not adversely impact adjacent properties.</p>	
<p>19.07.160(C) Geologically Hazardous Areas</p>	<p><i>Development Standards – Landslide Hazard Areas:</i> Development is allowed within landslide hazard areas and associated buffers, when the following standards are met:</p> <ul style="list-style-type: none"> 1. A critical area study shall be required for any alteration of a landslide hazard area or associated buffer; 2. Buffers shall be applied as follows. When more than one condition applies to a site, the largest buffer shall be applied. <ul style="list-style-type: none"> a. Steep slopes. Buffer widths shall be equal to the height of a steep slope, but shall not more than 75 feet, and applied to the top and toe of slopes; b. Shallow landslide hazard areas shall have minimum 25 - foot buffers applied in all directions; and c. Deep - seated landslide hazard areas shall have 75 - foot buffers applied in all directions. 	<ul style="list-style-type: none"> 1. A GDR and GDM were prepared by a qualified geotechnical engineer for the NME Project area. Together, the reports identify the areas where the pipeline alignment and ancillary facilities are within landslide hazard areas, the proposed construction methods within these areas, the subsurface soil and groundwater conditions, and an evaluation of risks and whether mitigation measures are necessary for these areas. 2. Landslide Hazard Areas and buffers are identified in the PLAN. 	<p>GDR GDM PLAN CAS (Sections 3.3, 4.3, and 5.1)</p>

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MICC Section	Code Standard	NME Project Documented Compliance	Environmental Report (Section)
<p>19.07.160(D) Geologically Hazardous Areas</p>	<p><i>Development Standards – Seismic Hazard Areas:</i> When development is proposed within a seismic hazard area:</p> <ol style="list-style-type: none"> 1. A critical area study shall be required and shall include an evaluation by a qualified professional for seismic engineering and design, a determination of the magnitude of seismic settling that could occur during a seismic event, and a demonstration that the risk associated with the proposed alteration is within acceptable limits or that appropriate construction methods are provided to mitigate the risk of seismic settlement such that there will be no significant impact to life, health, safety, and property. 2. Identification of Seismic Hazard Areas: Seismic hazard areas shall be identified by a qualified professional who references and interprets information in the U.S. Geological Survey Active Faults Database, performs on-site evaluations, or applies other techniques according to best available science. 3. When development is proposed on a site with an active fault, the follow provisions shall apply: <ol style="list-style-type: none"> a. A 50-ft minimum buffer shall be applied from latest Quaternary, Holocene, or historical fault rupture traces as identified by the United States Geological Survey or Washington Geological Survey map databases or by site investigations by licensed geologic professionals with specialized knowledge of fault trenching studies; or b. Mitigation sequencing shall be incorporated into the development proposal as recommended based on geotechnical analysis by a qualified professional to prevent increased risk of harm to life and/or property. 	<ol style="list-style-type: none"> 1. A GDR and GDM were prepared by a qualified geotechnical engineer for the NME Project area. Together, the reports identify seismic design considerations, seismic design criteria, and liquefaction potential analysis for the NME Project. The analysis in GDM identified potential liquefaction-induced settlement at three structures near SE 35th Place, where over-excavation and replacement with structural fill is recommended, which will mitigate the settlement. The GDM also identified four short reaches of pipeline with liquefaction-induced settlement of 1 to 3 inches that could occur and can be mitigated by the pipe design. No lateral spreading due to seismic activity was identified along the NME Project alignment. In the engineer’s opinion, seismic settlement will not significantly impact life, safety, or property. 2. Liquefaction potential analysis were conducted on all borings to identify seismic hazard areas (GDR). The five locations described above were the only areas identified along the NME Project alignment. 3. Based on US Geological Survey active faults database, the NME Project alignment is roughly parallel to a fault splay associated with the Seattle Fault Zone. The actual location is not known and, therefore, there are no identifiable mitigation measures available. 	<p>GDR GDM PLAN CAS (Sections 3.3, 4.3, and 5.1)</p>
<p>19.07.160(E) Geologically Hazardous Areas</p>	<p><i>Development Standards – Erosion Hazard Areas:</i></p> <ol style="list-style-type: none"> 1. All development proposals shall demonstrate compliance with MICC Chapter 15.09 – Storm Water Management Plan. 2. No development or activity within an Erosion Hazard Area may create a net increase in geological instability on- or off- site. 	<p>The NME Project will prepare a Stormwater Pollution and Prevention Plan (SWPPP) for the construction permit package. For the land use package, a TESC Plan has been prepared within the PLAN.</p>	<p>PLAN (V1: C011-C015, C101, C601-602; V2: C001-C004)</p>
<p>19.07.160(F) Geologically Hazardous Areas</p>	<p><i>Development Standards – Additional Criteria for Specific Activities:</i></p> <ol style="list-style-type: none"> 2. Land clearing, grading, filling, and foundation work within: 1) an erosion hazard area, when 2,000 SF or more of site disturbance is proposed, and/or 2) a landslide hazard area are not permitted between October 1 and April 1. <ol style="list-style-type: none"> a. The code official may grant a waiver to this seasonal development limitation if the applicant provides a critical area study for the site concluding that: <ol style="list-style-type: none"> (1) geotechnical slope stability concerns, erosion and sedimentation impacts can be effectively controlled on-site consistent with adopted storm water standards; and (2) the proposed construction work will not subject people or property, including areas off- site, to an increased risk of associated impacts. 	<p>The NME Project will conform to geologic hazard development standards as is practicable, but with the majority of the alignment occurring within geologic hazard areas, the Project will apply for a seasonal development limitation waiver. The NME Project timeline is described within the CAS.</p> <p>The GDM, prepared by the geotechnical engineer, provides recommendations for wet weather work. In general, within the geologically hazardous areas, the pipeline and ancillary facilities of the NME Project will be constructed along limited lengths in shallow trenches and excavations of 15 feet or less and will be backfilled to match the existing grade prior to starting excavation and installation of the adjacent section of pipeline. Provided that wet weather work recommendations are followed, it is the geotechnical engineer’s opinion that no safety problems, environmental harm or</p>	<p>GDM CAS (Section 4.1)</p>

Table 5. Compliance of NME Project with MICC Chapter 19.07

MICC Section	Code Standard	NME Project Documented Compliance	Environmental Report (Section)
	<p>b. As a condition of the waiver, the code official may require erosion control measures, restoration plans, an indemnification, a release agreement and/or performance bond.</p> <p>c. If site activities result in erosion impacts or threaten water quality standards, the city may suspend further work on the site and/or require remedial action.</p> <p>d. Failure to comply with the conditions of an approved waiver shall subject the applicant to code compliance pursuant to MICC Chapter 6.10 – Code Compliance, including but not limited to civil penalties and permit suspension.</p>	<p>adverse environmental impacts to the erosion or landslide hazard areas, the NME Project area, or neighboring properties will occur from allowing the work to occur during the wet weather season.</p>	
<p>19.07.170(B) Fish and Wildlife Habitat Conservation Areas</p>	<p><i>General Review Requirements:</i></p> <p>1. When development is proposed in the areas described in subsection A, the applicant shall, unless the proposal is specifically exempt pursuant to MICC 19.07.120, submit a wildlife habitat assessment in the form of a critical area study prepared by a qualified professional including the following information:</p> <ul style="list-style-type: none"> a. Identification of the species referenced in subsection A. that have a primary association with habitat on or in the vicinity of the site; b. Extent of wildlife habitat areas, including acreage, and required buffers based on the species; c. Vegetative, faunal, and hydrologic characteristics; d. Evaluation of direct and indirect potential impacts on habitat by the project, including potential impacts to water quality; 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 f. A discussion of avoidance, minimization, and mitigation of impacts pursuant to section 19.07.100 of this chapter. 	<p>The NME Project includes a wildlife habitat assessment within the CAS, prepared by qualified environmental professionals, which conforms to the regulations of MICC 19.07.170.</p> <p>The NME Project will adhere to all critical area buffers as regulated by the MICC, as well as all state and federal laws in connection with state and federal endangered or threatened species identified by the CAS. The NME Project will adhere to seasonal restrictions and approved in-water work windows to avoid and minimize potential impacts on fish and other aquatic and terrestrial species. All work proposed in fish and wildlife habitat will be developed using BMPs and will adhere to any restrictions or terms and conditions mandated by the regulatory/permitting agencies.</p>	<p>CAS (Sections 3.6, 4.3, and 5.1)</p>
<p>19.07.170(C) Fish and Wildlife Habitat Conservation Areas</p>	<p><i>Development Standards:</i></p> <p>1. Development proposals shall implement wildlife and habitat protection measures identified in the wildlife habitat assessment.</p> <p>2. Development proposals within areas used by bald eagles for foraging, nesting, or roosting, or within 660 feet of a bald eagle nest as identified by a critical area study shall follow the requirements of the US Fish and Wildlife’s National Bald Eagle Management Guidelines (2007).</p>	<p>The NME Project includes a wildlife habitat assessment within the CAS, prepared by qualified environmental professionals, which conforms to the regulations of MICC 19.07.170 and includes protection measures for wildlife.</p> <p>The NME Project’s CAS determined that all project activities will occur outside of the buffer around documented/known bald eagle nesting sites in Luther Burbank Park and other areas affected by the project.</p>	<p>CAS (Sections 3.6, 4.3, and 5.1)</p>
<p>19.07.180(B) Watercourses</p>	<p><i>General Review Requirements</i></p> <p>1. Development within watercourses and/or associated buffers is prohibited unless one of the following conditions applies:</p> <ul style="list-style-type: none"> a. The proposed activity is specifically exempt pursuant to MICC 19.07.120; b. A Critical Area Review 1 application is reviewed and approved for one of the modifications in MICC 19.07.130; or c. The proposed activity is permitted under subsection (D) Development Standards – Additional Criteria for Specific Activities, below. 	<p>The NME Project overlaps with watercourses and watercourse buffers within Mercer Island. Therefore, the NME Project’s CAS will conform to the standards of MICC 19.07.180, but is applying for a Public Agency Exception for work that cannot be avoided within one of the watercourse buffers (NMPS stream buffer), as detailed in response to MICC 19.07.150. Watercourses are also identified in the PLAN.</p>	<p>CAS (Sections 3.2, 4.3, 5.1, and 6.1 – 8.5, Appendix D) PLAN</p>

Table 5. Compliance of NME Project with MICC Chapter 19.07

MICC Section	Code Standard	NME Project Documented Compliance	Environmental Report (Section)										
<p>19.07.180(C) Watercourses</p>	<p>Development Standards – Buffers</p> <p>1. The following minimum buffers shall be established from the ordinary high water mark or from the top of the bank if the ordinary high water mark cannot be identified:</p> <table border="1" data-bbox="392 391 1287 570"> <thead> <tr> <th>Watercourse Type</th> <th>Standard Buffer</th> </tr> </thead> <tbody> <tr> <td>F</td> <td>120 feet</td> </tr> <tr> <td>Np</td> <td>60 feet</td> </tr> <tr> <td>Ns</td> <td>60 feet</td> </tr> <tr> <td>Piped</td> <td>No buffer</td> </tr> </tbody> </table> <p>2. Neither lot coverage nor hardscape shall be permitted within a watercourse or watercourse buffer except as specifically provided in this chapter.</p> <p>3. Any watercourse adjoined by a riparian wetland or other contiguous critical area shall have the buffer required for the stream type involved or the buffer that applies to the wetland or other critical area, whichever is greater.</p> <p>4. Buffer Averaging. Buffer width averaging shall be allowed provided the following requirements are met:</p> <ul style="list-style-type: none"> a. The applicant has demonstrated how impacts will be minimized and that avoidance has been addressed consistent with MICC 19.07.100 – Mitigation Sequencing; b. The applicant has demonstrated how all proposed impacts have been mitigated consistent with subsection (E) - Mitigation Requirements of this section and will not result in a loss of ecological function; c. The proposed buffer width is not less than 75% of the standard buffer width at any point; and d. The total area of the buffer is equal to the area required without averaging. <p>5. Buffer Reduction. Buffer width reduction shall be allowed provided the following requirements are met:</p> <ul style="list-style-type: none"> a. The applicant has demonstrated that buffer averaging would not feasibly allow development; b. The applicant has demonstrated how impacts will be minimized and that avoidance has been addressed consistent with MICC 19.07.100 – Mitigation Sequencing; c. The applicant has demonstrated how all proposed impacts have been mitigated consistent with subsection (E) of this section and will not result in a loss of ecological function; d. The proposed buffer width is not less than 75% of the standard buffer width at any point; and e. The proposed buffer reduction is not proposed in conjunction with buffer averaging. <p>6. <i>Piped watercourse setbacks</i></p> <ul style="list-style-type: none"> a. The intent of applying setbacks to piped watercourses is to preserve the opportunity to daylight watercourses that were previously piped, to provide incentives to property owners to daylight and 	Watercourse Type	Standard Buffer	F	120 feet	Np	60 feet	Ns	60 feet	Piped	No buffer	<p>The NME Project will overlap with streams and stream buffers. Based on available GIS data (Mercer Island 2019a), the NMPS stream is the only potential fish-bearing stream (Type F) within the NME Project area. Between the NMPS stream and I-90 East Channel Bridge, there are piped streams, perennial streams (Type Np), and a seasonal stream (Ns) within the NME Project area. There is also a perennial stream adjacent to the Luther Burbank Park parking lot that will be avoided.</p> <p>Impacts to streams or stream buffers will be temporary. The NMPS stream and buffer will be impacted by construction from the open cut-and-cover trench used to install the proposed wastewater pipe, and the stream buffer is expected to be impacted from upgrades to the NMPS facility and modified stormwater outfall. There is a piped stream just north of I-90 along the I-90 Trail that has a small section of seasonal stream that will overlap with the construction limits. The seasonal stream along the I-90 Trail will be avoided, but the buffer will be temporarily impacted. The final stream, the perennial stream adjacent to the 96th Avenue Siphon work area, will be avoided but the buffer that occurs within the street ROW will be temporarily impacted during construction.</p> <p>The NME Project will employ a wide variety of BMPs to avoid, minimize, and mitigate impacts to watercourses and associated buffers. Project conservation measures are described in the CAS. All NME Project impacts will be fully mitigated for in accordance to MICC regulations within environmentally critical areas. An avoidance, minimization, mitigation, and restoration plan for the NME Project is described in detail within the Site Restoration and Ecological Enhancement section of the CAS.</p> <p>No permanent impacts, such as placing of impervious surface area, will occur within existing watercourses. The NME Project will not relocate any streams, although Mercer Island will relocate the piped stream at Fruitland Landing Park (next to LS-11) prior to NME Project construction activities.</p> <p>The NME Project will require a Public Agency Exception for the NMPS and LS-11 construction activities. The NME project, overall, proposes a net improvement of the stream buffers at NMPS and along the I-90 Trail using habitat enhancement (e.g., removing invasive species and planting native species), but cannot accomplish the improvements to the regional wastewater system without impacts to watercourses and buffers. Watercourses and buffers are also identified in the PLAN.</p> <p>The NME Project will conform to all setback standards for watercourses in Mercer Island as per MICC 19.07.180.C.7-8. Only temporary impacts will occur in all</p>	<p>CAS (Sections 3.2, 4.3, 5.1, and 6.1 – 8.5, Appendix D) PLAN</p>
Watercourse Type	Standard Buffer												
F	120 feet												
Np	60 feet												
Ns	60 feet												
Piped	No buffer												

Table 5. Compliance of NME Project with MICC Chapter 19.07

MICC Section	Code Standard	NME Project Documented Compliance	Environmental Report (Section)
	<p>enhance previously piped watercourses, and to allow flexibility for development where daylighting piped watercourses is demonstrated to be infeasible.</p> <p>b. Setbacks shall be established 45 ft from the centerline of a piped watercourses.</p> <p>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:</p> <ul style="list-style-type: none"> (1) The watercourse channel will be stable and is not expected to cause safety risks or environmental damage; and (2) No additional impact nor encumbrance by watercourse buffer or critical area setback is added to properties neighboring the applicant(s) property. <p>d. Piped watercourse setback widths shall be reduced to: 1) 10 feet on lots with a lot width of 50 feet or more, and 2) 5 feet on lots with a width of less than 50 feet, when daylighting is determined by qualified professional(s) to result in one or more of the following outcomes:</p> <ul style="list-style-type: none"> (1) Increased risk of landslide or other potential hazard that cannot be mitigated; (2) Increased risk of environmental damage (e.g., erosion, diminished water quality) that cannot be mitigated; (3) The inability of a legally established existing lot to meet the vehicular access requirements of this title; or (4) The inability of a legally established existing lot to meet the building pad standards in MICC 19.09.090. <p>7. Buildings and other structures shall be set back a minimum of 10 feet from the edges of a watercourse buffer. The distance may be reduced to five feet if:</p> <ul style="list-style-type: none"> a. The watercourse is Type Ns; b. The buffer does not contain habitat for WDFW priority species. c. A split-rail fence is installed along the perimeter of the buffer; and d. Survey markers are installed along the perimeter of the buffer to establish its field location. <p>8. The following may be allowed in the critical area setback, provided no structures nor building overhangs may be closer than five feet from the edge of a watercourse buffer:</p> <ul style="list-style-type: none"> 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. 	<p>watercourse buffers or setbacks, with the exception of the NMPS stream buffer. No structures will be placed within the setback except for replacement of existing trails (e.g., I-90 Trail), landscaping, or other hardscape that is consistent with the existing conditions. Watercourses and setbacks are also identified in the PLAN.</p>	

Table 5. Compliance of NME Project with MICC Chapter 19.07

MICC Section	Code Standard	NME Project Documented Compliance	Environmental Report (Section)
<p>19.07.180(E) Watercourses</p>	<p><i>Mitigation Requirements:</i> Mitigation measures shall achieve equivalent or greater ecological function including, but not limited to:</p> <ol style="list-style-type: none"> 1. Habitat complexity, connectivity, and other biological functions; 2. Seasonal hydrological dynamics, water storage capacity and water quality; and 3. Geomorphic and habitat processes and functions 	<p>The NME Project will employ a wide variety of BMPs to avoid, minimize, and mitigate impacts to watercourses and associated buffers. Project conservation measures are described in the CAS. All NME Project impacts will be fully mitigated for in accordance to MICC regulations within environmentally critical areas. An avoidance, minimization, mitigation, and restoration plan for the Project is described in detail within the Site Restoration and Ecological Enhancement Plan.</p> <p>The NME Project will ensure no net loss of ecological functions and processes within critical areas. Although most impacts were avoided or minimized through NME Project design and construction BMPs, there are unavoidable impacts that will occur to critical areas and buffers. The majority (96%) of these impacts are temporary. Due to this temporary loss (or reduction) of habitat functions and values, the NME Project is proposing to increase habitat functions and values within specific locations along the pipeline route. This concept follows the Ecology (2010) framework to achieve no-net-loss of ecological functions. There are no required ratios for temporary impacts, but the NME Project proposes a ratio of 1:1 for site restoration to impacts. The additional restoration (beyond 1:1) proposed increases the ecological functions of the surrounding habitat. Overall, the NME Project provides a ratio that is larger than 1:1 for areas of site restoration and ecological enhancement (197,284 SF) to areas of impacts (150,810 SF), resulting in no-net-loss of ecological functions along the pipeline alignment. An analysis of no net loss is included within the CAS.</p>	<p>CAS (3.2, 4.3, 5.1, and 6.1 – 8.5, Appendix D) PLAN</p>

4.2.2 Section 19.10 Trees

The NME Project will require tree protection, removal, and replacement. This section discusses all applicable sections of MICC 19.10 Trees. Table 6 responds to each applicable section and references the relevant supporting documents within this land use permitting package.

Table 6. Compliance of NME Project with MICC Chapter 19.10			
MICC Section	Code Standard	NME Project Documented Compliance	Environmental Report (Report Section)
19.10.060(A)(1) Single-Family Zoning Designations	<p><i>Single-Family Zoning Designations.</i></p> <p>1. In the R-8.4, R-9.6, R-12, and R-15 zoning designations, tree retention is required for the following development proposals:</p> <ul style="list-style-type: none"> a. An addition or remodel to an existing single-family dwelling that will result in the addition of more than 500 square feet of gross floor area on a lot with a net lot area of 6,000 square feet or more; b. A new single-family dwelling on a lot with a net lot area of 6,000 square feet or more; c. A subdivision or short subdivision. 	<p>The NME Project will provide an ARBR prepared by a qualified arborist, including a survey and assessment of all trees within and adjacent to the limits of construction. The NME Project will conform to the recommendations in the ARBR and the regulations within MICC 19.10 regarding tree retention, protection, removal, and replacement within single-family zones within Mercer Island. Tree protection is also identified on the PLAN.</p>	<p>ARBR PLAN</p>
19.10.060(A)(2) Retention Requirement	<p><i>Retention Requirement.</i> Development proposals specified under subsection (A)(1) of this section shall retain trees as follows:</p> <ul style="list-style-type: none"> a. A minimum of 30 percent of trees with a diameter of 10 inches or greater, or that otherwise meet the definition of large tree, shall be retained over a rolling five-year period. b. In addition to the retention required in subsection (A)(2)(a) of this section, the development proposal shall be designed to further minimize the removal of large trees and maximize on-site tree retention as follows: <ul style="list-style-type: none"> i. Site improvements, including but not limited to new single-family homes, additions to a single-family home, appurtenances, accessory structures, utilities, and driveways, shall be designed and located to minimize tree removal during and following construction. ii. The following trees shall be prioritized for retention: <ul style="list-style-type: none"> (a) Exceptional trees; (b) Trees with a diameter of more than 24 inches; (c) Trees that have a greater likelihood of longevity; and (d) Trees that are part of a healthy grove. iii. Trees shall not be removed outside the area of land disturbance except where necessary to install site improvements (e.g., driveways, utilities, etc.). iv. Tree removal for the purposes of site landscaping should be limited to those trees that will pose a future safety hazard to existing or proposed site improvements. c. Provide tree replacement pursuant to MICC 19.10.070. 	<p>The NME Project will provide an ARBR prepared by a qualified arborist, which identifies exceptional trees within and adjacent to the limits of construction, as well as a TMP. The project will conform to the recommendations in the ARBR and the regulations within MICC 19.10 regarding regulated (>10-inches diameter) tree retention, protection, removal, and replacement within single-family zones within Mercer Island. The ARBR also addresses all trees >6-inches diameter within Mercer Island's ROW, as requested by the city arborist. Tree protection is also identified on the PLAN.</p>	<p>ARBR TMP PLAN</p>

Table 6. Compliance of NME Project with MICC Chapter 19.10

MICC Section	Code Standard	NME Project Documented Compliance	Environmental Report (Report Section)										
<p>19.10.060(A)(3) Retention of Exceptional Trees</p>	<p><i>Retention of Exceptional Trees.</i> Development proposals specified under subsection (A)(1) of this section shall retain exceptional trees with a diameter of 24 inches or more. Exceptional trees with a diameter of 24 inches or more that are retained shall be credited towards compliance with the retention requirements of subsection (A)(2) of this section. Removal of exceptional trees with a diameter of 24 inches or more, shall be limited to the following circumstances:</p> <ul style="list-style-type: none"> a. Retention of an exceptional tree(s) with a diameter of 24 inches or more will result in an unavoidable hazardous situation; or b. Retention of an exceptional tree(s) with a diameter of 24 inches or more will limit the constructible gross floor area to less than 85 percent of the maximum gross floor area allowed under Chapter 19.02 MICC; or c. Retention of an exceptional tree(s) with a diameter of 24 inches or more will prevent creation of a residential lot through a subdivision or short subdivision that is otherwise allowed by this title. 	<p>The NME Project will provide an ARBR prepared by a qualified arborist, including a survey and assessment of all trees within and adjacent to the limits of construction, as well as a TMP. The project will conform to the recommendations the ARBR and the regulations within MICC 19.10 regarding exceptional tree retention, protection, removal, and replacement within single-family zones within Mercer Island. Tree protection is also identified on the PLAN.</p>	<p>ARBR TMP PLAN</p>										
<p>19.10.070(A) Tree Replacement Ratio</p>	<p>Trees that are cut pursuant to a tree permit shall be replaced as specified in subsections A and B of this section, or a fee in lieu shall be paid as specified in subsection C of this section.</p> <p>A. <i>Tree Replacement Ratio.</i> Removed trees shall have the following base replacement ratio:</p> <table border="1" data-bbox="655 792 1080 1122"> <thead> <tr> <th>Diameter of removed tree</th> <th>Number of replacement trees required</th> </tr> </thead> <tbody> <tr> <td>Less than 10 inches</td> <td>1</td> </tr> <tr> <td>10 inches up to 24 inches</td> <td>2</td> </tr> <tr> <td>24 inches up to 36 inches</td> <td>3</td> </tr> <tr> <td>More than 36 inches and any exceptional tree(s)</td> <td>6</td> </tr> </tbody> </table>	Diameter of removed tree	Number of replacement trees required	Less than 10 inches	1	10 inches up to 24 inches	2	24 inches up to 36 inches	3	More than 36 inches and any exceptional tree(s)	6	<p>The NME Project will conform to replacement tree regulations within MICC 19.10.070. Tree removals, replacement ratios, and locations are discussed in the ARBR and the TMP. Tree protection and removals are also identified on the PLAN.</p>	<p>ARBR (Section 4) TMP (Sections 2 and 4) PLAN</p>
Diameter of removed tree	Number of replacement trees required												
Less than 10 inches	1												
10 inches up to 24 inches	2												
24 inches up to 36 inches	3												
More than 36 inches and any exceptional tree(s)	6												
<p>19.10.070(B)(1) Replacement Trees – Location</p>	<p><i>Replacement Trees.</i></p> <p>1. Location. Replacement trees shall be located in the following order of priority from most important to least important:</p> <ul style="list-style-type: none"> a. On-site replacement adjacent to or within critical tree areas as defined in Chapter 19.16 MICC; b. On-site replacement outside of critical tree areas adjacent to other retained trees making up a grove or stand of trees; c. On-site replacement outside of critical tree areas; and d. Off-site in adjacent public right-of-way where explicitly authorized by the city. 	<p>The NME Project will locate tree replacements within the project area as is practicable, conforming to the priority locations within 19.10.070.B. Tree planting locations are shown within the Landscape and Restoration sheets of the PLAN.</p> <p>For the majority of the pipeline alignment, the work will occur along the I-90 Trail, which will also include widening the trail per the Aubrey Davis Park Master Plan concept alternatives (Mercer Island 2018) and WSDOT (2015) guidelines. The proposed trail improvements includes trail widths of at least 12 feet and up to 14 feet with a 2-foot gravel shoulder along each side. This is compared to an existing condition of</p>	<p>PLAN (V1: L101-L104, C601-602; V2: C061-C067, C081-C085, C087, C118, C132-134, C401-C432, C451-466)</p>										

Table 6. Compliance of NME Project with MICC Chapter 19.10

MICC Section	Code Standard	NME Project Documented Compliance	Environmental Report (Report Section)
		a trail that is typically 10 feet to 11 feet wide. Tree quantities that cannot be replaced due to this trail widening will be provided through a fee-in-lieu of planting or replaced offsite on public property where explicitly requested by Mercer Island. The removal and re-planting of vegetation along the I-90 Trail will be in consultation with Mercer Island and WSDOT.	
19.10.070(B)(2) Replacement Trees – Species	<i>Replacement Trees.</i> 2. <i>Species.</i> Replacement trees shall primarily be those species native to the Pacific Northwest. In making a determination regarding the species of replacement trees, the city arborist shall defer to the species selected by the property owner unless the city arborist determines that the species selected is unlikely to survive for a period of at least 10 years, represents a danger or nuisance, would threaten overhead or underground utilities or would fail to provide adequate protection to any critical tree area.	The NME Project will primarily plant trees and vegetation native to the Pacific Northwest within critical areas, buffers, and shorelands. Replacement tree species along the I-90 Trail will be selected in consultation with Mercer Island’s arborists. The tree species, planting mixes, and locations proposed within Mercer Island were developed by a qualified landscape architect and are shown within the Landscape and Restoration sheets of the PLAN. The removal and re-planting of vegetation within the NME Project area, or fee-in-lieu, will be in consultation with Mercer Island and WSDOT.	PLAN (V1: L101-L104, C601-602; V2: C061-C067, C081-C085, C087, C118, C132-134, C401-C432, C451-466)
19.10.070(B)(3) Replacement Trees – Size	<i>Replacement Trees.</i> 3. <i>Size.</i> a. Coniferous trees shall be at least six feet tall; and b. Deciduous trees shall be at least one and one-half inches in caliper. The city arborist may authorize the planting of smaller-sized replacement trees if the applicant can demonstrate that smaller trees are more suited to the species, the site conditions, neighborhood character, and the purposes of this section, and that such replacement trees will be planted in sufficient quantities to meet the intent of this section. The city arborist shall not authorize the planting of shrubs or bushes in lieu of required replacement trees.	The NME Project will conform to replacement tree regulations within MICC 19.10.070. Tree removals, replacement ratios, and locations are discussed in the ARBR and the TMP. The removal and re-planting of vegetation within the NME Project area, or fee-in-lieu, will be in consultation with Mercer Island and WSDOT.	ARBR (Section 4) TMP (Sections 2 and 4)
19.10.070(B)(4) Replacement Trees – Reduction	<i>Replacement Trees.</i> 4. <i>Reduction.</i> The city arborist may reduce the number of replacement trees as follows, where other measures designed to mitigate the tree loss by restoring the tree canopy coverage and its associated benefits are considered to be effective and consistent with the purposes of this chapter. The city arborist may consider, but is not limited to, the following measures: a. Replacement of hazardous, undesired, or short-lived trees with healthy new trees that have a greater chance of long-term survival; b. Restoration of critical tree areas with native vegetation; and c. Protection of small trees to provide for successional stages of tree canopy.	The NME Project is not proposing to reduce the number of replacement trees required by MICC 19.10.070. See below; response to Section C.	TMP (Section 4)
19.10.070(B)(5) Replacement Trees – Timing	<i>Replacement Trees.</i>	The NME Project will plant replacement trees during the wet season following the completion of construction activities.	N/A

Table 6. Compliance of NME Project with MICC Chapter 19.10			
MICC Section	Code Standard	NME Project Documented Compliance	Environmental Report (Report Section)
	5. Timing. Replacement trees shall be planted in the wet season (October 1 through April 1), following the applicable tree removal or, in the case of a development proposal, completion of the development work, provided the city arborist may authorize an extension to ensure optimal planting conditions for tree survival.		
19.10.070(C) Fee-in-Lieu	<p><i>Fee-in-Lieu.</i> If the city arborist determines there is insufficient area to replant on the site or within the adjacent public right-of-way, the city arborist may authorize payment of a fee-in-lieu provided:</p> <ol style="list-style-type: none"> 1. There is insufficient area on the lot or adjacent right-of-way for proposed on-site tree replacement to meet the tree replacement requirements of this chapter; or 2. Tree replacement or management provided within public right-of-way or a city park in the vicinity will be of greater benefit to the community. 3. Fees provided in lieu of on-site tree replacement shall be determined based upon: <ol style="list-style-type: none"> a. The expected tree replacement cost including labor, materials, and maintenance for each replacement tree; and b. The most current Council of Tree and Landscaper Appraisers Guide for Plant Appraisal. 4. Any fee-in-lieu is also optional for the applicant and requires an explicit written agreement. 	The NME Project will not have sufficient area to replant on the site, due to the expansion of the I-90 Trail incorporated into the project. Therefore, the NME Project will apply for a fee-in-lieu for the replacement trees on Mercer Island that cannot be placed within the North Mercer Island Interceptor pipeline alignment.	TMP (Section 4)
19.10.070(D) Maintenance of Replacement Trees	<i>Maintenance of Replacement Trees.</i> The applicant shall maintain all replacement trees in a healthy condition for a period of five years after planting. The applicant shall be obligated to replant any replacement tree that dies, becomes diseased, or is removed during this five-year time period.	The NME Project will provide maintenance of replacement trees within Mercer Island ROW and property, which would include a 5-year plan for monitoring and management of replacement trees and plantings. Areas within WSDOT ROW will have a 3-year monitoring and management plan, per WSDOT (2015).	N/A
19.10.080(A) Tree Protection Standards	A. <i>Tree Protection Standards.</i> To ensure long-term viability of trees identified for protection, permit plans and construction activities shall comply with the then-existing Best Management Practices (BMP) – Managing Trees During Construction, published by the International Society of Arboriculture, adopted by reference. The tree protection plan shall be prepared by a qualified arborist and the plan shall be reviewed for adequacy by the city arborist. All minimum required tree protection measures shall be shown on the development plan set and tree replanting/restoration/protection plan.	The NME Project will provide a Tree Protection Plan utilizing BMPs for managing trees during construction. Tree protection measures are described within the ARBR and TMP, and are shown within the restoration and landscape sheets within the PLAN.	ARBR (Appendix D) TMP (Section 3) PLAN (V1: L101-L104, C601-602; V2: C061-C067, C081-C085, C087, C118, C132-134, C401-C432, C451-466)
19.10.080(B) Alternative Methods	<p>B. <i>Alternative Methods.</i> The city arborist may approve construction-related activity or work within the tree protection barriers if the city arborist concludes:</p> <ol style="list-style-type: none"> 1. That such activity or work will not threaten the long-term health of the retained tree(s); and 2. That such activity or work complies with the protective methods and best building practices established by the International Society of Arboriculture. (Ord. 17C-15 § 1 (Att. A)). 	Any work proposed within tree protection zones will be overseen by a certified arborist.	ARBR (Section 4) TMP (Section 3)

Table 6. Compliance of NME Project with MICC Chapter 19.10

MICC Section	Code Standard	NME Project Documented Compliance	Environmental Report (Report Section)
<p>19.10.090 (A) Application Requirements – General Information</p>	<p>The city shall establish and maintain a tree removal permit application form to allow property owners to request city review of tree removal for compliance with applicable city regulations. The application shall include at a minimum, the following:</p> <p><i>A. General Information.</i></p> <ol style="list-style-type: none"> 1. The name, address, telephone number of the applicant, the name, address, telephone number of the property owner, and the street address of the property. 2. The proposed location, species, diameter, and number of trees proposed to be cut or public tree proposed to be pruned. 3. The proposed location and number of any required replacement trees. 4. A site plan reflecting the location of large trees and the relative location of structures, driveways, and buildings. 5. Additional information required by the city to confirm compliance with this Chapter or Chapter 19.07 MICC. 	<p>The NME Project is submitting a Land Use Permit Application package, which includes the requirements of the tree removal application, in compliance with MICC 19.10.090.</p>	<p>N/A</p>
<p>19.10.090 (B) Application Requirements – Critical Tree Areas</p>	<p><i>B. Critical Tree Area.</i> An application covering a tree located in a critical tree area, as defined in Chapter 19.16 MICC, shall include a proposed time schedule for the cutting, land restoration, implementation of erosion control and other measures that will be taken in order to prevent damage to the critical tree area.</p>	<p>To meet the Tree Removal Application requirements, the NME Project will submit the following environmental reports and plans prepared by qualified professionals: (1) ARBR, (2) TMP, (3) CAS, and (4) Landscape and Restoration Site Plans. These reports will be refined and finalized for the construction permit application package. In combination, these reports and plans would meet the requirements of MICC 19.10.090, with one exception: trees were not physically tagged in the field (MICC19.10.090(C)(2)(a)(i)).</p> <p>Maintaining tree tags over the course of several years (design through construction) on a public site as large as this was impractical.</p>	<p>ARBR TMP CAS PLAN (V1: L101-L104, C601-602; V2: C061-C067, C081-C085, C087, C118, C132-134, C401-C432, C451-466)</p>
<p>19.10.090 (C) Application Requirements – Development Plan Set</p>	<p><i>C. Development Plan Set.</i> An application for a development proposal that requires tree retention, and that will result in the removal of one or more trees and as a result of construction work, shall include the following:</p> <ol style="list-style-type: none"> 1. Detailed Site Plan. The site plan shall include the following information at a minimum: <ol style="list-style-type: none"> a. Location of all proposed improvements, including building footprint, access, utilities, applicable setbacks, buffers, and required landscaped areas clearly identified. If a short plat or subdivision is being proposed and the location of all proposed improvements cannot be established, a phased tree retention plan review is required as described below; 	<p>To meet the Tree Removal Application requirements, the NME Project will submit the following environmental reports and plans prepared by qualified professionals: 1) ARBR, 2) TMP, 3) CAS, and 4) Landscape and Restoration Site Plans. In combination, these reports and plans meet the requirements of MICC 19.10.090.</p>	<p>ARBR TMP CAS PLAN (V1: L101-L104, C601-602; V2: C061-C067, C081-C085, C087, C118, C132-134, C401-C432, C451-466)</p>

Table 6. Compliance of NME Project with MICC Chapter 19.10

MICC Section	Code Standard	NME Project Documented Compliance	Environmental Report (Report Section)
	<p>b. Accurate location of large trees on the subject property (surveyed locations may be required). The site plan must also include the trunk location and critical root zone of large trees that are on adjacent property with driplines extending over the subject property line;</p> <p>c. Trees labeled corresponding to the tree inventory numbering system;</p> <p>d. Location of tree protection measures;</p> <p>e. Indicate limits of disturbance (LOD) drawn to scale around all trees potentially impacted by site disturbances resulting from grading, demolition, or construction activities (including approximate LOD of off-site trees with overhanging driplines);</p> <p>f. Proposed tree status (trees to be removed or retained) noted by an 'X' or by ghosting out;</p> <p>g. Proposed locations of any required replacement trees.</p> <p>2. A Tree Retention Plan and Arborist Report. The tree retention plan shall contain the following information:</p> <p>a. A tree inventory containing the following:</p> <ul style="list-style-type: none"> i. A numbering system of all existing large trees on the subject property (with corresponding tags on trees); the inventory shall also include large trees on adjacent property with driplines or critical root zones extending into the development proposal site; ii. Size (diameter); iii. Proposed tree status (retained or removed); iv. Tree type or species; v. Brief general health or condition rating of these trees (i.e., poor, fair, good, etc.). <p>b. An arborist report, prepared by a qualified arborist, containing the following:</p> <ul style="list-style-type: none"> i. A complete description of each tree's diameter, species, critical root zone, limits of allowable disturbance, health, condition, and viability; ii. A description of the method(s) used to determine the limits of allowable disturbance (i.e., critical root zone, root plate diameter, or a case-by-case basis description for individual trees); iii. Any special instructions specifically outlining any work proposed within the limits of the disturbance protection area (i.e., hand-digging, air spade, tunneling, root pruning, any grade changes, clearing, monitoring, and aftercare); iv. For trees not viable for retention, a description of the reason(s) for removal based on poor health, high risk of failure due to structure, defects, unavoidable isolation (wind firmness), or unsuitability of species, etc., and for which no reasonable alternative action is possible must be given (pruning, cabling, etc.); v. Describe the impact of necessary tree removal to the remaining trees, including those in a grove or on adjacent properties; 		

Table 6. Compliance of NME Project with MICC Chapter 19.10			
MICC Section	Code Standard	NME Project Documented Compliance	Environmental Report (Report Section)
	<p>vi. For development applications, a discussion of timing and installation of tree protection measures. Such measures must include fencing and be in accordance with the tree protection standards as outlined in this chapter; and</p> <p>vii. The suggested location and species of supplemental trees to be used when required. The report shall include planting and maintenance specifications to ensure long-term survival.</p>		
19.10.110 Seasonal Development Limitations	No cutting of trees located in geologic hazard areas or protected slope areas is allowed between October 1 and April 1 unless: (A) a tree permit with explicit authorization for removal between October 1 and April 1 has been granted; or (B) removal is required due to an emergency situation involving immediate danger to life or property. The city arborist may authorize tree removal between October 1 and April 1 if the city arborist determines that such environmentally critical areas will not be adversely impacted by the proposed cutting and the applicant demonstrates compelling justification based on a geotechnical evaluation of the site. The city arborist may require hydrology, soils and storm water studies, erosion control measures, restoration plans, and/or an indemnification/release agreement. (Ord. 17C-15 § 1 (Att. A)).	As over 60% of the NME Project will occur within areas categorized as geologically hazardous within Mercer Island, and NME Project construction will occur year-round, the NME Project would apply for a Wet Season Tree Removal Restriction Waiver in order to complete the project on schedule. The NME Project schedule is described within the CAS.	CAS (Sections 3.3 and 4.2)
19.10.140 Nuisance Abatement	<p>A. In addition to the requirements of this chapter, trees and vegetation which meet the definition of a nuisance shall be subject to the provisions of Chapter 8.24 MICC, Nuisance Control Code.</p> <p>B. In addition to the provisions of Chapter 8.24 MICC, Nuisance Control Code, the following requirements shall apply to trees and vegetation:</p> <ol style="list-style-type: none"> 1. Branches over roads shall be trimmed to a minimum of 12 feet above the road surface (see Figure 1). 2. Branches over sidewalks shall be trimmed to a minimum of eight feet above the sidewalk and one foot behind the sidewalk (see Figure 1). 3. Street trees and other vegetation will be spaced according to the following spacing requirements to facilitate the safe flow of traffic (see Figure 2): <ol style="list-style-type: none"> a. No tree plantings are allowed within a 30-foot sight triangle at any street intersection. b. Shrubs shall not exceed 36 inches in height above the street level within this triangle. c. Ten-foot minimum spacing shall be observed for small trees. d. Hedges are not allowed between the sidewalk and the curb, and must be planted at least five feet behind the sidewalk. e. Hedges must be trimmed at least three feet behind the sidewalk. f. Plantings of trees, shrubs or hedges are not allowed between the street/road edge and a ditch. 	<p>The NME Project will conform to the tree trimming and street tree planting regulations within MICC 19.10.140. Tree trimming recommendations are described within the tree tables of the ARBR and will again be addressed in the tree protection plan, which will be submitted by the contractor.</p> <p>The tree species, planting mixes, and locations proposed within Mercer Island were developed by a qualified landscape architect and are shown within the Landscape and Restoration sheets of the PLAN.</p>	ARBR (Appendix F) PLAN (V1: L101-L104, C601-602; V2: C061-C067, C081-C085, C087, C118, C132-134, C401-C432, C451-466)

4.2.3 Section 19.13 Shoreline Master Program

The NME Project components are located within the shoreline of Lake Washington and shorelands of Mercer Island. This section discusses applicable sections of MICC 19.13 Mercer Island’s SMP. Note that the revised SMP was adopted by Mercer Island, but is not yet approved by Ecology. Guidance for how to address the pre-2019 critical areas code within the SMP was provided during the PRE19-042. Table 7 responds to each section and references the relevant supporting documents within this land use permitting package.

Table 7. Compliance of NME Project with MICC Chapter 19.13 Shoreline Master Program			
MICC Section	Code Standard	NME Project Documented Compliance	Environmental Report (Section)
<p>19.13.020(C) General Regulations</p>	<p><i>No Net Loss Standard and Mitigation Sequencing.</i> No development shall be approved unless the applicant demonstrates to the code official’s satisfaction that the shoreline development will not create a net loss of ecological function in the shorelands.</p> <p>2. No Net Loss Plan. Whenever an applicant seeks a variance or conditional use permit or an applicable development standard explicitly requires a determination of no net loss of ecological function, the applicant shall provide the city with a plan that demonstrates the proposed project will not create a net loss in ecological function to the shorelands. The plan shall accomplish no net loss of ecological function by avoiding adverse ecological impacts that are not reasonably necessary to complete the project, minimizing adverse ecological impacts that are reasonably necessary to complete the project, and mitigating or offsetting any adverse impacts to ecological functions or ecosystem-wide processes caused by the project. The code official may require the plan to include reports from qualified professionals with expertise in ecological function. The plan’s compliance with the no net loss requirement may be considered through the SEPA process.</p> <p>a. Off-Site Mitigation Permitted. While on-site mitigation is preferred, off-site mitigation may be permitted at the discretion of the code official.</p> <p>b. Demonstration of No Net Loss Supported by a Qualified Professional. The code official may require any applicant to provide reports by qualified professionals that demonstrate to the code official’s satisfaction that the applicant’s proposed plan avoids a net loss in ecological function.</p>	<p>The NME Project will ensure no net loss of ecological functions and processes within shorelands. Although most impacts were avoided or minimized through NME Project design and construction BMPs, there are unavoidable impacts that will occur within shorelands. Specifically, within shorelands, the majority (98%) of NME Project impacts are temporary. Due to this temporary loss (or reduction) of habitat functions and values, the NME Project is proposing to increase habitat functions and values within specific locations along the pipeline route. This concept follows the Ecology (2010) framework to achieve no-net-loss of ecological functions. There are no required ratios for temporary impacts, but the NME Project proposes a ratio of 1:1 for site restoration to impacts. The additional restoration (beyond 1:1) proposed increases the ecological functions of the surrounding habitat.</p> <p>Within shorelands, the NME Project provides a ratio that is larger than 1:1 for areas of site restoration and ecological enhancement (70,860 SF) to areas of impacts (50,700), resulting in no-net-loss of ecological functions. An analysis of no net loss is included within the CAS. The site restoration and ecological enhancement plan was created by Qualified Professionals. The qualifications can be found at the end of the CAS (Section 9).</p>	<p>CAS (Sections 3.4, 3.5, 5.1, 6.1, 6.2, 9, Appendix D)</p>
<p>19.13.040 Use Regulations</p>	<p>The following tables specify the shoreline uses and developments which may take place or be conducted within the designated environments. The uses and developments listed in the matrix are allowed only if they are not in conflict with more restrictive regulations of the Mercer Island development code and are in compliance with the standards specified in subsection E of this section.</p> <p>Shoreland Uses Waterward of the Ordinary High Water Mark Utilities are a permitted (P) use within urban residential environment and urban park environment.</p>	<p>Environmental designations along the proposed NME Project alignment include urban residential environment and urban park environment. Use regulations for the NME Project is under “Utility,” which is a permitted use within both the environmental designations. The NME Project is requesting permits for the proposed upgrades to the regional wastewater system.</p>	<p>CAS (Section 3.1)</p>

Table 7. Compliance of NME Project with MICC Chapter 19.13 Shoreline Master Program			
MICC Section	Code Standard	NME Project Documented Compliance	Environmental Report (Section)
<p>19.13.050(A) Standards Landward of the OHWM</p>	<p><i>Standards Landward of the OHWM.</i> The standards in Table C shall apply to development located landward of the OHWM:</p> <p>Table C. Requirements for Development Located Landward from the OHWM</p> <p>1. Setbacks for All Structures (Including Fences over 48 Inches High) and Parking: 25 feet from the OHWM and all required setbacks of the development code, except 1) light rail transit facilities and 2) shore access structures less than 30 inches above the existing or finished grade, whichever is lower. If a wetland is adjacent to the shoreline, measure the shoreline setback from the wetland’s boundary.</p> <p>2. Height Limits for all Structures: Shall be the same height limits specified in the development code but shall not exceed a height of 35 feet above average building elevation, except light rail transit facilities.</p> <p>3. Maximum Impervious Surface Area and Lot Coverage: 10%: between 0 and 25 feet from OHWM 30%: between 25 and 50 feet from OHWM</p>	<p>The only shorelands within the NME Project area include LS-11 (Fruitland Landing Park) and the Mercer Island Boat Launch. Both of these areas will adhere to the requirements for development located landward from the OHWM.</p> <p>1. The permanent impacts at LS-11 will be underground. The proposed improvement requested by Mercer Island will expand the existing footprint of the underground pump station at the park, some of which will occur within 25 feet of the OHWM. The power conduit and cable from the local service pole to the dry well will need to be replaced, which will require minor trenching above the OHWM of Lake Washington (a distance of <25 LF). The contractor will temporarily place gravel to stabilize the staging areas during construction, which will be removed after construction. Overall, proposed activities at Fruitland Landing Park will reduce the amount of structures but will increase the amount of hardscape. The NME Project proposes to move the overhead power lines to underground, which will enhance park scenery and habitat function.</p> <p>The only permanent impacts proposed at the Mercer Island Boat Launch is an operations and maintenance vault, which will be located more than 100 LF from OHWM, but still within the shorelands zone.</p> <p>2. Improvements at both LS-11 and at the Mercer Island Boat Launch will be underground, which do not meet the definition of a “structure” under the pre-2019 critical areas code or the revised code.</p> <p>3. The NME Project is working with Mercer Island because many of the requests made by Mercer Island operations will increase the impervious surface area. The existing LS-11 is a nonconforming structure because the existing conditions exceed the maximum impervious surface area identified in the SMP for lot coverage, even though the park is not a full lot (refer to the table below). Fruitland Landing Park is a street-end park that is narrow and has limited space to reduce the amount of hardscape due to the overall size. It would not be considered a “lot” based on single-family residence standards. The proposed improvements requested by Mercer Island to LS-11 will result in an increase of 10% between 0 and 25 feet of OHWM and 32% between 25 and 50 feet of OHWM.</p> <p>Impervious surface area at the Mercer Island Boat Launch will not exceed the maximum identified within the SMP. The proposed shoreline stabilization along the shoreline will reduce the amount of impervious surface area by removing a portion of the existing concrete bulkhead and replacing it with soft shore stabilization. The total amount of hardscape reduction will be -127 SF within 100 feet of OHWM.</p>	<p>CAS (Sections 4.2, 5.2, and 6.3) PLAN</p>

Table 7. Compliance of NME Project with MICC Chapter 19.13 Shoreline Master Program

MICC Section	Code Standard	NME Project Documented Compliance			Environmental Report (Section)
		Impervious Surface Area within Fruitland Landing Park			
			Within 25' of OHWM	Within 25-50' of OHWM	Total
		Existing Impervious Area (SF)	261	450	711
		Proposed Impervious Area (SF)	337	771	1108
		Added Impervious Area (SF)	76	321	397
		Total Area (included vegetated area) (SF)	730	1000	1730
		% Total Impervious Area	46%	77%	64%
		% Change Total Impervious Area	10%	32%	23%

Table 7. Compliance of NME Project with MICC Chapter 19.13 Shoreline Master Program

MICC Section	Code Standard	NME Project Documented Compliance	Environmental Report (Section)
<p>19.13.050(B) Bulkheads and Shoreline Stabilization Structures</p>	<p><i>Bulkheads and Shoreline Stabilization Structures.</i></p> <p>1. An existing shoreline stabilization structure may be replaced with a similar structure if there is a demonstrated need to protect principal uses or structures from erosion caused by currents or waves, and the following conditions shall apply:</p> <p>a. The replacement structure should be designed, located, sized, and constructed to assure no net loss of ecological functions.</p> <p>b. Replacement walls or bulkheads shall not encroach waterward of the ordinary high water mark or existing structure unless the primary structure was occupied prior to January 1, 1992, and there are overriding safety or environmental concerns. In such cases, the replacement structure shall abut the existing shoreline stabilization structure. Soft shoreline stabilization measures that provide restoration of shoreline ecological functions may be permitted waterward of the ordinary high water mark.</p> <p>c. For purposes of this section standards on shoreline stabilization measures, “replacement” means the construction of a new structure to perform a shoreline stabilization function of an existing structure which can no longer adequately serve its purpose. Additions to or increases in size of existing shoreline stabilization measures shall be considered new structures.</p> <p>d. Construction and maintenance of normal protective bulkhead common to single-family dwellings requires only a shoreline exemption permit, unless a report is required by the code official to ensure compliance with the above conditions; however, if the construction of the bulkhead is undertaken wholly or in part on lands covered by water, such construction shall comply with SEPA mitigation.</p>	<p>Enhancements at the Mercer Island Boat Launch will include removal of a portion of the existing bulkhead (65 LF out of 128 LF). The replacement shoreline stabilization will add anchor logs to increase habitat complexity, add gravel to the substrate, remove invasive plant species in riparian areas adjacent to the shoreline, and add native plant species to riparian areas. These combined efforts will provide an improvement to the ecological functions in the shorelands.</p> <p>There are also some minor improvements within LS-11 (planting native trees), but no bulkheads or other shoreline stabilization structures will be modified.</p> <p>a. The NME Project proposes to replace a large portion of the existing shoreline stabilization structure at Mercer Island Boat Launch, which is currently failing. The portion of the existing structure that will be replaced will use soft shore stabilization design elements, which will extend waterward of the OHWM and provide ecological enhancements above existing conditions.</p> <p>b. The structured designed along the Mercer Island Boat Launch shoreline uses soft shore design elements to improve the habitat functions provided. For example, the design proposes the use of anchor logs rather than a vertical bulkhead. The proposed design fits in the description of a soft shoreline stabilization measure, and will move waterward of the OHWM. The design is based on the water levels and wind-wave exposure along the Mercer Island shoreline (Confluence 2019).</p> <p>c. The proposed design is a replacement of a portion of the existing bulkhead that is both ecologically inferior (i.e., vertical concrete wall) and is failing in places that result in concrete being deposited into Lake Washington. The length of the portion of the bulkhead will be the same, but the width will expand waterward to provide soft shoreline stabilization measures to increase habitat complexity.</p> <p>d. The bulkhead will be partly on lands covered by water, and will comply with SEPA mitigation.</p>	<p>CAS (Section 6.3) PLAN (V2: C132-134)</p>

Table 7. Compliance of NME Project with MICC Chapter 19.13 Shoreline Master Program

MICC Section	Code Standard	NME Project Documented Compliance	Environmental Report (Section)
<p>19.13.050(B) Continued Bulkheads and Shoreline Stabilization Structures</p>	<p>7. Geotechnical reports pursuant to this section that address the need to prevent potential damage to a primary structure shall address the necessity for shoreline stabilization by estimating time frames and rates of erosion and report on the urgency associated with the specific situation. As a general matter, hard armoring solutions should not be authorized except when a report confirms that there is a significant possibility that such a structure will be damaged within three years as a result of shoreline erosion in the absence of such hard armoring measures, or where waiting until the need is that immediate would foreclose the opportunity to use measures that avoid impacts on ecological functions. Thus, where the geotechnical report confirms a need to prevent potential damage to a primary structure, but the need is not as immediate as the three years, that report may still be used to justify more immediate authorization to protect against erosion using soft measures.</p> <p>8. When any structural shoreline stabilization measures are demonstrated to be necessary, pursuant to above provisions, the following shall apply:</p> <p>a. Limit the size of stabilization measures to the minimum necessary. Use measures designed to assure no net loss of shoreline ecological functions. Soft approaches shall be used unless demonstrated not to be sufficient to protect primary structures, dwellings, and businesses.</p> <p>b. Ensure that publicly financed or subsidized shoreline erosion control measures do not permanently restrict appropriate public access to the shoreline except where such access is determined to be infeasible because of incompatible uses, safety, security, or harm to ecological functions. See public access provisions: WAC 173-26-221(4). Where feasible, incorporate ecological restoration and public access improvements into the project.</p> <p>c. Mitigate new erosion control measures, including replacement structures, on feeder bluffs or other actions that affect beach sediment-producing areas to avoid and, if that is not possible, to minimize adverse impacts to sediment conveyance systems. Where sediment conveyance systems cross jurisdictional boundaries, local governments should coordinate shoreline management efforts. If beach erosion is threatening existing development, local governments should adopt master program provisions for a beach management district or other institutional mechanism to provide comprehensive mitigation for the adverse impacts of erosion control measures.</p>	<p>The shoreline stabilization design is informed by a report by qualified professionals (e.g., coastal engineer, geotechnical engineer) that considered the current location and stability of the site as well as a comprehensive analysis of the site-specific conditions and natural processes occurring over time. The feasibility analysis included a wind-wave analysis and collaborations with landscape architects, biologists, and engineers to inform the conceptual design of the proposed soft shoreline stabilization (Confluence 2019, PLAN). Additional guidance was provided through the GDR and GDM discussing the steep slope behind the existing bulkhead that will be removed, and the need for a shoreline stabilization structure to support this slope.</p> <p>Further collaboration with Mercer Island and WSDOT will inform the final design and will be provided with the 90% drawings and submitted with the construction permit package. The conceptual design for the soft shoreline stabilization replacement and ecological enhancement at Mercer Island Boat Launch is included within the PLAN.</p>	<p>CAS (Section 6.3) PLAN (V2: C132-134) GDR GDM</p>
<p>19.13.050(K) General Requirements</p>	<p><i>General Requirements.</i> The following requirements apply to the following types of activities that may be waterward and/or landward of the OHWM:</p> <p>1. Critical Areas within the shorelands are regulated by MICC 19.07.010 through and including 19.07.090, as adopted in the MICC on January 1, 2011, except: MICC 19.07.030(B), Reasonable Use Exception, and 19.07.040(C), Setback Deviation, and (D), Variances.</p>	<p>The NME Project will meet the standards for work within shorelands and Lake Washington listed in MICC 19.13.050.</p> <p>1. Where shorelands and critical areas overlap, the NME Project will default to the highest level of protections. The project has prepared a complete analysis of impacts to critical</p>	<p>CAS (Sections 3.4, 4.3, 5.1, 6.2) PLAN</p>

Table 7. Compliance of NME Project with MICC Chapter 19.13 Shoreline Master Program

MICC Section	Code Standard	NME Project Documented Compliance	Environmental Report (Section)
	<p>2. Utilities.</p> <p>a. Utilities shall be placed underground and in common rights-of-way wherever economically and technically practical.</p> <p>b. Shoreline public access shall be encouraged on publicly owned utility rights-of-way, when such access will not unduly interfere with utility operations or endanger public health and safety. Utility easements on private property will not be used for public access, unless otherwise provided for in such easement.</p> <p>c. Restoration of the site is required upon completion of utility installation.</p> <p>3. Archaeological and Historic Resources.</p> <p>a. If archaeological resources are uncovered during excavation, the developer and property owner shall immediately stop work and notify the city, the Office of Archaeology and Historic Preservation, and affected Indian tribes.</p> <p>b. In areas documented to contain archaeological resources by the Office of Archaeology and Historic Preservation, a site inspection or evaluation is required by a professional archaeologist in coordination with affected Indian tribes.</p>	<p>areas and shorelands within the CAS. The PLAN provides the location of critical areas and shorelands within the NME Project area.</p> <p>2. NME Project utilities will be placed underground and within the ROW throughout the majority of the alignment on Mercer Island, and will not impeded public access to the shoreline. A Site Restoration And Ecological Enhancement Plan is provided within the CAS. Within shorelands, the NME Project will impact approximately 50,700 SF and restore approximately 70,860 SF, resulting in larger than a 1:1 ratio of restoration to impacts within shorelands. The improvements will occur both at the Mercer Island Boat Launch and LS-11. Work at LS-11 is being done by request from Mercer Island to improve conditions at the Fruitland Landing Park. Improvements at the Mercer Island Boat Launch were discussed above in relation to the shoreline stabilization along the shoreline.</p> <p>The majority of restoration at Fruitland Landing Park will include replacing the grass or other features in the park (PLAN V1: C612-613). There is a small section that includes additional enhancements (620 SF). This area will include planting of native species to enhance aesthetics and add a vegetated screen for neighboring residents. Overhead power lines will also be under-grounded as part of the station modifications, enhancing park scenery and habitat function.</p> <p>3. Archaeological resources are not anticipated to be found within the NME Project alignment within Mercer Island (Jacobs 2018). Regardless, the contractor will be required to comply with an Inadvertent Discovery Plan during construction, and if any resources are uncovered, development would immediately stop and all appropriate authorities would be notified.</p>	

REFERENCES

- Confluence (Confluence Environmental Company). 2019. Mercer Island Interceptor and Enatai Interceptor Upgrade Project Wind-Wave Analysis (Rev 2). Memorandum to Grizelda Sarria, Tetra Tech, Inc. August 2, 2019.
- Ecology (Washington State Department of Ecology). 2010. SMP Handbook: Chapter 4: No Net Loss of Shoreline Ecological Functions. Publication Number: 11-06-010.
- Jacobs (Jacobs Engineering Group). 2018. North Mercer Island Interceptor and Enatai Interceptor Upgrade Project: Cultural Resources Report. Prepared by Jacobs. Prepared for King County, Department of Natural Resources and Parks, Wastewater Treatment Division and Tetra Tech. 39 pp.
- Mercer Island. 2019a. City of Mercer Island Demographic Information [web application]. Available at: <https://www.mercergov.org/Page.asp?NavID=592> (accessed on August 7, 2019).
- Mercer Island. 2019b. Critical Areas Ordinance and Shoreline Master Program Update [online resource]. Available at: <https://letstalk.mercergov.org/CAO> (assessed on September 13, 2019).
- Shannon & Wilson, Inc. 2018a. North Mercer Island Interceptor and Enatai Interceptor Upgrade Project Geotechnical Data Report [GDR] for 60 Percent Design. Prepared by Shannon & Wilson. Prepared for King County, Department of Natural Resources and Parks, Wastewater Treatment Division and Tetra Tech. 82 pp.
- Shannon & Wilson, Inc. 2018b. Geotechnical Design Memorandum [GDM]: North Mercer Island Interceptor and Enatai Interceptor Upgrade Project. Prepared by Shannon & Wilson. Prepared for King County, Department of Natural Resources and Parks, Wastewater Treatment Division and Tetra Tech. 893 pp.
- WSDOT (Washington State Department of Transportation). 2015. Roadside Policy Manual M3110.03, dated August 2015.

North Mercer Island Interceptor and Enatai Interceptor Upgrade Project
Mercer Island Code Compliance Narrative

Appendix A. City of Mercer Island Addresses and Tax Parcels



A. CITY OF MERCER ISLAND ADDRESSES AND TAX PARCELS

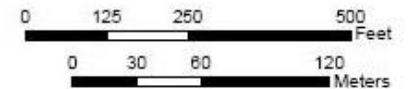
Table A-1. Project Parcels within the City of Mercer Island

Location	Parcel Number	Site Address in Mercer Island, WA 98040	Location	Parcel Number	Site Address in Mercer Island, WA 98040
NMPS			Adjacent	5315101754	2228 78TH AVE SE
Project	5315101945	NA	Adjacent	5315101757	2232 78TH AVE SE
Adjacent	5315101856	7627 SE 22ND ST	Adjacent	5315101687	2242 78TH AVE SE
Adjacent	5315101947	7655 SE 22ND ST	Adjacent	5315101695	2258 78TH AVE SE
Adjacent	5315101944	2211 77TH AVE SE	Adjacent	5315101706	2270 78TH AVE SE
Adjacent	5315101935	2227 77TH AVE SE	Adjacent	5315101686	2248 78TH AVE SE
Adjacent	5315101936	7652 N MERCER WAY	Adjacent	5315101715	2280 78TH AVE SE
Adjacent	5315101866	7640 N MERCER WAY	Adjacent	5315101727	2290 78TH AVE SE
Off-Site Staging			Adjacent	5315101726	7808 SE 24TH ST
Project	0724059054	2428 84TH AVE SE	Adjacent	5315101729	7820 SE 24TH ST
Adjacent	0624059014	2040 84TH AVE SE	Adjacent	5315101725	7824 SE 24TH ST
Adjacent	8106100010	8428 N MERCER WAY	Adjacent	5315101728	7826 SE 24TH ST
Adjacent	8106100011	8436 N MERCER WAY	Adjacent	5452302205	2257 80TH AVE SE
Adjacent	8106100012	8438 N MERCER WAY	Adjacent	5315101728	7826 SE 24TH ST
I-90 ROWs/trail			Adjacent	5315101796	2241 78TH AVE SE
Project	4139300045	3508 96TH AVE SE	Adjacent	5452302047	8012 SE 24TH ST
Project	4139300050	3425 97TH AVE SE	Adjacent	5452302046	8018 SE 24TH ST
Project	0724059092	3434 97TH AVE NE	Adjacent	5452301905	2246 81ST AVE SE
Project	4139300035	3502 96TH AVE SE	Adjacent	5451500000	2500 81st Ave SE
Project	4139300042	3421 97TH AVE SE	Adjacent	1224049040	8206 N Mercer Way
Adjacent	5315101798	2235 78TH AVE SE	Adjacent	0647100145	3002 SHOREWOOD DR
Adjacent	5315102005	7644 SE 22ND ST	Adjacent	0647100150	3006 89TH PL SE
Adjacent	5315102023	NA	Adjacent	0647100155	3010 90TH PL SE
Adjacent	5315102036	7660 SE 22ND ST	Adjacent	0647100160	3014 90TH PL SE
Adjacent	5315102045	7702 SE 22ND ST	Adjacent	0647100165	3020 90TH PL SE
Adjacent	5315102065	7710 SE 22ND ST	Adjacent	0647100170	3024 90TH PL SE
Adjacent	5315102075	7720 SE 22ND ST	Adjacent	0647100175	3026 90TH PL SE
Adjacent	5315101777	7705 22ND PL SE	Adjacent	0647100180	3030 90TH PL SE
Adjacent	5315101775	7717 22ND PL SE	Adjacent	0647100185	3040 90TH PL SE
Adjacent	5315101776	2203 78TH AVE SE	Adjacent	0647100190	3050 90TH PL SE
Adjacent	5315101825	2277 78TH AVE SE	Adjacent	0647100191	3060 90TH PL SE
Adjacent	5315101827	2283 78TH AVE SE	Adjacent	0647100192	3212 90TH PL SE
Adjacent	5315101835	2291 78TH AVE SE	Adjacent	0647100200	3218 90TH PL SE
Adjacent	5315101837	2297 78TH AVE SE	Adjacent	0647100210	3232 90TH PL SE
Adjacent	5315101808	2255 78TH AVE SE	Adjacent	5315101806	2249 78TH AVE SE
Adjacent	5315102050	7716 22ND PL SE	Adjacent	5315101778	2217 78TH AVE SE
Adjacent	5315102085	NA	Adjacent	5315101786	2221 78TH AVE SE
Adjacent	5315101735	7805 22ND PL SE	Adjacent	0647100220	3236 90TH PL SE

Table A-1. Project Parcels within the City of Mercer Island					
Location	Parcel Number	Site Address in Mercer Island, WA 98040	Location	Parcel Number	Site Address in Mercer Island, WA 98040
Adjacent	5315101816	2265 78TH AVE SE	Adjacent	5315101716	2282 78TH AVE SE
Adjacent	5315101817	2271 78TH AVE SE	Adjacent	0647100225	3238 90TH PL SE
Adjacent	5315101746	2212 78TH AVE SE	96th Ave Siphon		
Adjacent	5315101755	2222 78TH AVE SE	Adjacent	4139300105	3455 96 TH AVE SE
Adjacent	0647100235	NA	Adjacent	2655500075	9611 SE 36TH ST
Adjacent	0647100245	9097 N MERCER WAY	Adjacent	2655500185	9601 SE 36TH ST
Adjacent	0647100105	3009 90TH PL SE	LS-11		
Adjacent	0647100115	3211 90TH PL SE	Adjacent	0724059013	3424 97TH AVE SE
Adjacent	0647100120	3217 90TH PL SE	Adjacent	0724059127	3404 97TH AVE SE
Adjacent	0647100125	3221 90TH PL SE	Adjacent	0724059129	3418 97TH AVE SE
Adjacent	0647100130	3225 90TH PL SE	Adjacent	0724059033	3400 97TH AVE SE
Adjacent	0647100135	3235 90TH PL SE	Adjacent	0724059034	3350 97TH AVE SE
Adjacent	5315101635	8000 N Mercer Way	Adjacent	0724059038	3310 97TH AVE SE
Adjacent	0724059016	9150 FORTUNA DR	Adjacent	072405TR-A	NA
Adjacent	0724059012	3440 97th AVE SE	Adjacent	4139300030	3411 97TH AVE SE
Adjacent	5452302066	2268 80TH AVE SE	Adjacent	4139300031	9635 SE 34TH ST
Adjacent	0724059010	NA	Adjacent	4139300016	9634 SE 34TH ST
Adjacent	0724059009	9740 SE 35TH PL	Adjacent	4139300015	3315 97TH AVE SE
Adjacent	8106100085	8608 N MERCER WAY	Mercer Island Boat Launch		
Adjacent	8106100091	8624 N MERCER WAY	Adjacent	0724059098	NA
Adjacent	8106100100	8636 N MERCER WAY	Adjacent	0724059105	NA
Adjacent	8106100115	8646 N MERCER WAY	Adjacent	0724059086	NA
Adjacent	8106100120	8700 N MERCER WAY	Adjacent	0724059007	9772 SE 35TH PL
Adjacent	810610TRCT	NA	Adjacent	0724059006	9780 N MERCER WAY
Adjacent	5452600110	8450 N MERCER WAY	Adjacent	0824059284	9810 SE 35TH PL
Adjacent	0647100096	3202 89TH PL SE	Adjacent	0824059108	9950 SE 35TH PL
Adjacent	0647100100	3003 90TH PL SE	Adjacent	0824059111	9960 SE 35TH PL
Adjacent	8106100017	8444 N MERCER WAY	Project	0824059310	NA
Adjacent	8106100040	NA	Adjacent	0824059103	NA
Adjacent	531510TRCT	NA	Adjacent	0824059261	NA
Adjacent	0724059125	9730 SE 35TH PL	Adjacent	0824059039	10075 E MERCER WAY
Adjacent	4139300041	3415 97TH AVE SE	Adjacent	1515600080	3701 E MERCER WAY
Adjacent	0647100231	3240 90TH PL SE	Adjacent	151560TRCT	NA
Adjacent	5452600020	8602 N MERCER WAY	Adjacent	0824059045	3700 E MERCER WAY
Adjacent	5452600120	8446 N MERCER WAY			






-  Street ROWs/I-90 Trail: Project-Adjacent Parcels
-  NMPS: Project Parcels
-  NMPS: Project-Adjacent Parcels



*Note: Street ROWs/I-90 Trail work area includes the extent of proposed pipeline along the I-90 trail and city street ROWs

Figure A-1. Project and adjacent parcels for NMPS and street ROWs/I-90 trail work areas

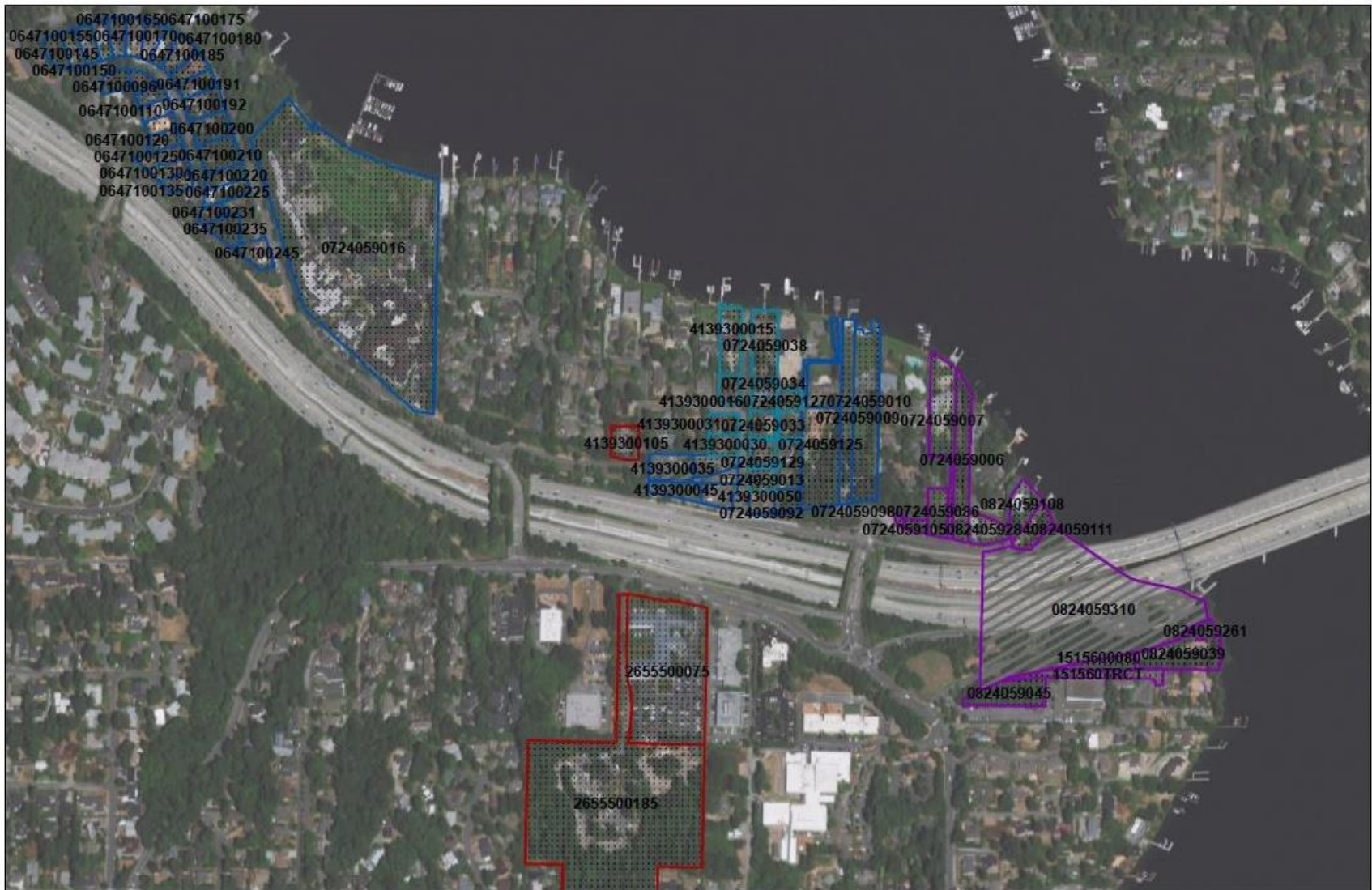


-  Off-site Staging: Project Parcels
-  Off-site Staging: Project-Adjacent Parcels
-  Street ROWs/I-90 Trail: Project-Adjacent Parcels

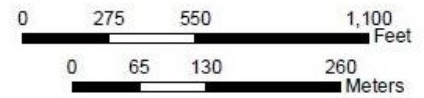


*Note: Street ROWs/I-90 Trail work area includes the extent of proposed pipeline along the I-90 trail and city's street ROWs

Figure A-2. Project and adjacent parcels for off-site staging and street ROWs/I-90 trail work areas



-  Street ROWs/I-90 Trail: Project Parcels
-  Street ROWs/I-90 Trail: Project-Adjacent Parcels
-  Mercer Island Boat Launch: Project Parcels
-  Mercer Island Boat Launch: Project-Adjacent Parcels
-  LS-11: Project-Adjacent Parcels
-  96th Ave Siphon: Project-Adjacent Parcels



*Note: Street ROWs/I-90 Trail work area includes the extent of proposed pipeline along the I-90 trail and city street ROWs



Figure A-3. Project and adjacent parcels for 96th Ave Siphon, LS-11, Mercer Island Boat Launch, and street ROWs/I-90 trail work areas