I-5/4th Street and 88th Street NE Corridor Improvements: Environmental Assessment

Prepared for
U.S. Department of Interior;
Bureau of Indian Affairs

May 2023

Prepared by
Parametrix

I-5/4th Street and 88th Street NE Corridor Improvements: Environmental Assessment

Prepared for

U.S. Department of Interior; Bureau of Indian Affairs
Northwest Regional Office
911 Northeast 11th Avenue
Portland, Oregon 97232-4169

Prepared by

Parametrix
719 2nd Avenue, Suite 200
Seattle, WA 98104
T. 206.394.3700 F. 1.855.542.6353
www.parametrix.com

May 2023 | 554-1598-131 06.07

CITATION

Parametrix, 2023. I-5/4th Street and 88th Street NE Corridor Improvements: Environmental Assessment. Prepared by Parametrix, Seattle, Washington. May 2023.

TABLE OF CONTENTS

1. PURPOSE AND NEED FOR ACTION 1-1
1.1 Introduction 1-1
1.2 Proposal and Need for the Proposal 1-1
1.3 Regulations That Apply 1-7
1.4 Permits and Approvals 1-8

2. ALTERNATIVES 2-1
2.1 Introduction 2-1
2.2 No Action Alternative 2-1
2.3 Proposed Action 2-1
2.3.1 4th Street 2-2
2.3.2 88th Street NE 2-2
2.4 Alternatives Considered but Eliminated from Detailed Analysis 2-2

3. DESCRIPTION OF THE AFFECTED ENVIRONMENT AND IMPACTS 3-1
3.1 Introduction 3-1
3.2 Land Resources – Topography and Soils 3-2
3.2.1 Data Collection and Analysis 3-2
3.2.2 Existing Conditions 3-2
3.2.3 Environmental Consequences 3-2
3.2.4 Mitigation 3-3
3.3 Water Resources – Surface Water 3-3
3.3.1 Data Collection and Analysis 3-3
3.3.2 Existing Conditions 3-4
3.3.3 Environmental Consequences 3-9
3.3.4 Mitigation 3-11
3.4 Air Quality and Greenhouse Gas Emissions 3-11
3.4.1 Data Collection and Analysis 3-11
3.4.2 Existing Conditions 3-12
3.4.3 Environmental Consequences 3-12
3.4.4 Mitigation 3-13
3.5 Living Resources 3-13
3.5.1 Data Collection and Analysis 3-13
3.5.2 Existing Conditions 3-13
3.5.3 Environmental Consequences 3-19
3.5.4 Mitigation 3-24

TABLE OF CONTENTS (CONTINUED)

3.6 Cultural Resources 3-25
3.6.1 Data Collection and Analysis 3-25
3.6.2 Existing Conditions 3-25
3.6.3 Environmental Consequences 3-28
3.6.4 Mitigation 3-28
3.7 Environmental Justice 3-28
3.7.1 Data Collection and Analysis 3-28
3.7.2 Existing Conditions 3-28
3.7.3 Environmental Consequences 3-30
3.7.4 Mitigation 3-31
3.8 Community Services and Utilities 3-31
3.8.1 Data Collection and Analysis 3-31
3.8.2 Existing Conditions 3-31
3.8.3 Environmental Consequences 3-32
3.8.4 Mitigation 3-33
3.9 Transportation Networks 3-33
3.9.1 Data Collection and Analysis 3-33
3.9.2 Existing Conditions 3-33
3.9.3 Environmental Consequences 3-35
3.9.4 Mitigation 3-35
3.10 Noise 3-35
3.10.1 Data Collection and Analysis 3-35
3.10.2 Existing Conditions 3-36
3.10.3 Environmental Consequences 3-36
3.10.4 Mitigation 3-36
3.11 Hazardous Materials 3-36
3.11.1 Data Collection and Analysis 3-36
3.11.2 Existing Conditions 3-37
3.11.3 Environmental Consequences 3-37
3.11.4 Mitigation 3-37
3.12 Cumulative Impacts 3-38
3.12.1 Past, Present, and Reasonably Foreseeable Actions 3-38
3.12.2 Impacts of Past, Present, and Reasonably Foreseeable Future Actions 3-39

4. PREPARERS AND AGENCY COORDINATION 4-1
4.1 Introduction 4-1
4.2 List of Preparers 4-1
4.3 Agency Coordination 4-1

TABLE OF CONTENTS (CONTINUED)

5. PUBLIC INVOLVEMENT 5-1

6. REFERENCES 6-1

LIST OF FIGURES

Figure 1-1. Vicinity Map 1-2

Figure 1-2. Proposed Improvements at 4th Street 1-4

Figure 1-3. Proposed Improvements at 88th Street NE 1-6

Figure 3-1. Lower Quilceda Subbasin 3-5

Figure 3-2. 4th Street Corridor Total Threshold Discharge Areas (TDAs), Stormwater Facilities, and Outfalls 3-6

Figure 3-3. 88th Street NE Corridor Total Threshold Discharge Areas (TDAs), Stormwater Facilities, and Outfalls 3-8

Figure 3-4. Living Resources Study Area 3-14

Figure 3-5. Project APE 3-27

Figure 3-6. Census Block Groups 3-29

LIST OF TABLES

Table 3-1. Resources Excluded from Analysis 3-1

Table 3-2. Existing TDA Information 3-7

Table 3-3. Impaired Water Bodies in the Vicinity of the Project 3-7

Table 3-4. Existing TDA Information 3-7

Table 3-5. Impaired Water Bodies in the Vicinity of the Project 3-9

Table 3-6. Existing and Post-Project Impervious Area and Area Receiving Stormwater Treatment (in acres) 3-10

Table 3-7. Summary of Streams in the Study Area 3-15

Table 3-8. Summary of Wetlands in the Study Area 3-18

Table 3-9. Summary of Temporary and Permanent Impacts on Coho Creek (in acres) 3-19

Table 3-10. Summary of Temporary and Permanent Impacts on Vegetation and Wildlife Habitats (in acres) 3-22

Table 3-11. Temporary and Permanent Impacts to Wetlands and Their Buffers 3-24

Table 3-12. Demographic Analysis of Project Vicinity 3-30

Table 3-13. Community Transit Schedules within the Project Area 3-34

Table 4-1. Individuals Who Provided Technical Assistance and/or Review of the EA 4-1

TABLE OF CONTENTS (CONTINUED)

APPENDICES

A Proposed Right-of-Way Acquisition Plan

B Ecosystem Discipline Report

C Biological Assessment

D Cultural Resource Correspondence

E Demographic Data

F Hazardous Materials Discipline Report

ACRONYMS AND ABBREVIATIONS

AMSL	above mean sea level
APE	area of potential effect
ASTM	American Society for Testing and Materials
BIA	Bureau of Indian Affairs
BMP	best management practices
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
City	City of Marysville
CO_2	carbon dioxide
CMMP	contaminated media management plan
DAHP	Washington Department of Historic Preservation
EA	environmental assessment
Ecology	Washington Department of Ecology
EMT	emergency medical technician
EO	Executive Order
EPA	Environmental Protection Agency
ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
GHG	greenhouse gas
HUC	hydraulic unit code
I-5	Interstate 5
LRR	Land Resource Region
LOS	level of service
LUST	leaking underground storage tank
MLRA	Major Land Resource Area
mph	miles per hour
NAAQS	National Ambient Air Quality Standards
NAGPRA	Native American Graves Protection and Repatriation Act
NEPA	National Environmental Policy Act

ACRONYMS AND ABBREVIATIONS (CONTINUED)

NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
OHWL	ordinary high water line
PGIS	pollution generating impervious surface
Project	I-5/4th Street and 88th Street NE Corridor Improvements
Proposed Action	I-5/4th Street and 88th Street NE Corridor Improvements alternative
ROW	right-of-way
SR	State Route
SST	Study Support Team
SWPPP	Stormwater Pollution Prevention Plan
TDA	threshold discharge area
TESC	temporary erosion and sediment control
TMDL	total maximum daily load
Tribes	Tulalip Tribes
TTC	Tulalip Tribal Code
TTED	Tulalip Tribes Environmental Department
USC	United States Code
USFWS	U.S. Fish and Wildlife Service
USGS	United States Geological Survey
WAC	Washington Administrative Code
WDFW	Washington Department of Fish and Wildlife
WRIA	Water Resource Inventory Area
WSDOT	Washington State Department of Transportation

1. PURPOSE AND NEED FOR ACTION

1.1 Introduction

The Tulalip Tribes (Tribes), in partnership with the Washington State Department of Transportation (WSDOT), Snohomish County, and the City of Marysville (City), propose to develop and implement access improvements to two interchanges on the Interstate 5 (I-5) corridor within the boundary of the Tulalip Reservation in Snohomish County, Washington. The two interchanges are at 4th Street (also known as State Route [SR] 528 and Marine Drive) and 88th Street NE.

The Tribes prepared this environmental assessment (EA) in accordance with the National Environmental Policy Act of 1969 (NEPA) (42 United States Code [USC] 4321 to 4347); the Council on Environmental Quality (CEQ) regulations for implementing the procedural provisions of NEPA (40 Code of Federal Regulations [CFR] parts 1500 through 1508); the U.S. Department of the Interior requirements listed in Department Manual Part 516, Chapters 1-15; and the Indian Affairs NEPA Guidebook (59 Indian Affairs Manual 3-H). An EA discloses relevant environmental information concerning potential project alternatives, including the proposed action and the no action alternative, and is intended for use by both decision-makers and the public.

The need for this analysis arises from the Bureau of Indian Affairs' (BIA) responsibilities under NEPA to review proposals for the use of tribal lands held in trust by the United States, including the granting of right-of-way (ROW). The authority of the Secretary of the Interior is to grant the use of ROW, according to 25 USC 323. In order for BIA to comply with NEPA, the determination of effect regarding environmental resources must be issued. Therefore, an EA is necessary to analyze the direct, indirect, and cumulative impacts of the I-5/4th and 88th Street NE Corridor Improvements project. Appendix A includes the Proposed Right-of-Way Acquisition Plan.

1.2 Proposal and Need for the Proposal

The purpose of the I-5/4th and 88th Street NE Corridor Improvements project (Project) is to support economic vitality and livability for the Tribes, indirectly supporting neighboring jurisdictions of the City and Snohomish County, by reducing congestion and improving safety and mobility for cars, trucks, emergency services, pedestrians and bicycles, and transit users traveling to, from, and across I-5 on 88th Street NE and 4th Street. Most of the project occurs within existing road ROW; however, a small portion would require the expansion of existing road ROW on tribal lands. Therefore, the BIA is the designated federal lead agency.

The project involves improvements near the I-5 interchanges with 4th Street (exit 199) and 88th Street NE (exit 200). The project corridor is located at the boundary between the Tulalip Reservation and Marysville in Snohomish County, Washington (Figure 1-1).

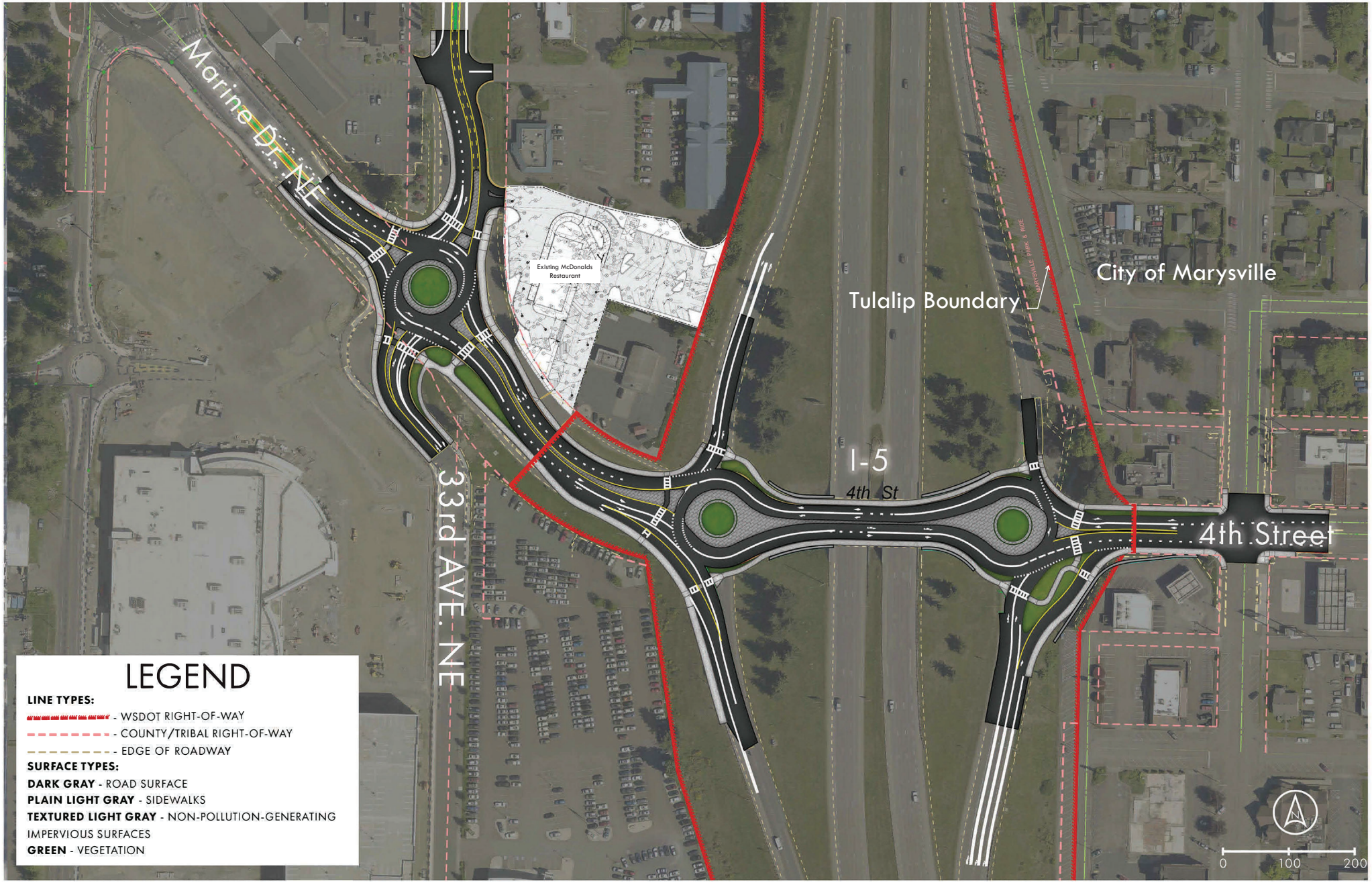
Following environmental review, the Tribes will complete design documentation and ROW acquisition. Construction is planned to begin in June 2024 and end in June 2026.

Figure 1-1.
Vicinity Map
I-5/4th Street and 88th Street NE Corridor Improvements
Snohomish County, WA

The project would include corridor improvements along 4th Street and 88th Street NE as well as fish passage enhancements and stream habitat improvements at the 88th Street NE crossing of Coho Creek. Additional details about these project elements follow.

Corridor improvements along 4th Street, from west to east, would include the following (Figure 1-2):

- Replacement of the signaled intersection of 4th Street and 33rd Avenue NE with a new roundabout
- Replacement of the signaled intersection of 4th Street and the I-5 southbound on-/off-ramps with a new roundabout
- Replacement of the signaled intersection of 4th Street and the I-5 northbound on-/off-ramps with a new roundabout
- Channelization improvements entering and exiting the roundabouts
- Reconfigured pedestrian and bicycle access along the alignment
- Stormwater treatment and flow control



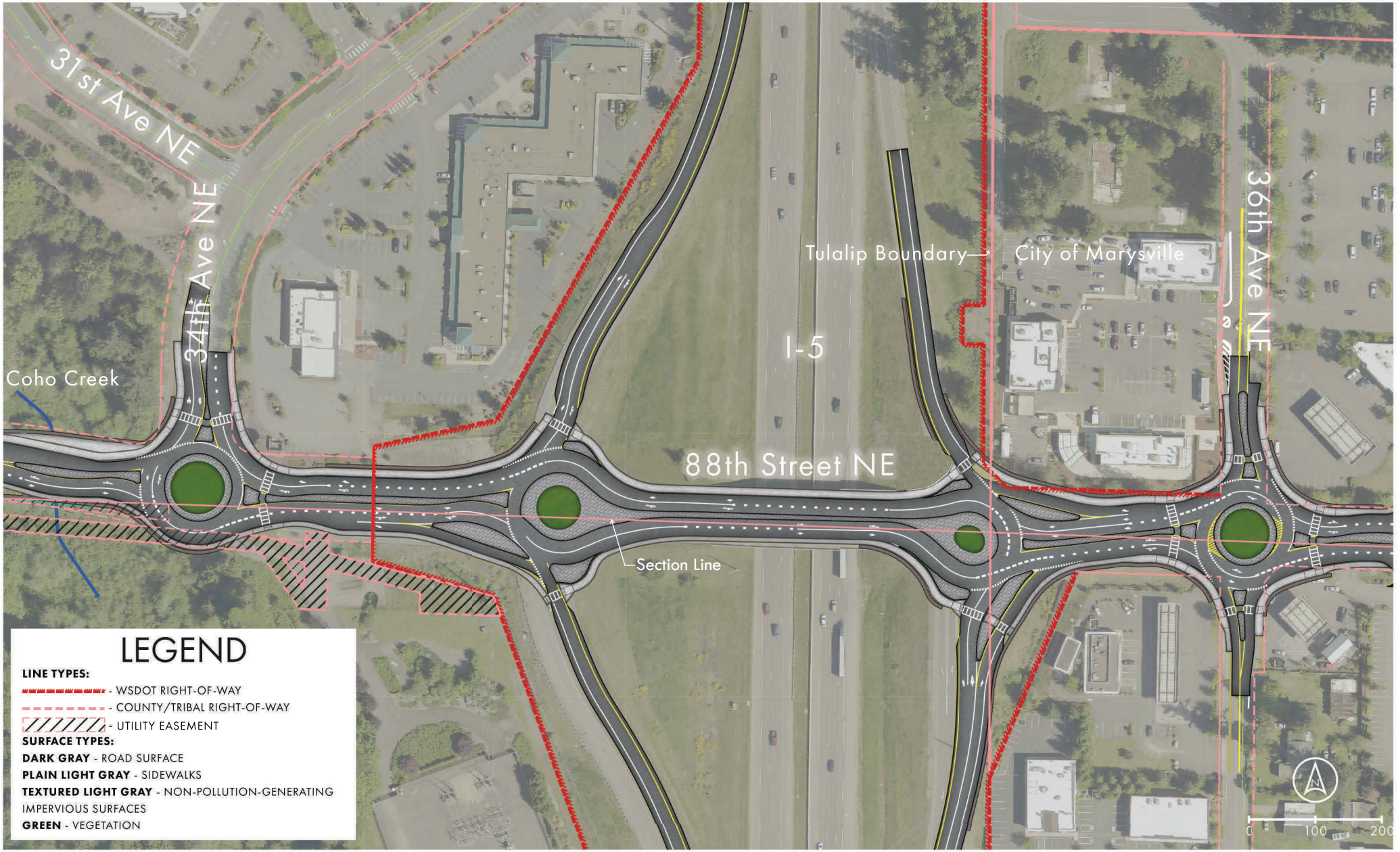
4TH STREET ILLUSTRATIVE PLAN

Parametrix
ENGINEERING . PLANNING . ENVIRONMENTAL SCIENCES

Figure 1-2.
Proposed Improvements at 4th Street

Corridor Improvements along 88th Street NE, from west to east, would include the following (Figure 1-3):

- Fish passage improvements at Coho Creek
- Replacement of the signaled intersection of 88th Street and 34th Avenue NE (Quil Ceda Boulevard) with a new roundabout
- Replacement of the signaled intersection of 88th Street NE and the I-5 southbound on-/off-ramps with a new roundabout
- Replacement of the signaled intersection of 88th Street NE and the I-5 northbound on-/off-ramps with a new roundabout
- Replacement of the signaled intersection of 88th Street and 36th Avenue NE with a new roundabout
- Channelization improvements entering and exiting the roundabouts
- Reconfigured pedestrian and bicycle access along the alignment
- Stormwater treatment and flow control



88TH STREET ILLUSTRATIVE PLAN

Parametrix
ENGINEERING . PLANNING . ENVIRONMENTAL SCIENCES

Figure 1-3.
Proposed Improvements at 88th Street NE

1.3 Regulations That Apply

The project is subject to the following federal, tribal, state and local laws, executive orders (EOs), and secretarial orders.

Federal

- Americans with Disability Act
- American Indian Tribal Rights, Federal-Tribal Trust Responsibilities, and the Endangered Species Act, Secretarial Order 3206
- Archaeological Resources Protection Act
- Bald and Golden Eagle Protection Act
- Coastal Zone Management Act
- Clean Air Act, as amended
- Compensatory Mitigation for Losses of Aquatic Resources (2008), Final Rule
- Consultation and Coordination with Indian Tribal Governments, Presidential EO 13084
- Departmental Responsibilities for Indian Trust Resources, Secretarial Order 3175
- Endangered Species Act (ESA)
- Federal Water Pollution Control Act, as amended
- Freedom of Information Act
- Magnuson–Stevens Fishery Conservation and Management Act Migratory Bird Treaty Act
- Native American Graves Protection and Repatriation Act (NAGPRA)
- National Historic Preservation Act (NHPA)
- Protection of Wetlands, Presidential, Presidential EO 11990
- Privacy Act
- Protection and Enhancement of Environmental Quality, Presidential EO 11514
- Treaty of Point Elliott of 1855

Tribal

- Tulalip Tribal Code (TTC)

State

- Hydraulic code of Washington
- Protection of Wetlands, Governor EO 89-10
- Protection of Wetlands, Governor EO 90-04

- Washington State Environmental Policy Act
- Washington Growth Management Act
- Washington Water Pollution Control Act

Local

- City of Marysville Municipal Code
- Snohomish County Code

1.4 Permits and Approvals

Prior to construction, the project is anticipated to be subject to the following federal, tribal, state, and local permits and approvals:

- U.S. Corps of Engineers Section 404 Clean Water Act approval
- U.S. Environmental Protection Agency (EPA) National Pollutant Discharge Elimination System (NPDES) construction stormwater approval
- Washington State Department of Ecology (Ecology) Coastal Zone Management Act Approval
- Tulalip Tribes Section 401 Water Quality Certification approval
- Ecology NPDES Approval
- WSDOT Right-of-way Use permit
- Snohomish County Right-of-way Use Permit
- City of Marysville Right-of-way use permit
- Tulalip Tribes Grading Permit

2. ALTERNATIVES

For an EA where there are no unresolved conflicts with respect to alternative uses of available resources, only the proposed action needs to be considered (43 CFR 46.310[b]). Even if there are no unresolved conflicts, the No Action alternative may also be considered in EAs. The No Action alternative provides a useful baseline for comparison of environmental effects (including cumulative effects) and demonstrates the consequences of not meeting the need for the action. The description of the No Action alternative depends on the type of action proposed. It can either be no change from the current management practices or a description of what is reasonably foreseeable if the proposed action does not take place.

For the I-5/4th Street and 88th Street NE Corridor Improvements, this EA considers the No Action alternative relative to the Proposed Action.

2.1 Introduction

The following sections provide information on the two alternatives considered for this proposal:

- No Action alternative
- I-5/4th Street and 88th Street NE Corridor Improvements alternative (Proposed Action)
- Alternatives considered but eliminated from detailed analysis

2.2 No Action Alternative

Under the No Action alternative, the I-5/4th Street and 88th Street NE Corridor Improvements project would not be built. The two interchanges at 88th Street NE and 4th Street/SR 528/Marine Drive NE would continue to experience congestion, safety, and mobility challenges for cars, trucks, pedestrians, and transit users. I-5 traffic exiting to enter Tulalip Tribes or the City of Marysville at both interchanges would continue to experience off-ramp backups that can extend back on to the I-5 mainline lanes of traffic. This deficiency would continue to impact the Tribes and the City as well as the greater Snohomish County area, interstate travel and commerce, and even international trade with Canada. The configuration of the local road connections at the interchanges would also continue to hinder commuters, residents, visitors, freight, transit, and nonmotorized connections between the Tribes and the City of Marysville. Under the No Action alternative, these deficiencies would continue to cause lengthy delays at the signals crossing I-5 between these two communities for commerce and emergency services.

Under the No Action alternative, fish passage improvements at Coho Creek would not be built. Benefits to the stream and fish and wildlife that occur in or along it would not be realized.

2.3 Proposed Action

Under the Proposed Action, the I-5/4th Street and 88th Street NE Corridor Improvements project would be built. Roadway congestion as is currently experienced at both interchanges would improve. The following describes the improvements associated for each corridor:

2.3.1 4th Street

The 4th Street corridor project area would provide the following benefits:

- Improved business and residential access for the Tribes by decreasing roadway congestion along 4th Street.
- Maintained or improved operations at the intersection of 4th Street/Cedar Avenue.
- Improved safety by converting existing signals to roundabouts.
- Improved safety and mobility for the general traveling public on the interstate and ramps by reducing queue spillbacks.

2.3.2 88th Street NE

The 88th Street NE corridor project area would provide the following benefits:

- Improved business and residential access for the Tribes by decreasing roadway congestion along 88th Street.
- Maintained or improved operations at the City intersection of 88th Street/36th Avenue NE.
- Improved safety by converting existing signals to roundabouts.
- Improved safety and mobility for the general traveling public on the interstate and ramps by reducing queue spillbacks.
- Improved fish passage and increased stream, wetland, and riparian habitat at Coho Creek.

2.4 Alternatives Considered but Eliminated from Detailed Analysis

A Non-Access Feasibility Study, as required by WSDOT, was prepared for the project (Parametrix 2022). Among other objectives, the study examined and screened alternatives for meeting the project purpose and need. Ten alternatives were considered (five at each interchange area). These alternatives presented various combinations of signal improvements, channelization improvements, and the use of roundabouts along the two corridors and the associated on- and off-ramps of I-5. After a two-step screening process, the actions proposed in this EA were selected as the preferred alternative.

3. DESCRIPTION OF THE AFFECTED ENVIRONMENT AND IMPACTS

3.1 Introduction

This chapter discusses the potentially affected environment in and around the Project area. For each resource, the narrative includes a characterization of current conditions, a description of potential impacts to the resource that could occur from the implementation of the alternatives, and a discussion of mitigation and minimization measures.

While impacts to all the resources were considered, only those that could be impacted are described. For the remaining resources, a brief statement of why the resource would not be affected is included in Table 3-1. Resources with no impact expected will not be discussed further in the EA.

Table 3-1. Resources Excluded from Analysis

Resource	Rationale
Geology, Mineral, and Paleontological Resources	The Proposed Action would be in an area that has undergone urban development and has no history of geological, mineral, or paleontological resources.
Employment and Income	The Proposed Action would not change employment and income and has the potential to improve access to employment.
Demographic Trends	The Proposed Action would not change demographic trends.
Lifestyle and Cultural Values	The Proposed Action would not alter lifestyle and cultural values.
Hunting, Fishing, Gathering	The Proposed Action would not reduce access to hunting, fishing, or gathering. The Proposed Action may improve access.
Timber Harvesting	Not applicable.
Agriculture	The Proposed Action would occur on major roadway corridors in a commercially developed area, not near agricultural activity.
Land Use Plans	The Proposed Action would not change land use.
Wilderness	The Proposed Action would not be in or near a wilderness.
Parks	The Proposed Action would not alter parks or recreation activities.
Visual	The Proposed Action would include decorative railings, walls, and public art, which are considered enhancements.
Public Health and Safety	The Proposed Action is considered an enhancement to public health and safety.
Indian Trust Assets	The Proposed Action would be a Tribal project that would meet the Tribe's needs.

In addition to providing a description of existing conditions, impacts, and mitigation, the following sections include a brief overview of data collection and analysis. The study area is also defined as appropriate. Unless otherwise specified, the study area for each of the resources evaluated in the sections below is shown in Figure 1-1.

3.2 Land Resources – Topography and Soils

3.2.1 Data Collection and Analysis

The information for the topography and soils discussion was primarily drawn from the Preliminary Geotechnical Report (HWA 2022) prepared on behalf of the I-5/4th Street and 88th Street NE Corridor Improvements project.

The Preliminary Geotechnical Report was prepared to support design through the evaluation of existing soil and groundwater conditions. Geotechnical field investigations specific to this project included 17 machine-drilled borings and four groundwater monitoring wells. These explorations occurred at or near the proposed locations of bridge piers for the Coho Creek crossing, stormwater facilities, and retaining structures to provide soil and groundwater information in support of roadway design. The recommendations provided in the Preliminary Geotechnical Report also consider historic geotechnical data collected for other projects in the area and existing mapping showing general geologic conditions. Drawing from the Preliminary Geotechnical Report, this narrative summarizes existing conditions and geotechnical design considerations for the proposed corridor improvements.

3.2.2 Existing Conditions

This section discusses the existing topography and soil conditions for each project area corridor as shown in Figures 1-2 and 1-3. The project alignments are both located within the Puget Lowland, and the major geologic unit is Recessional Outwash, Marysville Sand Member (Gvrm), which includes sand with imbedded silts and clays. Preliminary geologic exploration also found that both corridors have similar subsurface conditions, consisting mostly of varying amounts of fill or topsoil above Marysville Sand. The nearest fault (the Southern Whidbey fault) is more than 6 miles from both locations. Geotechnical exploration found that both corridors are underlain with course-grain and fine-grained Marysville Sand of various densities, indicating susceptibility to liquefaction, if fully saturated (HWA 2022).

The major soil type within the 4th Street corridor, as identified by the U.S. Department of Agriculture Natural Resources Conservation Service (NRCS) Web Soil Survey, is Ragnar Fine Sandy Loam. The 4th Street corridor has an elevation gain from west to east, starting at approximately 21 feet above mean sea level (AMSL) to about 32 feet AMSL over a distance of approximately 1,000 feet. Groundwater encountered during geotechnical borings ranged from 6.4 to 14 feet below ground surface (HWA 2022).

The major soil types within the 88th Street NE corridor, as identified by the U.S. Department of Agricultural NRCS Web Soil Survey, are Norma loam and Ranar fine sandy loam. The 88th Street NE corridor has an elevation gain from west to east, starting at approximately 34 AMSL to about 53 feet AMSL over a distance of approximately 1,500 feet. Groundwater encountered during geotechnical borings ranged from 7 to 39 feet below ground surface (HWA 2022). A portion of the Coho Creek bridge alignment is underlain by compressible peat deposits of saturated Marysville sands.

3.2.3 Environmental Consequences

Under the No Action alternative, no changes would occur to the existing geology, topography, and soils; therefore, there is no potential for construction-related erosion. Located in an area with underlying liquefaction-prone soils, the existing roadway corridors have the potential to sustain damage in an earthquake, notably the 88th Street NE overpass that extends over I-5 and the I-5 overpasses that extend over 4th Street (WSDOT 2022a). WSDOT has an ongoing bridge preservation program that includes seismic retrofits to minimize and avoid catastrophic bridge failures. Bridges are inspected every 2 years to ensure

they are in good working order and to prioritize maintenance and preservation work (WSDOT 2022b). Under both the No Action alternative and Proposed Action, WSDOT would continue to inspect the bridges to determine whether seismic retrofits or other repairs are necessary to preserve their integrity.

Under the Proposed Action, no long-term impacts to geology, topography, and soils are expected. The sites are relatively flat, minimizing the potential for landslide and slope instability. To mitigate for the presence of liquefaction soils in both corridors, project design will consider appropriate mitigation measures, such as low soldier pile or sheet pile walls to prevent liquifiable soils from lateral spreading and bearing capacity failure, or implementing ground improvements, such as stone columns.

Because a portion of the proposed Coho Creek bridge alignment in the 88th Street corridor is underlain by compressible peat deposits, foundations for the proposed structure would be designed to resist down-drag loading associated with seismic liquefaction-induced settlement and consolidation of settlements. To reduce or eliminate the potential for settlements, settlement mitigation would be implemented for roadway widening and grade increases to offset increased loads. Depending on the extent of the peat deposit, the bridge would be designed with approach slabs to account for potential long term settlement. Utilities would be installed with flexible connections that can tolerate anticipated long-term differential settlements between the approach fill and bridge structure wherever utilities transition from grade to structural support. Long-term maintenance would be employed to remedy pavement distress associated with settlement that is expected to occur in the long-term.

Short-term (construction) impacts of the Proposed Action would likely involve grading, excavation, backfilling, and vegetation removal. On-site soils unsuitable for use as fill would be hauled to an approved offsite location. Structural fill and compaction of the fill would comply with WSDOT Standard Specifications (WSDOT 2022c). Temporary excavation would conform with Part N of the Washington Administrative Code (WAC) 296-155, which requires either maintaining excavation depths greater than 4 feet with shoring or with a slope no steeper that what is allowed. The Proposed Action would incorporate plan specifications specific to wet weather or in wet conditions to prevent soil disturbance, erosion, and ponding and to encourage infiltration.

3.2.4 Mitigation

With appropriate implementation of engineering design standards and construction best management practices (BMPs), geological and soils impacts are not expected, and additional mitigation is not required. Sections 3.5.3 and 3.5.4 describe the replanting of areas temporarily disturbed during construction.

3.3 Water Resources – Surface Water

3.3.1 Data Collection and Analysis

The surface water discussion is focused on stormwater and was drawn from the preliminary hydraulic reports prepared on behalf of the I-5/4th Street and 88th Street NE Corridor Improvements project (Parametrix 2022a, b). The analyses in the hydraulic reports are based on preliminary design, which is expected to evolve as the design progresses. The surface water discussion in this EA summarizes the findings of these reports, including existing site conditions, such as existing soils and stormwater facilities, and the proposed drainage and stormwater improvements tailored to the corridor improvements. The study areas for each study corridor are defined by the threshold discharge areas, as shown on Figures 3-2 and 3-3, and described in greater detail below.

3.3.2 Existing Conditions

The following sections discuss the existing surface water conditions for each corridor, with an emphasis on stormwater. Both the 4th Street and the 88th Street NE corridors are within the Lower Quilceda Subbasin (Figure 3-1) in Snohomish County within Water Resource Inventory Area (WRIA) 7.

Neither project corridors are in the immediate vicinity of a floodplain as determined by reviewing a map from the Federal Emergency Management Agency (FEMA). No subsurface drainage problems have been identified within the project limits.

According to the Snohomish County Critical Aquifer Recharge Areas map, the project is not within a Sole Source Aquifer and not within a Wellhead Protection Area (Snohomish County 2022). The United States Geological Survey (USGS) Aquifer Sensitivity for the site is moderate (USGS 1997).

3.3.2.1 4th Street

The project area west of I-5 and outside of WSDOT ROW drains to the Ebey Slough of the Snohomish River via Quilceda Creek or a wetland adjacent to Ebey Slough. Most of the area within the WSDOT ROW drains through ditches and pipes directly to Ebey Slough. The area east of the WSDOT ROW is routed through the Marysville stormwater system that discharges into Ebey Slough. The threshold discharge areas (TDAs), stormwater facilities, and outfalls for the 4th Street project footprint are shown in Figure 3-3 and details regarding TDA size, discharge type, and receiving waters are provided in the Table 3-2.

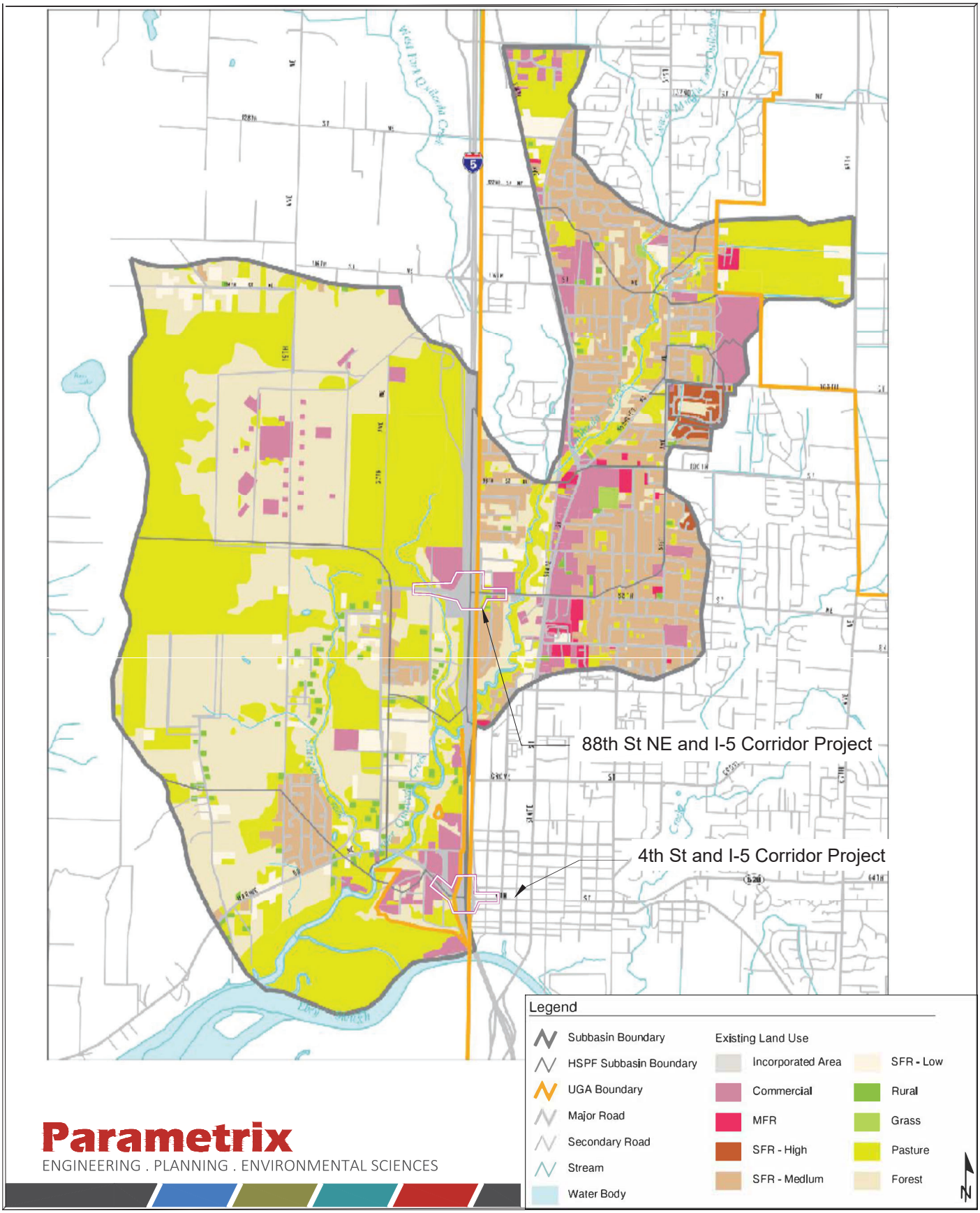
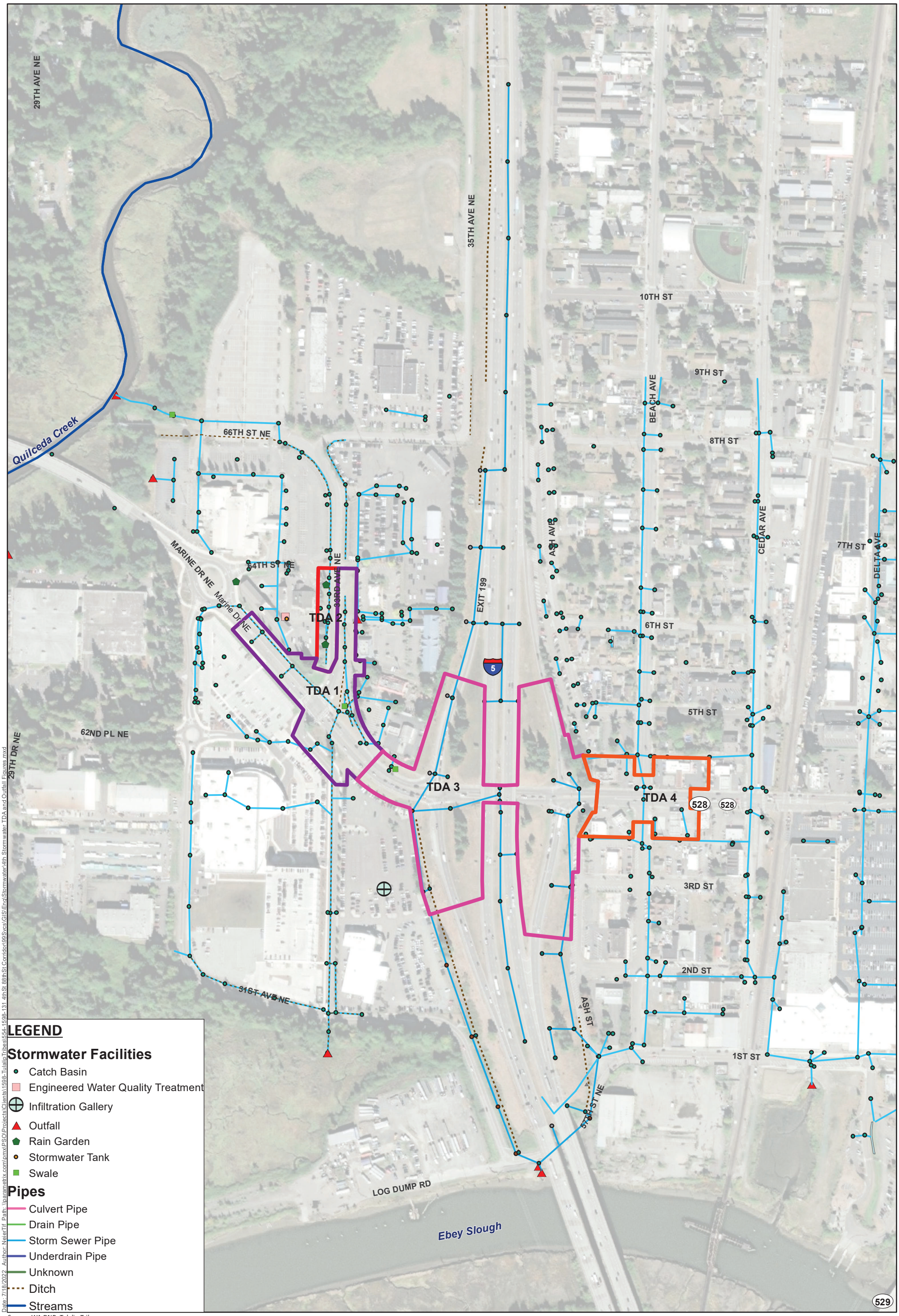


Figure 3-1.
Lower Quilceda Subbasin

I-5/4th Street and 88th Street NE Corridor Improvements

Snohomish County, WA



Source: WA DNR, Tulalip Tribes

Figure 3-2.
4th Street Corridor Total Threshold Discharge Areas (TDA's), Stormwater Facilities, and Outfalls
I-5/4th Street and 88th Street NE Corridor Improvements
Snohomish County, WA

Table 3-2. Existing TDA Information

TDA Number	TDA Area (acres)	Discharge Type	Receiving Water
1	3.89	Surface Water	N/A (discharges to wetland)
2	0.70	Surface Water	Quilceda Creek
3	10.87	Surface Water	Ebey Slough
4	2.45	Surface Water	Ebey Slough

Within the project footprint, there is an existing bioretention area that provides stormwater treatment for the Chevron gas station at the northwest corner of the intersection of Marine Drive NE and 33rd Avenue NE. This bioswale does not treat any stormwater runoff from the project's ROW. There is an island at the intersection of Marine Drive NE and 33rd Avenue NE that is reported to have some flooding. This is a local point of discharge for several private parcels.

Based on the Washington State Department of Ecology's (Ecology's) Water Quality Assessment, the impaired water bodies in the vicinity of the project are listed in Table 3-3 (Ecology 2022a).

Table 3-3. Impaired Water Bodies in the Vicinity of the Project

Category[1]	Water Resource Inventory Area	Water Body Name	Parameter	Listing ID[2]
2	7	Ebey Slough	Bacteria – Fecal Coliform	9797
4a	7	Ebey Slough	Dissolved Oxygen	40626
2	7	Ebey Slough	Sediment Bioassay	9269

[1] Category 1: Meets tested standards for clean waters.
Category 2: Waters of concern.
Category 4: Polluted waters that do not require a total maximum daily load (TMDL).
Category 4a: Water bodies that have an approved TMDL.
Category 4b: Water bodies that have a pollution control plan in place adopted by the Washington State Department of Ecology.
Category 4c: Water bodies that are impaired by a non-pollutant.
Category 5: Polluted waters that require a TMDL; there is currently no TMDL control plan.

[2] Source: Ecology 2022a

3.3.2.2 88th Street NE

Stormwater drains into the Lower Quilceda Subbasin, which discharges via Quilceda Creek to Ebey Slough of the Snohomish River through a series of pipes, culverts, and ditches. The TDAs, stormwater facilities, and outfalls for the 88th Street NE project footprint are shown in Figure 3-3 and details regarding TDA size, discharge type, and receiving waters are provided in Table 3-4.

Table 3-4. Existing TDA Information

TDA Number	TDA Area (acres)	Discharge Type	Receiving Water
5	9.80	Surface Water	Coho Creek
6	5.68	Subsurface	N/A
7	6.70	Subsurface/Surface Water	N/A, Unknown
8	7.95	Surface Water	Quilceda Creek
9	0.04	Subsurface	N/A

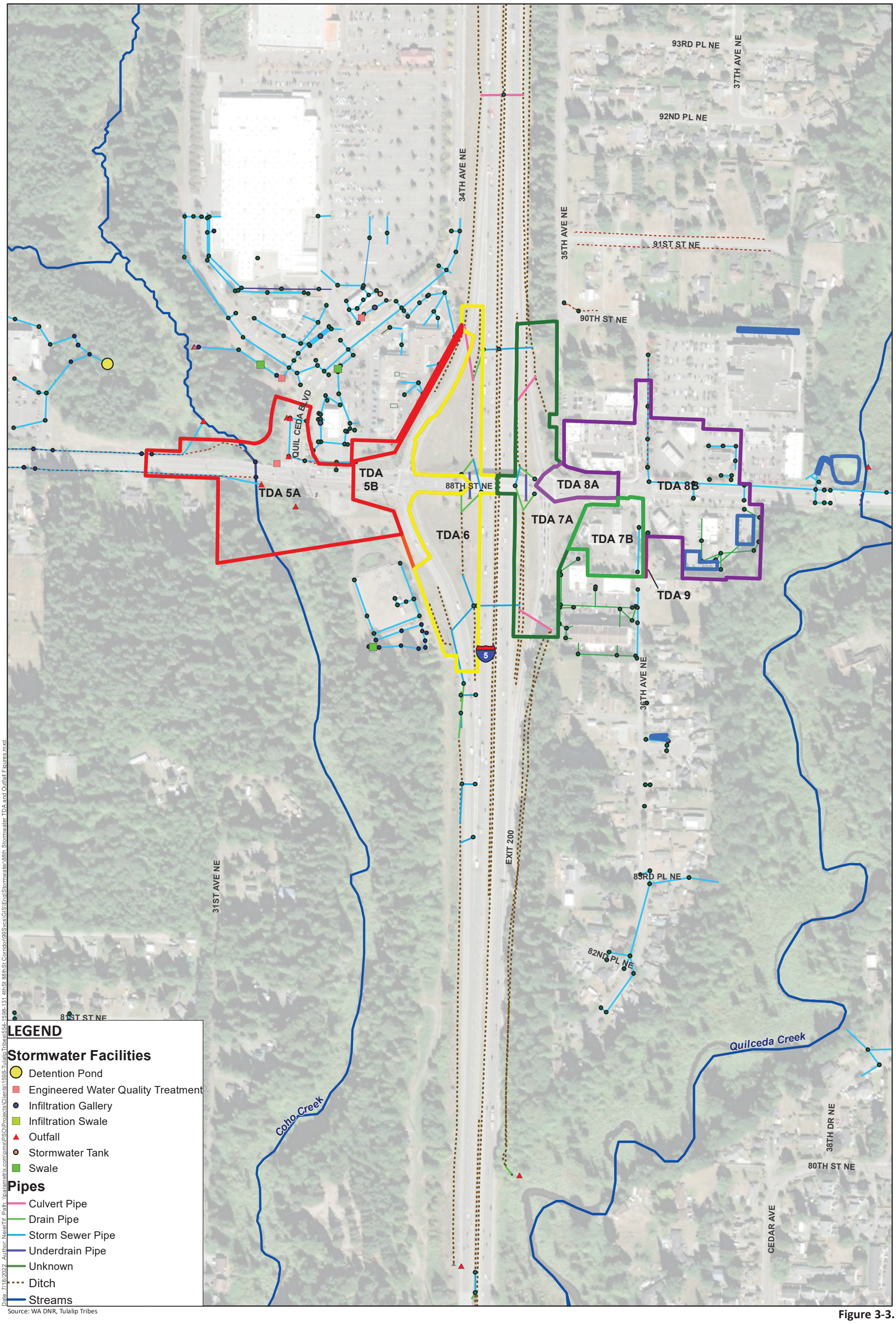


Figure 3-3.
88th Street Corridor Total Threshold Discharge Areas (TDA's), Stormwater Facilities, and Outfalls

I-5/4th Street and 88th Street NE Corridor Improvements
Snohomish County, WA

There are several stormwater treatment facilities located within or near the project footprint. According to design drawings from the Tribes, a 1-foot-deep bioswale with an inlet from the ROW is located on the west side of 34th Avenue NE, north of 88th Street NE. An infiltration swale at Quil Ceda Boulevard and 31st Avenue NE treats some of the stormwater runoff from the project area on Quil Ceda Boulevard. On the east side of I-5 and Marysville, there is an existing drainage pond outside of the project area, which receives runoff from within the project area before outfalling eastward to Quilceda Creek. This pond was constructed as part of a WSDOT project but is maintained by the City of Marysville. As reported in the preliminary hydraulic report (Parametrix 2022a), the City of Marysville has indicated that the pond currently has issues with flooding. The parcels on the southeast and southwest corners of the intersection of 88th Street NE and 36th Avenue NE currently have stormwater treatment and infiltration facilities on their properties that accept water from the ROW, according to as-builts provided by Marysville. Some stormwater is discharged to Coho Creek without prior treatment or flow control. It is also possible that some stormwater may enter Quilceda Creek if stormwater does not completely infiltrate in the conveyance ditches running along either side of I-5, which were not designed for treatment, or potentially if the stormwater treatment pond on the north side of 88th Street NE and east of the I-5 interchange exceeds capacity.

Based on the Ecology's 2018, the impaired water bodies in the vicinity of the project are listed in Table 3-5.

Table 3-5. Impaired Water Bodies in the Vicinity of the Project

Category[1]	Water Resource Inventory Area	Water Body Name	Parameter	Listing ID[2]
5	7	Quilceda Creek	Dissolved Oxygen	7302
4A	7	Quilceda Creek	Bacteria	7306

[1] Category 1: Meets tested standards for clean waters.
Category 2: Waters of concern.
Category 4: Polluted waters that do not require a total maximum daily load (TMDL).
Category 4a: Water bodies that have an approved TMDL.
Category 4b: Water bodies that have a pollution control plan in place adopted by the Washington State Department of Ecology.
Category 4c: Water bodies that are impaired by a non-pollutant.
Category 5: Polluted waters that require a TMDL; there is currently no TMDL control plan.

[2] Source: Ecology 2022a

3.3.3 Environmental Consequences

The following sections discuss environmental consequences related to stormwater. Narrative unique to each project corridor is provided in their respective subheadings, while overall environmental consequences that are relevant to both alternatives are provided in the subsection entitled "both corridors."

3.3.3.1 4th Street

Under the No Action alternative, the flooding at the intersection of Marine Drive NE and 33rd Avenue NE would likely continue to persist. Stormwater from the WSDOT ROW would continue to Ebey Slough untreated.

Under the Proposed Action, the proposed conveyance system would alleviate the ponding and treat stormwater. The existing bioretention area on the Chevron gas station's private property at the

northwest corner of the intersection of Marine Drive NE and 33rd Avenue NE would be impacted by the Proposed Action. This area would be repaired or replaced in-kind outside of the ROW to restore full function. Stormwater from the project area would be treated before discharging to Ebey Slough.

3.3.3.2 88th Street NE

Under the No Action alternative, untreated stormwater would continue to be conveyed to Coho Creek and potentially Quilceda Creek. The existing drainage pond operated by the City of Marysville that receives discharge from TDA 8 would continue to flood.

Under the Proposed Action, stormwater from the project area would receive enhanced treatment to the maximum extent practicable prior to entering Coho Creek. Most of the stormwater from the project area going to Quilceda Creek would also receive enhanced treatment. A proposed infiltration facility with enhanced treatment may reduce the flow going to the City of Marysville-operated pond, which could alleviate some of the flooding.

3.3.3.3 Both Corridors

The No Action alternative would not have an increase in pollution generating impervious surface (PGIS), but there would be no improvements to the existing stormwater treatment system that would have a beneficial effect on water quality. Because no construction would occur under the No Action alternative, there would be no risk of increased water quality impacts to wetlands and streams in the project area caused by construction.

The roadway improvements would increase the total amount of impervious area in all TDAs, combined, by approximately 2.61 acres, while the amount of runoff being treated and/or infiltrated would increase nearly three times that amount (Table 3-6). However, the total area of PGIS pollution would decrease by 0.25 acre, resulting in improved water quality.

Table 3-6. Existing and Post-Project Impervious Area and Area Receiving Stormwater Treatment (in acres)

		Current		Proposed		Change	
TDA	Receiving Water	Impervious Area	Treated Area[1]	Impervious Area	Treated Area[2]	Impervious Area	Treated Area
1	Ebey Slough	3.05	0.00	3.18	1.94	+ 0.13	+ 1.94
2	Quilceda Creek	0.62	0.00	0.57	0.00	- 0.05	0.00
3	Ebey Slough	3.79	0.00	4.65	1.02[3]	+ 0.86	+ 1.02
4	Ebey Slough	1.56	0.00	1.61	0.02[3]	+ 0.05	+ 0.02
5	Coho Creek	4.00	1.54	4.43	3.37	+ 0.43	+ 1.83
6	Quilceda Creek	1.34	0.00	1.70	0.86	+ 0.36	+ 0.86
7	Quilceda Creek	1.69	0.62	2.31	2.22	+ 0.62	+ 1.60
8	Quilceda Creek	1.98	1.28	2.14	1.47	+ 0.16	+ 0.19
9	Quilceda Creek	0.19	0.13	0.24	0.20	+ 0.05	+ 0.07
	TOTALS	18.22	3.57	20.83	11.10	+ 2.61	+ 7.53

[1] Under current conditions, "Treated Area" consists of areas directed to water quality treatment facilities.

[2] Under proposed conditions, "Treated Area" includes areas directed to existing treatment facilities, along with new or replaced impervious surfaces from which runoff would be treated or infiltrated.

[3] Runoff from TDAs 3 and 4 would be directed to treatment facilities where infiltration is not expected to occur.

The Proposed Action would not be expected to be a significant source of fecal coliform bacteria or contribute to the existing water quality problems in Ebey South or Quilceda Creek because stormwater runoff from new pavement within the project would be treated and some would be infiltrated.

The Proposed Action would maintain existing recharge rates to the total aquifer by enhancing infiltration to compensate for increased impervious area. The water quality of runoff would be improved before infiltration by using pretreatment methods. The permanent effects on critical aquifer recharge areas would be mitigated by the infiltration, which would maintain recharge rates within the overall surrounding aquifers.

The Proposed Action could release sediment or other pollutants to surface waters during construction. However, a project-specific Stormwater Pollution Prevention Plan (SWPPP) and Temporary Erosion and Sediment Control (TESC) plan would be prepared and implemented before beginning earthwork under the project's National Pollutant Discharge Elimination System (NPDES) Construction Stormwater General Permit. It is anticipated that the sediment and flow-control BMPs described in the TESC and SWPPP would minimize the potential for water quality impacts to wetland and stream resources in the project area during construction.

3.3.4 Mitigation

With appropriate implementation of engineering design standards and construction BMPs, significant impacts on water resources are not expected, and additional mitigation is not required.

3.4 Air Quality and Greenhouse Gas Emissions

3.4.1 Data Collection and Analysis

A known formal emissions inventory, including comprehensive air quality monitoring, has not been conducted for the study area. The majority of the content in this section is drawn from the I-5/4th Street and 88th Street NE Corridor Improvements Intersection Control Evaluation (herein, 2022 Intersection Control Evaluation) (Parametrix 2022c). The study area for the intersection control report included the following intersections:

- 88th Street NE at Quil Ceda Boulevard
- 88th Street NE at southbound I-5 ramps
- 88th Street NE at northbound I-5 ramps
- 88th Street NE at 36th Avenue NE
- 4th Street at 33rd Avenue NE
- 4th Street at southbound I-5 ramps
- 4th Street at northbound I-5 ramps

This narrative is based on the characterization of idling and stop-and-go traffic described in the 2022 Intersection Control Evaluation relative to reduced air quality. Using projected traffic volumes, the environmental consequences section compares the level of service (traffic flow) under the No Action alternative and Proposed Action at the representative intersections listed above.

3.4.2 Existing Conditions

All of the Reservation and Snohomish County meet National Ambient Air Quality Standards (NAAQS) (Ecology 2022b).

Current configurations of the I-5/4th and 88th Street NE corridors result in extensive congestion during peaks hours, causing back-ups that can extend onto the I-5 mainline lanes of traffic that result in lengthy delays at the signals crossing I-5. As described in the 2022 Intersection Control Evaluation, 2019 traffic issues along the 4th Street AM peak included stop-and-go traffic destined to southbound I-5; southbound I-5 on-ramp being over capacity, spilling onto local streets; and stop-and-go westbound traffic that blocked all lanes heading west out of Marysville into Tulalip. During 4th Street PM peak, traffic traveling in the eastbound direction on the inside lane leaving Tulalip was stop and go, and traffic on the inside lane heading westbound was stop and go and blocked lanes heading west out of Marysville into Tulalip. Traffic issues in the 88th Street NE corridor during weekday PM and Saturday afternoon peaks included long standing queues (Parametrix 2022c).

3.4.3 Environmental Consequences

Traffic volumes for the 88th Street NE and 4th Street corridors are expected to increase by 10 to 230 percent between 2019 and 2045. This increase has been projected for both the No Action alternative and Proposed Action.

Vehicles emit a variety of gases during their operation; some of these are greenhouse gases (GHGs). The GHGs associated with transportation are carbon dioxide (CO_2), methane, and nitrous oxide. Any process that burns fossil fuel releases CO_2 into the air. Carbon dioxide makes up the bulk of the emissions from transportation.

Under the No Action alternative, traffic flow is expected to worsen in both corridors. For example, the 2022 Intersection Control Evaluation projects a weekday PM peak delay would average about 50 seconds for the study intersections in the 88th Street NE corridor with a level of service (LOS) E and F[1] for several of the intersections. Several study intersections within the 4th Street corridor would be operating at a LOS D or F in 2025, with an average delay of about 94 seconds for all intersections (Parametrix 2022c). This would increase idling times for vehicles at the interchange, which would result in an increase in emissions including greenhouse gases, lowering the air quality in the area.

The Proposed Action would likely improve traffic flow, reduce stop-and-go conditions, and improve roadway speeds to a moderate level. For example, the 2022 Intersection Control Evaluation projects a weekday PM peak delay would average about 8 seconds in the 88th Street NE corridor, with a LOS of A for all study area intersections. All study intersections within the 4th Street corridor would be operating at a LOS A in 2025, with an average delay of about 6 seconds (Parametrix 2022c). This is an improvement to the current weekday PM peak delay that would be experienced, despite the projected increase of traffic volume. Improved traffic flow also has the potential for greater fuel efficiency through the reduction of idling and therefore less fuel use, which could reduce emissions that are released through extraction, refining, and transport of fuels utilized by motor vehicles traveling in the study area. This

[1] Six LOS standards were applied to roadways with a letter grade of A, indicating the best traffic flow and corresponding traffic safety, through F, indicating the worst.

increase in traffic flow efficiency resulting from the Proposed Action could reduce GHG emissions and improve air quality in the area.

Construction greenhouse gas emissions are temporary and would originate from the fuel burned by construction equipment and from emissions caused by increased traffic congestion during construction activities. Construction would also result in fugitive dust.

3.4.4 Mitigation

Operationally, the Proposed Action is expected to reduce GHGs emissions. With appropriate implementation of a traffic control plan to minimize construction-traffic backups and implementation of construction BMPs (e.g., maintaining equipment, reducing idling, applying dust management control measures), additional mitigation is not required.

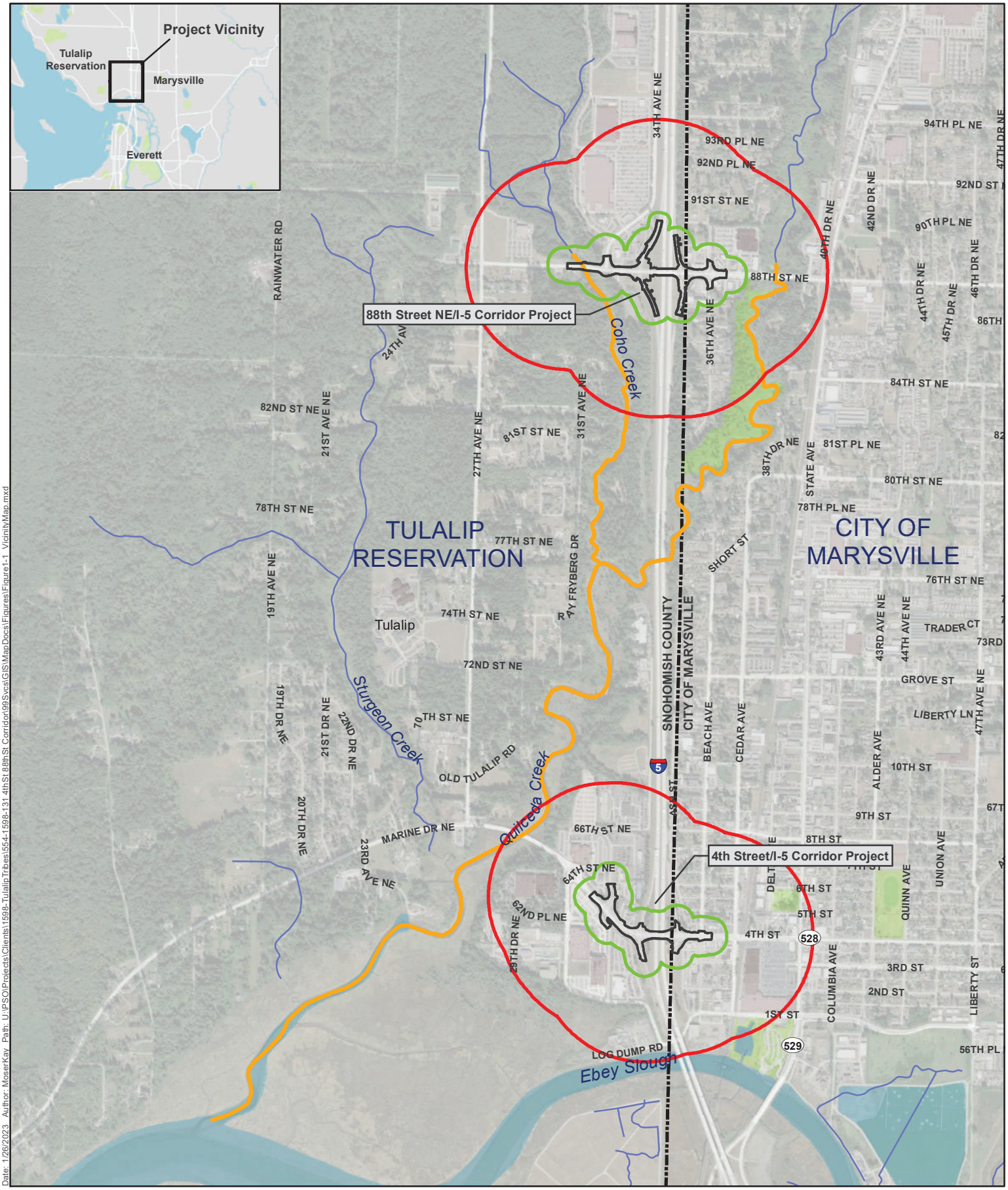
3.5 Living Resources

3.5.1 Data Collection and Analysis

The information for the Living Resources discussion was drawn from the Ecosystem Discipline Report (Parametrix 2022d) and the Biological Assessment (Parametrix 2022e) prepared on behalf of the I-5/4th Street and 88th Street NE Corridor Improvements project. These documents are included in Appendix B and C, respectively. Refer to these documents for a better understanding of methods and assumptions.

3.5.2 Existing Conditions

The sections below summarize the following resources: aquatic, vegetation and wildlife, and wetland. Figure 3-4 provides an understanding of the study area for each resource.



Date: 1/26/2023 Author: MoserKav Path: U:\PSO\Projects\Clients\1598-TulalipTribes\554-1598-131 4thSt 88thSt Corridor\99Svcs\GIS\MapDocs\Figures\Figure1-1 VicinityMap.mxd

Source: © Mapbox, © OpenStreetMap, ESRI, WDNR

Streams
Project Area
Aquatic Resources Study Area
Vegetation Study Areas (200 feet)
Terrestrial Wildlife Study Areas (0.25 mi)

0 500 1,000 2,000 Feet

Figure 3-4
Living Resource Study Areas
I-5/4th Street and 88th Street
NE Corridor Improvements
Snohomish County, WA

3.5.2.1 Aquatic Resources

This section summarizes aquatic habitats and species in the study area for the I-5/4th Street and 88th Street NE Corridor Improvements project. The study area occurs within two watersheds: the northern portion is in the Quilceda Creek watershed (hydrologic unit code [HUC] 171100110204), and the southern portion is in the Snohomish River-Frontal Possession Sound watershed (HUC 171100110203), north to south, respectively.

Streams

Three streams (Coho Creek, Quilceda Creek, and Ebey Slough) were identified within the aquatic resources study area. Coho Creek flows into Quilceda Creek, which drains into the Ebey Slough within the Snohomish River estuary system. Construction of a replacement bridge at 88th Street NE would entail work within Coho Creek. Quilceda Creek and Ebey Slough are included in the study area because they would receive stormwater runoff from impervious surfaces created or replaced by the project. The extent of the aquatic resource study area reflects the area where potential contaminants from stormwater outfalls may be expected to exceed background levels. The volume of water in Ebey Slough will dilute contaminants in stormwater to negligible almost immediately after treated stormwater enters the slough. Therefore, the aquatic resource study area terminates at the confluence of Quilceda Creek and Ebey Slough. Table 3-7 summarizes these streams. Figure 3-4 shows the location of the streams.

Table 3-7. Summary of Streams in the Study Area

Stream Name	State Interim Water Type[a]	Local Jurisdiction	Local Jurisdiction Stream Classification[b]	Local Jurisdiction Buffer Width (feet)[c]
Coho Creek	Type 2	Tulalip Tribes	Class I	200
Quilceda Creek	Type 1	Tulalip Tribes	Class I	200
Ebey Slough	Type 1	Tulalip Tribes	Class I	200

[a] WAC 222-16-031

b TTC 7.110.060

[c] TTC 7.110.070

Fish and Other Aquatic Species

Fish species, including Chinook salmon, steelhead, bull trout, pink salmon, coho salmon, and chum salmon, use Ebey Slough primarily as a migration corridor and as a transition zone between marine and freshwater environments. Ebey Slough also provides rearing habitat and serves as a migratory corridor for juvenile salmonids. Quilceda Creek provides a migratory corridor and rearing habitat as well as limited-potential spawning habitat for Chinook salmon, steelhead, and other fish species. Although the number of Chinook salmon that spawn in use of Quilceda Creek is low compared to other systems, the population in that stream contributes to genetic diversity at a broader scale (Nelson 2022c, personal communication) characterized as “relatively minimal” compared to Chinook use of the Snohomish River system (Quil Ceda Village 2009). This is likely attributable to the limited availability of suitable spawning substrates, which are not widely available in the Quilceda Creek watershed (Quil Ceda Village 2009).

Species of fish known to be present within the 88th Street NE project area along Coho Creek include coho salmon, chum salmon, and resident coastal cutthroat trout (NWIFC 2022; TTED 2021). Species that have

not been documented in the project area but have the potential to occur given suitable stream gradients include Chinook salmon, pink salmon, steelhead, and bull trout (NWIFC 2022).

Species of concern are defined as those with a regulatory status that prompt individual attention through federal, state, and/or local permitting processes. Resource analysts reviewed the Washington Department of Fish and Wildlife (WDFW) lists of state- and federally listed species as well as the lists of state priority species, species that are culturally important to the Tulalip Tribes, and identified aquatic species of concern that may use habitats in the study area, as described below.

Federal, State, and Culturally Important Aquatic Species

The Endangered Species Act (ESA) requires each federal agency (in this case, the BIA) to ensure that any actions it undertakes or approves do not jeopardize the continued existence of endangered or threatened species or result in the destruction or adverse modification of their designated critical habitat. To meet this requirement, BIA initiated consultation with the United States Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS) concerning the potential effects of the I-5/4th Street and 88th Street NE Corridor Improvements project on ESA-listed species and critical habitat. The Tulalip Tribes prepared a Biological Assessment to support ESA consultation (see Appendix C). The Biological Assessment analyzes the potential for the project to result in adverse effects on the following ESA-listed species and critical habitats in aquatic areas:

- Puget Sound Chinook salmon
- Puget Sound steelhead
- Bull trout
- Southern Resident killer whale
- Designated critical habitat for Puget Sound Chinook salmon
- Designated critical habitat for Puget Sound steelhead
- Designated critical habitat for bull trout

The Biological Assessment also supports consultation with NMFS about potential effects on essential fish habitat for federally managed commercial fisheries. The study area includes waters designated as essential fish habitat for Pacific salmon (Chinook, coho, and pink salmon), Pacific coast groundfish, and coastal pelagic species.

In addition to the ESA-listed species discussed above, other species that may use aquatic habitats in the study area have state listing status or are considered culturally important to the Tulalip Tribes. These other aquatic species that may use habitats in the study area include chum salmon, coho salmon, cutthroat trout, Pacific lamprey, pink salmon, rainbow trout, river lamprey, and Olympic mudminnow.

3.5.2.2 Vegetation and Wildlife Resources

The vegetation study area includes a variety of cover types and wildlife habitats. Much of the study area consists of urban development, primarily commercial land use. These areas support wildlife species adapted to disturbed urban areas. However, undeveloped habitat within the Coho Creek corridor supports a variety of vegetation types and wildlife species. Vegetation conditions and wildlife habitats are described in the following subsections.

Vegetation

The study area for vegetation is shown in Figure 3-4. Vegetation in the study area was evaluated for the presence of rare plants and priority ecosystems through a review of the Natural Heritage program database (WDNR 2022). There are no documented occurrences of rare plants or priority ecosystems within the vegetation study areas (extending 200 feet from the project footprints). The closest known rare plants and nonvascular species of high conservation value are mapped approximately 2,000 feet from the 4th Street project footprint, outside the study area for vegetation. These mapped plant species are not federally listed but do carry state sensitive and state threatened species status. Plants identified in the study area that are culturally important species to Tulalip Tribes include cedar and ironwood.

Eleven land cover types were identified in the study areas. Of the 83.2 acres of mapped land cover types, approximately 65 acres is categorized as developed, unvegetated surfaces or roadside ROW. The other predominant land cover types include riparian forest (approximately 3.6 acres), shrubland (approximately 1.9 acres), mown grass and landscaping (approximately 4.4 acres), and upland forest (approximately 2.5 acres).

Terrestrial Wildlife

Overall, the unvegetated/road, grassland, mown grass, and developed commercial areas are the dominant cover/habitat types in the wildlife study area and, as such, provide low to moderate habitat value for wildlife. The emergent wetland areas and riparian habitat in the Coho Creek and Quilceda Creek corridors and Ebey slough estuary wetland represent the higher-value cover and habitat types important for wildlife. The Quilceda Creek and Coho Creek corridors provide food, cover, and nesting for species, including bald eagle, great blue heron, red-tailed hawk, belted kingfisher, red-legged frog, and mule deer (eBird 2022).

The study area for potential disturbance of wildlife extends over Ebey Slough, which is part of the Snohomish River estuary. Numerous species of birds, amphibians, and mammals are known to occupy habitats within the Snohomish River estuary and use them for foraging, breeding, and nesting. Species migrating to nesting grounds in the north or overwintering areas in the south also use these habitats as rest areas.

Wildlife observed during field visits include species typically habituated to human activities, such as rock pigeons, house sparrows, American robins, American crows, dark-eyed juncos, and Northern flickers.

Federal, State, and Culturally Important Species

ESA-Listed Species

Based on reviews of information from the USFWS Information for Planning and Consultation website and guidance from WSDOT, analysts determined that the project has the potential to affect two ESA-listed species that may use terrestrial habitats in the study area. These species are the marbled murrelet and the Oregon spotted frog, both of which are listed as threatened. The study area includes some potential foraging habitat for marbled murrelets and potentially suitable breeding, rearing, overwintering habitat for Oregon spotted frogs (WDFW 2022, WSDOT 2015). The Biological Assessment that was prepared to support ESA consultation provides additional information (see Appendix C).

According to the USFWS Information for Planning and Consultation website, one additional ESA-listed species (yellow-billed cuckoo) and one species proposed for listing (North American wolverine) could potentially use habitats in the study area (USFWS 2023). Analysts reviewed the habitat requirements of

those species and determined that there is no potential for project-related impact on either species. In addition, no critical habitat for any ESA-listed species is present in the study area.

Migratory Birds

The Migratory Bird Treaty Act of 1918, administered by USFWS, makes it unlawful to take, import, export, possess, sell, purchase, or barter any migratory bird, with the exception of the taking of game birds during established hunting seasons. The term, *take*, in this context, includes mortality or capture of migratory birds that directly and foreseeably results from an action. Nearly all bird species that may occur in the study area are protected under the Migratory Bird Treaty Act. All habitats in the study area support migratory birds of some type at some time in their life cycle; therefore, all habitats identified above would be considered habitat for migratory birds.

Bald and Golden Eagles

The Bald and Golden Eagle Protection Act (16 U.S.C. §§ 668-668c) prohibits the take of bald or golden eagles, including their parts, nests, or eggs, unless allowed by a permit issued by the Secretary of the Interior (16 U.S.C. § 668(a); 50 CFR part 22). The Bald and Golden Eagle Protection Act and implementing regulations define take as "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, destroy, molest or disturb." Activities that disturb vegetation or generate noise or human activity near an active nest (generally, 660 feet or closer) may require an incidental take permit. No eagle nests have been identified within 660 feet of the project footprint.

Other Wildlife Species of Concern

In addition to the ESA-listed species discussed above, 27 species that may use terrestrial habitats in the study area have state-listing status or are considered culturally important to the Tulalip Tribes. Animal species identified as culturally important to the Tulalip Tribes include fish, eagles, hawks, falcons, owls, deer, and bears (TTC 7.110.020). The complete list of species by type, status, and habitat use in the study area is provided in the Ecosystem Discipline Report (Appendix B).

3.5.2.3 Wetlands

One wetland (Wetland A) was identified in the 88th Street NE area, and none were identified within the 4th Street study area. Wetland A is located within the Coho Creek riparian corridor west of I-5 in the 88th Street NE project footprint. The mapped location of the wetland and the delineated boundaries are shown in the Ecosystem Discipline Report (Appendix B). A summary of wetland characteristics is included in Table 3-8 below.

Table 3-8. Summary of Wetlands in the Study Area

Wetland	Area (acres)[a]	USFWS Classification[b]	HGM Classification[c]	Ecology Rating (2014)[d]	Local Jurisdiction Category[e]	Standard Buffer Width (feet)[f]
Wetland A	2.50	PSS/PEM	Riverine	I	I	200

PSS = palustrine scrub-shrub PEM = palustrine emergent

[a] Area as defined within the study area

[b] Cowardin 1979

[c] Brinson 1993; FGDC 2013

[d] Hruby 2014

[e] TTC 7.110.050

[f] TTC 7.110.070

3.5.3 Environmental Consequences

This section summarizes the temporary and permanent effects of the No Action alternative and the Proposed Action for the I-5/4th Street and 88th Street NE Corridor Improvements project on the following resources:

- Aquatic Resources
- Vegetation and Wildlife Resources
- Wetland Resources

The Ecosystem Discipline Report (Appendix B) provides greater detail.

3.5.3.1 Aquatic Resources

This section emphasizes effects on aquatic resources, including ESA-listed threatened and endangered species, with some discussion of proximal impacts on wetlands associated with stream realignment.

No Action Alternative

Permanent and Temporary Impacts

Under the No Action alternative, there would be no project-related changes to the current water quality or hydrology of Coho Creek or the riparian corridor. No potential temporary or permanent degradation of water quality (such as sedimentation, turbidity, or toxicants) would occur, and there would be no additional stormwater inputs to streams. There would be no potential for fish mortality resulting from fish exclusion work. The stream would remain in its current alignment and conveyance through an undersized culvert. There would be no potential for fish passage improvement or the creation of additional riparian habitat in place of the existing undersized culvert and roadway fill prism. Access by fish to restored sections of Coho Creek upstream of the project area would remain uncertain. No in-stream or riparian improvements, including invasive species removal and large woody material placement, would occur.

Proposed Action

Permanent Impacts

Under the Proposed Action, realigning the stream channel and building bridge piers and retaining walls would entail the placement of fill (0.03 acre) below the OHWL of Coho Creek. The impacts of aquatic habitat loss in these areas would be offset by (1) the creation of new stream channel habitat combined with (2) the removal of the gabion-supported road fill prism that currently occupies areas that would otherwise be within the OHWL of Coho Creek and/or within associated wetland and riparian areas. Under the Proposed Action, temporary and permanent impacts anticipated to Coho Creek and its associated buffers are provided in Table 3-9 below.

Table 3-9. Summary of Temporary and Permanent Impacts on Coho Creek (in acres)

Stream	Permanent Impact	Temporary Impacts	Aquatic Conversion Area[1]	Permanent Buffer*	Temporary Buffer*
Coho Creek	0.03	0.00	0.03	0.22	0.24

[1] This area includes existing stream habitat converted to wetland and is considered self-mitigating after stream restoration construction work is complete.

* The riparian buffer impact areas listed include wetland habitat and are therefore greater than the buffer impacts listed in Table 3-10 for Wetland A.

All impacts to wetlands, streams, and their regulatory buffers would be mitigated in accordance with applicable tribal, federal, state, and local requirements. There would be no net loss of wetland or stream area or ecological functions. The project is expected to result in a substantial improvement in system processes and ecological functions of wetlands and streams after fill removal associated with the bridge construction.

Runoff from PGIS created or replaced by the project would be treated in accordance with the guidelines in the 2019 Stormwater Management Manual for Western Washington, which represents the best available science for stormwater treatment and flow control (Ecology 2019). Implementation of these practices, combined with an overall reduction in the amount of PGIS, is expected to reduce the potential for aquatic species to be exposed to elevated concentrations of pollutants (including dissolved metals and other chemical contaminants) in runoff from impervious surfaces created or replaced by the project. Even with these measures, it is possible that some residual contaminants may be present in runoff that leaves the project area. These contaminants may be toxic to fish and other aquatic species.

Based on the potential for exposure to residual contaminants in stormwater runoff, the Biological Assessment includes determinations that the project is likely to adversely affect Puget Sound Chinook salmon, Puget Sound steelhead, designated critical habitat for both species, and essential fish habitat for Pacific salmon (see Appendix C). Given the low likelihood of bull trout being present in stream habitats in the study area, the Biological Assessment determined that the project is not likely to adversely affect bull trout. In addition, the Biological Assessment found that the project is not likely to adversely affect Southern Resident killer whales and that it will not adversely affect essential fish habitat for groundfish or coastal pelagic species. The Biological Assessment identifies performance standards and additional measures to avoid, minimize, and mitigate potential impacts on ESA-listed species and critical habitats (see Appendix C). It is possible that additional measures may be identified through the ESA consultation process.

Removal of the undersized culvert may reduce the amount of area affected by backwatering during high-flow events in Coho Creek. Based on low gradients, abundant beaver activity, and groundwater availability in Wetland A upstream of 88th Street NE, this change would not be expected to affect the hydrology of Wetland A. Modeling indicates that the project would not affect the water surface elevation in Coho Creek during a 2-year storm event. Measurable changes in water surface elevations would occur only during significantly larger storm events, which do not play a major role in determining wetland hydrology (Parametrix 2022d). For these reasons, the total area of Wetland A is not expected to change. Over the long term, the proposed habitat improvements in Coho Creek would benefit aquatic species by increasing the amount of available habitat, improving habitat complexity, maintaining riparian cover and water quality, and increasing the prey base.

Greater detail regarding the offsets and uplifts to habitat are described in the Ecosystems Discipline Report (Appendix B).

Temporary Impacts

Bridge construction and stream channel realignment would entail clearing vegetation in the riparian zone along Coho Creek, which is predominantly invasive Himalayan Blackberry. Temporarily disturbed areas within the riparian zone would be replanted with native species that support riparian ecological functions. The removal of invasive vegetation and replanting with appropriate native species would likely contribute to improved riparian habitat quality over time. In addition, as mentioned above, approximately 0.14 acre of gabion-supported road fill prism would be replaced with native soils and native vegetation, increasing the amount of area that provides riparian ecological functions.

Safety standards require that only low-stature species be allowed to grow within 10 feet of the new bridge. Mature forest habitat would not develop in those areas, reducing the potential for recruitment of large woody material to the stream over the long term. This reduction would be offset by the placement of more than 60 pieces of large woody material in and near the stream as part of the project design.

The Proposed Action would include the temporary disturbance of soils during grading and excavating activities. Site grading and excavating could result in erosion from disturbed upland soils, potentially increasing the sediment load in runoff entering Coho Creek. Stream reconstruction activities in Coho Creek may mobilize existing bottom sediments and sediments within the existing culvert, leading to short-term increases in turbidity and sedimentation of downstream areas. Based on the implementation of site-specific BMPs, the effects of sedimentation and turbidity in Coho Creek are anticipated to be minimal. All construction activities below the ordinary high water line (OHWL) of Coho Creek would occur during the in-water work window established by the Tribes (July 15 through September 30). No in-water work would be performed outside that window without prior review and approval by Tulalip Tribal staff. In the unlikely event that Chinook salmon, steelhead, or bull trout spawn in Coho Creek, this work would take place when migrating adults, incubating eggs, and outmigrating juveniles are least likely to be present. In addition, any fish exclusion work would be performed in compliance with applicable fish exclusion protocol and standards (e.g., WSDOT 2021 USFWS 2012). No work within Quilceda Creek or Ebey Slough is anticipated.

3.5.3.2 Vegetation and Wildlife Resources

No Action Alternative

Permanent and Temporary Impacts

Under the No Action alternative, there would be no temporary or permanent project-related impacts to existing vegetation and wildlife habitats. There would be no conversion of vegetated areas to impervious surfaces and no impacts to significant trees. There would be no changes to trees and shrubs within the riparian corridor of Coho Creek. Patches of invasive Himalayan blackberry along the existing roadway fill prism would not be removed for project construction.

Proposed Action

The analysis considered the following potential impacts on vegetation and wildlife resources under the Proposed Action:

- Permanent impacts associated with the clearing and paving of vegetation and wildlife habitats
- Temporary impacts associated with clearing and staging of equipment
- Permanent and temporary impacts to significant trees in the study area
- Impacts to life cycle habitat for animals and/or plants considered culturally important to the Tulalip Tribes, as listed under TTC 7.110.020
- Effects on ESA-listed species

Construction of the corridor improvements project would result in temporary and permanent impacts to vegetation and wildlife within the vegetation study area. Table 3-10 below summarizes the impacts for each vegetation cover type. A total of 20 significant trees would be removed within the study area

(14 trees within permanent impact areas and 6 within temporary impact areas).[2] Thirteen of these trees are within the Tulalip Reservation and seven are within the City of Marysville. The Ecosystem Report provides a detailed characterization of the vegetation that would be permanently and temporarily affected by the Proposed Action (Appendix B). The following sections summarize the permanent and temporary impacts for each corridor followed by a summary of the findings related to ESA-listed species.

Table 3-10. Summary of Temporary and Permanent Impacts on Vegetation and Wildlife Habitats (in acres)

	4th Street Portion of Study Area		88th Street NE Portion of Study Area		Total Project Impacts	
Cover/Habitat Type	Permanent Impact Area	Temporary Impact Area	Permanent Impact Area	Temporary Impact Area	Permanent Impact Area	Temporary Impact Area
Emergent Wetland	0.00	0.00	0.05	0.00	0.05	0.00
Scrub-Shrub Wetland	0.00	0.00	0.04	0.00	0.04	0.00
Stream Channel	0.00	0.00	0.03	0.00	0.03	0.00
Riparian Forest	0.00	0.00	0.00	0.02	0.00	0.02
Upland Forest	0.13	0.08	0.14	0.09	0.27	0.17
Shrubland	0.00	0.01	0.37	0.38	0.37	0.39
Mown Grass and Landscaping	0.12	0.05	0.45	0.24	0.57	0.29
Roadside Right-of-way	1.58	0.62	1.42	0.82	3.00	1.44
Stormwater Facilities	0.00	0.05	0.08	0.07	0.08	0.12
Residential	0.00	0.00	0.00	0.00	0.00	0.00
Developed Unvegetated Surfaces	4.61	0.57	6.02	0.64	10.63	1.21
TOTAL	**6.44**	**1.38**	**8.60**	**2.26**	**15.04**	**3.64**

Permanent Impacts

For both 4th Street and 88th Street NE corridors, vegetated areas make up a small portion of the cover in the permanent impact area. Vegetation that would be affected consists primarily of the disturbed roadside ROW cover type, with smaller amounts of upland forest and mown grass/landscaping. Affected upland forest vegetation consists primarily of conifer trees near the I-5/4th Street interchange and directly east of I-5 adjacent to commercial businesses. These trees may provide structural habitat for birds and other wildlife, but the trees are in an area that is highly disturbed due to the proximity to major highways and roads. The 88th Street NE corridor includes other cover types that would be permanently impacted,

[2] The City of Marysville defines significant trees as evergreen trees with a diameter of 8 inches, as measured 4 feet above grade, and deciduous trees with 12-inch diameters (MMC 22A.020.200). The Tulalip Tribal Code does not include definitions for significant trees. Therefore, all trees greater than 8 inches as measured 4 feet above grade were identified as significant trees within the Study Area.

including emergent wetland, scrub-shrub wetland, stream channel, upland forest, shrubland, mown grass/landscaping, and stormwater facilities. Impacts to areas classified as stream channel and wetland would be mitigated in accordance with applicable tribal, federal, state, and local requirements. Cedar trees, which are considered culturally important to the Tulalip Tribes, would not be impacted and would be protected through the use of silt fencing and additional BMPs.

The Biological Assessment prepared to support ESA consultation for this project includes determinations that the project is not likely to adversely affect marbled murrelets or Oregon spotted frogs (see Appendix C). The Biological Assessment identifies performance standards and additional measures to avoid, minimize, and mitigate potential impacts on those species and their habitat.

Temporary Impacts

Project construction would require clearing and removing vegetation in the temporary impact area. Outside of areas where roadside vegetation maintenance standards require the planting of grasses or other low-growing species, temporarily disturbed areas would be replanted with native species. Temporary staging areas would be located within previously developed areas (roads) and would not require vegetation clearing.

Most of the land cover in the temporary clearing area in the 4th Street and 88th Street NE portions of the study area consists of developed unvegetated surfaces or roadside ROW vegetation (see Table 3-10). In addition, the 88th Street NE corridor includes other cover types in the temporary impact area, such as riparian forest, upland forest, shrubland, mown grass/landscaping, and stormwater facilities, and includes several significant trees. There would be no temporary impacts to cedar trees or other plants identified as culturally important to the Tulalip Tribes.

Construction activities would temporarily affect wildlife in and near the project site. Impacts would occur from vegetation and habitat loss, disruption of travel corridors, noise impacts, and displacement of wildlife into potentially less suitable habitats where they might not thrive. Wildlife would likely be displaced when construction begins. Species displaced by construction noise would likely return after construction is complete. However, reestablishing native vegetation would require months to years for herbaceous upland and wetland types and years to decades for forests.

3.5.3.3 Wetland Resources

No Action Alternative

Permanent and Temporary Impacts

Under the No Action Alternative, there would be no permanent or temporary project-related impacts to wetlands in the study area. The vegetation and hydrology conditions would remain the same, and wetland soils would remain intact. There would be no improvements to habitat structure within Wetland A. There would be no potential for the creation of additional wetland and riparian habitat area in place of the existing roadway fill prism.

Proposed Action

Permanent and Temporary Impacts

Approximately 0.09 acre of Wetland A would be affected by fill placement and 0.04 acre of the wetland would be affected by aquatic area conversion associated with stream realignment. However, approximately 0.14 acre of gabion-supported road fill prism would be removed, replaced with native soils, graded to meet wetland and OHWL elevations, and restored with native vegetation. Over time, this

area is expected to support wetland and riparian functions, potentially resulting in a net increase of approximately 0.05 acre of wetland area at the project site.

Permanent and temporary impacts to wetlands resulting from construction of the corridors improvement project are listed in Table 3-11.

Table 3-11. Temporary and Permanent Impacts to Wetlands and Their Buffers

Wetland	Vegetation Type	Permanent Impacts	Temporary Impacts	Aquatic Conversion Area[2]	Permanent Buffer Impacts	Temporary Buffer Impacts
A	PSS/PEM	0.09[1]	0.00	0.04	0.16	0.23

PSS = palustrine scrub-shrub; PEM = palustrine emergent

[1] This total includes 0.03 acre of wetland below the OHWL; therefore, it is also considered a stream impact and is included in Table 3-9.

[2] This area includes existing wetland habitat converted to stream and is considered self-mitigating after stream restoration construction work is complete.

3.5.4 Mitigation

As discussed above, the project is expected to result in no net loss of wetland or stream area, and it may result in a net gain of approximately 0.05 acre of wetland habitat. In addition, the project is expected to provide a net gain in the ecological functions of Coho Creek and associated wetlands. In addition to improving fish access, adding large woody material and replacing the gabion-supported road prism with native riparian vegetation, the project would have the following beneficial effects:

- Increased availability of potentially suitable spawning substrates in the newly constructed stream channel
- Improved connectivity between the stream and its floodplain where the existing gabion-supported road fill prism is removed
- Improved movement of sediments through the system due to stream channel realignment and removal of the undersized culvert

All areas of temporarily impacted riparian buffer (totaling 0.24 acre) would be restored in place with native woody vegetation after project construction is complete. These areas are currently dominated by reed canarygrass, which supports fewer ecological functions than the native woody species that would be used for site restoration. All areas of permanently impacted riparian buffer (totaling 0.22 acre) would be mitigated at a 1:1 ratio. Several potential buffer mitigation areas, totaling 0.28 acre, have been identified within the project vicinity. Currently these areas are dominated by invasive Himalayan blackberry. The blackberry would be removed and replanted with a variety of native trees and shrubs to offer increased plant diversity for wildlife.

The Proposed Action is being designed to comply with all federal, state, and local regulations. The mitigation approach is also being coordinated with Tulalip tribal biologists. The project would use a mitigation sequencing approach based on a hierarchy of avoiding and minimizing adverse impacts through careful design, implementing BMPs, and rectifying temporary impacts. Applicable BMPs would be implemented during project construction and operation.

3.6 Cultural Resources

3.6.1 Data Collection and Analysis

Cultural resource data collection and analysis for this project involved the following activities:

- Literature review of site forms and previous cultural resources reports on file at the Washington State Department of Archaeology and Historic Preservation (DAHP)
- Review of relevant environmental, historic, ethnographic maps and documentation
- Definition of the Area of Potential Effect (APE) through coordination with project engineers and the tribe
- Coordination with Tulalip Tribes cultural representatives to determine if the Tribe had any specific information on cultural resources in the project vicinity and to coordinate field work
- Field investigation of the site, including a pedestrian survey and 12 shovel probes
- Historic property inventory, archaeological site recordation

The summary of existing conditions, potential impacts, and mitigation are based on a Cultural Resource Assessment prepared by ASM Affiliates that addressed the consultation requirements of Section 106 of the National Historic Preservation Act (NHPA) (ASM 2022). Consultation correspondence is provided as Appendix D.

3.6.2 Existing Conditions

The project area lies within the traditional territory of the Northern Lushootseed-speaking Snohomish. The Snohomish occupied numerous villages in the project vicinity. Historic development in the project vicinity included logging activities and transportation-related construction. The approved area of potential effect (APE) is shown in Figure 3-5.

3.6.2.1 4th Street

The APE in the vicinity of 4th Street is situated on the delta of the Snohomish River, near the mouth of Quilceda Creek. Although the subject of numerous previous cultural resource studies, no previously recorded cultural resources are documented within the APE. As described in these previous studies, the ground surface in this area has been extensively disturbed. No additional field survey was completed in this area, based primarily on the extent of asphalt and concrete covered surfaces in the APE. Although the area is highly disturbed, there is a possibility that additional cultural resources exist within the 4th Street APE for the following reasons:

- Influence of river delta deposition of extensive alluvium
- Probability models provided by the Washington Department of Historic Preservation (DAHP) that document the landform at high risk for containing material
- Representative documented sites on the same landform
- Ethnographic utilization of the same landform
- Identification of precontact lithic material during previous archaeological monitoring within the current APE
- Concerns voiced by the Tulalip Tribes cultural resource representatives

One historic property, the Marysville Opera House, is 100 meters east of the APE.

3.6.2.2 88th Street NE

The APE in the vicinity of 88th Street is generally located between Quilceda Creek and Coho Creek. Although multiple precontact archaeological sites occur in the project vicinity, no documented sites occur within the APE. However, based on the landform and absence of extensive archaeological work in the area, field survey was completed in conjunction with the Section 106 process to further assess existing conditions. Although no buried cultural resources were identified, there is a possibility that additional cultural resources exist within the 88th Street APE for the following reasons:

- Location within the Quilceda Creek floodplain
- Probability models provided by DAHP that document the landform at high risk for containing material
- Ethnographic utilization of the same landform
- Lack of previous cultural resource investigations
- Concerns voiced by Tulalip Tribes cultural resource representatives

Two historic cemeteries occur within 500 meters of the APE.

Figure 3-5.
I-5/4th Street and 88th Street NE
Corridor Improvements Project APE

3.6.3 Environmental Consequences

No impacts would occur to cultural resources under the No Action alternative.

In both areas of the APE (4th Street and 88th Street NE corridors), there remains a high probability that cultural resources could be encountered and impacted during ground-disturbing construction activities associated with the Proposed Action.

The historic property resources identified in the project vicinity would be unlikely to be impacted by the Proposed Action.

3.6.4 Mitigation

No mitigation is needed for the No Action alternative.

Under the Proposed Action, a project-specific monitoring and treatment plan would be prepared in accordance with BIA requirements. Archaeological monitoring of all ground disturbance within the project APE would be provided.

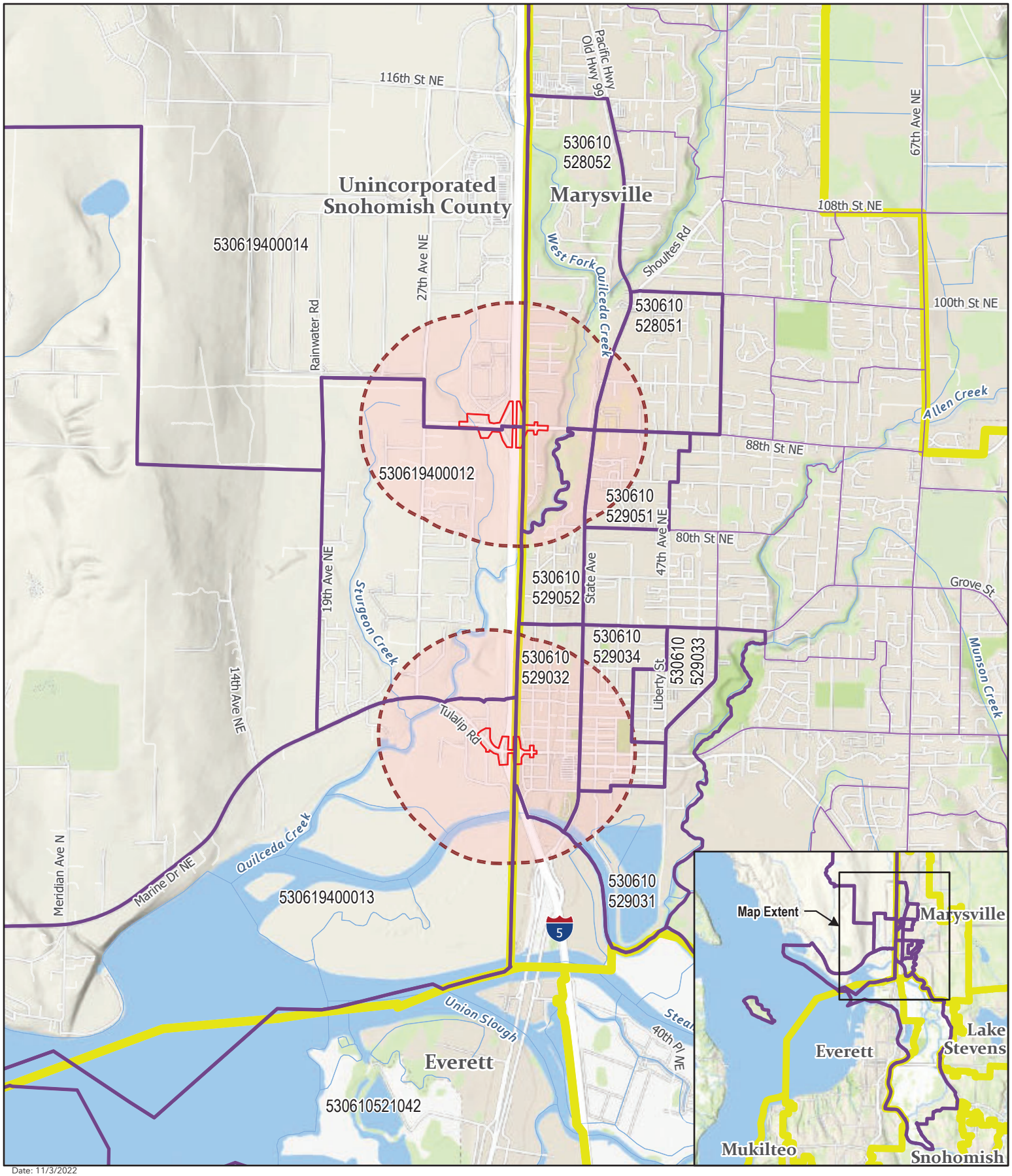
3.7 Environmental Justice

3.7.1 Data Collection and Analysis

Executive Order (EO) 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, directs federal agencies to take appropriate and necessary steps to identify and address disproportionately high and adverse effects of federal projects on the health or environment of minority and low-income populations to the greatest extent practicable and permitted by law. Demographics for the Project study area were assessed using the Environmental Protection Agency's (EPA's) environmental justice tool (EPA 2022). The study area includes 11 census block groups within 0.5 mile of the project area (Figure 3-6).

3.7.2 Existing Conditions

Within 0.5 mile of the study area, 11 block groups have been identified, as shown in Figure 3-6. As shown in Table 3-12, of those block groups, four had populations with higher percentages of people of color than Washington State. Of these four block groups, three are not in the immediate project vicinity, and the fourth is a large block group with residential areas not in the immediate project vicinity. Seven block groups also had relatively higher low-income populations when compared to Washington State. Of these seven block groups, five are not in the immediate project vicinity. None of the 11 block groups had relatively higher linguistically isolated populations compared to the state. Additional demographic data is provided in Appendix E.



Date: 11/3/2022
Sources: US Census (2019 Block Groups)
PCS: NAD 1983 StatePlane Washington North FIPS 4601 Feet
Disclaimer: This product is for informational purposes and may not have been prepared for, or be suitable for legal, engineering, or surveying purposes.

0 1,000 2,000 4,000 Feet

- Project Area
- 1/2 Mile Study Area Buffer
- Block Groups within 1/2 Mile
- Block Groups
- City Limits

Figure 3-6.
Census Block Groups

I-5/4th Street and 88th Street NE Corridor Improvements

Snohomish County, WA

Table 3-12. Demographic Analysis of Project Vicinity

Census Block Group	Approximate Population	People of Color Population (Percentage)	Low Income Population (Percentage)	Linguistically Isolated Households (Percentage)
STATE	--	33%	24%	4%
530610528051	1,820	31%	19%	0%
530610528052	1,448	10%	7%	1%
530610529031	896	34%	45%	1%
530610529032	877	28%	44%	4%
530610529033	1,133	31%	38%	0%
530610529034	1,444	24%	31%	1%
530610529051	1,484	51%	46%	3%
530610529052	1,604	37%	44%	0%
530619400012	1,556	46%	26%	1%
530619400013	1,298	32%	24%	1%
530619400014	1,869	19%	15%	0%

Source: EPA 2022

Additionally, 7 out of the 11 block groups have a higher percent population with less than high school education than the state. Five out of the 11 block groups have a higher percentage population over 65 years old as compared to the state.

3.7.3 Environmental Consequences

The No Action alternative would have no direct impact on minority, low-income, or linguistically isolated populations. However, with the No Action alternative, traffic is forecasted to increase over the next 20 years, leading to higher impacts on air quality and travel within the area. The increase in traffic and delays in travel would have significant impacts on the ability for emergency vehicles to reach populations and on the general ability of populations to travel with ease around their living area.

The Proposed Action would have no adverse impacts on minority, low-income, or linguistically isolated populations within the project area. Since the project would occur in an existing corridor, there is no potential for community fragmentation. Additionally, the project area is not within the vicinity of residential areas. The Proposed Action would have a positive impact due to the decrease in traffic delays through the area. There would be an increase in air quality over time and an increase in access to public services.

Under the Proposed Action, construction of corridor improvements would cause temporary traffic delays and some congestion for people moving through the area. Construction is expected to last 2.5 years. During that time, ongoing disruptions could include lane reductions, temporary signals, and bus stop relocations on 4th Street and 88th Street NE. In addition, there could be shorter term (e.g., days or weeks) closures and detours. Throughout construction, the construction contractor would be required to maintain business and pedestrian access. Construction timing and sequencing would be subject to additional provisions intended to keep vehicular traffic, pedestrians, and buses moving, as determined by the Tribes, the Washington State Department of Transportation, Snohomish County, and the City of Marysville. These

potential construction impacts would not disproportionately affect minority, low-income, or linguistically isolated populations within the project area.

Under the Proposed Action, businesses and some residential dwellings in the area could experience construction noise resulting from activities such as grading, excavation, pavement grinding and cutting, and drilling of bridge shafts.

3.7.4 Mitigation

No mitigation is proposed for the No Action alternative or for operational impacts under the Proposed Action. As described in Section 3.9.3, construction impacts related to traffic delays and congestion would be mitigated through the submittal and approval of Traffic Control Plans.

3.8 Community Services and Utilities

3.8.1 Data Collection and Analysis

This section discusses how community services and utilities could be affected by the project.

The community services study area is the area 0.5 mile from the potential construction limits of the 4th Street and 88th Street NE project corridors. The study area includes the jurisdictions of the Tribe and the City of Marysville. The public services analysis was conducted to identify what could cause changes in response times for emergency services (fire, medical, and police), travel times for school bus and solid waste collection routes, and overall demand for public services. Acquisition and displacement data were also reviewed to see whether any public services facilities would be acquired or whether emergency access would be interrupted.

The utilities study area is the construction limits of the 4th Street and 88th Street NE project areas. Analysis of utilities involved reviewing design drawings and construction documentation.

3.8.2 Existing Conditions

3.8.2.1 Community Services

The summary of existing community services is based on information from the Tribes' website (Tulalip Tribes 2022) unless specifically cited from another source. The community services discussed here include the following: fire, police, solid waste, transit, public works, and schools. All services are likely to travel through the project area to provide services to the Tulalip Tribe, the City of Marysville, and surrounding areas.

The Snohomish County Fire District 15 (Tulalip Bay Fire Department) encompasses the northern half of the Tulalip Reservation, including the project area. The Tulalip Bay Fire Department provides emergency medical services, fire, water rescue, wildland fire, fire inspections, and code enforcement within their jurisdiction. The department receives about 1,000 calls per year and operates out of one station. The station has two engines, two aid cars, one boat, a bush truck, and a tender (water taker). It is staffed by three full time captains and 24 volunteer fire fighters/emergency medical technicians (EMTs).

The project area is within the Tulalip Tribal Police Services jurisdiction. Tulalip Tribal Police Department patrols tribal villages, surrounding communities, and the City of Quil Ceda, including the project area. It is staffed by 18 uniformed officers, investigators, and Fish and Wildlife staff and receives approximately 24,000 calls a year, of which approximately 530 calls are from neighboring agencies. The Tulalip Tribal

Police Department is in the Tulalip Reservation at 6332 31st Avenue NE, about 0.15 miles west of the 4th Street corridor project area. The project area is also within the City of Marysville Police Jurisdiction. The Marysville Police Department is supported by 109 personnel, including 77 uniformed officers and 39 non-uniformed personnel, and received 64,355 calls for service in 2021 (Marysville Police Department 2021). Finally, the study area is also served by Washington State Patrol Field Operation Bureau District 7, which is responsible for traffic law enforcement, collision investigation, motorist assists on I-5 (WSP 2023).

Solid waste treatment; snow and ice removal; storm water drainage; and construction and maintenance of roadways, ditches, detention ponds, sidewalks, and signs are all provided by Tulalip Public Works, City of Marysville Public Works, and WSDOT roadside maintenance division.

Transit is provided by Community Transit and Tulalip Transit. Tulalip Transit provides rural public transit to areas within the reservation not currently served by Community Transit. For information on Transportation Services see Section 3.9.

Marysville School District No. 25 provides public education for children in the community. Schools that serve the project area include Quil Ceda Tulalip Elementary and the Marysville Tulalip Campus, which provides middle and high school, including Legacy High School, Heritage High School, 10th Street Middle School; and Totem Middle School. Totem Middle School, the only school physically located in the study area, is in the City of Marysville at 1605 7th Street, about 0.30 miles northeast of the 4th Street corridor project area. Additionally, there is a Boys and Girls Club that provides after-school care and extracurricular activities to children in the area. The Boys and Girl Club is in the City of Marysville at 1010 Beach Avenue, about 0.30 miles north of the 4th Street corridor project area. (Marysville School District 25 2022).

3.8.2.2 Utilities

Numerous above and below ground utilities are located within the ROWs for both 88th Street NE and 4th Street. The underground utilities include gas, power, water, telephone, sanitary sewer and storm sewer. Power is the primary above-ground utility. Associated utility infrastructure, such as poles, manholes, vaults, meter boxes, and valves, is in or close to the road ROWs.

3.8.3 Environmental Consequences

3.8.3.1 Communities Services

The No Action alternative would have no direct impact on the community infrastructure in the Project area. However, with the projected traffic increase within the project area, emergency response times could be increased, and the community could experience delays reaching community services and facilities, both within and outside the study area.

The Proposed Action would not have a direct impact on community infrastructure, and would improve traffic flow in the project area. This would have an indirect effect of improving emergency response time. Travel to community services and facilities, both within and outside the study area, would also be more efficient for members of the community.

3.8.3.2 Utilities

The No Action alternative would not have direct impacts on the utilities.

Under the Proposed Action, in general, as the corridor improvements are constructed, some of the utilities within the road ROWs could require temporary protection or permanent relocation. At the Coho Creek, where a bridge would replace the existing culvert, underground utilities would either be protected in place or relocated to suspend between the new bridge girders.

Above-ground power lines that are left in place could interfere with construction equipment, such as cranes and drill rigs. This type of equipment typically needs to maintain a minimum 15- to 25-foot distance from overhead power lines to operate safely. This distance could be reduced, however, if the power lines are temporarily deenergized. It has not yet been determined whether the power lines could be deenergized.

3.8.4 Mitigation

No mitigation proposed.

3.9 Transportation Networks

3.9.1 Data Collection and Analysis

The summary of transportation networks is based on the 2022 Non-Access Feasibility Study (Parametrix 2022g) and the 2022 Intersection Control Evaluation (Parametrix 2022c). The study area for the Non-Access Feasibility Study was broad, analyzing 12 intersections (6 along each corridor), in conjunction with alternative screening, as described in Section 2.4. Based on that screening, the study area for the intersection control evaluation narrowed to the seven intersections described in Section 3.4.1 Air Quality and Greenhouse Gas Emissions.

3.9.2 Existing Conditions

The interchange of I-5 with 4th Street/SR 528/Marine Drive NE is a diamond interchange with signalized intersections at the ramp termini. Fourth Street is designated as a principal arterial east of I-5 and a minor arterial west of I-5. 33rd Avenue NE is an assumed collector road that intersects 4th Street west of I-5. Both 4th Street and 33rd Avenue NE have speed limits of 25 miles per hour (mph). The I-5 northbound and southbound ramps have speed limits of 50 mph.

The interchange of 88th Street NE with I-5 is also a diamond interchange with signalized intersections at the ramp termini. A principal arterial east of I-5 and a minor arterial west of I-5, 88th Street NE has a speed limit of 35 mph. East of I-5, 36th Avenue NE intersects 88th Street NE and 34th Avenue NE intersects 88th Street NE west of I-5. Both are assumed collector roads and have speed limits of 25 and 30 mph, respectively. The I-5 northbound and southbound ramps have speed limits of 40 mph.

Both interchanges and connecting roadways are critically important to the surrounding community and Tribes for access to major retail services and for access to the reservation because the only other access to the reservation is through 140th Street NE, a county road at the northern end of the reservation, or through water access via the Puget Sound or the Snohomish River (Parametrix 2022c). This access is vital for goods, services, healthcare, employment, education, and economic development within the project area.

I-5 is a major freight network and is affected by congestion spillover from the 4th Street and 88th Street NE interchanges, which hinders freight, commerce, and international trade with Canada.

Pedestrian and bicycle travel is limited at both interchanges. At the 88th Street NE corridor, there are sidewalks along both sides of Quil Ceda Boulevard and 36th Avenue NE and along the north side of 88th Street NE from Quil Ceda Boulevard to east of 36th Avenue NE. Along the 4th Street corridor, there are sidewalks along both sides of 27th Avenue NE, 31st Avenue NE, 33rd Avenue NE, Cedar Avenue, and parts of 4th Street. Between 27th Avenue NE and 31st Avenue NE, there is only a sidewalk available on the north side of 4th Street. There are no designated bike lanes. The 2019 Existing Conditions Study showed between 0 to 35 pedestrians and five or fewer bicyclists during peak hours at intersections in the study area.

Public transit is provided by Community Transit in the Project area and includes several bus stops along both interchanges. Routes 209 and 222 provide service every 60 minutes on weekdays and weekends, routes 421, 422, and 821 near the 4th Street Interchange provide frequent all-day service on weekdays only and are geared towards commuters. The 4th Street Interchange has two park-and-rides within a 0.5-mile radius of the Project area: Marysville I Park and Ride and Marysville Ash Avenue Park and Ride. Transit routes and service is detailed in Table 3-13 below.

Table 3-13. Community Transit Schedules within the Project Area

Bus Route	Weekday Operational Hours	Weekend Operational Hours	Route
	88th Street NE Interchange		
209	5:20 a.m. to 9:36 p.m., every 60 minutes	Saturday: 7:01 a.m. to 9:04 p.m., every 60 minutes Sunday: 8:01 a.m. to 8:03 p.m., every 60 minutes	Between Smokey Point and Lake Stevens
222	5:42 a.m. to 7:49 p.m., every 60 minutes	Saturday: 6:03 a.m. to 9:18 p.m., every 60 minutes Sunday: 7:24 a.m. to 7:24 p.m., every 60 minutes	Between Marysville and Tulalip
	4th Street/SR 528/Marine Drive NE Interchange		
209	5:32 a.m. to 9:27 p.m., every 60 minutes	Saturday: 6:52 a.m. to 9:32 p.m., every 60 minutes Sunday: 7:52 a.m. to 8:17 p.m., every 60 minutes	Between Smokey Point and Lake Stevens
222	5:55 a.m. to 8:03 p.m., every 60 minutes	Saturday: 6:17 a.m. to 8:25 p.m., every 60 minutes Sunday: 7:17 a.m. to 7:40 p.m., every 60 minutes	Between Marysville and Tulalip
227	4:30 a.m. to 4:25 p.m. every 60minutes, in the peak direction	No Weekend Service	Arlington to Seaway Transit Center
421	4:36 a.m. to 6:50 p.m., every 30 minutes in the peak direction	No Weekend Service	Between Marysville and Downtown Seattle
422	5:45 a.m. to 6:23 p.m., every 30 minutes in the peak direction	No Weekend Service	Between Stanwood and Downtown Seattle
821	4:55 a.m. to 6:28 p.m., every 20 minutes in the peak direction	No Weekend Service	Between Marysville and Northgate Station

Source: Community Transit 2022

3.9.3 Environmental Consequences

3.9.3.1 Operational Impacts

The No Action alternative would result in the continued delay of traffic at both interchanges, resulting in the hinderance of commuters, residents, visitors, freight, transit, pedestrians, and bicycles through the area. It would also allow the continued spillover of ramp traffic onto I-5, which could cause delays to the I-5 mainline traffic. Per the 2022 Intersection Control Evaluation (Parametrix 2022c), traffic flow delays are expected to increase dramatically by 2045, increasing from an average of 25 and 31 seconds at 88th Street NE and 4th Street, respectively, to 50 and 94 seconds during the weekday peak hours.

The Proposed Action would benefit the project area. Among these benefits, the Proposed Action would increase the flow of traffic, which is forecasted to have a 4 and 6 second delay at 88th Street and 4th Street, respectively, by 2045. Additionally, the Proposed Action would increase safety for both interchanges, improve business and residential community access by reducing traffic blockages, improve transit flow and reliability, and improve emergency response to the community. The Proposed Action would also improve delay, congestion, and safety along the I-5 Corridor by reducing spillover traffic from the ramps.

3.9.3.2 Construction Impacts

Under the Proposed Action, construction of corridor improvements would cause traffic delays and some congestion for people moving through the area. Construction is expected to last 2.5 years. During that time, ongoing disruptions could include lane reductions, temporary signals, and bus stop relocations on 4th and 88th streets. In addition, there could be shorter-term (e.g., days or weeks) closures and detours. Throughout construction, the construction contractor would be required to maintain business and pedestrian access. Construction timing and sequencing would be subject to additional provisions intended to keep vehicular traffic, pedestrians, and buses moving as determined by the Tribes, the Washington State Department of Transportation, Snohomish County, and the City of Marysville.

3.9.4 Mitigation

No mitigation is proposed for operational impacts. However, construction impacts related to traffic delays and congestion would be mitigated through the submittal and approval of Traffic Control Plans.

3.10 Noise

The Proposed Action is a transportation improvement project. Although the project does not currently require the approval of or benefit from funding through the Federal Highway Administration (FHWA), the potential for traffic noise to be altered is evaluated below using the guidance of the FHWA and WSDOT.

3.10.1 Data Collection and Analysis

The presence and proximity of noise sensitive receptors was evaluated based on aerial imagery, land use mapping, and windshield survey. Noise sensitive receptors include but are not limited to parks, trails, homes, churches, hospitals, swimming pools, hotels, daycare, and schools.

WSDOT procedures were applied to determine the need for noise analysis (WSDOT 2020).

3.10.2 Existing Conditions

Noise in the project vicinity is dominated by traffic noise from I-5 and the transportation network along the 4th Street and 88th Street NE corridors. The immediate study area is primarily characterized by commercial land uses. The nearest sensitive receptors are southwest of the Coho Creek crossing. The sensitive receptors include two residential dwellings that abut 88th Street NE with building footprints within 100 feet of the paved shoulder

3.10.3 Environmental Consequences

3.10.3.1 Operational

The No Action alternative would not change traffic patterns or traffic noise in the project vicinity.

The Proposed Action would replace existing signalized intersections at seven locations with roundabouts. The first step in the noise analysis process is to determine whether the project includes a Type 1 activity (WSDOT 2020). Type 1 projects have the potential to increase traffic noise levels and/or create traffic noise impacts for noise sensitive receivers, including homes, apartments, and other land uses with noise sensitive areas of frequent outdoor human use. Upon review, the Proposed Action would not include the following Type 1 activities:

- Development of new roads
- Substantial changes to vertical or horizontal alignment of existing roads
- Increasing through-lanes for the existing roads

Additionally, the Proposed Action would not be a Type 2 noise-abatement retrofit project. For the purpose of this noise evaluation, the Proposed Action would essentially be a Type 3 noise abatement that does not typically require a noise analysis. As described in the Affected Environment, it is also important to note that few sensitive receptors have been identified in the project vicinity.

3.10.3.2 Construction

Under the No Action alternative, there wouldn't be any short-term construction-related noise.

Under the Proposed Action, businesses and those few residences near the project area would experience construction noise due to grading, excavating, pavement grinding and cutting, and drilling shafts for the bridge over Coho Creek.

3.10.4 Mitigation

No mitigation is proposed.

3.11 Hazardous Materials

3.11.1 Data Collection and Analysis

This section summarizes the findings of a Hazardous Materials Discipline Report that was prepared in accordance with the WSDOT Environmental Procedures Manual, the American Society for Testing and Materials (ASTM) guidelines, and the WSDOT Guidance and Standard Methodology for Hazardous

Materials Discipline Reports (WSDOT 2017). The Hazardous Materials Discipline Report is included in Appendix F (Parametrix 2022f).

3.11.2 Existing Conditions

During regulatory database review (EDR 2022a), 16 sites were identified as having confirmed, or potential for release of a hazardous materials, or petroleum hydrocarbons within 0.25 mile of the project area. Upon review, 13 of the 16 sites were determined to be low-risk based on location, regulatory status, or the nature/extent of release. The three remaining sites described below were determined to be medium risk:

- Arco 4390 – 1124 4th Street. This site is confirmed to have leaked gasoline, diesel, and associated compounds into soil and groundwater from leaking underground storage tanks (LUSTs). Recent groundwater monitoring data indicates that groundwater in the area is contaminated below cleanup levels, although the monitoring information is limited and contains gaps. Although a full cleanup of the site has not yet been completed, the contamination has been determined to be outside of the project area.
- Chevron 99609 – 1206 4th Street. This site is confirmed to have leaked gasoline, diesel, and associated compounds into soil and groundwater from an underground storage tank and associated piping. Although the site is currently being cleaned up, residual concentrations of contaminants may remain. Data from the most recent investigation indicates that contamination in groundwater exceeds cleanup levels at the north end of the site adjacent to the project area.
- Marine Drive 76 – 3323 Marine Drive NE. This site may also have contamination from a LUST. Although cleanups were completed, there is limited information for the site regarding any residual concentrations.

Review of historic aerial photographs of the project area does not indicate previous sites of environmental concern in the area, or evidence of adverse conditions due to previous land use in the area (EDR 2022b).

3.11.3 Environmental Consequences

Under the No Action alternative, no hazardous material impacts would occur.

Under the Proposed Action, there would be a potential to encounter residual, low-level petroleum contaminated soil in the vicinity of the three sites listed above. If these areas require deeper excavation, there would be a low to moderate potential of encountering vapors associated with residual gasoline-contaminated groundwater. There would be few impacts on the overall environment in the event of encountering contaminated soil or groundwater.

Due to the developed nature of the project area, there would be some potential for encountering unanticipated contamination in the subsurface soil during project construction. This could have unanticipated consequences; however, the risk would be addressed through project mitigation and BMPs.

3.11.4 Mitigation

In the No Action alternative, there would be no mitigation.

Under the Proposed Action and in conjunction with the property acquisition process, the Tulalip Tribes would perform a level of due diligence investigation commensurate with the risk each property presents.

Based on the results of the due diligence process, further plans for mitigation, handling, and disposing of contaminated materials would be developed. A project-wide contaminated media management plan (CMMP) should also be developed and implemented to cover the majority of minor encounters with contaminated materials. Proposed mitigation would result in contaminant treatment that would be equal or better than the No Action alternative.

For hazardous materials generated during construction, BMPs would be implemented, including but not limited to the following:

- Fueling, maintenance, and cleaning in contained areas
- Minimization of the production or generation of hazardous materials
- Appropriate labeling and storage of hazardous waste per federal regulations
- Designated hazardous waste storage away from storm drains or surface water
- Recycling of materials (used oil- and water-based paint) as appropriate
- Handling any potential spills of hazardous materials in conformance with applicable Material Safety Data Sheets.

3.12 Cumulative Impacts

Per CEQ regulations, a cumulative impact is defined as "the impact on the environment which results from the incremental impacts of the action when added to other past, present, and reasonably foreseeable future actions, regardless of what agency (federal or non-federal) or person undertakes such other actions." Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time (40 CFR Part 1508.7). The cumulative impact analysis area varies by resource and is discussed below.

3.12.1 Past, Present, and Reasonably Foreseeable Actions

Past, present, and reasonably foreseeable actions must be considered when determining whether there are potential cumulative impacts. Past actions are actions that occurred in the past that may warrant consideration in determining whether there are potential cumulative impacts. Present actions are actions that are occurring in the same general period as the alternatives. Reasonably foreseeable actions are actions that may affect the projected impacts of the alternatives.

Past actions in the project vicinity include construction of the I-5 corridor and development that has occurred along the corridor, including tribal actions such as Quil Ceda Village and the 116th Street interchange project. These actions have contributed to transportation of people and goods through the area and to the economic vitality of the region. While the riparian corridors associated with Coho Creek and Quilceda Creek remain undeveloped and forested, adjoining areas have seen relatively intense development. Development of the transportation system also resulted in full or partial fish passage blockages, such as the barrier currently present on Coho Creek.

Present actions in the project vicinity include a number of transportation improvements such as WSDOT's I-5 – NB Marine View Drive to SR 529 – Corridor and Interchange Improvements, which connects to the Tulalip Tribes' Corridor Improvements project at the 4th Street interchange. The construction of the WSDOT project would overlap the Tribes' project. The Tulalip Tribes are also proceeding with the phased

development of its 2,000-acre Quil Ceda Village business park. Two hundred acres have already been developed with an additional phase underway.

Future actions in the project vicinity include the future development projects listed below (Parametrix 2022g):

- 4th Street/Q Casino Corridor improvements
- Marysville Civil Center
- Hotel America Marysville
- Marysville 36th Avenue NE Retail

Between 2019 and 2045, traffic volumes in the area are expected to increase 10 to 230 percent (Parametrix 2022c). The range in growth is due the pipeline projects listed above as well as anticipated development on the reservation located in different sections of the study area.

3.12.2 Impacts of Past, Present, and Reasonably Foreseeable Future Actions

Under the No Action alternative, congestion along 4th Street and 88th Street would continue. The cumulative effect of the No Action with other planned development is that traffic conditions would worsen. This would affect the Tulalip Tribes, the City of Marysville, the greater Snohomish County area, interstate travel and commerce, and even international trade with Canada.

Under the Proposed Action, the Tulalip Tribes have taken steps to reduce the potential for cumulative impacts to the transportation system. In February 2020, the Tulalip Tribes convened a Study Support Team (SST) comprised of representatives from the Tribes, WSDOT, FHWA, City of Marysville, Snohomish County, and Community Transit. Among other objectives, the monthly SST meetings provided a venue for coordinating current and future action as the purpose and need for this project were developed and alternatives were developed and evaluated. As described in the Non-Access Feasibility Study for the project, the Proposed Action is consistent with the land use and transportation plans of the Tribes, Snohomish County, and the City as well as with Puget Sound Regional Council regional plans, including the transit long-range plans. This coordination helps ensure that the cumulative effects of past, present, and reasonably foreseeable future actions results in a functioning transportation system that supports existing land use and planned growth.

The Proposed Action eliminates the fish passage barrier on Coho Creek and restores habitat along the stream in the project vicinity. The Proposed Action would enable most of the stormwater to be infiltrated, improving the water quality of stormwater runoff and when, taken collectively with ongoing regulatory changes and tribal interest in restoring the headwaters of Coho Creek, could improve riparian and aquatic habitat in the project vicinity.

4. PREPARERS AND AGENCY COORDINATION

4.1 Introduction

The CEQ and Department of Interior regulations encourage agencies to involve the public in preparing and implementing NEPA procedures (40 CFR 1506.60), but the extent of public involvement in preparing an EA is at the discretion of the decision-maker (43 CFR 46.305[a]). The public includes federal agencies, state agencies, local agencies, landowners, and other interested parties. Summaries of the public involvement and agency coordination completed during the development of the EA are included below. In addition, the preparers of the EA are also noted.

4.2 List of Preparers

Jenny Baily, Environmental Lead

Parametrix

Katheryn Seckel, Environmental Planner

Parametrix

Savannah Moore, Environmental Planner

Parametrix

4.3 Agency Coordination

Agency representatives who provided technical input on and/or performed reviews of the EA are listed in Table 4-1.

Table 4-1. Individuals Who Provided Technical Assistance and/or Review of the EA

Name	Title	Affiliation
Kurt Nelson	Natural Resources	Tulalip Tribes
Richard Young	Cultural Resources	Tulalip Tribes
Gene Enick	Cultural Resources	Tulalip Tribes
Julia Gold	Planning	Tulalip Tribes
John Maas	Environmental Coordinator	WSDOT
Jim Laughlin	Noise	WSDOT
Anne M. Conrad	Hazardous Materials	WSDOT

5. PUBLIC INVOLVEMENT

A Public Involvement and Communication Plan was prepared and coordinated with input from the Tribes and project stakeholders—WSDOT, the City of Marysville, Snohomish County, and Community Transit—in May 2021.

- The Project webpage was established on the Tulalip Tribes' website in February 2021. Content for the webpage was developed by Parametrix, with review and coordination from the Tribes and WSDOT. The initial webpage provided an overview of the project, current activities, and alternatives in consideration.
- An online open house was set up on the Project webpage and open to comments from the public from January 18, 2022, through February 15, 2022. The online open house provided a status of the project, and the selected alternatives and gave the public an opportunity to comment.
- A second online open house will be conducted after the NEPA environmental assessment is issued to allow the public to comment on the environmental impacts and mitigation.

6. REFERENCES

ASM (ASM Affiliates). 2022. Cultural Resources Assessment for the I-5/4th Street and 88th Street NE Corridor Improvements Project, Snohomish County, Washington. June 2022.

ASTM (American Society for Testing and Materials). 2021. Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process (E 1527-21).

Community Transit. 2022. Bus Schedules and Route Maps – Community Transit. Available at https://www.communitytransit.org/busservice/schedules. Accessed September 2022.

eBird. 2022. eBird: An online database of bird distribution and abundance [web application]. eBird, Ithaca, NY. Available at: http://www.ebird.org. Accessed August 2022.

Ecology (Washington State Department of Ecology). 2019. Stormwater Management Manual for Western Washington. Publication Number 19-10-021. Washington State Department of Ecology Water Quality Program. July 2019.

Ecology. 2022a. Washington State Water Quality Assessment 303(d)/305(b) List.

Ecology. 2022b. Areas Meeting and Not Meeting National Air Quality Standards. Available at https://ecology.wa.gov/Regulations-Permits/Plans-policies/Areas-meeting-and-not-meeting-air-standards. Accessed on October 25, 2022.

EDR. 2022a. EDR Area/Corridor Report. Tulalip 4th/88th Corridor Improvement. Inquiry No. 6892103.2s. March 10, 2022.

EDR. 2022b. The EDR Aerial Photo Decade Package, Tulalip 4th/88th Corridor Improvement, 6892103.1. March 16, 2022.

EPA. 2022. Environmental Justice Screening and Mapping Tool (Version 2.1). Available at https://ejscreen.epa.gov/mapper/. Accessed on November 3, 2022.

Google. 2022. Google Maps. Information accessed August 2022, from https://www.google.com/maps.

HWA GeoSciences Inc. 2022. Draft Preliminary Geotechnical Report, I-5/4th Street and 88th Street NE Corridor Improvements, Tulalip, WA, September 1, 2022.

Marysville Police Department. 2021. Marysville Police Department 2021 Annual Report, City of Marysville.

Marysville School District 25. 2022. Marysville School District 25: Schools. Available at: https://www.msd25.org. Accessed August 2022.

Nelson, K. 2022c. Personal communication with Kurt Nelson, Tulalip Tribes Environmental Department Manager. E-mail correspondence dated November 30, 2022.

NWIFC (Northwest Indian Fisheries Commission). 2022. Statewide Integrated Fish Distribution (SWIFD) webmap. Available at: https://geo.nwifc.org/swifd/. Accessed August 2022.

Parametrix. 2022a. I-5/4th Street and 88th Street NE Corridor Improvements Preliminary Hydraulic Report for 4th Street, July 2022.

Parametrix. 2022b. I-5/4th Street and 88th Street NE Corridor Improvements Preliminary Hydraulic Report for 88th Street NE, July 2022.

Parametrix. 2022c. I-5/4th Street and 88th Street NE Corridor Improvements Intersection Control Evaluation, June 2022.

Parametrix. 2022d. I-5/4th Street and 88th Street NE Corridor Improvements Project Ecosystems Discipline Report, Tulalip Tribes. Seattle, WA.

Parametrix. 2022e. I-5/4th Street and 88th Street NE Corridor Improvements Biological Assessment. Prepared by Parametrix on behalf of the Tulalip Tribes. Seattle, WA.

Parametrix. 2022f. I-5/4th Street and 88th Street NE Corridor Improvements Hazardous Materials Discipline Report. Prepared by Parametrix on behalf of the Tulalip Tribes. Seattle, WA.

Parametrix. 2022g. I-5/4th Street and 88th Street NE Corridor Improvements Non-Access Feasibility Study. Prepared by Parametrix on behalf of the Tulalip Tribes. Seattle, WA. June 2022.

Quil Ceda Village. 2009. Compensation Planning Framework Quil Ceda Watershed—Quil Ceda Village Fee In-Lieu Program. Available at: https://www.tulaliptribes-nsn.gov/Base/File/TTT-PDF-PublicNotices-CompensationPlanning. Accessed October 2022.

Snohomish County. 2022. Snohomish County Planning and Development Services. GIS-based cartographic mapping. Available at: at https://snohomishcountywa.gov/1279/PDS-GIS-Maps-Information. Accessed November 2022.

TTED (Tulalip Tribes Environmental Department). 2021. Wetland and Stream GIS data. Accessed November 2021 through SharePoint.

Tulalip Tribes. 2022. Tulalip Tribes website. Available at: https://www.tulaliptribes-nsn.gov/. Accessed September 2022.

USFWS (U.S. Fish and Wildlife Service). 2012. Recommended Fish Exclusion, Capture, Handling, and Electroshocking Protocols and Standards. Washington Fish and Wildlife Office, Lacey, WA. Available at: https://www.fws.gov/media/washington-recommended-fish-exclusion-capture-handling-and-electroshocking-protocols-and. Accessed October 2022.

USGS (United States Geological Survey). 1997. The ground-water system and ground-water quality in western Snohomish County, Washington. United States Geological Survey, Water Resources Investigations, Report No. 96-4312.

WDFW (Washington Department of Fish and Wildlife). 2022. Priority Habitats and Species (PHS) on the Web: An interactive map of WDFW priority habitats and species information for project review. Available at: https://wdfw.wa.gov/species-habitats/at-risk/phs/maps. Accessed October 2022.

WDNR (Washington Department of Natural Resources). 2022. Washington Natural Heritage Program geographic information system data set. Available at: https://wadnr.maps.arcgis.com/apps/webappviewer/index.html?id=5cf9e5b22f584ad7a4e2aebc63c47bda. Accessed August 2022.

WSDOT (Washington State Department of Transportation). 2015. Oregon Spotted Frog and OSF Critical Habitat Presence Assessment. February 17, 2015. 6 pp.

WSDOT. 2017. Guidance and Standard Methodology for WSDOT Hazardous Materials Discipline Reports. Available at: https://wsdot.wa.gov/sites/default/files/2021-10/Env-HazMat-DiscRptGuidance.pdf

WSDOT. 2020. Washington State Department of Transportation - 2020 Traffic Noise Policy and Procedures. March 2020. Available at: https://wsdot.wa.gov/engineering-standards/environmental-guidance/noise

WSDOT. 2021. WSDOT Fish Exclusion Protocol and Standards—2021 Update. May 2021. Available at: https://www.fws.gov/media/washington-recommended-fish-exclusion-capture-handling-and-electroshocking-protocols-and.

WSDOT. 2022a. Washington State Bridge Resiliency Assessment Data, WSDOT Online Map Center. Available at: https://wsdot.maps.arcgis.com/home/index.html. Accessed on September 5, 2022.

WSDOT. 2022b. Washington State Department of Transportation Bridge Preservation Program. Available at: https://wsdot.wa.gov/construction-planning/preserving-our-roads-bridges/bridge-structure-preservation. Accessed on September 5, 2022.

WSDOT. 2022c. Standard Specifications for Road, Bridge and Municipal Construction, Washington State Department of Transportation, M41-10. Available at: https://wsdot.wa.gov/engineering-standards/all-manuals-and-standards/manuals/standard-specifications-road-bridge-and-municipal-construction

Washington State Patrol (WSP). 2023. Washington State Patrol website. Available at: https://www.wsp.wa.gov/about-us/bureaus/. Accessed February 5, 2023