

**COPY**



**Washington State  
Department of Transportation**  
**Paula J. Hammond, P.E.**  
Secretary of Transportation

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January 6, 2009

Department of Ecology  
Environmental Review Section  
PO Box 47703  
Olympia, WA 98504-7703

**RECEIVED**

**JAN 07 2009**

**OR HOV Office**

RE: SEPA Register

Dear SEPA Reviewer:

Attached is a copy of an Environmental Checklist and Determination of Non-Significance for your information and publication in the SEPA Register, in accordance with WAC 197-11-340(2).

Project: **I-5: M Street to Port of Tacoma Road - HOV  
MP 132.88 to MP 136.61**

Should you have any questions, please contact Harjit Bhalla at (360) 570-6704.

Sincerely,

Jeff Sawyer  
Environmental & Hydraulic Manager  
Olympic Region

JBS:ab:lfm

Enclosures: Determination of Non-Significance  
Environmental Checklist

cc: Puyallup Tribe of Indians, The Honorable Herman Dillon Sr., w/enclosures  
Pierce County Planning, Scott Sissons, w/enclosures  
City of Tacoma, Karla Kluge, Senior Environmental Coordinator, w/enclosures  
Tacoma Metro Parks, Doug Fraser, w/enclosures  
City of Fife, Russ Blount, P.E., Public Works Director, w/enclosures  
SF0106009(5143)

**SCANNED**

Department of Ecology  
Environmental Review Section  
January 6, 2009  
Page 2 of 2

Additional enclosure copies to:

Bill Sullivan, Natural Resources Directors, Puyallup Tribe of Indians  
Penny Kelley, Washington State Department of Ecology  
Gina Piazza, Area Habitat Biologist, WDFW  
Carrie Berry, HOV Environmental Manager, WSDOT  
John Ho, P.E. Olympia Design Office, WSDOT  
Jon Deffenbacher, P.E., HOV Program Office, WSDOT  
Project File  
SF0106009(5143)

## DETERMINATION OF NONSIGNIFICANCE (DNS)

**Description of Proposal:** WSDOT proposes to improve Interstate 5 (I-5) from M Street to the Port of Tacoma Road by constructing high occupancy vehicle (HOV) lanes in three stages under the Tacoma/Pierce County HOV program. The three proposed projects: I-5: M Street to Portland Avenue – HOV; I-5: Portland Avenue to Port of Tacoma Road – Southbound HOV; and I-5: Portland Avenue to Port of Tacoma Road – Northbound HOV include constructing two new HOV lanes (one in each direction of travel) on I-5 between MP 132.88 and MP 136.61.

**Major project features include:**

- Ramp metering and HOV bypass lanes at the 54th Avenue East interchange to improve safety and merging;
- Widening of six existing bridges within the project limits;
- Constructing permanent storm water treatment facilities and a floodplain mitigation site;
- Constructing a retaining wall and traffic barrier in the median at the Fife curve;
- Constructing two noise barriers. One South of I-5, just north of the 54th Street Interchange and a second North of I-5, between the 54th Street Interchange and Wapato Creek. Both will be approximately 24 feet high and 1,600 feet long;
- Compensating for wetland impacts at an advance mitigation site on Hylebos Creek;
- Enhancing riparian vegetation along the streams within WSDOT right of way;
- Removing existing Puyallup River Bridge and reconstructing a new I-5 bridge spanning over the Puyallup River on south and northbound;
- Realigning and reconstructing a new southbound I-5 off-ramp to East 27th Street and also reconstructing East 27th Street from the Puyallup River Bridge off-ramp;
- Reconstructing East Bay Street from East 27th Street to East 28th Street and reconstructing the northbound I-5 on-ramp and off-ramp bridges over T-street;
- Constructing a temporary ramp connector from southbound I-5 to East 27th Street;
- Reconstructing city street approaches to East Portland Avenue and East R Street;
- Constructing new retaining walls at Portland Avenue;
- Widening and seismic retrofit of I-5 bridges over East Portland Avenue and East Bay Street;
- Upgrading and adding signage, illumination, providing new ramp metering, signal system at multiple intersections, concrete guardrails storm water collection facilities, and water quality treatment facilities;

**Proponent:** The Washington State Department of Transportation

**Location of proposal, including street address if any:** The project limits are located in the cities of Fife and Tacoma, Pierce County within the WSDOT right of way between I-5 MP 132.88 and MP 136.61. The project limits are within Township 20 North, Range 3 East, Sections 1 through 4, 8 through 13, 37, and 38. .

**Lead Agency:** The Washington State Department of Transportation

The lead agency for this proposal has determined that it does not have a probable significant adverse impact on the environment. An environmental impact statement (EIS) is not required under RCW 43.21C.030 (2)(c). This decision was made after review of a completed environmental

checklist and other information on file with the lead agency. This information is available to the public on request. The checklist is available electronically at [www.wsdot.wa.gov/projects/HOV](http://www.wsdot.wa.gov/projects/HOV).

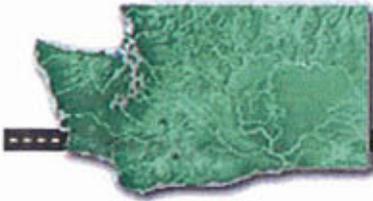
**This DNS is issued under WAC 197-11-340(2); the lead agency will not act on this proposal for 14 days from the date below. Comments must be submitted by: JAN 22 2009**

**Responsible Official:** Jeff Sawyer  
**Position/Title:** Environmental & Hydraulic Manager  
Olympic Region

**Phone:** 360-570-6701

**Address:** PO Box 47417  
Olympia, WA 98504-7417

**Signature:**  \_\_\_\_\_ **Date:** 1/5/2009



## WAC 197-11-960 Environmental checklist.

### ENVIRONMENTAL CHECKLIST

#### *Purpose of checklist:*

The State Environmental Policy Act (SEPA), chapter 43.21C RCW, requires all governmental agencies to consider the environmental impacts of a proposal before making decisions. An environmental impact statement (EIS) must be prepared for all proposals with probable significant adverse impacts on the quality of the environment. The purpose of this checklist is to provide information to help you and the agency identify impacts from your proposal (and to reduce or avoid impacts from the proposal, if it can be done) and to help the agency decide whether an EIS is required.

#### *Instructions for applicants:*

This environmental checklist asks you to describe some basic information about your proposal. Governmental agencies use this checklist to determine whether the environmental impacts of your proposal are significant, requiring preparation of an EIS. Answer the questions briefly, with the most precise information known, or give the best description you can. You must answer each question accurately and carefully, to the best of your knowledge. In most cases, you should be able to answer the questions from your own observations or project plans without the need to hire experts. If you really do not know the answer, or if a question does not apply to your proposal, write "do not know" or "does not apply." Complete answers to the questions now may avoid unnecessary delays later.

Some questions ask about governmental regulations, such as zoning, shoreline, and landmark designations. Answer these questions if you can. If you have problems, the governmental agencies can assist you.

The checklist questions apply to all parts of your proposal, even if you plan to do them over a period of time or on different parcels of land. Attach any additional information that will help describe your proposal or its environmental effects. The agency to which you submit this checklist may ask you to explain your answers or provide additional information reasonably related to determining if there may be significant adverse impact.

#### *Use of checklist for nonproject proposals:*

Complete this checklist for nonproject proposals, even though questions may be answered "does not apply." IN ADDITION, complete the SUPPLEMENTAL SHEET FOR NONPROJECT ACTIONS (part D).

For nonproject actions, the references in the checklist to the words "project," "applicant," and "property or site" should be read as "proposal," "proposer," and "affected geographic area," respectively.

**A. BACKGROUND**

**1. Name of proposed project, if applicable:**

I-5, M Street (MP 132.88) to I-5, Port of Tacoma Road (MP 136.61) HOV

**2. Name of applicant and lead agency:**

Washington State Department of Transportation, Olympic Region

**3. Address and phone number of applicant and contact person:**

Carrie Berry  
Tacoma/Pierce County HOV Environmental Manager  
P.O. Box 47376  
Olympia WA 98504-7376  
Telephone: (360) 709-8147  
Fax: (360) 709-8131

Jon Deffenbacher  
Project Engineer – Portland Avenue to Port of Tacoma Road – Northbound  
P.O. Box 47376  
724 Quince Street SE, Suite 206  
Olympia, WA 98504-7376  
Telephone: (360) 709-8111  
Fax: (360) 709-8131

John Ho  
Project Engineer – M Street to Portland Avenue  
P.O. Box 47673  
Olympia, WA 98501\4-7673  
Telephone: (360) 709-8155  
Fax: (360) 709-8131

**4. Date checklist prepared:**

December 12, 2008

**5. Proposed timing or schedule (including phasing, if applicable):**

The construction will be starting in January 2010 and would be completed in December 2017.

**6. Are there any plans for future additions, expansions, or further activity related to or connected with this proposal? If yes, explain.**

There are no plans for future additions, expansions, or further activity related to this proposal; however, the proposed projects are part of the Tacoma/Pierce County HOV Program, and there are several additional HOV projects in the area that are currently being considered. These additional projects are functionally independent and not dependant on this proposal.

**7. List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal.**

The following documents have been prepared for the proposed projects:

- October 1998: NEPA environmental assessment and a SEPA determination of nonsignificance
- July 1999: revised NEPA environmental assessment and a NEPA finding of no significant impact
- Biological assessment
- Geology and soils discipline report
- Fish, wildlife, and vegetation discipline report
- Hazardous materials discipline report
- Visual quality discipline report
- Transportation discipline report
- Noise discipline report
- Land use discipline report
- Section 4(f) compliance technical memorandum
- Water resources discipline report
- Program-wide air quality discipline report
- Public services and utilities discipline report
- Wetland and stream assessment report
- Wetland mitigation plan
- Historic, cultural, and archaeological resources discipline report
- Environmental justice discipline report
- Social and economics discipline report
- Section 404 alternatives analysis
- Jurisdictional ditch analysis.

**8. Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by the proposal? If yes, explain.**

There are no known pending applications for approvals covering the segment of I-5 addressed in this checklist.

**9. List any government approvals or permits that will be needed for the proposal, if known.**

- Section 404 individual permit for wetland impacts from the U.S. Army Corps of Engineers
- General National Pollutant Discharge Elimination System (NPDES) permit from the Washington State Department of Ecology

- Section 401 water quality certification and Coastal Zone Management concurrence from the Washington State Department of Ecology
- Tribal 401 water quality certification
- Section 106 concurrence from State Historic Preservation Officer
- Compliance with Section 4(f) requirements related to publicly owned recreational facilities
- Section 7 formal consultation with the U.S. Fish and Wildlife Service and the National Oceanic and Atmospheric Administration, National Marine Fisheries Service, regarding potential project-related impacts on fish species that are protected under the federal Endangered Species Act
- Shoreline substantial development permit from the cities of Tacoma and Fife
- City of Tacoma Wetland and Stream Development permit
- City of Tacoma Fish and Wildlife Habitat Conservation Area permit
- Floodplain Development Approval from the cities of Tacoma and Fife.

**10. Give brief, complete description of the project including (but not limited to) its size, general design elements, and other factors that will give an accurate understanding of its scope and nature. There are several questions in this checklist that ask you to describe certain aspects of the proposal. You do not need to repeat those answers on this page.**

The proposed projects are part of a planned extension of the regional HOV infrastructure (see Exhibit 1). They are expected to increase mobility, reduce traffic congestion, and improve safety throughout the project limits.

The proposed projects will create two new HOV lanes, one in each direction of travel, along a 3.14-mile section of I-5 between M Street and Port of Tacoma Road (Exhibits 2, 3, and 4).

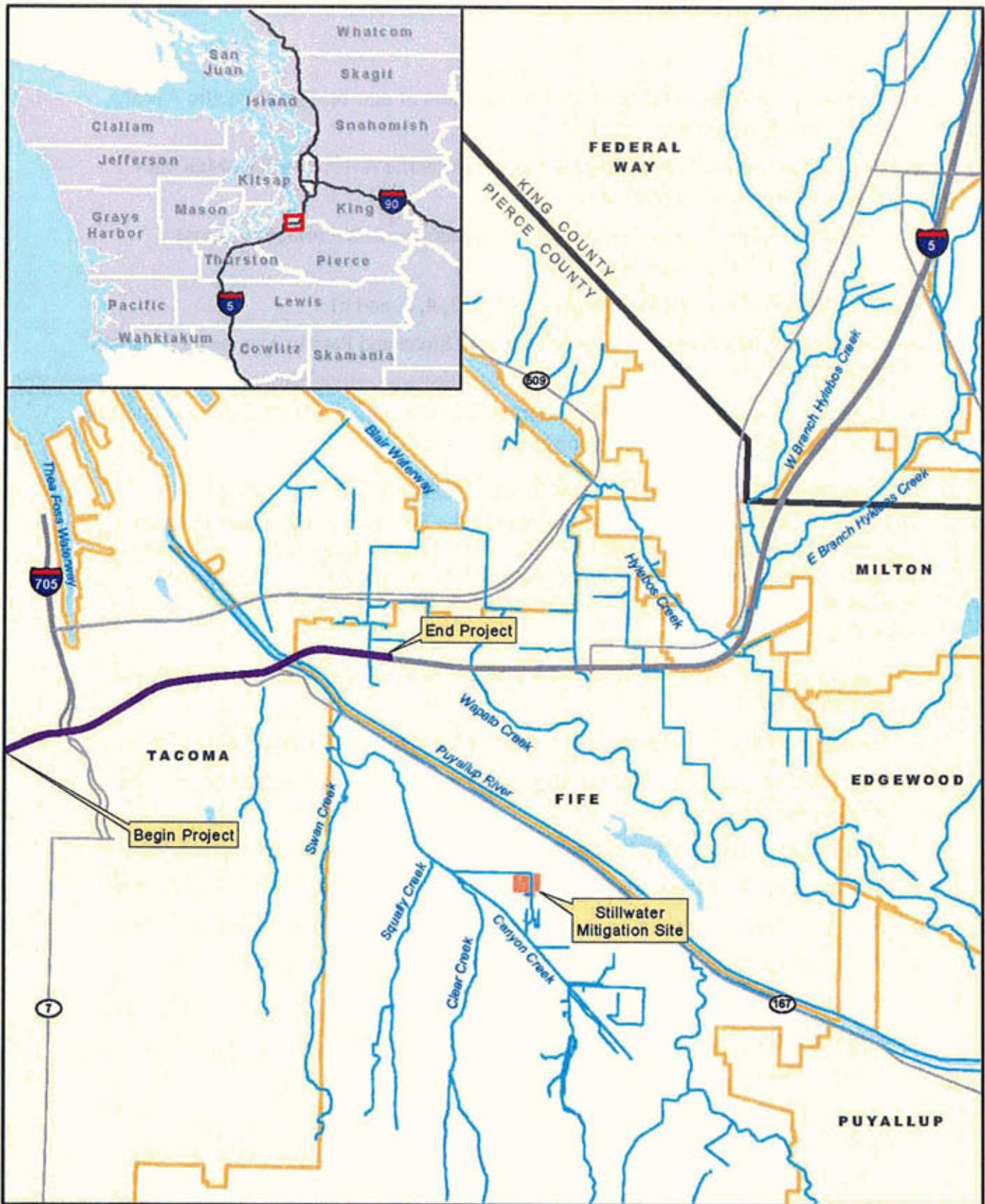
Additionally, new northbound and southbound bridge crossings over the Puyallup River with an alignment change will be constructed, and the existing I-5 bridges over the Puyallup River will be removed in stages as traffic is directed onto the new bridge spans. Additional right of way would be required for the proposed projects.

The construction activities related to the proposed projects are grouped together by location below.

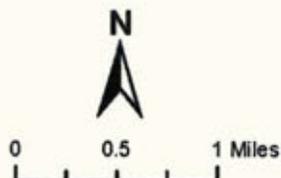
#### I-5: M Street to Portland Avenue – HOV Project

The I-5: M Street to Portland Avenue – HOV project extends from MP 132.88 to MP 134.91 on I-5 in Tacoma (2.03 miles). The new construction would serve northbound and southbound traffic on I-5 and traffic entering and exiting the highway at I-705/SR 7 and East Portland Avenue. The activities and upgrades for this project are the following:

- Construction of new northbound and southbound I-5 alignments, including additional HOV lanes
- Reconstruction of on- and off-ramps at the northbound and southbound I-5/I-705/SR 7 interchange

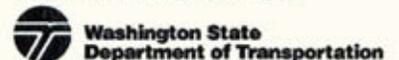


-  Project Extent
-  Stream
-  Mitigation Site
-  County Boundary
-  City Limits



**EXHIBIT 1**  
Vicinity Map

Tacoma/Pierce County HOV Program



- Demolition of existing bridges and reconstruction of new bridges at Pacific Avenue, McKinley Way, and East L Street
- Reconstruction of city street approaches to the Pacific Avenue Bridge, McKinley Way Bridge, and L Street Bridge
- Demolition of the existing bridge and construction of a new bridge on the new northbound I-5 alignment over I-705
- Construction of six new retaining walls (1, 2, 3, 4, 5, and 6)
- Construction of a noise wall between South G Street and Pacific Avenue on the south side of I-5
- Upgrades to signing, illumination, storm water collection facilities, and water quality treatment facilities; and resurfacing of main line I-5.

#### I-5: Portland Avenue to Port of Tacoma Road – Southbound HOV

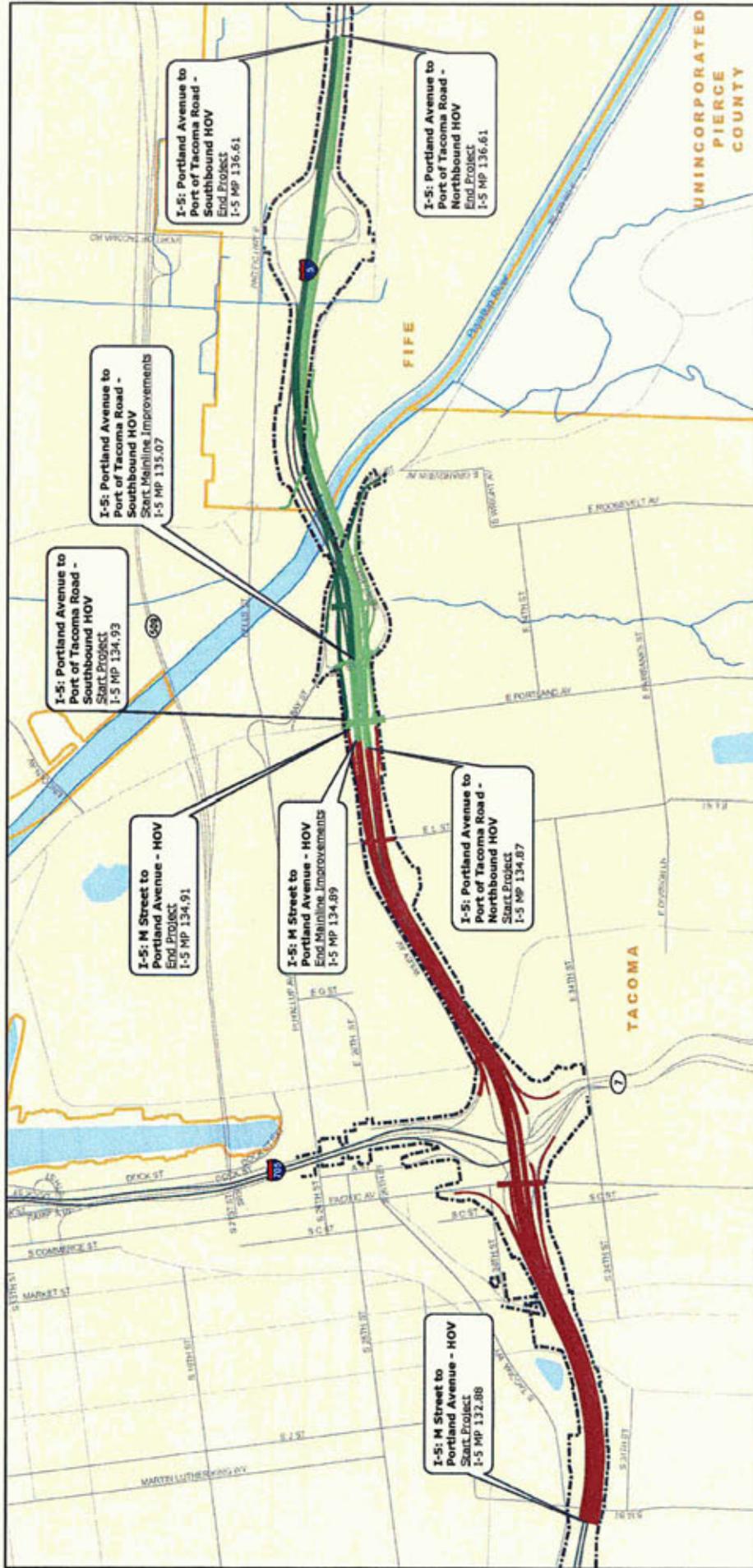
The I-5: Portland Avenue to Port of Tacoma Road – Southbound HOV project extends from MP 134.93 to MP 136.61 on I-5 (1.68 miles). The new construction would serve southbound traffic on I-5 and traffic entering and exiting the highway at East Portland Avenue and SR 167/East Bay Street. The activities and upgrades for this project are the following:

- Construction of a new southbound I-5 bridge over the Puyallup River, the railroad, and SR 167
- Realignment and reconstruction of a new southbound I-5 off-ramp to East 27th Street
- Reconstruction of East 27th Street from the Puyallup River Bridge off-ramp to the southbound I-5 on-ramp
- Demolition of the existing bridges over the Puyallup River, the railroad, and SR 167
- Construction of a temporary ramp connector from southbound I-5 to East 27th Street
- Reconstruction of city street approaches to East Portland Avenue and East R Street
- Removal and reconstruction of the ramps crossing the T Street sewer
- Construction of three new retaining walls (12a, 12b, and 15)
- Upgrades to signing, illumination, storm water collection facilities, and water quality treatment facilities

#### I-5: Portland Avenue to Port of Tacoma Road –Northbound HOV

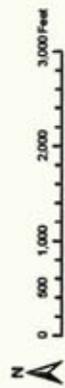
The I-5: Portland Avenue to Port of Tacoma Road – Northbound HOV project extends from MP 134.87 to MP 136.61 on I-5 (1.74 miles). The new construction would serve northbound traffic on I-5 and traffic entering and exiting the highway at East Portland Avenue and SR 167/East Bay Street. The activities and upgrades for this project are the following:

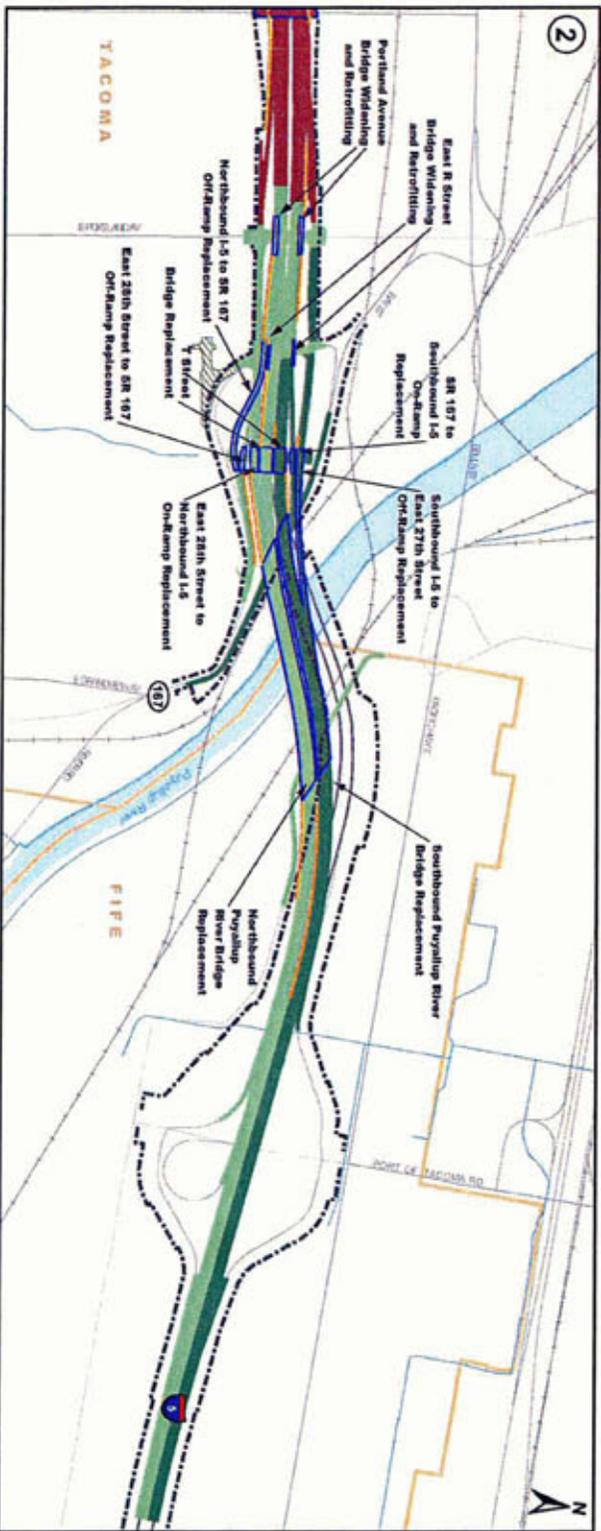
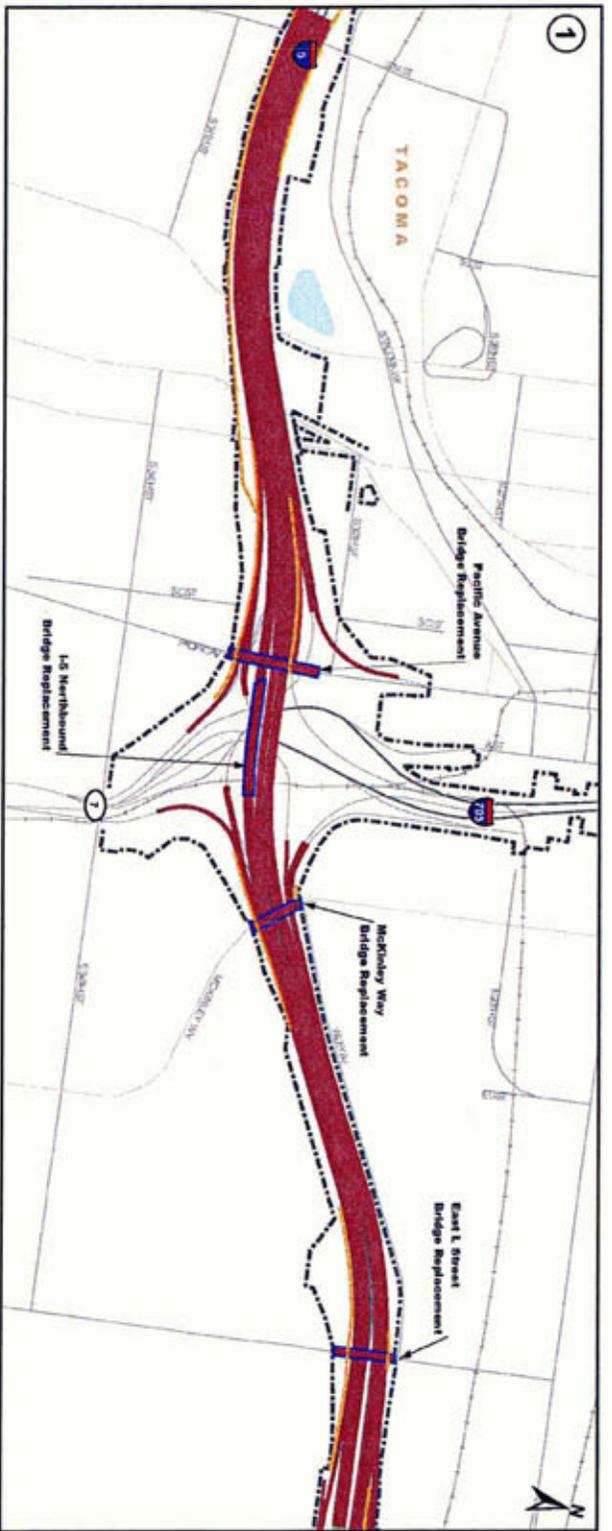
- Construction of a new northbound I-5 bridge over the Puyallup River, the railroad, and SR 167



Source: Pierce County (2007) GIS Data (Streets). Horizontal datum for all layers is NAD83(91), vertical datum for layers is NAVD83.

**EXHIBIT 2**  
 Approximate Extent of Proposed Projects  
 Tacoma/Pierce County HOV Program  
 Washington State Department of Transportation



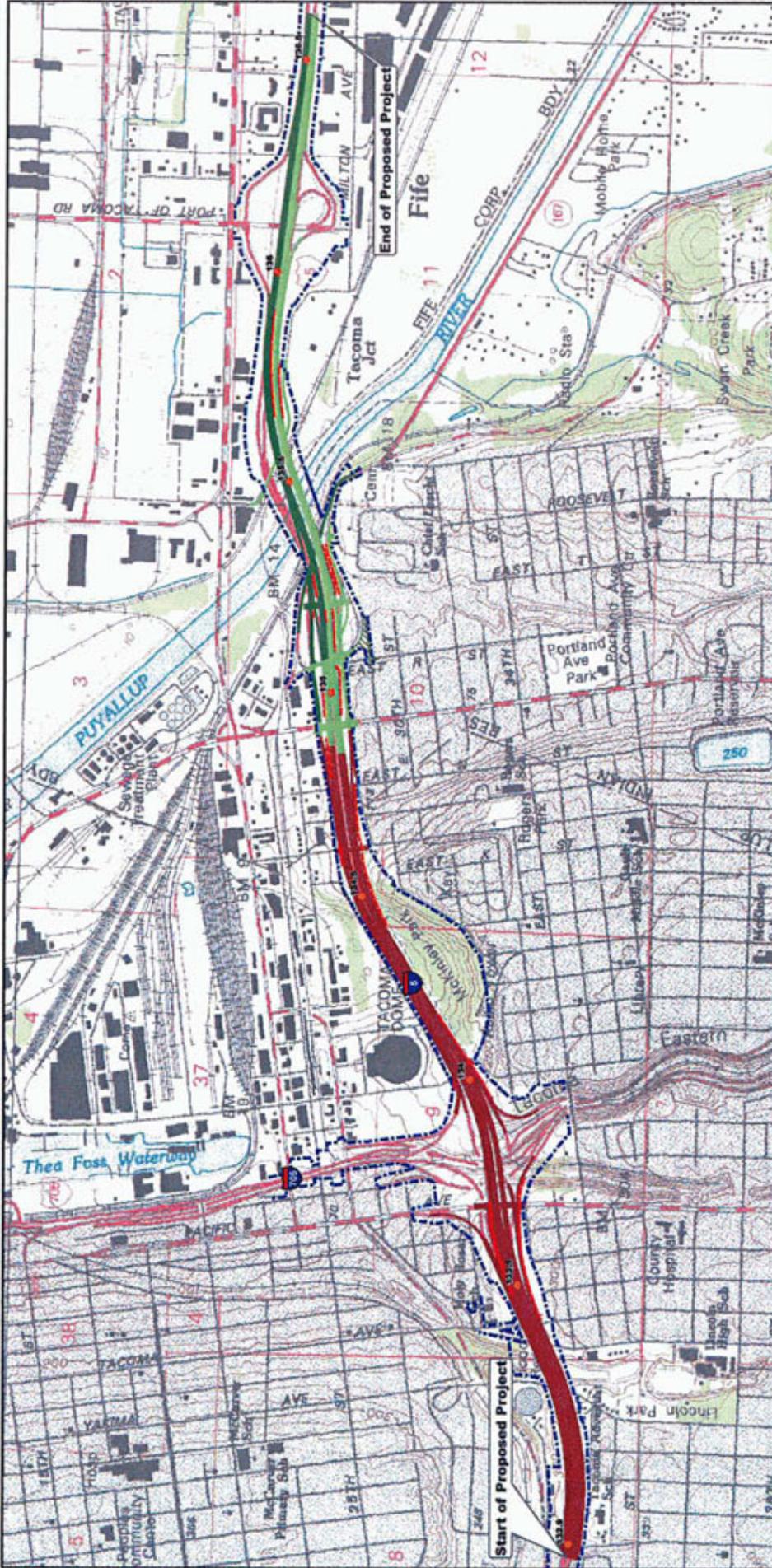


- Proposed Bridge and Ramp Work
- Proposed Retaining Wall
- Existing WISDOT Right of Way
- 1.5: M Street to Portland Avenue - HOV
- 1.5: Portland Avenue to Port of Tacoma Road - Northbound HOV
- 1.5: Portland Avenue to Port of Tacoma Road - Southbound HOV
- ▨ Potential Local Improvements by WISDOT or other Local Jurisdiction
- City Limits



Source: Pierce County (2007) GIS Data (Streets, Water Bodies), Horizontal datum for all layers is NAD83(97), Vertical datum for layers is NAVD83.

**EXHIBIT 3**  
**Components of Proposed Projects**  
 Tacoma/Fife County HOV Program  
 Washington State  
 Department of Transportation

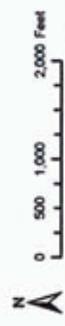


Source: USGS 7.5 Topographic Quadrangle

**EXHIBIT 4**  
**Topography in Project Vicinity**  
 Tacoma/Fife River HOV Program



- I-5: M Street to Portland Avenue - HOV
- I-5: Portland Avenue to Port of Tacoma Road - Northbound HOV
- I-5: Portland Avenue to Port of Tacoma Road - Southbound HOV
- Potential Local Improvements by WSDOT or other Local Jurisdiction
- Study Area
- Proposed Retaining Wall
- Contour Line
- Stream
- Major Road
- Building
- Park
- Water Body



- Widening and seismic retrofit of I-5 bridges over East Portland Avenue and East Bay Street
- Reconstruction of East Bay Street from East 27th Street to East 28th Street
- Removal and reconstruction of the northbound I-5 on-ramp and off-ramp bridges over T Street
- Construction of approximately eight new retaining walls (7, 8, 9,10,11a, 11b, 13, and 14)
- Widening of northbound main line I-5 to accommodate an HOV lane
- Reconstruction of and improvements to the signal systems at multiple intersections
- Construction of a temporary ramp connector from East 27th Street to northbound I-5
- Construction of a new ramp metering system at the East 28th Street on-ramp to northbound I-5
- Reconstruction of and improvements to the existing northbound I-5 on- and off-ramps
- Upgrades to signing, illumination, storm water collection facilities, and water quality treatment facilities; and resurfacing of main line I-5.

Mitigation plans are being developed to address unavoidable permanent wetland impacts and floodplain fill impacts. The plans include wetland mitigation and flood storage creation proposed at the Stillwater mitigation site, a 17-acre property located southwest of the Puyallup River in unincorporated Pierce County about 2 miles upstream from the I-5 crossing of the river (Exhibit 1).

**11. Location of the proposal. Give sufficient information for a person to understand the precise location of the proposed project, including a street address, if any, and section, township, and range, if known. If a proposal would occur over a range of area, provide the range or boundaries of the site(s). Provide a legal description, site plan, vicinity map, and topographic map, if reasonably available.**

The projects are located along I-5 in Tacoma and Fife, extending from South M Street to Port of Tacoma Road, in northern Pierce County, Washington. The projects extend from MP 132.88 to MP 136.61. The project limits are located in Township 20 North, Range 3 East, Sections 1 through 4, 8 through 13, 37, and 38 (see Exhibits 1, 2, 3, and 4).

## **B. ENVIRONMENTAL ELEMENTS**

### **1. Earth**

**a. General description of the site (underline one): Flat, rolling, hilly, steep slopes, mountainous, other:**

The area within the project limits is located on rolling terrain (WSDOT 2008a), and the eastern portion lies in the Puyallup River valley.

**b. What is the steepest slope on the site (approximate percent slope)?**

The steepest slope is approximately 50 percent (WSDOT 2008a). There are areas of steep slopes located between the Nalley Valley interchange and Portland Avenue and in the

Puyallup River Bridge area. Most slopes within the study area are the result of the design and construction of the existing highway; therefore, the potential for hazards related to erosion, steep slopes, and landslides is considered low.

**c. What general types of soils are found on the site (for example, clay, sand, gravel, peat, muck)? If you know the classification of agricultural soils, specify them and note any prime farmland.**

The Natural Resources Conservation Service (NRCS) identifies five major soil types within or adjacent to the project limits: Alderwood gravelly sandy loam; rough, broken land; Kapowsin gravelly loam; and a small section of Tacoma silt loam and Sultan silt loam on the right (east) bank of the Puyallup River (WSDOT 2008a).

**d. Are there surface indications of history of unstable soils in the immediate vicinity? If so, describe.**

East of the Nalley Valley interchange to Portland Avenue, the geologic hazards include erosion, steep slopes and landslides, seismic hazards, and liquefaction. Most slopes are the result of the construction of the existing highway; therefore, the potential hazards are expected to be low, because there were engineering designs of the structures and diligent construction practices when they were constructed. The hazards related to seismic ground shaking would be moderate; however, the soils are generally very dense in this area, therefore, they would have a low potential for liquefaction (WSDOT 2008a).

At the Puyallup River Bridge area, the primary geologic hazards include lahar inundation, soft ground, seismic ground shaking, and liquefaction hazards (WSDOT 2008a). Although the Puyallup River Bridge is mapped within a lahar inundation zone, the occurrence interval of the lahars is expected to be much longer than the expected life of the bridge; therefore, the hazard of lahar inundation is considered low. The soft ground includes thick deposits of cohesionless alluvium interlayered with silts and soft clays. These silts and soft clays materials would compress under new loads, and the loose cohesionless alluvium would be highly susceptible to liquefaction during a strong seismic event (WSDOT 2008a).

Geologic hazards on the Stillwater wetland mitigation site are lahar inundation, soft ground, seismic ground shaking, and liquefaction hazards (WSDOT 2008a). However, the occurrence interval of the lahars is expected to be several hundred years or more; therefore, the hazard of lahar inundation is considered low.

**e. Describe the purpose, type, and approximate quantities of any filling or grading proposed. Indicate source of fill.**

About 35 acres of existing vegetated area will be permanently affected by the projects. An estimated 250,000 cubic yards of material will be excavated, and the total fill for the roadway improvements will be 450,000 cubic yards (WSDOT 2008b). The potential for use of excavated material for onsite fill would be determined during final design. Any excess excavated material not used for onsite fill would be disposed of outside of the project.

**f. Could erosion occur as a result of clearing, construction, or use? If so, generally describe.**

Construction activities, primarily clearing and grading, would expose soils and increase the potential for erosion from disturbed areas. The potential for erosion and sedimentation would be mitigated through the use of Best Management Practices (BMPs).

**g. About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)?**

Within the project site, which includes WSDOT right of way as well as a wetlands mitigation site outside of WSDOT right of way, the project would result in a net increase in impervious surface of approximately 21 acres, an increase of 29 percent over the existing 71.1 acres. This net increase is comprised of new impervious surface on bridges, new impervious surface for new roadway surface, and existing impervious surface that will be removed as part of the creation of wetland and floodplain mitigation (WSDOT 2008b). The site will be approximately 90 percent impervious surface following construction.

**h. Proposed measures to reduce or control erosion, or other impacts to the earth, if any:**

Best management practices and minimization measures will be followed to address erosion and sediment control, spill control, and overall water quality.

All temporary erosion and sediment controls will be consistent with Chapter 6 of the WSDOT *Highway Runoff Manual*. A TESC plan and a spill prevention, control, and countermeasures (SPCC) plan will be followed. Best management practices could include:

- Providing ditches, berms, culverts, and other measures to control surface water
- Building dams, settling basins, energy dissipaters, and other measures to control downstream flows
- Covering or otherwise protecting slopes until permanent erosion-control measures are working.

An NPDES construction storm water permit will be obtained from the Washington State Department of Ecology and full compliance will be enforced. Permanent stormwater BMPs with flow control will be constructed where appropriate.

## **2. Air**

**a. What types of emissions to the air would result from the proposal (for example: dust, automobile, odors, industrial wood smoke) during construction and when the project is completed? If any, generally describe and give approximate quantities if known.**

Construction activities would result in temporary emissions of pollutants, including dust and odors. PM<sub>10</sub> emissions would be associated with construction of the project. These emissions would vary from day to day, depending on the level of activity, specific operations, and weather conditions. Larger dust particles would settle near the source,

while fine particles would disperse over greater distances from the construction site. Heavy trucks and construction equipment would generate CO, particulate matter, and nitrogen oxides (NO<sub>x</sub>) in exhaust emissions. Air quality is expected to return to normal after construction is completed.

After construction is completed, the project will conform to national ozone and CO standards. Emissions are expected to be slightly higher in 2030 with the project than without because of the greater number of vehicle miles travelled. However, CO emissions also are expected to decrease over time as vehicle emission standards become stricter.

The primary source of fine airborne particulates (PM<sub>10</sub>) in the Tacoma maintenance area is industry. The potential levels related to the Tacoma/Pierce County HOV Program were estimated to be well within regulatory limits.

**b. Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe.**

There are no known off-site sources of emissions or odor that may affect this proposal.

**c. Proposed measures to reduce or control emissions or other impacts to air, if any:**

Possible construction impacts on air quality will be addressed through the use of construction BMPs. Best management practices that could be used include water or other fugitive dust BMP's to control dust if necessary.

### **3. Water**

#### **a. Surface:**

**1) Is there any surface water body on, or in, the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into.**

The project limits lie entirely within the lower Puyallup River subbasin. Most of the surface water within the project limits drains to the city of Tacoma storm drain system and is subsequently discharged to either the Thea Foss Waterway or the Puyallup River. In the eastern end of the area within the project limits, surface water drains to the Erdahl ditch, which empties into the Blair Waterway (an arm of Commencement Bay). The primary waterways in the project vicinity are the lower Puyallup River, the Thea Foss Waterway (another arm of Commencement Bay), the Blair Waterway, Clear Creek/Swan Creek, the T Street gulch, and the Erdahl ditch (WSDOT 2008b).

#### Clear Creek/Swan Creek

An unnamed surface water (ditch) flows through the Stillwater mitigation site and drains into Clear Creek. Clear Creek flows generally northward and enters the Puyallup River about 2,700 feet upstream of the existing Puyallup River Bridge. Most of the area surrounding lower Clear Creek has been channelized for agricultural development adjacent to the BNSF Railway right of way.

#### T Street Gulch and Erdahl Ditch

The T Street gulch is a small drainage with two principal forks that drain single-family residential areas before discharging into the Puyallup River. It is reported to carry

minimal flow except during rain events. It is not known or presumed to support any fish species, nor is it considered potential habitat.

The Erdahl ditch is a man-made storm water drainage system that conveys storm water from the I-5 corridor between Wapato Creek and the Puyallup River into the Blair Waterway. It is non-fish-bearing, typically dry during summer months, and provides no significant aquatic habitat.

#### Commencement Bay

Commencement Bay is a natural deep-water embayment that historically consisted of extensive intertidal mudflats and emergent marsh habitat. Beginning in the late nineteenth century, the bay has been substantially altered through intensive development.

#### Thea Foss and Blair Waterways

The Thea Foss and the Blair Waterway are saltwater arms of Commencement Bay. Their shorelines have been extensively altered by the use of riprap and other materials to provide bank protection for the industrial uses surrounding the waterways.

#### Wetlands

In total, 6.12 acres of wetlands have been identified within the project limits (Exhibit 5) (WSDOT 2008l). Most of these wetlands have been assigned a rating of Category III or IV by the Washington State Department of Ecology (Ecology), representing relatively low-quality wetlands. The rating system is based on habitat, hydrologic, and water quality functions (WSDOT 2008k). Wetlands are located on both sides of the highway, within the I-5/SR 167 interchange complex and along the Puyallup River. Most of the wetlands within the project limits are freshwater slope or depressional wetlands that either convey storm water runoff from the surrounding roadways or receive hydrology from groundwater seeps on the slopes cut to create the original roadway. Some contain areas of mature trees (freshwater forested wetlands), but most of the wetlands are dominated by emergent vegetation and/or small shrubs (WSDOT 2008d).

#### **2) Will the project require any work over, in, or adjacent to (within 200 feet) the described waters? If yes, please describe and attach available plans.**

Yes. The Puyallup River Bridge replacement would require work within the river and construction of the HOV lanes would require work in or adjacent to the Erdahl ditch and several wetlands. In-water work in the Puyallup River is described in Section A.5.

Work within and adjacent to the Erdahl ditch would involve the installation of storm water infrastructure, clearing and grading, and roadbed preparation.

Work in wetlands would include placement of fill in approximately 3.5 acres of 12 wetlands for construction of the new HOV lanes, interchange improvements, and replacement of the Puyallup River Bridge. In addition, approximately 1 acres of jurisdictional wetland buffer adjacent to McKinley Park would be filled. Wetland vegetation clearing and other temporary disturbances are not expected to extend beyond the areas of permanent effects (WSDOT 2008d).

Compensation for the permanent wetland and buffer impacts of the proposed projects would be provided at the Stillwater wetland mitigation site. The proposed compensatory wetland mitigation at the Stillwater mitigation site is adequately sized to offset the

wetland effects from the proposed projects. Mitigation at the Stillwater site would reestablish, rehabilitate, and enhance forested and scrub-shrub riverine wetlands and rehabilitate the on-site stream. This mitigation would occur within the lower Puyallup River basin (water resource inventory area [WRIA] 10).

**3) Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material.**

The existing Puyallup River Bridge piles, which cover approximately 3,360 square feet of stream bottom, would be removed. The new bridges would be supported by 20 new in-water piers, covering approximately 2,260 square feet, as well as 8 piers and 2 abutments outside the ordinary high water mark of the Puyallup River. This would reduce the stream bottom displacement by approximately 1,100 square feet (WSDOT 2008b).

Approximately 200 cubic yards of fill would be placed within wetlands within the project limits (WSDOT 2008b). The source of fill is not known at this time.

**4) Will the proposal require surface water withdrawals or diversions? Give general description, purpose, and approximate quantities if known.**

No. The proposed projects would not require surface water withdrawals or diversions.

**5) Does the proposal lie within a 100-year floodplain? If so, note location on the site plan.**

An updated Puyallup River valley floodplain map, based on updated hydraulic modeling and modified federal rules for flood insurance studies, was recently prepared for the Federal Emergency Management Agency (FEMA) (NHC 2004). The updated floodplain map for the lower Puyallup River valley affects a small portion of the area within the project limits, mostly on the east side of the river (Exhibit 6). The portion of the area within the project limits in which floodplains are regulated extends from approximately East T Street in Tacoma to the eastern boundary of the project limits in Fife (WSDOT 2008k).

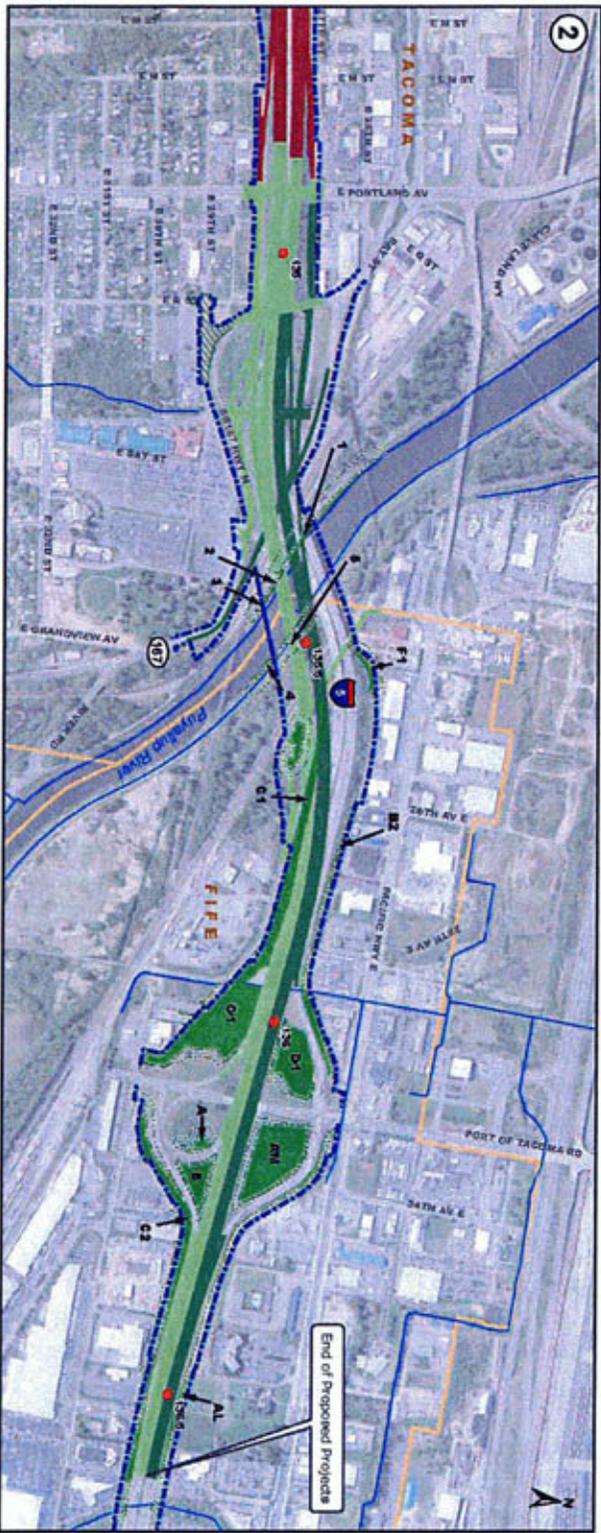
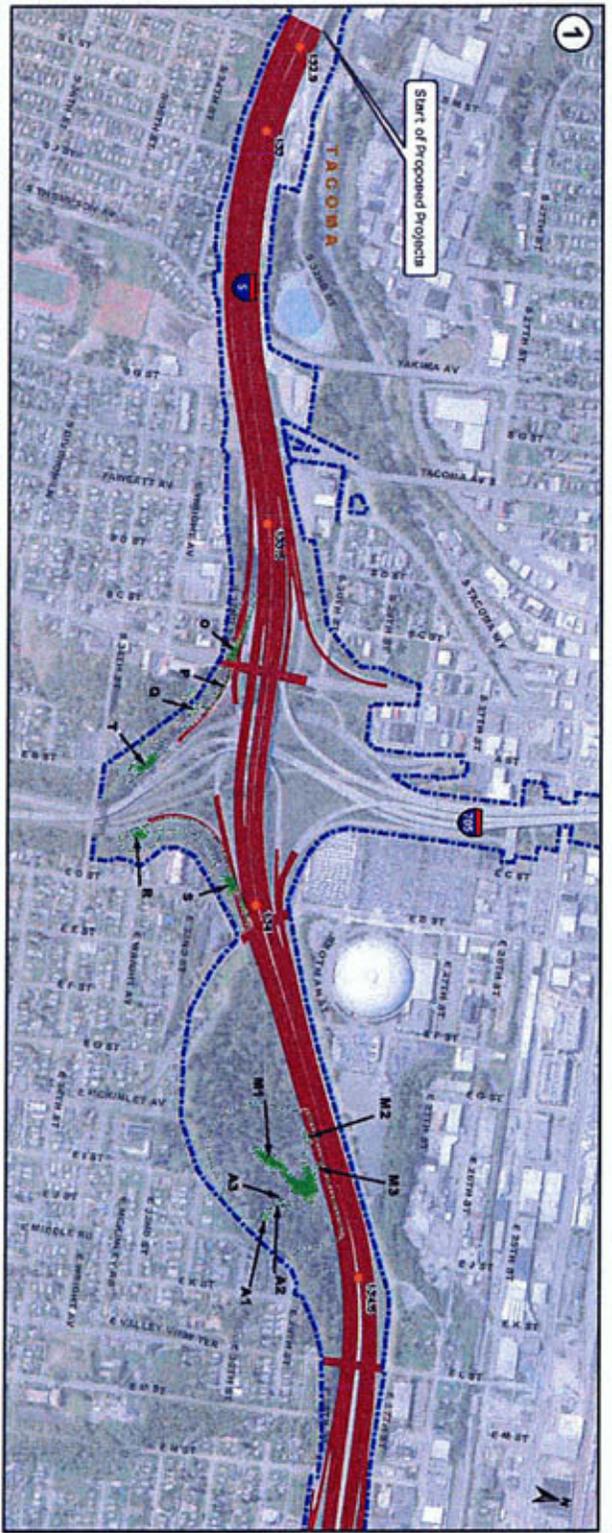
**6) Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.**

The proposed projects would not involve discharges of waste materials to surface waters.

**b. Ground:**

**1) Will ground water be withdrawn, or will water be discharged to ground water? Give general description, purpose, and approximate quantities if known.**

The proposed project will not result in ground water withdrawal or the discharge of water to ground water.



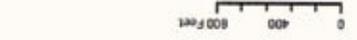
- Study Area
- Stream
- Wetland
- Wetland Buffer
- City Limits
- I-5, M Street to Portland Avenue - HOV
- I-5, Portland Avenue to Port of Tacoma Road - Northbound HOV
- I-5, Portland Avenue to Port of Tacoma Road - Southbound HOV
- Potential Local Improvements by WSDOT or other Local Jurisdiction

Source: WSDOT (2007) Aerial Photo, Pierce County (2007) GIS Data (Drains, Streams, Water Bodies, Wetlands), DCA (1998/1999) CAD Data (Wetlands), Wetland determination field notes by CHRIS HILL and Theresa, 2005-2007.

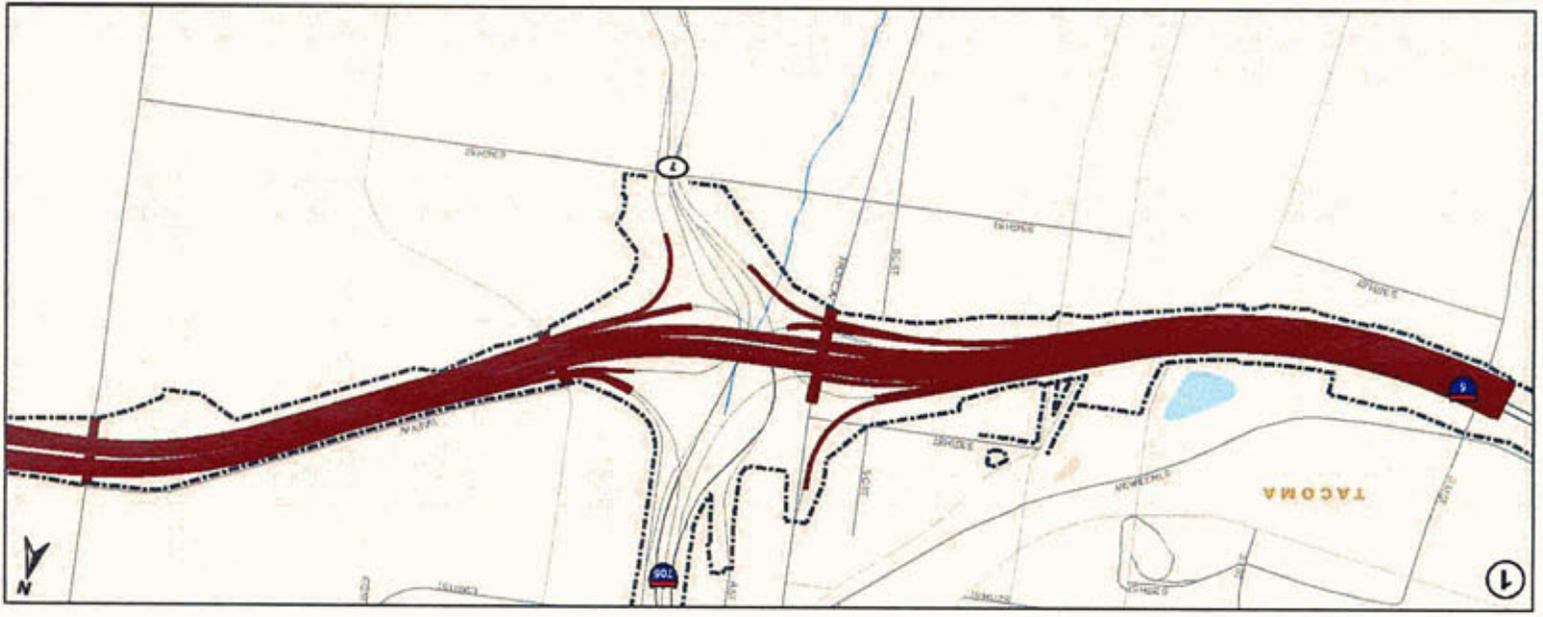
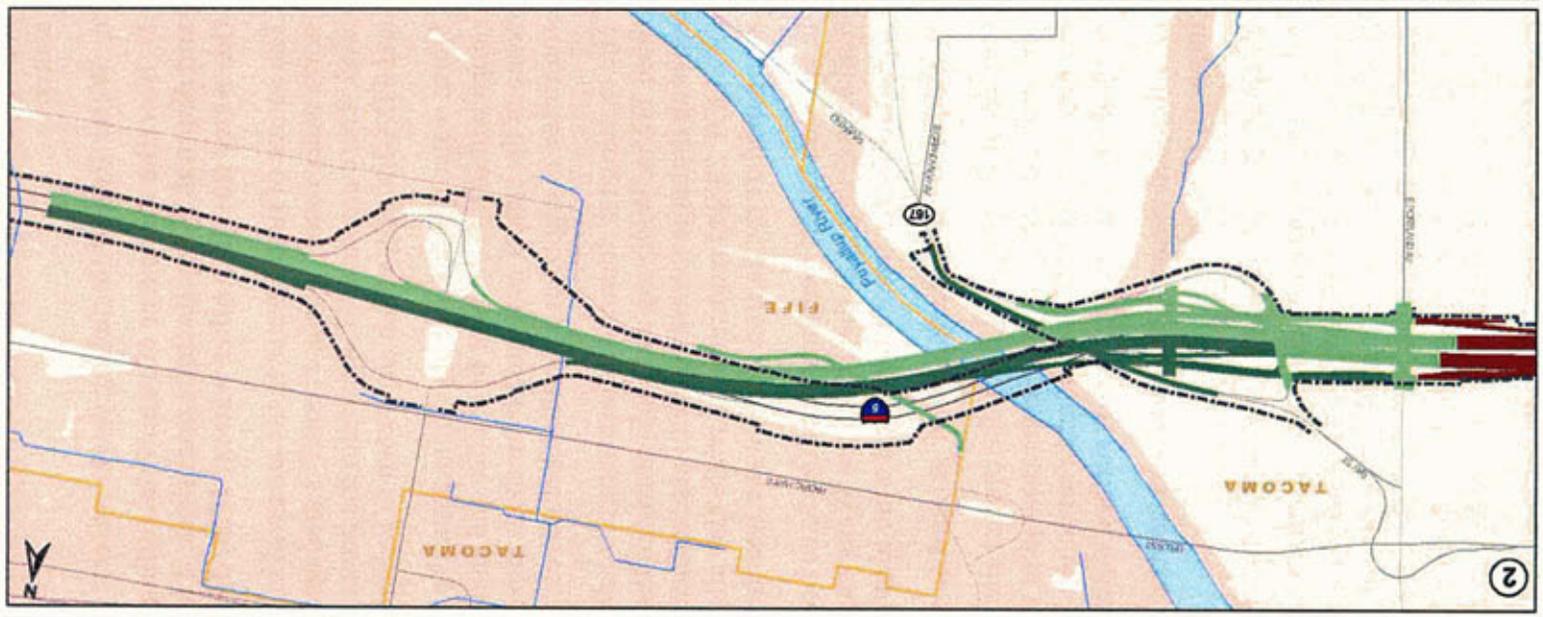


**EXHIBIT 5**  
**Wetlands within Project Limits**  
 Tacoma-Wash County HOV Program  
 Washington State  
 Department of Transportation

Source: Pierce County (2007) GIS Data (Streets, Water Bodies) Horizontal datum for all layers is NAD83(91), vertical datum for layers is NAVD83.



- Existing WSDOT Right of Way
- I-5: M Street to Portland Avenue - HOV Lanes
- I-5: Portland Avenue to Port of Tacoma Road - Northbound HOV
- I-5: Portland Avenue to Port of Tacoma Road - Southbound HOV
- Floodplain
- City Limits



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**2) Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (for example: domestic sewage; industrial, containing the following chemicals; agricultural; etc.). Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve.**

No waste material would be discharged into the ground from septic tanks or other sources.

**c. Water Runoff (including storm water):**

**1) Describe the source of runoff (including stormwater) and method of collection and disposal, if any (include quantities, if known). Where will this water flow? Will this water flow into other waters? If so, describe.**

The source of runoff water to the area within the project limits is rainfall occurring as storm water runoff. Surface runoff is managed at the threshold discharge area (TDA) level. There are three TDAs within the project limits (TDA-Thea Foss, TDA-Puyallup, and TDA-Erdahl), which are shown in Exhibit 7:

Storm water runoff currently drains from the I-5 roadway and associated interchange ramps within this corridor to ditches and storm drains that discharge to the three TDAs. None of the runoff generated from these impervious surfaces is currently treated or controlled in engineered facilities before reaching these waterways (WSDOT 2008b).

The existing I-5 drainage infrastructure would be retrofitted and upgraded in each of the three TDAs. Widening and realignment of the highway would require replacement of existing drainage infrastructure in accordance with the *Highway Runoff Manual* (WSDOT 2008a) requirements while also allowing for off-road grading that can accommodate the desired storm water treatment features (WSDOT 2008b).

In addition runoff treatment facilities have been planned for large portions of the existing roadways draining to the Thea Foss Waterway and the Puyallup River, where opportunities for retrofit treatment were identified (WSDOT 2008k).

**2) Could waste materials enter ground or surface waters? If so, generally describe.**

Petroleum products will be on the project site during construction. However, a spill prevention control and countermeasure plan will be developed, and BMP's will be implemented for spill control and prevention. Therefore, it is unlikely that waste materials would enter ground or surface waters during construction.

**d. Proposed measures to reduce or control surface, ground, and runoff water impacts, if any:**

Measures to Control Runoff during Project Construction

A variety of BMPs for sediment retention would be implemented during upland construction work. The stabilization and structural practices that would be used during project construction to minimize erosion and sediment transport would be outlined in a TESC plan. In addition to the TESC plan, the contractor will prepare a SPCC plan in accordance with standard WSDOT requirements. The SPCC plan will address the control of pollutants other than sediment during construction.

Complete descriptions of BMPs are included in the WSDOT *Highway Runoff Manual*.

#### Measures to Control Runoff after Project Construction is Completed

The proposed storm water management plan includes the treatment of I-5 runoff in the three TDAs described above, in accordance with WSDOT *Highway Runoff Manual* requirements, and with the intent of maximizing runoff treatment to the extent possible given the physical constraints imposed by the boundaries of existing wetlands and by near-surface groundwater conditions within the highway right of way.

The existing I-5 drainage infrastructure would be retrofitted and upgraded in each TDA to the extent possible (WSDOT 2008b).

#### Measures to Control Floodplain Impacts

The proposed projects would result in the filling and permanent displacement of up to 15 acre-feet of flood storage volume in areas subject to floodplain regulations. To comply with the regulatory requirements of the *Tacoma Municipal Code* and *Fife Municipal Code*, compensatory flood storage volume must be created nearby.

The Stillwater wetland mitigation site is being considered for incorporation of flood storage into the wetland mitigation design for the proposed projects. If this site cannot be used effectively for floodplain mitigation, two other options would be explored:

(1) provide compensatory flood storage volume at another site that is hydraulically linked to the Puyallup River, and (2) coordinate with the Lower Puyallup Flood Control Project Executive Task Force (consisting of several partnering agencies) to provide funding to be put toward a larger regional flood control solution in the lower valley in lieu of providing compensatory flood storage volume at a specific mitigation site (WSDOT 2008k).

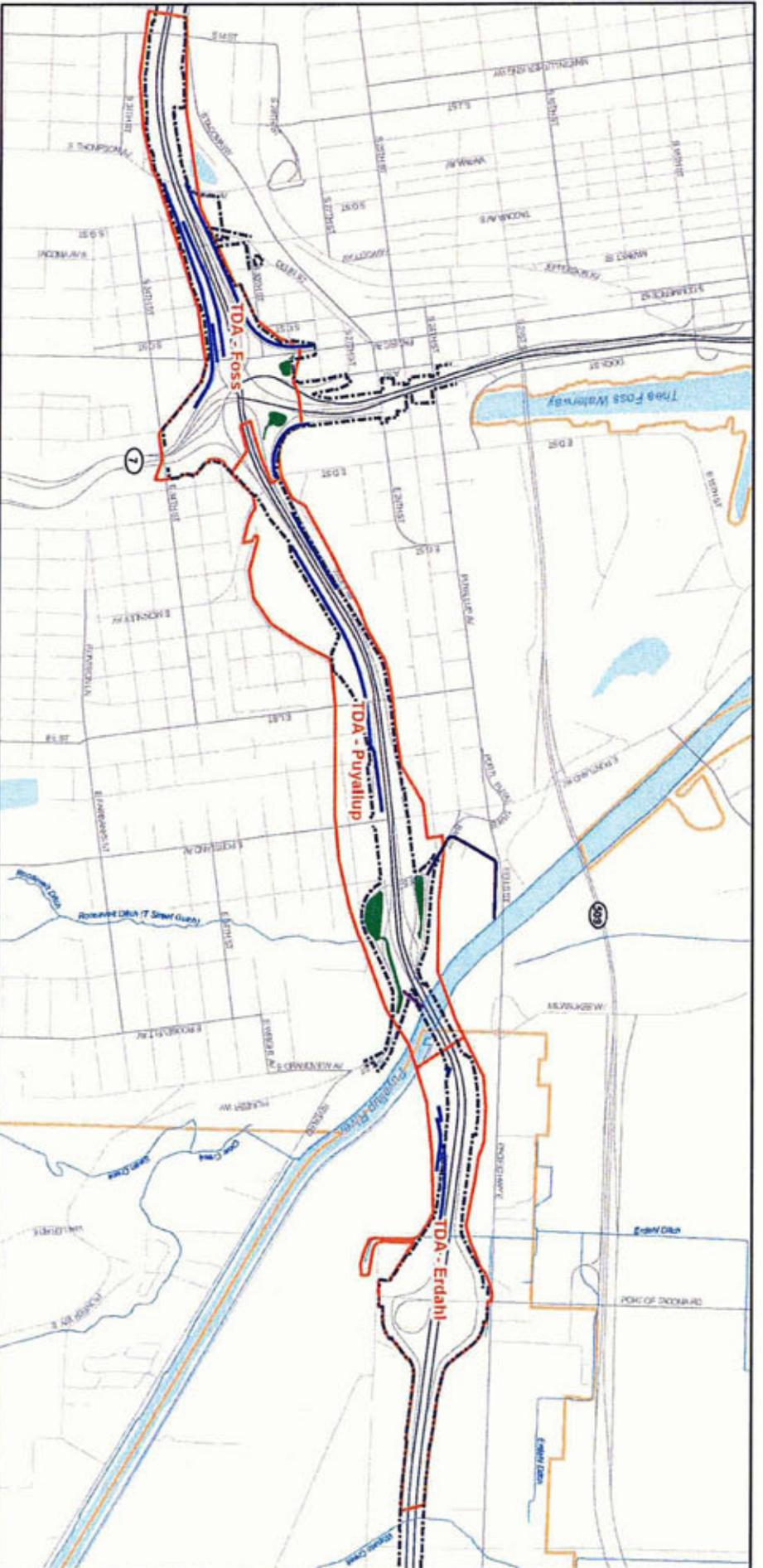
#### **4. Plants**

##### **a. What types of vegetation are found on the site?**

- **Deciduous Trees:** red alder (*Alnus rubra*), black cottonwood (*Populus balsamifera* spp. *trichocarpa*), pine (*Pinus* sp.), and willow species (*Salix* spp.)
- **Evergreen Trees:** Douglas-fir (*Psuedotsuga menziesii*)
- **Shrubs:** Scot's broom (*Cytisus scoparius*)
- **Grasses:** orchard grass (*Dactylis glomerata*), perennial rye (*Lolium perenne*)
- **Crops or grains:**
- **Wet Soil Plants:** Douglas spirea (*Spiraea douglasii*), reed canarygrass, (*Phalaris arundinacea*), nightshade (*Solanum dulcamara*), soft rush (*Juncus effusus*), velvetgrass (*Holcus lanatus*), creeping buttercup (*Ranunculus repens*), field horsetail (*Equisetum arvense*), and colonial bentgrass (*Agrostis capillaris*)
- **Water Plants:**
- **Other types of vegetation:** Himalayan blackberry (*Rubus armeniacus*)

##### **b. What kind and amount of vegetation will be removed or altered?**

An estimated 16.01 acres of existing scrub-shrub and grass habitat would be cleared to accommodate the new roadway. The majority is upland scrub-shrub vegetation located in the existing highway median and adjacent to existing on-ramps. Some existing wetland



Source: Pierce County (2007) GIS Data (Streets, Watersheds, Streams, City Limits); Horizontal datum for all layers is NAD83(91), vertical datum for layers is NAVD83.



- Existing WISDOT Right of Way
- Stream
- Existing Storm Drain Line to Puyallup River
- Potential New Storm Drain Outfall
- Proposed Ecology Enhancement
- Threshold Discharge Area (TDA)
- Proposed Stormwater Treatment and Detention Pond
- Waterbody
- Unincorporated Area
- City Limits



**EXHIBIT 7**  
 Threshold Discharge Areas and Proposed Storm Water Management Features  
 Tacoma/Pierce County MDV Program  
 Washington State  
 Department of Transportation

and wetland buffer vegetation would be cleared to accommodate the new roadway. Riparian vegetation adjacent to the Puyallup River would be cleared to accommodate the new bridge abutments.

Up to 500 trees (primarily small deciduous roadside trees) would be removed as part of the proposed projects. These trees are coniferous and deciduous ornamental trees consisting of Douglas-fir, red alder, black cottonwood, pine (*Pinus* sp.), and willow species with diameter at breast height (dbh) between 2 and 12 inches.

Within the Puyallup River riparian corridor (riverward of the existing levees), five trees may be removed. These are all small willow trees that would be replaced according to the U.S. Army Corps of Engineers requirements governing restoration planting on federal levees (WSDOT 2008b).

**c. List threatened or endangered species known to be on or near the site.**

No federal or state listed plant species are known to be within or near the project limits, however the following species could occur in the project vicinity (WSDOT 2008b; WDNR 2008):

- Marsh sandwort (*Arenaria paludicola*): federal endangered species
- Golden paintbrush (*Castilleja levisecta*): federal and state threatened species
- Water howellia (*Howellia aquatilis*): federal and state threatened species
- Large-awn sedge (*Carex macrochaeta*): state threatened species
- Smoky mountain sedge (*Carex proposita*): state threatened species
- Torrey's peavine (*Lathyrus torreyi*): state threatened species
- White meconella (*Meconella oregana*): state threatened species
- California sword-fern (*Polystichum californicum*): state threatened species
- Rush aster (*Symphotrichum boreale*): state threatened species.

**d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any:**

Before any vegetation clearing or construction within the project limits, the clearing limits for the proposed project would be clearly marked with surveyor's flagging along the property line and/or the limits of the construction.

Areas that are not paved with new roadway and areas in which the existing roadway is removed would be revegetated with ecologically appropriate low-maintenance wetland species (as appropriate) and upland species that require no irrigation, including groundcover, shrubs, and evergreen and deciduous trees. The in-slopes of the road prism would be planted with grass that can be mowed to maintain line-of-sight distances. Street trees would be planted at suitable locations at the interchanges within the project limits. Trees removed in the immediate riparian corridor of the Puyallup River (riverward of the existing levees) would be replaced according to the U.S. Army Corps of Engineers requirements governing restoration planting on federal levees.

Vegetation management activities, including control of invasive weeds, would conform with the *Olympic Region, Area 1, Integrated Roadside Vegetation Management (IVM) Plan* prepared by WSDOT (WSDOT 2008b).

## 5. Animals

### a. What birds and animals have been observed on or near the site or are known to be on or near the site?

- **Birds:** songbirds, red-tailed hawks, cormorants, and grebes
- **Mammals:** small mammals, such as raccoons, mice, rabbits, squirrels, coyotes, and bats
- **Fish:** Chinook salmon, steelhead trout, bull trout, chum, pink, sockeye salmon, and coho salmon

### b. List any threatened or endangered species known to be on or near the site.

There are five threatened species on, at, or near the project site: the Puget Sound evolutionarily significant unit (ESU) of Chinook salmon, the Coastal–Puget Sound distinct population segment (DPS) of bull trout, the Puget Sound DPS of steelhead, the Southern Resident DPS of killer whales, the Steller DPS of sea lion, and all designated critical habitat (WSDOT 2008b).

### c. Is the site part of a migration route? If so, explain.

Western Washington is part of the Pacific Flyway for migratory birds. Anadromous fish species, including the threatened and endangered salmonid species listed in Section B.5.b, use the Puyallup River as a migration route.

### d. Proposed measures to preserve or enhance wildlife, if any:

A biological assessment for this project was submitted to NOAA and USFWS and a biological opinion is currently being prepared. The following measures are proposed to improve or enhance wildlife and wildlife habitat:

- In-water work would adhere to timing restrictions required by the Puyallup Tribe of Indians and/or the Washington Department of Fish and Wildlife (WDFW).
- NPDES and in-water work permits would be obtained, and full compliance would be enforced.
- Although it is unlikely that fish would be trapped during the installation of casings during the Puyallup River bridge construction, each casing would be checked for fish. Any fish that are found would be removed according to the approved WSDOT fish handling protocol.
- Untreated wood would be used for decking and temporary work trestles.
- Disturbed areas would be permanently stabilized, and areas that are suitable for revegetation would be replanted with site-appropriate native vegetation.
- The proposed projects would comply with state water quality standards or obtain the appropriate modifications and approvals.
- The proposed projects would implement a TESC plan, which would include a spill prevention, control, and countermeasures component.
- Permanent storm water treatment facilities would be constructed and maintained in accordance with the WSDOT *Highway Runoff Manual*.

## **6. Energy and Natural Resources**

**a. What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, etc.**

Electric energy would be required for roadway lighting. Oil and other petroleum products would be used in maintenance equipment.

**b. Would the project affect the potential use of solar energy by adjacent properties? If so, generally describe.**

The proposed project would not affect the potential use of solar energy by adjacent properties.

**c. What kinds of energy conservation features are included in the plans of this proposal? List other proposed measures to reduce or control energy impacts, if any:**

HOV lanes are designed to conserve energy by encouraging carpooling, thereby reducing fuel consumption.

## **7. Environmental Health**

**a. Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste that would occur as a result of this proposal? If so, describe:**

A total of 26 hazardous materials documented release sites or potential release sites that could be affected by the project-related construction were identified within the study area established for the evaluation of hazardous materials (WSDOT 2008e).

The proposed project would result in no operation effects related to hazardous materials. There exists a risk of spills and fires from traffic accidents, but because this project would increase vehicular safety within the corridor, the project would reduce that risk.

**1) Describe special emergency services that might be required.**

No special emergency services (fire, police, and medical) would be required for this project.

**2) Proposed measures to reduce or control environmental health hazards, if any:**

Further characterization of contaminated and potentially contaminated areas before construction and the use of appropriate control and/or cleanup measures would minimize the potential adverse effects. Standard safety construction practices and an SPCC plan would be in effect during construction.

### **b. Noise**

**1) What types of noise exist in the area which may affect the project (for example: traffic, equipment, operation, other)?**

Sources of traffic and other noise typical of urban areas exist adjacent to this project, but none of these noise sources would affect this project.

**2) What types and levels of noise would be created by or associated with the project on a short-term or a long-term basis (for example: traffic, construction, operation, other)? Indicate what hours noise would come from the site.**

#### Construction Noise

Typical maximum noise levels from construction equipment range from 69 to 105 A-weighted decibels (dBA) at 50 feet. Construction noise at receivers located more than 50 feet from the noise source decreases at a rate of 6 dBA per doubling of distance from the source. Impact pile driving may occasionally reach peaks of 115 dBA at 50 feet.

#### Operation Noise

Noise levels were modeled at 24 sites in the study area established for evaluating noise impacts (Exhibit 8). Currently, the noise levels at 10 of the 24 receivers are equal to or greater than the noise abatement criteria for their designated land use. Under the proposed projects in 2030, the noise levels at 11 receivers are predicted to be equal to or greater than the noise abatement criteria for their designated land use (WSDOT 2008f).

**3) Proposed measures to reduce or control noise impacts, if any:**

#### Construction Noise Mitigation

Construction noise will be reduced through the use of standard noise mitigation measures, which could include using enclosures or walls to surround noisy equipment, installing mufflers on engines, substituting quieter equipment or construction methods, minimizing time of operation, and locating equipment farther from sensitive receivers.

Construction noise is exempt from local property-line regulations during daytime hours. If nighttime construction is required for the proposed projects, WSDOT would apply for variances or exemptions from local noise ordinances for the duration of the project construction. These noise variances or exemptions would be granted with conditions requiring implementation of mitigation measures (WSDOT 2008f).

#### Operation Noise Mitigation

In areas where the noise levels are predicted to exceed the noise abatement criteria in 2030 under the proposed projects, mitigation alternatives were evaluated. One noise wall, located at the south side of I-5 from South G Street to Pacific Avenue, was determined to be reasonable and feasible in the three areas analyzed (WSDOT 2008f).

### **8. Land and Shoreline Use**

#### **a. What is the current use of the site and adjacent properties?**

From west to east in the project vicinity, land use north of I-5 is predominantly Puyallup Tribal Trust land, neighborhood business district, and manufacturing and industrial land. South of I-5, land uses consist of medium-density housing, open space, mixed-use centers, and Puyallup Tribal Trust land.

The Stillwater wetland mitigation site is currently used for residences and residential vacant land. The area previously supported farming and grazing. Pierce County currently owns 16.9 acres of the site.



- Validation Receiver
- Proposed Noise Wall
- - - Existing WSDOT Right of Way
- Stream
- City Limits
- I-5: M Street to Portland Avenue - HOV
- I-5: Portland Avenue to Port of Tacoma Road - Northbound HOV
- I-5: Portland Avenue to Port of Tacoma Road - Southbound HOV
- ▨ Potential Local Improvements by WSDOT or other Local Jurisdiction



Source: WSDOT (2007) Aerial Photo, Pierce County (2007) GIS Data (Streets, Streams, Water Bodies, Wetlands), DEA (1990/1999) CAD Data (Wetlands). Wetland delineation field updates by CH2M HILL and Hanna, 2008-2007.



**EXHIBIT 8**  
**Noise Measurement Locations**  
 Tacoma/Pierce County HOV Program  
 Washington State  
 Department of Transportation

**b. Has the site been used for agriculture? If so, describe.**

No. The proposed projects would not affect land currently used for agriculture. Before the construction of I-5, part of the I-5 corridor in the project vicinity was used for agriculture. The Stillwater wetland mitigation site was previously used for farming and grazing but is currently used for residences and residential vacant land.

**c. Describe any structures on the site.**

The project site is occupied by I-5, including nine bridges carrying local roadways over or under I-5 at Yakima Avenue, South Delin Street, Tacoma Avenue South, Pacific Avenue, McKinley Way, East L Street, Portland Avenue, Bay Street, and T Street.

Within the project limits, the original I-5 bridges over the Puyallup River were constructed between 1960 and 1962. The bridges, which range from approximately 73 to 107 feet in length, are constructed of precast, prestressed-concrete girders. They are now functionally and seismically deficient and have flaws in the vertical and horizontal alignments, superelevation rate, and superelevation runoff.

**d. Will any structures be demolished? If so, what?**

Replacement of the northbound and southbound I-5 bridges over the Puyallup River and the replacement or retrofitting of four bridges (overpasses) would require the demolition of the existing structures. In addition to the bridges, several ramps would be replaced or retrofitted.

**e. What is the current zoning classification of the site?**

The WSDOT right of way is not subject to county or city zoning.

The approximate 17-acre Stillwater wetland mitigation site is zoned rural separator.

**f. What is the current comprehensive plan designation of the site?**

The WSDOT right of way is not subject to local comprehensive plan designations.

The Stillwater wetland mitigation site is located in the Mid-County Community Plan area.

**g. If applicable, what is the current shoreline master program designation of the site?**

The current shoreline master program designation of the Puyallup River is urban to permit recreational development of the riverfront while allowing industrial development of adjacent upland areas, and to encourage continued preservation of Clear Creek, its associated wetlands, and related ecosystems (Tacoma 2007). The Puyallup River in Tacoma has been diked as part of the U.S. Army Corps of Engineers flood control project.

**h. Has any part of the site been classified as an "environmentally sensitive" area? If so, specify.**

The city of Tacoma critical areas/environmentally sensitive areas in the project vicinity include:

- The Puyallup River flood zone includes the Puyallup River and the T Street gulch floodplain at Exit 135 on southbound I-5. The floodway is located south of the Puyallup River Bridge.
- Wetlands: wetland locations are described in Section B.3.a.1.
- Habitat zones (areas designated and mapped that depict high-quality, relatively undisturbed natural open spaces that provide valuable functions and values beyond the individual natural habitats contained within): parallel to I-5 on both sides from South M Street to the I-705 interchange and in several other locations from the I-705 interchange to the Puyallup River.
- Aquifer recharge areas: north of I-5 from South M Street to Lincoln/Eldridge Park and extending across I-5 from Lincoln/Eldridge Park.
- Volcanic hazard areas: moderate volcanic hazard zone north of I-5 between the I-705 interchange and the Puyallup River, extending across I-5 at northbound Exit 134. Low volcanic hazard area south of I-5 in the vicinity of northbound Exit 134.

**i. Approximately how many people would reside or work in the completed project?**

No people would reside or work in the completed area within the project limits.

**j. Approximately how many people would the completed project displace?**

No housing units would be eliminated from the area within the project limits.

**k. Proposed measures to avoid or reduce displacement impacts, if any:**

To the greatest extent possible and to minimize impacts related to land acquisitions, the improvements related to the proposed projects would be constructed within the available I-5 right of way and other adjacent and available public right of way.

**l. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any:**

The proposed projects would widen an existing highway and are compatible with the existing and projected land uses. Therefore, no measures to ensure compatibility are proposed.

**9. Housing**

**a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing.**

No housing units would be provided under the proposed projects.

**b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing.**

No housing units would be eliminated from the area within the project limits.

**c. Proposed measures to reduce or control housing impacts, if any:**

No displacement impacts would occur; therefore, no measures are proposed.

## **10. Aesthetics**

### **a. What is the tallest height of any proposed structure(s), not including antennas; what is the principal exterior building material(s) proposed?**

The Northbound I-5 Bridge (overcrossing) and the East L Street Bridge (underpass) are the tallest proposed bridge structures, each with a height of 70 feet.

### **b. What views in the immediate vicinity would be altered or obstructed?**

From most of the established viewpoints, overall visual quality would not be affected by project operation. From some of the viewpoints, project operation would slightly reduce overall visual quality (WSDOT 2008g). The viewpoints from which the changes in visual quality would be the greatest are those that represent the view from I-5 within the project limits. However, viewer sensitivity for users of the I-5 corridor is relatively low, moderating the impact of these changes on users.

As part of the proposed projects, a noise wall may be constructed in the Lincoln residential neighborhood. Currently, it is undergoing design review and a community acceptance review. If this feature is accepted, it would likely change the visual character of the view for a limited number of viewers (WSDOT 2008g).

### **c. Proposed measures to reduce or control aesthetic impacts, if any:**

Mitigation of visual impacts would include preservation of certain views, conservation or preservation of certain existing visual features, changes in the design and location of the project components, and screening of visual encroachments.

## **11. Light and Glare**

### **a. What type of light or glare will the proposal produce? What time of day would it mainly occur?**

Roadway surfacing work would occur at night, necessitating portable generators and lighting equipment. Night work would also be required to complete the proposed bridge replacements, specifically to accommodate traffic revisions and railroad interruptions.

WSDOT has identified the use of full (continuous) illumination for all projects in the Tacoma/Pierce County HOV Program to reduce collisions and improve nighttime visibility. Lighting along I-5 would produce some light and glare on adjoining properties at night. However, the proposed projects are located in an urbanized area, and ambient light levels at night are comparatively high.

### **b. Could light or glare from the finished project be a safety hazard or interfere with views?**

Lighting installed along I-5 would increase safety for motorists and would not result in sufficient spillover to cause a hazard.

### **c. What existing off-site sources of light or glare may affect your proposal?**

There are no sources of offsite light or glare that would affect this proposal.

**d. Proposed measures to reduce or control light and glare impacts, if any:**

The new lighting would be directed onto the roadway and would be shielded to minimize light spillover onto adjacent properties.

**12. Recreation**

**a. What designated and informal recreational opportunities are in the immediate vicinity?**

The Puyallup River is owned by the Puyallup Tribe of Indians in the immediate project vicinity.

McKinley Park is located south of I-5, east of the I-705 interchange. This park is used for picnicking, trails, and other passive activities.

Lincoln/Eldridge Park is located south of I-5, west of the I-705 interchange. This park is a family-oriented recreational area with a rose garden, ball fields, and tennis courts.

**b. Would the proposed project displace any existing recreational uses? If so, describe.**

The proposed projects would not permanently displace any existing recreational uses. During construction activities, informal recreation in the area may be affected by the presence of heavy equipment and increased noise. Closure of the river to recreational use in the areas of the river with work trestles may be necessary for the duration of construction activities, from 2011 to 2017. Upon project completion, full access to the river would be restored.

**c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project, if any:**

Impacts on recreation could be reduced by closing one park at a time.

**13. Historic and Cultural Preservation**

**a. Are there any places or objects listed on, or proposed for, national, state, or local preservation registers known to be on or next to the site? If so, generally describe.**

The cultural resources records search indicated that 18 cultural resources investigations have been completed within the 1-mile study area. Four cultural resource investigations have been conducted within the area of potential effect.

The records search identified three historic archaeological sites within the 1-mile study area. Project-related activities would be directed away from these recorded archaeological sites. The cultural resources analysis is not yet completed, so it is unknown whether these sites may be eligible for listing on a preservation register.

A search of the National Register of Historic Places (NRHP) in 2006, the Washington Heritage Register (WHR), and the Tacoma Register of Historic Places indicated the presence of a single, locally designated historic property in the vicinity of the area of potential effect. There are no previously listed NRHP, WHR, or local historic districts within the area of potential effect (Sharpe 2008).

**b. Generally describe any landmarks or evidence of historic, archaeological, scientific, or cultural importance known to be on or next to the site.**

The literature review conducted for the Tacoma/Pierce County HOV Program indicated a high probability for the presence of subsurface cultural resources, primarily located near the right and left banks of the Puyallup River. The findings of the literature review suggest the potential presence of prehistoric and historic properties that might be eligible for listing on national or state historic registers within the study area near the river. In addition, the Puyallup Cemetery is within the area of potential effect.

The project limits are within the traditional homelands of the Puyallup Tribe. A large portion of the area within the project limits is an important food, medicine, and resource gathering location for the Puyallup Tribe (Sharpe 2008).

**c. Proposed measures to reduce or control impacts, if any:**

It is recommended that project related activities be directed away from recorded archaeological sites. Because the three previously recorded sites are outside the APE, no control measures will be necessary. No impacts are anticipated to the archaeological sites.

Subsurface testing is planned for selected areas of the Puyallup River. Proposed measures to reduce or control potential impacts would be determined by the testing. If the testing identifies a site that is determined to be eligible for listing on the National Register of Historic Places (NRHP), additional mitigation may be necessary. If no sites are identified during the subsurface testing, no impacts would be expected.

The Tribes will be consulted to ensure that no archaeological or historical sites are disturbed. The plan and procedures for the unanticipated discovery of cultural resources and human remains will be developed. In the unlikely event that cultural resources are identified during construction of this project, work will be halted in the immediate vicinity of the resources and a qualified archaeologist will be notified.

#### **14. Transportation**

**a. Identify public streets and highways serving the site, and describe proposed access to the existing street system. Show on site plans, if any:**

The proposed projects would provide improvements to a portion of the I-5 corridor in the cities of Tacoma and Fife. I-5 can be accessed by several interchanges within the project limits, including I-5/I-705/Pacific Avenue/South 26th Street/A Street (Exit 133), I-5/Portland Avenue/SR 167 (Exits 134 and 135), and I-5/Port of Tacoma Road (Exit 135).

**b. Is site currently served by public transit? If not, what is the approximate distance to the nearest transit stop?**

Does not apply.

**c. How many parking spaces would the completed project have? How many would the project eliminate?**

The proposed projects would not provide parking spaces. Approximately 10 percent of a parking area owned by La Quinta Inn may be affected. Other parking impacts may occur at two parcels owned by the Puyallup Tribe (WSDOT 2007).

**d. Will the proposal require any new roads or streets, or improvements to existing roads or streets, not including driveways? If so, generally describe (indicate whether public or private).**

The proposed projects would add HOV lanes to I-5 and would not add general purpose capacity to I-5. Therefore, the proposed projects would not require new roads or streets or improvements to existing roads or streets.

During construction, access to the work area for constructing the new bridges over the Puyallup River would require temporary access to cross the existing railroad tracks on either side of the Puyallup River. Every effort would be made to accommodate the temporary crossings and temporary roadways within the footprint of the proposed and existing bridges.

Access to the bridge work on the east side of the Puyallup River may require use of the existing at-grade and underpass access at the northwest corner of the existing Puyallup River Bridge and temporary access from 20th Street within the proposed right of way (WSDOT 2008h).

**e. Will the project use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe.**

The proposed projects would not use water, rail, or air transportation. The Puyallup River is used for transportation; however, replacement of the Puyallup River bridges is not likely to adversely affect the use of this waterway for transportation. Burlington Northern Santa Fe, Union Pacific, and Tacoma Rail tracks extend along the west and east sides of the Puyallup River and pass under the existing Puyallup River bridges. The new Puyallup River bridges are being designed to provide adequate vertical and horizontal clearance for existing and currently proposed rail lines. A Tacoma Rail line also passes under the east side of the I-5/I-705 interchange. Modifications to that interchange included in this project will provide adequate vertical and horizontal clearance for that line.

**f. How many vehicular trips per day would be generated by the completed project? If known, indicate when peak volumes would occur.**

I-5 is not the origin or destination of any vehicle trips; therefore, the proposed projects themselves would not generate vehicle trips. The provision of HOV lanes is expected to attract trips to the highway with the greatest growth until 2030 coming in HOV demand because more travelers are expected to shift to higher vehicle occupancies. Peak volumes on I-5 occur during the morning and evening weekday rush hours (7:00–8:00 am and 4:00–5:00 pm).

**g. Proposed measures to reduce or control transportation impacts, if any:**

The proposed projects would decrease congestion on I-5, and no adverse impacts on transportation would occur. Therefore, no mitigation measures for project operation are proposed.

To mitigate construction impacts, a traffic management plan would be prepared by WSDOT before any changes in traffic flow or closures. The public, local agencies, and emergency providers would be notified of any changes through public information. WSDOT would provide temporary lane configurations to keep traffic moving through the

construction area and would apply traffic management strategies to reduce the adverse effects of congestion.

## **15. Public Services**

**a. Would the project result in an increased need for public services (for example: fire protection, police protection, health care, schools, other)? If so, generally describe.**

This project will not increase the need for public services.

**b. Proposed measures to reduce or control direct impacts on public services, if any.**

No impacts on public services are expected.

## **16. Utilities**

**a. Underline the utilities currently available at the site: electricity, water, natural gas, refuse service, telephone, sanitary sewer, septic system, other.**

Electricity, water, natural gas, communication, sanitary sewer, oil, and storm water utilities are currently located within the project limits.

**b. Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity that might be needed.**

No new utilities are proposed for this project. However, some relocations would be required.

Utility relocation work would be required at the McKinley Way and L Street bridges, including relocating utilities that belong to Qwest, Tacoma Fire Department, and Tacoma Power. Puget Sound Energy (PSE) would permanently relocate an 8-inch-diameter high-pressure gas line currently located on the East L Street Bridge to Portland Avenue. PSE would permanently remove the 6-inch-diameter intermediate-pressure gas line located on the McKinley Way Bridge due to ongoing improvements that will eliminate the need for the 6-inch-diameter pipeline.

Manholes on storm and sanitary sewer lines near McKinley Way would be moved during construction of the roadway and other facilities and could require the relocation of underground lines connected to these manholes. Construction of other project elements such as retaining walls could require the relocation of utilities including a 30-inch-diameter storm water line, a 15-inch-diameter sewer line, and communication lines.

Construction of the new bridges over the Puyallup River may require the relocation of a 16-inch-diameter high-pressure natural gas line, in which case a bypass would need to be constructed. Project elements such as interchange improvements, replacement of the Puyallup River Bridge, and construction of a storm water detention pond could require relocation or modification of the following utilities in addition to the gas line: a 60-inch-diameter sanitary sewer line, a 24-inch-diameter sanitary sewer line, a 72-inch-diameter storm water pipe, a 14-inch-diameter water main, an 18-inch-diameter sanitary sewer line, one 110-kilovolt high-tension power line, and communication lines. Construction activities such as drilling shafts and pile driving could damage utilities if their locations are misidentified or unknown, or if construction causes settlement or vibrations.

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### C. SIGNATURE

The above answers are true and complete to the best of my knowledge.

Signature:   
Date Submitted: 12/15/2008