

## Attachment 5

---

### Written Comments and Responses

This attachment summarizes and presents written comments (via letters, e-mails, and telephone calls) organized by *Public Agencies*, *Tribes*, and *Individuals* in the order they were received. Each comment is printed in its entirety followed by the response to that comment.

#### ***Index to Written Comments and Responses***

##### **Public Agencies**

Port of Seattle, Bob Duffner

Port of Seattle, Elizabeth Leavitt, Director

Sound Transit, Leonard McGhee, Project Manager, Link Light Rail

##### **Tribes**

Muckleshoot Indian Tribe Fisheries Division, Karen Walter, Watershed and Land Use  
Team Leader

##### **Individuals**

Derek Dexheimer

George and Helen Klein

Robin Tischmak



**Johnson, Paul E. (UCO)**

---

**From:** Williams, David T. (UCO)  
**Sent:** Tuesday, July 11, 2006 7:36 AM  
**To:** Johnson, Paul E. (UCO)  
**Subject:** FW: SR 518 Discipline Report Comment

Comments Jason received.

---

**From:** Biggs, Jason R.  
**Sent:** Friday, June 16, 2006 1:23 PM  
**To:** Williams, David T. (UCO)  
**Subject:** SR 518 Discipline Report Comment

Dave,

While at the Des Moines Creek Basin Meeting yesterday, Bob Duffner, Port of Seattle, commented to me that there was an error in the SR 518 Third Lane Water Resource Discipline report:

- P 2-21, first paragraph:

In summary, Gilliam Creek is impaired in terms of both contact recreation uses (fecal coliform concentrations exceed the state criterion and are high relative to concentrations in the regional data) and aquatic life uses (three of six samples failed to meet state criteria for chronic copper toxicity).

- Should be revised to :

In summary, Gilliam Creek is impaired in terms of both contact recreation uses (fecal coliform concentrations exceed the state criterion and are high relative to concentrations in the regional data) and aquatic life uses (three of six samples failed to meet state criteria for acute copper toxicity).

Herrera should confirm this.

**Jason Biggs, P.E.**  
Assistant Project Engineer  
WSDOT Urban Corridors Office

7/11/2006

## Responses to Comments

### Public Agencies

#### **Port of Seattle**

##### **Bob Duffner**

Comment made at the Des Moines Creek Basin Meeting: July 10, 2006

Subject: noted correction to the description of Gilliam Creek

Your comment is acknowledged and the *Water Resources Discipline Report* has been revised to state that "...Gilliam Creek is impaired in terms of both contact recreation uses (fecal coliform concentrations exceed the state criterion and are high relative to concentrations in the regional data) and aquatic life uses (three of six samples failed to meet state criteria for *acute* copper toxicity)." Please refer to the Errata section, Appendix P Water Resources.



June 28, 2006

Paul Johnson, PE  
Washington State Department of Transportation  
401 Second Avenue South, Suite 500  
Seattle, WA 98104

Dear Paul:

The Port of Seattle has reviewed the May 2006 Environmental Assessment for the SR 518 North Airport Expressway/SR 99 Interchange to I-5/I-405 Interchange.

SR 518 provides a critical link between SR 509, I-5, and I-405, and is the primary point of access to Seattle-Tacoma International Airport and adjacent cities of Burien, SeaTac, Tukwila and Normandy Park.

Planned airport-related and other development along the corridor will increase the commercial use of SR 518, demanding the timely and efficient movement of cargo as the regional economy grows. Given the high-value, just-in-time nature of air cargo, unfettered access to the regional transportation system remains a high priority for the Port of Seattle. The proposed improvements ensure a safe and efficient access of people and goods to and from the airport and will serve local and regional transportation and economic development needs in the future.

On page 4-18, this document notes that, "The Proposed Project includes construction of a large stormwater detention facility, currently planned at a location north of the westbound on-ramp from 51st Avenue South to SR 518." As the location of this stormwater pond is within two miles of SeaTac Airport and its runways, please ensure design of this pond does not create wildlife or avian habitat per FAA Advisory Circular 150/5200-33A. The WSDOT team will need to coordinate with the Port, USDA and FAA staff to create a successful Wildlife Hazard Mitigation Plan and should consider developing broader Best Management Practices for all future WSDOT stormwater detention ponds within 10,000 feet of STIA. Please also note that a FAA 7460 application is also required for this project.

Sincerely,

A handwritten signature in cursive script, appearing to read "Leavitt", written in black ink.

Elizabeth Leavitt, Director  
Aviation Environmental Programs

Seattle-Tacoma  
International Airport  
P.O. Box 68727  
Seattle, WA 98168 U.S.A.  
TELEX 703433  
FAX (206) 431-5912



**Port of Seattle**

**Elizabeth Leavitt, Director**

Letter: June 28, 2006

Subject: concerned about design of the proposed stormwater detention facility

The proposed stormwater detention pond is being designed to meet the objectives of FAA Advisory Circular 150/5200-33A. The pond will not retain a permanent pool of water for stormwater treatment. It will be a dry pond that will empty following storm events. Base flows from an offsite hillside south of SR 518 will bypass around the pond and be routed directly to Gilliam Creek so that the pond only receives inflow during storm events. The pond will have relatively steep (2H:1V) side slopes, and grading of the pond will generally create a long rectangular pool of water when filled with stormwater. The floor of the pond will be sloped to the location of the outlet-control structure to promote complete drainage of water that enters the pond. The planting plan for the pond's perimeter incorporates vegetation that is not attractive to waterfowl.

The proposed pond site is the only large area of land available within WSDOT right-of-way in the project corridor where stormwater flow control can be accomplished in a cost-effective manner. Three geotechnical borings were completed at the pond site to assess shallow groundwater depths and soil suitability for runoff infiltration. Based on these borings, it is not likely that extensive infiltration will occur at this site. Subsequent and ongoing monitoring of shallow groundwater levels in these borings indicate that the shallow water table will be beneath the pond bottom, and that should help to minimize the potential for standing water in the bottom. The stormwater treatment facilities included in the project plans are ecology embankments on the road shoulders. These systems, which will treat runoff via surface and subsurface filtration, were selected in part to minimize occurrence of open water within the airport separation zone. Ditches adjacent to the ecology embankments will readily drain the filtered water. In summary, every effort has been made in the project drainage plans to minimize wildlife attraction to meet the recommendations for new stormwater management facilities presented in the FAA Advisory Circular.

The project team submitted information supporting the proposed detention pond design to the FAA in September 2006 for review. In a letter to WSDOT dated October 10, 2006, Paul F. Johnson of the FAA stated that "we have no objection to the proposal..." and also requested that certain design refinements be considered. The project team has attempted to address those requested refinements to the extent possible given the site constraints in the ongoing detention pond design work.

The language of the FAA circular specific to this issue is provided on the next page.

***b. New stormwater management facilities.*** *The FAA strongly recommends that off-airport stormwater management systems located within the separations identified in Sections 1-2 through 1-4 be designed and operated so as not to create above-ground standing water. On-airport stormwater detention ponds should be designed, engineered, constructed, and maintained for a maximum 48-hour detention period for the design storm and remain completely dry between storms. To facilitate the control of hazardous wildlife, the FAA recommends the use of steep-sided, narrow, linearly shaped water detention basins. When it is not possible to place these ponds away from an airport's AOA, airport operators should use physical barriers, such as bird balls, wires grids, pillows, or netting, to prevent access of hazardous wildlife to open water and minimize aircraft-wildlife interactions. When physical barriers are used, airport operators must evaluate their use and ensure they will not adversely affect water rescue. Before installing any physical barriers over detention ponds on Part 139 airports, airport operators must get approval from the appropriate FAA Regional Airports Division Office. All vegetation in or around detention basins that provide food or cover for hazardous wildlife should be eliminated. If soil conditions and other requirements allow, the FAA encourages the use of underground stormwater infiltration systems, such as French drains or buried rock fields, because they are less attractive to wildlife.*

Post-It™ brand fax transmittal memo 7871		# of pages >
To: David Williams	From: Leonard McGhee	
Co: WSDOT	Co: Sound Transit	
Dept: Northwest Division Env	Phone # 425-221-3449	
Fax # 206-464-1190	Fax # 206-398-5267	

**McGhee, Leonard**

**From:** McGhee, Leonard  
**Sent:** Thursday, June 15, 2006 5:41 PM  
**To:** 'JohnPA@wsdot.wa.gov'  
**Cc:** McGhee, Leonard  
**Subject:** SR518 SeaTac Airport to I-5/I-405 Interchange Project Environmental Assessment May 2006

John:

Thank you for the opportunity to comment on the above subject Environmental Assessment. The following are my comments.

1. Pg. 5-4 1<sup>st</sup> bullet: "A light rail route from South 154<sup>th</sup> Street in Tukwila to Sea-Tac International Airport is currently under construction." At the time of this writing that's not an accurate statement as the Airport Link extension is still in final design. However, construction will begin later this year. Additionally, the Airport Link extension discussion could be described as an additional cumulative effect project separate from "Sound Transit North of 518" where you talk more about other improvements associated with the "Initial Segment of Link Light Rail" – Downtown Seattle to Tukwila (S. 154<sup>th</sup> St.)
2. Pg. 5-5 second bullet: The Port's 160<sup>th</sup> Loop Ramp Project has morphed into and is described by the Port as a part of their North Expressway Relocation (NER) Project: Phase I (which is phase 1 of the Comprehensive Development Plan mentioned earlier in the EA. Last published was a September 2005 Draft). Additionally, the NER Project includes construction of several components of the Airport Link project.
3. Pg. 5-7, Exhibit 5-1. The label "SR518/509 Link Light Rail" is incorrect as Link Light Rail is not associated with the SR518/509 Interchange project.

Thanks again for the opportunity to comment. Let me know if you have questions

Leonard McGhee  
 Project Manager  
 Link Light Rail  
 Project Development Division  
 Sound Transit  
 401 S. Jackson St  
 Seattle, WA 98104-2826  
 206.398.5206  
 mcghee@soundtransit.org

**Sound Transit, Leonard McGhee, Project Manager, Link Light Rail**

E-mail Message: June 15, 2006

Subject: noted changes to Link Light Rail Project in the project area.

Your comments are acknowledged and the Environmental Assessment has been revised as requested. Please refer to the Errata section, Chapter Four, The Environment: What's There Now, Potential Effects, and Mitigation.



## MUCKLESHOOT INDIAN TRIBE

### Fisheries Division

39015 - 172<sup>nd</sup> Avenue SE • Auburn, Washington 98092-9763  
Phone: (253) 939-3311 • Fax: (253) 931-0752



July 21, 2006

David Williams  
SR 518 Environmental Manager  
Washington State Department of Transportation  
401 Second Avenue South, Suite 560  
Seattle, WA 98104-3850

**RE: SR 518/ SeaTac Airport to I-5/I-405 Interchange Environmental Assessment (EA)**

Dear Mr. Williams:

The Muckleshoot Indian Tribe Fisheries Division has reviewed the above referenced EA and Appendices O (Ecosystems) and P (Water resources). We are offering the following comments in the interest of protecting and/or restoring the Muckleshoot Indian Tribe's fisheries resources.

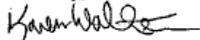
In general, we would have preferred the opportunity to review Appendices O and P before they became final reports within the EA. We should have also received a copy of the draft Wetland Biology Report (Herrera 2005) to review prior to the release of the EA.

We would appreciate a copy of this report for our files. We would also like a copy of the *2004 NPDES Progress Report: Cedar-Green Island-Snohomish, and South Puget Sound Water Quality Management Areas* prepared by the Washington State Department of Transportation's Environmental Services Office, Water Quality Program in Olympia.

This project proposes to widen SR 518, portions of SR 99 and various access roads and will affect wetlands and portions of Gilliam Creek, WRIA 09.0032, a tributary to the lower Green River. The EA lacks any coordinated discussion about potential impacts to Gilliam Creek as the result of filling in portions of the creek; the filling of Wetland 7 where the creek flows through it; the removal of existing trees within riparian areas; an evaluation of existing culverts for fish passage and impacts associated with culvert extensions; and the potential for landslides or erosion hazard areas in the project area to adversely affect Gilliam Creek in the project area and downstream. Also the analysis of impacts to Gilliam Creek within Appendices O and P is incomplete. For example, there are no analyses about the capability of existing culverts to pass fish, wood, water, and sediment or about the potential of the proposed extension of these culverts to cause further adverse impacts to these resources. The EA, itself, lacks any detailed discussion about salmonids and their habitat. The only discussion is in Appendix O, which concludes no impacts to fish and does not consider potential impacts to fish habitat. The conclusion that the proposed project will not impact fish is based on a lack of fish presence data and incomplete information. Another concern is the lack of analysis to demonstrate that all mitigation actions within the basin were considered and evaluated. Our specific comments to the EA and the aforementioned appendices are attached for your review and consideration.

We appreciate the opportunity to comment on this proposal and would like a written response to these comments. If you have any questions about these comments or would like to meet to discuss them, please contact me at (253) 876-3116.

Sincerely,



Karen Walter  
Watershed and Land Use Team Leader

Cc: Jack Kennedy, US Army Corps  
Sean Callahan, NOAA  
Emily Teachout, USFWS  
Jim Leonard, FHWA  
Larry Fisher, WDFW  
Paul E. Johnson, WSDOT  
Michelle Steinmetz, WSDOT

**Specific Comments on the EA**

- 1** Chapter 4  
Page 4-27, Water quality standards for Gilliam Creek are designated by the Washington State Department of Ecology and approved by the Environmental Protection Agency (EPA), not the City of Tukwila. The State's recently proposed revisions to existing water quality standards received only a partial approval from EPA; therefore, new revisions and EPA-approvals will be conducted, which may affect the water quality standards that this project needs to meet. Also, the information regarding Gilliam Creek should be based on the most recent 303(d) list, which is available at <http://www.ecy.wa.gov/programs/wq/303d/index.html>, not Herrera (2001).
- 2** Chapter 5  
Page 5-6, The cumulative impacts section lacks any discussion about the I-405 Renton Nickel and I-405 Tukwila to Renton projects. Both of these projects are foreseeable in the future and will impact Gilliam Creek and other areas. These projects should be evaluated for the potential adverse cumulative impacts.
- 3** Page 5-8, The EA overstates the likely effect of stormwater facilities to improve stream flows and water quality. The language contradicts statements made in Appendix O, which describes the stormwater facilities as "slightly" improving water quality and stormwater locally.
- 4** Page 5-10, The EA discussion of fish, their habitats, and potential impacts is incomplete.

**Specific Comments to Appendix 0- Ecosystems**

- 5** Fish Resources Section  
Page 1-2 This section suggests that only one culvert in the project area is a barrier for fish. Please provide a complete survey of all culverts in the project area to identify which ones are currently barriers and which ones will be replaced as part of this project.
- 6** Also on this same page, please discuss how extensive the data is regarding fish presence. Please provide the specific fish presence and fish habitat data used and collected for this project.
- 7** Page 1-12 The section at the bottom of page regarding culverts suggests that a culvert survey will be completed at a later date. This information should have been collected and discussed in the EA so that a reviewer can understand potential impacts and mitigation measures for fish access as a result of this project. As such, the environmental analysis for this project is incomplete.
- 8** Page 1-13, The culvert discussion lacks important considerations for fish passage. Where is the culvert survey that assesses each culvert in the project area and identifies which culverts are barriers to fish?
- 9** Page 2-13, The section on Wetland 7's ability to provide fish habitat fails to discuss if there are any natural barriers preventing fish access. Human caused barriers can and should be removed per WAC 220-110-070
- 10** Page 2-14, Please explain why Wetland 9 would be expected to provide spawning habitat for salmon. The discussion for this wetland fails to discuss its potential to provide rearing habitat for salmon.
- 11** Pages 2-14 and 2-15, Please explain why Wetlands 13, 6, 16, 10, 14, and 19 would be expected to provide spawning habitat for salmon. The discussion for these wetlands fails to discuss their potential to provide rearing habitat for salmon.

- 12 Pages 2-16 through 2-18, This project will fill wetlands and cause an increase in impervious surfaces and tree removal and soil compaction will result in increased runoff; these changes will cumulatively cause increases in peak and reductions in baseflows of Gilliam Creek. The result will likely adversely affect fish habitat in the basin, which the EA fails to discuss.
- 13 Page 2-17, An increase in sediments will likely adversely affect fish habitat and can also adversely affect fish.
- 14 Page 2-17, Please provide the analysis to demonstrate that all on-site mitigation opportunities have been exhausted.
- 15 Page 2-20 Please quantify how much wetland buffer will be replaced with native plants onsite for all of the wetlands affected by this project.
- 16 b. Also on page 2-20, Please explain how conducting wetland mitigation at the Springbrook Creek Wetland Mitigation bank or elsewhere in WRIA 9 will mitigate for any changes in hydrology to Gilliam Creek.
- 17 c. Also on Page 2-20, Please elaborate on the proposal to include a 100 foot enhanced wetland buffer at the selected off-site wetland mitigation site.
- 18 Page 2-21 Please discuss in detail how the flood flows will function at the Springbrook Creek Mitigation site, particularly if Springbrook Creek is maintained as a flood control facility by Drainage District 5.
- 19 Page 2-20, Please specify the mitigation sites.
- 20 Page 3-1, The Tribe is party to both the Treaties of Point Elliott and Medicine Creek, not just Medicine Creek. The Tribe's Usual and Accustomed Fishing area includes several areas, including but not limited to, the Green-Duwamish River system and all of its tributaries (United States v State of Washington 384 F.Supp. 312 (1974)). We request the opportunity to work with WSDOT to modify this section accordingly.
- 21 Page 3-3, Please see the previous comment in Chapter 1 about fish presence and fish habitat data.
- 22 Page 3-4, The statements regarding federal and state listed fish species is misleading. While these species have not been documented in Gilliam Creek, to our knowledge there are no comprehensive surveys that have been completed over various years and water conditions to demonstrate that these species do not use Gilliam Creek at any time. Salmon have been documented in lower Gilliam Creek which is shown in Exhibit 4-10 of the EA as the "Project Study Area". This section needs revisions.
- 23 Page 3-6, Please provide the data to support the narrative sentences discussing fish habitat in Gilliam Creek. Also, please explain why the southwest tributary of Gilliam Creek is not considered fish habitat.
- 24 Page 3-8, Please provide the citation for resident fish being the only species found in lower Gilliam Creek.
- 25 Also on Page 3-8, This section lacks any discussion about the fish passage potential of culverts in the project area and when these culverts will be repaired to provide fish passage. In addition, the flap gate on Gilliam Creek is part of a fish passage improvement and riparian rehabilitation project under the Corps' Green/Duwamish Ecosystem Restoration Program and the Green/Duwamish and Central Puget Sound Watershed Salmon Habitat Plan (project LG-16). The EA fails to discuss the potential for this project to be implemented and improve access and habitat for salmon and the subsequent need to fix upstream culverts to provide passage.

- 26** Page 3-10, If this project does not repair existing culverts to make them fish passable, then this project will continue to adversely affect fish passage to available habitat. This impact was not discussed in the EA.
- 27** Also on Page 3-10, Please discuss whether the construction road for the retaining wall will cross the southwest tributary of Gilliam Creek. Also, discuss the potential for existing trees to be removed within 200 feet of this tributary as part of the construction of the retaining wall. A table should be provided that identifies each tree, its species, diameter at breast height, and distance from wetlands and streams in the vicinity, for evaluating the potential for the loss of wood recruitment and subsequent impacts to fish habitat.
- 28** Page 3-11, Please explain if this project will be providing detention and treatment of stormwater from existing impervious surfaces (retrofitting). Also, please discuss if this project will match flow durations for forest conditions for all flow levels, as we did not receive a copy of the Hydraulics Technical Memorandum (Herrera 2005).
- 29** Page 3-12, Please provide additional information to demonstrate that this project will not adversely affect baseflows of Gilliam Creek. This information should include an analysis of how close to natural baseflow conditions Gilliam Creek is currently and how much loss of baseflow is expected as a result of the project.
- 30** Page 3-12, Please note that if this project does not repair fish-blocking culverts in the project area, then this project will have adverse impacts on fish because they will not be able to access habitat areas in the project area. Also, it appears that the southwest tributary of Gilliam creek and Wetland 7 will have fill, which will cause a loss of fish habitat. To our knowledge, there is no mitigation proposed for this loss; consequently, there will likely be a permanent loss of habitat. If there is a loss of habitat, and continued culvert blockages, then there may be permanent impacts to listed fish species. Finally, if the affected landslide and erosion areas that will be affected by the project fail and this material ends up in Gilliam Creek or its tributaries, then the instream habitat will be affected until this material is transported out of the system, which may take several years.
- 31** Page 3-12, The information provided on fish presence in this Appendix is limited and should not be the basis to determine potential impacts to fish and their habitats.
- 32** Page 3-13, If the action alternative is not detaining stormwater from existing impervious surfaces, then it is not clear how the project will reduce peak flows within Gilliam Creek.
- 33** Page 3-14, As noted above in various comments, it seems likely that there will be adverse impacts to salmon habitat for which no mitigation measures have been identified.
- 34** Also on page 3-14, Please discuss how water quality standards will be met for stormwater generated by this project.

**Specific Comments to Appendix P- Water Resources**

- 35** Page 3-6. Please provide the data to support the statement as follows:  
*Stormwater detention facilities help to reduce these types of hydrologic impacts and in some cases can completely negate any adverse effects of changes in natural ground cover.*
- 36** Please note that the statement above contradicts the findings in Booth and Jackson (1994) and May et al. (1997).
- 37** Page 3-8 Please provide the data (including a complete survey of all culverts in the watershed) to support the

following statement:

*Although low summer base flows are a problem in terms of support for fish habitat in the lower reach of Gilliam Creek downstream of I-5, an even greater problem for fish habitat is scouring and sedimentation resulting from uncontrolled high flows during the wet season, as well as numerous fish passage barriers that are unrelated to the Proposed Project.*

**38** Page 3-11 Please provide the information to support the statement that the “*proposed project includes stormwater treatment and detention facilities designed to more than offset potential increases in high flows and pollutant loadings, existing conditions in Gilliam Creek could be improved during the rainy season when the most severe problems occur in the creek*”. This statement contradicts statements made on page 1-2 (no stormwater detention for a portion of project and a slight reduction of peak flows) and also on page 3-8. Also there is no discussion about the increased impervious surfaces and the proposed stormwater facilities increasing the duration of water volumes that may cause adverse impacts to salmonids in Gilliam Creek.

**39** Page 4-1 The mitigation measures should include seasonal restrictions in areas prone to erosion and/or landslides to avoid causing these areas to fail and deliver sediment to Gilliam Creek and its associated streams and wetlands.

**40** Page 4-2 The project proposes to treat and detain all new impervious surfaces (2.7 acres). The project also proposes to detain stormwater generated from areas currently vegetation (1.5 acres). The project does not propose to detain stormwater from existing impervious surfaces; rather it would provide water quality treatment for a portion of these areas (1.3 acres). The project should be modified to provide detention and water quality treatment for all new and existing impervious surfaces in the project area.

**41** Page 4-2 Please provide the data for the following statements:

*The treatment facilities would remove significant amounts of roadway runoff pollutants for the protection of water quality in Gilliam Creek. The detention facilities would effectively prevent increased erosion in the Gilliam Creek channel and worsening of flooding conditions downstream of the project area.*

Other portions of the EA contradict these statements.

**42** Page 4-2 *The wetland mitigation plan for the Proposed Project includes creation of new wetland areas at an offsite location and creation of a protective buffer around those new wetland areas in accordance with current state and federal regulatory criteria.*

If the above statement in the EA is referring to the proposed Springbrook Creek Wetland Mitigation Bank as the site for wetland mitigation, the statement is somewhat misleading as there will be a new trail constructed within a portion of these wetlands areas, within the buffer, contrary to state and federal regulatory criteria.

**43** Comments on Appendix A – Pollutant Loading Calculations

The pollutant loading calculations were completed for total suspended solids, total copper and total zinc. These calculations did not include other parameters, such as cadmium, chromium, oil and grease, which are also common pollutants found in stormwater from motor vehicles (WDOE, 2006). In order to analyze whether the proposed project will cause violations of Washington State water quality standards and cause degradation to the existing quality of the surface water, a more comprehensive set of parameters, which are relevant to highways, should be analyzed. In addition, the range (maximum and minimum) of concentrations (and loads) of each pollutant should be estimated for the comparison of No-Build and Proposed Project effects, not just the medians.

References Cited

Booth, D.B. and C.R. Jackson. 1994. Urbanization of Aquatic Systems- Degradation Thresholds and the Limits of Mitigation. *In* Proceedings: Effects of Human-Induced Changes on Hydrologic Systems. AWRRA 1994 Annual Summer Symposium of the American Water Resources Association. June 26-29 1994. Jackson Hole Wyoming.

May, C.W., Horner, R.R., Karr, J.R., Mar, B.W. & Welch, E.B. (1997). The Cumulative Effects of Urbanization on Small Streams in the Puget Sound Lowland Ecoregion. Seattle, WA: University of Washington.

WDOE, 2006. Phase I Draft Fact Sheet for National Pollutant Discharge Elimination System (NPDES) and State Waste discharge General Permit for Discharges from Large and Medium Municipal Separate Storm Sewers. Washington State Department of Ecology, Lacey, WA.

## **Tribes**

### **Muckleshoot Indian Tribe Fisheries Division**

**Karen Walter, Watershed and Land Use Team Leader**

Letter: July 21, 2006

Subject: comments in the interest of protecting and/or restoring the Muckleshoot Indian Tribe's fisheries resources

### **Comments on Environmental Assessment (EA) Chapters 4 and 5**

***Comment 1: Page 4-27, Water quality standards for Gilliam Creek are designated by the Washington State Department of Ecology and approved by the Environmental Protection Agency (EPA), not the City of Tukwila. The State's recently proposed revisions to existing water quality standards received only a partial approval from EPA; therefore, new revisions and EPA-approvals will be conducted, which may affect the water quality standards that this project needs to meet. Also, the information regarding Gilliam Creek should be based on the most recent 303(d) list, which is available at <http://www.ecy.wa.gov/programs/wq/303d/index.html>, not Herrera (2001).***

Response: The Errata includes an edit to note that the State of Washington (not the City of Tukwila) has designated the following uses for Gilliam Creek. This project will be constructed in the near future, and thus will not be subject to the changes in State water quality standards that may eventually occur based on the EPA's response. Gilliam Creek is not included in the latest (2002/2004) 303(d) listings, and therefore the water quality data summarized in the 2001 basin plan are the most recent and relevant data to cite.

***Comment 2: Page 5-6, The cumulative impacts section lacks any discussion about the I-405 Renton Nickel and I-405 Tukwila to Renton projects. Both of these projects are foreseeable in the future and will impact Gilliam Creek and other areas. These projects should be evaluated for the potential adverse cumulative impacts.***

Response: The Renton Nickel and Tukwila to Renton I-405 projects were included in the analysis that was performed to support the cumulative effects section of the EA as part of the I-405 Master Plan projects. The Errata to the EA included in the FONSI documentation (Attachment 1) provide additional information to support the conclusion that adverse cumulative impacts will be avoided through implementation of appropriate mitigation measures and Best Management Practices (BMPs). The I-405 proposal includes stormwater management mitigation measures similar to those proposed for the SR 518 project to ensure that the water quality and hydrology of Gilliam Creek would not be adversely affected as a result of the I-405 improvements. Specifically, both of these projects will incorporate stormwater treatment for the equivalent area of new roadway surfaces and for some existing roadway surfaces using effective

stormwater treatment technologies. Flow-control measures are also included to manage runoff from the equivalent area of new roadway to match existing peak flows and flow durations and to prevent potential cumulative impacts that could increase flow or degrade water quality in lower Gilliam Creek. WSDOT anticipates that the proposed stormwater treatment BMPs for the SR 518 project should slightly improve water quality in the creek downstream of the project area. These BMPs will treat 2 acres of existing impervious surface in addition to 2 acres of new impervious surface of the SR 518 roadway that will be added by the project.

***Comment 3: Page 5-8, The EA overstates the likely effect of stormwater facilities to improve stream flows and water quality. The language contradicts statements made in Appendix O, which describes the stormwater facilities as "slightly" improving water quality and stormwater locally.***

Response: Stormwater peak flows will be controlled to match existing peak flows and flow durations for all storm events ranging from 50% of the 2-year storm up to the 50-year recurrence interval storm flow, in accordance with WSDOT's *Highway Runoff Manual*. Peak runoff flows will not be controlled in storms greater than the 50-year event. As a result, increased runoff from highway widening could slightly increase flooding downstream of I-5 in such extreme events. The Errata to the EA, included as Attachment 1 to the FONSI, revises Page 5-8 to describe the proposed flow-control facilities and the criteria to which those facilities are being designed.

Water quality in Gilliam Creek is expected to improve slightly as a result of the proposed stormwater treatment facilities. Currently, very few treatment systems exist in the upper watershed, including the area within the SR 518 right-of-way. As a result, the water quality in Gilliam Creek is degraded. This project will treat runoff from the equivalent area of the new roadway surfaces, as well as almost 2 acres of existing SR 518 roadway, using ecology embankments. This treatment technology has been shown by WSDOT to perform very well in removing a wide range of pollutants, including the types of pollutants that are degrading Gilliam Creek. Because the SR 518 project will not worsen water quality conditions in the creek, it will not contribute to adverse cumulative effects on surface water quality. The project corridor is not a substantial groundwater recharge area, and therefore runoff from SR 518 is not expected to affect shallow groundwater quality nor deeper groundwater quality. As a result, cumulative effects on groundwater quality are not a concern for this project.

***Comment 4: Page 5-10, The EA discussion of fish, their habitats, and potential impacts is incomplete.***

Response: A more detailed analysis of fisheries information is provided in Appendix O – *Ecosystems* – Fish Resources (Chapter 3).

## Comments on Appendix O – Ecosystems Discipline Report

***Comment 5: Page 1-2, This section suggests that only one culvert in the project area is a barrier for fish. Please provide a complete survey of all culverts in the project area to identify which ones are currently barriers and which ones will be replaced as part of this project.***

Response: WSDOT policy in this regard adheres to a Memorandum of Agreement (MOA) with the Washington Department of Fish and Wildlife (WDFW) (RCW 77.55.100 and WAC 220-110) dated June 2002. Per the MOA, when a WSDOT project requires a Hydraulic Project Approval (HPA) Permit, as is the case with this project, it coordinates with WDFW to obtain information on streams in the project area and associated fish passage barrier characteristics. For this particular project site, WDFW had minimal information regarding existing streams and culverts within the project limits. Only those culverts that convey streamflow are of potential concern for fish passage. Following publishing of the draft EA, due to the concerns raised in this comment, supplemental information on streams and culverts within the project limits has been developed by WSDOT and the Muckleshoot Tribe. WDFW has reviewed this information for purposes of the HPA Permit and determined that the culverts conveying the southwest tributary of Gilliam Creek and Tributary 1 beneath SR 518 are barriers to fish passage. The Errata to the EA, included as Attachment 1 to the FONSI, provide clarification on Page 1-2 of the Ecosystems Discipline Report regarding culverts of concern for fish resources.

***Comment 6: Also on this same page, please discuss how extensive the data is regarding fish presence. Please provide the specific fish presence and fish habitat data used and collected for this project.***

Response: This information is provided in Appendix O – *Ecosystems Discipline Report*: Fish Resources (Chapter 3). Fish presence (or lack thereof) was documented based on a variety of sources, including the *Gilliam Creek Basin Stormwater Management Plan (2001)*, the WDFW Priority Habitats and Species (PHS) maps (WDFW 2004), and personal communications with Ryan Partee, City of Tukwila fisheries biologist (March 2005) and Larry Fisher, WDFW area habitat biologist (March 2005). According to these sources, fish have not been observed or documented in Gilliam Creek or its tributaries upstream (west) of I-5 in the project area. However, to WSDOT's knowledge, there have not been any comprehensive fish surveys (e.g., electrofishing) conducted on Gilliam Creek, the southwest tributary of Gilliam Creek, or unnamed tributaries within the project area.

***Comment 7: Page 1-12, The section at the bottom of page regarding culverts suggests that a culvert survey will be completed at a later date. This information should have been collected and discussed in the EA so that a reviewer can understand potential impacts and mitigation measures for fish access as a***

***result of this project. As such, the environmental analysis for this project is incomplete.***

Response: WSDOT policy in this regard adheres to a Memorandum of Agreement (MOA) with the Washington Department of Fish and Wildlife (WDFW) (RCW 77.55.100 and WAC 220-110) dated June 2002. Per the MOA, when a WSDOT project requires a Hydraulic Project Approval (HPA) Permit, as is the case with this project, it coordinates with WDFW to obtain information on streams in the project area and associated fish passage barrier characteristics. For this particular project site, WDFW had minimal information regarding existing streams and culverts within the project limits. Only those culverts that convey streamflow are of potential concern for fish passage. Following publishing of the draft EA, due to the concerns raised in this comment, supplemental information on streams and culverts within the project limits has been developed by WSDOT and the Muckleshoot Tribe. WDFW has reviewed this information for purposes of the HPA Permit and determined that the culverts conveying the southwest tributary of Gilliam Creek and Tributary 1 beneath SR 518 are barriers to fish passage. The Errata to the EA, included as Attachment 1 to the FONSI, provide clarification on Page 1-2 of the Ecosystems Discipline Report regarding culverts of concern for fish resources.

***Comment 8: Page 1-13, The culvert discussion lacks important considerations for fish passage. Where is the culvert survey that assesses each culvert in the project area and identifies which culverts are barriers to fish?***

Response: WSDOT policy in this regard adheres to a Memorandum of Agreement (MOA) with the Washington Department of Fish and Wildlife (WDFW) (RCW 77.55.100 and WAC 220-110) dated June 2002. Per the MOA, when a WSDOT project requires a Hydraulic Project Approval (HPA) Permit, as is the case with this project, it coordinates with WDFW to obtain information on streams in the project area and associated fish passage barrier characteristics. For this particular project site, WDFW had minimal information regarding existing streams and culverts within the project limits. Only those culverts that convey streamflow are of potential concern for fish passage. Following publishing of the draft EA, due to the concerns raised in this comment, supplemental information on streams and culverts within the project limits has been developed by WSDOT and the Muckleshoot Tribe. WDFW has reviewed this information for purposes of the HPA Permit and determined that the culverts conveying the southwest tributary of Gilliam Creek and Tributary 1 beneath SR 518 are barriers to fish passage. The Errata to the EA, included as Attachment 1 to the FONSI, provide clarification on Page 1-2 of the Ecosystems Discipline Report regarding culverts of concern for fish resources.

***Comment 9: Page 2-13, The section on Wetland 7's ability to provide fish habitat fails to discuss if there are any natural barriers preventing fish access. Human caused barriers can and should be removed per WAC 220-110-070.***

Response: There are no known or documented natural barriers to fish passage in the Gilliam Creek system. As noted in the EA and in Appendix O – *Ecosystem Discipline Report*, there are several human-caused barriers to upstream fish passage in the Gilliam Creek system, most of which are downstream of the project limits. In coordination with the Muckleshoot Tribe, WSDOT is preparing a proposal for offsite stream enhancements to improve the condition of fish habitat in the area.

***Comment 10: Page 2-14, Please explain why Wetland 9 would be expected to provide spawning habitat for salmon. The discussion for this wetland fails to discuss its potential to provide rearing habitat for salmon.***

Response: Appendix O – *Ecosystems Discipline Report* indicates that Wetland 9 does not provide suitable spawning habitat for salmon. In addition, the ditch does not provide suitable rearing habitat for any fish species. Furthermore, there is no fish passage potential between Gilliam Creek and Wetland 9. Water that discharges from Wetland 9 passes through the subsurface before discharging to the stream. The errata to the EA clarifies that neither spawning nor rearing is expected in Wetland 9 and that the wetland is inaccessible to fish.

***Comment 11: Pages 2-14 and 2-15, Please explain why Wetlands 13, 6, 16, 10, 14, and 19 would be expected to provide spawning habitat for salmon. The discussion for these wetlands fails to discuss their potential to provide rearing habitat for salmon (note: it is assumed this comment was intended to ask “...why Wetlands 13, 6, 16, 10, 14, and 19 would NOT be expected...”).***

Response: Since issuance of Appendix O – *Ecosystems Discipline Report*, the status of regulated, jurisdictional wetlands has changed. Wetland 13 has been broken up into four separate wetlands: Wetlands 13a, 13b, 13c, and 13d. These wetlands are sloped and located near the base of the forested hillside on the south side of SR 518. Wetlands 10, 14, and 19 are not located within the project impact area. Appendix O – *Ecosystems Discipline Report* indicates that Wetlands 13 (now referred to as Wetlands 13a, 13b, 13c, and 13d), 6, and 10 do not provide suitable spawning or rearing habitat for salmon. These wetlands are located in roadside drainage ditches that were formed when SR 518 was originally constructed. Wetland 6 does not have a surface water connection to a stream. Wetlands 10, 13a, 13b, 13c, and 13d drain via an existing ditch to nearby unnamed tributary 2 that emerges from the hillside above the ditch line. These wetlands do not lie within the tributary stream channel alignment. The associated ditch segments between these wetlands and unnamed tributary 2 at the toe of slope on the south side of SR 518 would not support fish access to the wetlands due to grass and rock obstructions within the ditches and very shallow flow depths. Therefore, salmon spawning and/or rearing habitat is not available in Wetlands 10, 13a, 13b, 13c, and 13d.

***Comment 12: Pages 2-16 through 2-18, This project will fill wetlands and cause an increase in impervious surfaces, and tree removal and soil compaction will result in increased runoff; these changes will cumulatively cause increases in peak and reductions in baseflows of Gilliam Creek. The result will likely adversely affect fish habitat in the basin, which the EA fails to discuss.***

Response: Please refer to Appendix P – *Water Resources Discipline Report* for stormwater management measures intended to reduce adverse effects on downstream resources resulting from changes in runoff and baseflow.

Specifically, Chapter 3 in the *Water Resources Discipline Report* includes a discussion of expected changes to base flow in Gilliam Creek as a result of the increased impervious surface and compaction of soils. Additional detail on expected changes in stream base flows is contained in the response to Comment 29 below.

A stormwater detention pond is proposed in the project drainage plans. This pond has been designed to mimic peak flows and flow durations that occur under existing (predeveloped) conditions for those portions of the SR 518 roadway and adjacent off-road areas that will be altered for project construction. This level of flow control is in accordance with the requirements of WSDOT's *Highway Runoff Manual* (WSDOT 2006a).

The proposed stormwater detention pond will prevent adverse high flow effects in Gilliam Creek and associated fish habitat downstream of the project limits. As noted in the response to Comment 29 below, changes in base flow will not be measurable and therefore are not expected to cause adverse effects on fish habitat downstream of the project limits.

***Comment 13: Page 2-17, An increase in sediments will likely adversely affect fish habitat and can also adversely affect fish.***

Response: The risk of injury to fish populations is considered low. There is no documented spawning habitat in Gilliam Creek or its tributaries upstream of I-5 where these types of impacts could be of most concern. If impacts were sustained due to increases in sediment loading during construction (which is the focus of the subject bullet referenced by this comment on Page 2-17), they would likely be short-term and intermittent. However, WSDOT will be required to implement a rigorous Temporary Erosion and Sediment Control Plan during construction to comply with its permit conditions, and will comply with its Water Quality Implementing Agreement with the Department of Ecology. This should minimize or eliminate potential impacts. Increases in sediment loading are not expected over the long-term following construction because the proposed stormwater conveyance, treatment, and flow control facilities will effectively capture and retain suspended sediments in runoff. The pollutant loading calculations presented in Appendix A to the *Water Resources Discipline Report* support this finding.

***Comment 14: Page 2-17, Please provide the analysis to demonstrate that all on-site mitigation opportunities have been exhausted.***

Response: A thorough analysis of potential wetland mitigation sites in close proximity to the project site and elsewhere in WRIA 9 was performed for this project. Due to extensive surrounding development and slopes surrounding wetlands, there are no opportunities onsite for creation or restoration of wetlands. Candidate sites were identified by Richard Gersib (Watershed Program Manager, WSDOT Environmental Services Office) and evaluated by Herrera biologists. Most of these sites were of insufficient size or did not provide the appropriate type of mitigation for the project. Two mitigation sites located offsite were evaluated. Hydrology and soil conditions were not conducive to successful mitigation on one of the sites. The other site is owned by the Port of Seattle, which plans to retain the site in case they need it for wetland mitigation contingency purposes. Thus, WSDOT has elected to use the Springbrook Creek Wetland and Habitat Mitigation Bank to mitigate for permanent wetland impacts. The Washington State Department of Ecology, the U.S. Army Corps of Engineers, and the City of Tukwila concurred independently with this assessment.

Stream impacts will be mitigated onsite by relocating stream channels and constructing the relocated channels so as to replicate, at a minimum, existing channel characteristics.

The Errata to the EA (Attachment 1) included in the FONSI deletes references to offsite mitigation areas in the *Environmental Assessment* and Appendix O – *Ecosystems Discipline Report* and replaces them with references to the Springbrook Creek Wetland and Habitat Mitigation Bank.

***Comment 15: Page 2-20, Please quantify how much wetland buffer will be replaced with native plants onsite for all of the wetlands affected by this project.***

Response: The only regulated buffer that will be permanently impacted is the outer portion of Wetland 6 on the north side of SR 518. A noise wall will permanently impact approximately 0.26 acre of this buffer. This permanent impact will be mitigated by providing a minimum of 0.26 acre of enhanced buffer adjacent to Wetland 7 on the south side of SR 518. A blackberry-dominated buffer area adjacent to Wetland 7 will be replaced with native forested vegetation. This information has been added to the Errata to the EA (Attachment 1) included in the FONSI.

***Comment 16: b. Also on page 2-20, Please explain how conducting wetland mitigation at the Springbrook Creek Wetland Mitigation Bank or elsewhere in WRIA 9 will mitigate for any changes in hydrology to Gilliam Creek.***

Response: Please refer to Appendix P – *Water Resources Discipline Report* for stormwater management measures intended to reduce adverse effects on the

hydrology of Gilliam Creek and also to the Errata to the EA (Attachment 1) included in the FONSI.

As described further in the responses to comments 28 and 29 below, the project will not adversely affect base flows in Gilliam Creek, nor increase peak flow conditions in Gilliam Creek during storm events. This is in part because of the proposed stormwater management measures and in part due to hydrologic characteristics of the larger Gilliam Creek drainage basin relative to the project site area.

The proposed widening of the SR 99 on-ramp to SR 518 will require realigning a segment of the southwest tributary of Gilliam Creek upstream of SR 518 where it flows through Wetland 7. The segment of stream that parallels the on-ramp will be shifted south and a 0.05-acre portion of Wetland 7 will be filled. The hydrologic characteristics of the realigned stream reach will not be changed measurably because nearly all of its drainage area will remain unchanged.

Obtaining credits from the Springbrook Creek Wetland and Habitat Mitigation Bank is intended to mitigate for permanent wetland impacts only. Mitigation for minor impacts to three streams within the project area is proposed entirely onsite.

The minor effects of the project on the hydrology of Wetland 7 and the associated southwest tributary of Gilliam Creek will not be mitigated locally but rather at the Springbrook Creek Wetland and Habitat Mitigation Bank. The permanent, local hydrologic effects in Wetland 7 will be immeasurable with respect to water levels in the wetland and total flow in the southwest tributary due to the large drainage area upstream that will remain unaffected by the project. Overall, the project will not have adverse hydrologic impacts on Gilliam Creek due to the proposed stormwater detention system, as described in the response to Comment No. 3 above.

***Comment 17: c. Also on Page 2-20, Please elaborate on the proposal to include a 100 foot enhanced wetland buffer at the selected off-site wetland mitigation site.***

Response: An offsite wetland mitigation site with a 100-foot buffer is no longer proposed for the project. Rather, permanent wetland impacts will be mitigated by purchasing credits from the Springbrook Creek Wetland and Habitat Mitigation Bank, which incorporates buffers that have been approved by the parties involved in establishing the mitigation bank. This change has been added to the Errata to the EA (Attachment 1) included in the FONSI.

***Comment 18: Page 2-21, Please discuss in detail how the flood flows will function at the Springbrook Creek Mitigation site, particularly if Springbrook Creek is maintained as a flood control facility by Drainage District 5.***

Response: Purchasing credits from the Springbrook Creek Wetland and Habitat Mitigation Bank is intended to mitigate for permanent wetland impacts only. How flood flows function at the bank site is not relevant to the SR 518 project. Refer to the *Mitigation Bank Instrument – Springbrook Creek Wetland and Habitat Mitigation Bank* (WSDOT, 2006b) for more information on how flood flows will function at the mitigation bank site.

***Comment 19: Page 2-20, Please specify the mitigation sites.***

Response: Purchasing credits from the Springbrook Creek Wetland and Habitat Mitigation Bank is intended to mitigate for permanent wetland impacts only. A separate wetland mitigation site is no longer proposed specifically for this project.

Onsite wetland buffer mitigation will occur adjacent to Wetland 7 on the south side of SR 518. Onsite stream mitigation is proposed along the southwest tributary of Gilliam Creek, unnamed stream 1, and unnamed stream 2. These mitigation sites have been added to the Errata to the EA (Attachment 1) included in the FONSI.

***Comment 20: Page 3-1, The Tribe is party to both the Treaties of Point Elliott and Medicine Creek, not just Medicine Creek. The Tribe's Usual and Accustomed Fishing area includes several areas, including but not limited to, the Green-Duwamish River system and all of its tributaries (United States v State of Washington 384 F.Supp. 312 (1974)). We request the opportunity to work with WSDOT to modify this section accordingly.***

Response: Your requested changes have been added to the Errata to the EA (Attachment 1) included in the FONSI.

***Comment 21: Page 3-3, Please see the previous comment in Chapter 1 about fish presence and fish habitat data.***

Response: This information is provided in Appendix O – *Ecosystems Discipline Report: Fish Resources* (Chapter 3). Fish absence was documented based on a variety of sources, including the *Gilliam Creek Basin Stormwater Management Plan* (2001), the WDFW Priority Habitats and Species (PHS) maps (WDFW, 2004) and personal communications with Ryan Partee, City of Tukwila fisheries biologist (March 2005) and Larry Fisher, WDFW area habitat biologist (March, 2005). According to these sources, fish have not been observed or documented in Gilliam Creek or its tributaries upstream (west) of I-5 in the project area. However, to WSDOT's knowledge, there have not been any comprehensive fish surveys (e.g., electrofishing) conducted on Gilliam Creek, the southwest tributary of Gilliam Creek, or unnamed tributaries within the project area.

***Comment 22: Page 3-4, The statements regarding federal and state listed fish species is misleading. While these species have not been documented in Gilliam Creek, to our knowledge there are no comprehensive surveys that have***

***been completed over various years and water conditions to demonstrate that these species do not use Gilliam Creek at any time. Salmon have been documented in lower Gilliam Creek which is shown in Exhibit 4-10 of the EA as the "Project Study Area." This section needs revisions.***

Response: The statements on Page 3-4 about the status of federal and state-listed fish species in Gilliam Creek are not misleading, as they are based on all available information that provide evidence of a lack of fish presence. The project study area presented in the EA includes areas outside of the actual project area that is presented in Appendix O – *Ecosystems Discipline Report*. The project will not entail roadway improvements or other improvements downstream (east) of the I-5/I-405 interchange. The lower reach of Gilliam Creek downstream of the I-5/I-405 interchange is the only reach of Gilliam Creek where salmonids have been seen in recent years (Herrera and RW Beck, 2001; Partee, 2005). No comprehensive surveys have been performed at various times of the year to definitively determine salmonid use of this stream system. The *Gilliam Creek Basin Stormwater Management Plan* (Herrera and RW Beck, 2001) documents the poor habitat conditions in the lower reach of Gilliam Creek and also in the upper reaches of Gilliam Creek. These factors form the basis for the referenced statements made on Page 3-4.

***Comment 23: Page 3-6, Please provide the data to support the narrative sentences discussing fish habitat in Gilliam Creek. Also, please explain why the southwest tributary of Gilliam Creek is not considered fish habitat.***

Response: Narrative sentences referring to habitat characteristics are based on information presented in the *Gilliam Creek Basin Stormwater Management Plan* (Herrera and RW Beck, 2001) and observations made by Herrera fisheries biologists during several site reconnaissance visits during the course of work on the SR 518 project. Prior to preparation of the project's environmental documentation, the Washington Department of Fish and Wildlife did not have habitat data for the open channel reaches of Gilliam Creek and its tributaries upstream (west) of I-5. Subsequent to publishing the draft Environmental Assessment, additional information on habitat characteristics and the potential for fish access to the southwest tributary and other small, unnamed streams within the project area has been developed in coordination with the Muckleshoot Tribe to support project permitting by State and Federal agencies. This information is referenced within these comment responses and in the errata to the EA included in Attachment 1 to the FONSI.

***Comment 24: Page 3-8, Please provide the citation for resident fish being the only species found in lower Gilliam Creek.***

Response: The text on Page 3-8 actually says that both resident and anadromous fish are located in lower Gilliam Creek. It also states that this is the only place in the stream where resident fish have been observed. This information is based on

observations made by Ryan Partee (March, 2005), City of Tukwila fisheries biologist, and Larry Fisher (March, 2005), WDFW fisheries biologist, and on limited stream channel surveys performed for the *Gilliam Creek Basin Stormwater Management Plan* (Herrera and RW Beck, 2001). These references have been added to the Errata to the EA (Attachment 1) included in the FONSI.

***Comment 25: Also on Page 3-8, This section lacks any discussion about the fish passage potential of culverts in the project area and when these culverts will be repaired to provide fish passage. In addition, the flap gate on Gilliam Creek is part of a fish passage improvement and riparian rehabilitation project under the Corps' Green/Duwamish Ecosystem Restoration Program and the Green/Duwamish and Central Puget Sound Watershed Salmon Habitat Plan (project LG-16). The EA fails to discuss the potential for this project to be implemented and improve access and habitat for salmon and the subsequent need to fix upstream culverts to provide passage.***

Response: WSDOT policy in regard to fish passage adheres to a Memorandum of Agreement (MOA) with the Washington Department of Fish and Wildlife (WDFW) (RCW 77.55.100 and WAC 220-110) dated June 2002. Per the MOA, when a WSDOT project requires a Hydraulic Project Approval (HPA) Permit, as is the case with this project, it coordinates with WDFW to obtain information on streams in the project area and associated fish passage barrier characteristics. For this particular project site, WDFW had minimal information regarding existing streams and culverts within the project limits. Only those culverts that convey streamflow are of potential concern for fish passage. Following publishing of the draft EA, due to the concerns raised in this comment, supplemental information on streams and culverts within the project limits has been developed by WSDOT and the Muckleshoot Tribe. WDFW has reviewed this information for purposes of the HPA Permit and determined that the culverts conveying the southwest tributary of Gilliam Creek and Tributary 1 beneath SR 518 are barriers to fish passage. The Errata to the EA, included as Attachment 1 to the FONSI, provide clarification on Page 1-2 of the Ecosystems Discipline Report regarding culverts of concern for fish resources. Information regarding the proposed fish passage improvement of the flap gate at the mouth of Gilliam Creek has been added to the Errata to the EA (Attachment 1) included in the FONSI. The SR 518 project is not addressing culverts beyond the limits of the project area.

***Comment 26: Page 3-10, If this project does not repair existing culverts to make them fish passable, then this project will continue to adversely affect fish passage to available habitat. This impact was not discussed in the EA.***

Response: The Errata to the EA (Attachment 1) included in the FONSI describe analyses of potential fish-bearing streams and fish passage characteristics for stream culverts within the project limits that was conducted subsequent to the draft EA by both WSDOT and the Muckleshoot Tribe. The existing fish passage barriers in the project area are part of the baseline conditions. WSDOT seeks to

fix fish passage barriers where they can be incorporated within the available funding for the planned work and also through its fish passage correction program. This project will not adversely impact fish passage characteristics of existing culverts, and therefore the fact that existing barriers will not be removed is not an impact of the project. However, WSDOT acknowledges the importance of fish passage barriers to recovery of salmonid populations in the region. In consultation with the Muckleshoot Tribe, WSDOT seeks to enhance fish habitat at an offsite location in relation to the concern raised in this comment. Planning and coordination with the Tribe regarding offsite stream improvements is ongoing.

***Comment 27: Also on Page 3-10, Please discuss whether the construction road for the retaining wall will cross the southwest tributary of Gilliam Creek. Also, discuss the potential for existing trees to be removed within 200 feet of this tributary as part of the construction of the retaining wall. A table should be provided that identifies each tree, its species, diameter at breast height, and distance from wetlands and streams in the vicinity, for evaluating the potential for the loss of wood recruitment and subsequent impacts to fish habitat.***

Response: Construction of a retaining wall associated with widening of the SR 99 on-ramp to SR 518 will not involve a crossing of the open channel of the southwest tributary, as the wall will be constructed from the existing shoulder and slope of the SR 99 on-ramp. The wall will be aligned over the existing stream culvert. However, a portion of the wall will be constructed along the fringe of the existing channel where the channel approaches this culvert. Wall construction will not entail removal of trees, but will require relocating a segment of the southwest tributary of Gilliam Creek upstream (south) of SR 518 to separate the stream from the new wall. The segment of stream that parallels the on-ramp will be shifted south into an area where several trees are located.

A total of 28 trees will be removed to enable channel realignment, including one, 6-inch diameter breast height (dbh) big-leaf maple, 8 red alders (two, seven-inch dbh; one, 8-inch dbh; three, 10-inch dbh; and two, 12-inch dbh), and 19 black cottonwoods (two, eight-inch dbh; four, 12-inch dbh; two, 16-inch dbh; one, 18-inch dbh; one, 20-inch dbh; two, 22-inch dbh; three, 24-inch dbh; one, 16-inch dbh; one, 28-inch dbh; one, 34-inch dbh; and one, 46-inch dbh). These trees will be used in construction of woody debris structures in the channel that are intended to stabilize the new channel and banks, as well as prevent the relocated stream from eroding toward the retaining wall. Native vegetation will be replanted on both sides of the relocated stream. This information has been added to the Errata to the EA (Attachment 1) included in the FONSI.

***Comment 28: Page 3-11, Please explain if this project will be providing detention and treatment of stormwater from existing impervious surfaces (retrofitting). Also, please discuss if this project will match flow durations for forest***

*conditions for all flow levels, as we did not receive a copy of the Hydraulics Technical Memorandum (Herrera, 2005).*

Response: The project includes stormwater detention and treatment. The project will treat stormwater for the equivalent area of the added lane and widened shoulder areas (2.9 acres). Stormwater from approximately 2 acres of existing highway area (i.e., retrofitting) within the project limits will also be treated. Ecology embankments will be used to treat this runoff. According to WSDOT's *Highway Runoff Manual*, these facilities provide enhanced treatment of roadway runoff resulting in greater removal of dissolved metals than other conventional stormwater treatment systems. Stormwater detention facilities will be designed to mimic peak flows and flow durations from portions of the SR 518 roadway and adjacent off-road areas that will be altered for project construction that occur under existing (pre-project) conditions. These facilities will be designed using WSDOT's *Highway Runoff Manual* requirements. The *Hydraulics Technical Memorandum* has been superseded by a *Draft Hydraulic Report* (Herrera, 2006a), which provides greater detail on all of the project area stormwater issues. A copy of the *Draft Hydraulic Report* was provided to the Muckleshoot Tribe in November 2006.

***Comment 29: Page 3-12, Please provide additional information to demonstrate that this project will not adversely affect baseflows of Gilliam Creek. This information should include an analysis of how close to natural baseflow conditions Gilliam Creek is currently and how much loss of baseflow is expected as a result of the project.***

Response: Because the added impervious surface will not significantly reduce an important source area of shallow groundwater recharge, it is expected that base flows in Gilliam Creek will not change measurably.

Base flows in Gilliam Creek are significantly altered in comparison to conditions that existed before development of the watershed. The drainage area of Gilliam Creek upstream of, and including, the SR 518 project area encompasses approximately 1,000 acres. Much of that area is densely developed with a high percentage of impervious surface coverage. Specific data are not available on the acreage of impervious surface cover within this 1,000-acre drainage area.

Based on information developed for the project's hydraulic report, it is estimated that this drainage area contains approximately 50 percent impervious surface cover. This extensive impervious surface cover has effectively reduced infiltration of precipitation and runoff that sustains baseflows in the creek. The proposed project will add approximately 2.9 acres of new impervious surface cover, which represents an incremental increase of approximately 0.5 percent to the impervious surface coverage in the drainage basin area upstream (west) of I-5.

The areas of the project where paving will occur are all located on the south side of SR 518 and associated on- and off-ramps. These areas are not conducive to extensive infiltration of runoff. Geotechnical information developed for the project indicates that shallow groundwater and low permeability soils are prevalent in these areas (HWA GeoSciences, 2007a), effectively restricting vertical percolation of precipitation and runoff to groundwater that may contribute to baseflows in Gilliam Creek. Because the added impervious surface will not significantly reduce an important source area of shallow groundwater recharge, it is expected that base flows in Gilliam Creek will not change measurably. The greatest contribution to stream baseflow in the immediate project area is groundwater seepage emanating from the hillslope south of SR 518. As part of the project's drainage design planning, flow monitoring is being conducted in two culverts that convey hillslope runoff via Tributary 1 and Tributary 2 beneath SR 518 to Gilliam Creek. Both of these culverts are located between 42<sup>nd</sup> Avenue South and 51<sup>st</sup> Avenue South where the greatest extent of new impervious surface cover will be added for roadway widening. The monitoring data that have been collected since January 2006 indicate that between 0.3 and 0.5 cubic feet per second of base flow emanates from this hillslope and reaches Gilliam Creek via these existing culverts. The project plans include a continuation of the collection and conveyance of intercepted seepage for discharge to Gilliam Creek via these same culverts. The project will retain existing horizontal drains embedded in the hillslope that discharge shallow groundwater into the ditch adjacent to SR 518 (and that eventually flows to Gilliam Creek). The project will also install many new horizontal drains in the hillslope south of SR 518 to enhance slope stabilization. Those drains will empty into the SR 518 ditch system that feeds Gilliam Creek. The new horizontal drains may slightly increase the baseflow emerging from this wet hillslope following storms and in the dry season (and by less than 0.5 cubic feet per second in the wet season).

At all times, low seepage flows collected in the SR 518 drainage system will be directed to Gilliam Creek, bypassing the proposed detention pond. Seepage flows that enter Gilliam Creek via culverts beneath SR 518 near 42<sup>nd</sup> Avenue South and farther to the east and west will continue to reach the creek via these same culverts. The detention pond design includes a flow-splitter structure installed in the existing culvert that conveys runoff from the ditch on the south side of SR 518 to the creek on the north side of SR 518 near 51<sup>st</sup> Avenue South. The flow-splitter structure will include a low-flow bypass that directs baseflow to the creek. The low-flow bypass is being designed based on the discharge monitoring data that Herrera has collected in this culvert since January 2006. During and following storms when the flow rate rises in this culvert, the base flow contribution will be routed directly to Gilliam Creek and higher flows will be directed into the detention pond. The detention pond outflows will also be directed into Gilliam Creek. Thus, the detention pond will not interfere with maintenance of baseflows in Gilliam Creek.

***Comment 30: Page 3-12, Please note that if this project does not repair fish-blocking culverts in the project area, then this project will have adverse impacts on fish because they will not be able to access habitat areas in the project area. Also, it appears that the southwest tributary of Gilliam Creek and Wetland 7 will have fill, which will cause a loss of fish habitat. To our knowledge, there is no mitigation proposed for this loss; consequently, there will likely be a permanent loss of habitat. If there is a loss of habitat, and continued culvert blockages, then there may be permanent impacts to listed fish species. Finally, if the affected landslide and erosion areas that will be affected by the project fail and this material ends up in Gilliam Creek or its tributaries, then the instream habitat will be affected until this material is transported out of the system, which may take several years.***

Response: The project will not permanently impact habitat or reduce the area of stream channel in Gilliam Creek, the southwest tributary of Gilliam Creek, or unnamed tributaries 1 and 2 that drain to Gilliam Creek via culverts beneath SR 518. The project will not result in a net loss of existing habitat or degrade existing habitat within open-channel stream reaches within the project limits. Fill is proposed within the southwest tributary of Gilliam Creek, Tributary 1, and Tributary 2. The designs for the relocated segments of these streams will mitigate for the reduced area of stream channel and associated habitat that would otherwise result. Relocated segments of unnamed tributaries 1 and 2 will provide equal or greater habitat area as currently exists in these tributary channels. Thus, there will be no loss of habitat that could be accessed by listed fish species in the future with removal of downstream fish passage barriers.

Gilliam Creek is on the north side of SR 518, whereas potential landslide and erosion areas are on the south side of SR 518. Best Management Practices (BMPs) are incorporated into the project design to stabilize the hillslope adjacent to SR 518, effectively addressing the risk of landslide.

***Comment 31: Page 3-12, The information provided on fish presence in this Appendix is limited and should not be the basis to determine potential impacts to fish and their habitats.***

Response: The analysis of potential effects on fish and their habitats is based primarily on the impact avoidance and reduction measures that are incorporated into the project design. The project will not permanently impact habitat in Gilliam Creek. The project will not result in a net loss of existing habitat or degrade existing habitat within open-channel stream reaches of the southwest tributary of Gilliam Creek, Tributary 1, and Tributary 2 within the project limits. Three segments of stream channels will be relocated along the southwest tributary of Gilliam Creek, Tributary 1, and Tributary 2. The habitat conditions within the relocated channels will be of equivalent or greater habitat value when compared to the impacted channels.

It is anticipated that the project will slightly improve water quality conditions in Gilliam Creek as a result of the proposed stormwater treatment facilities for the equivalent area of new impervious surfaces and some of the existing impervious surface on SR 518 within the project limits. Because these are the anticipated outcomes of the project, and the available information indicates that few if any fish are present in upper Gilliam Creek, additional information on fish presence and habitat quality was not developed for the EA.

***Comment 32: Page 3-13, If the action alternative is not detaining stormwater from existing impervious surfaces, then it is not clear how the project will reduce peak flows within Gilliam Creek.***

Response: The Errata to the EA (Attachment 1) included in the FONSI clarify this issue. The project drainage plans will not capture existing impervious surface area for retrofitting of peak flow control; thus peak flows in Gilliam Creek will not be reduced relative to existing conditions. However, the drainage plans include control of peak flows and flow durations for runoff from the added impervious surface area to match existing runoff characteristics for all storms up to the 50-year recurrence interval event, in accordance with WSDOT's *Highway Runoff Manual*. This will prevent increases in peak flows in the creek under all but extreme flooding conditions during rare storm events.

***Comment 33: Page 3-14, As noted above in various comments, it seems likely that there will be adverse impacts to salmon habitat for which no mitigation measures have been identified.***

Response: The analysis of potential effects on fish and their habitats presented in Appendix O – *Ecosystems Discipline Report* is based primarily on the impact avoidance and reduction measures that are incorporated into the project, not on available fish and habitat data (as such data are generally lacking). The project will not permanently impact habitat in Gilliam Creek, the southwest tributary of Gilliam Creek, or other small streams in the project area. The project will not result in a net loss of existing habitat or degrade existing habitat within open-channel stream reaches within the project limits. Relocated segments of onsite streams will incorporate habitat characteristics that replicate and in some cases improve upon habitat characteristics in the existing channel areas that will be impacted. It is anticipated that the project will slightly improve water quality conditions in Gilliam Creek as a result of the proposed stormwater treatment facilities for new impervious surface and some of the existing impervious surface on SR 518 within the project limits. Impacted areas of stream channels within the project limits will be mitigated onsite. In addition to onsite stream-channel mitigation measures, WSDOT is exploring fish habitat enhancements at an offsite location with the Muckleshoot Tribe.

***Comment 34: Also on page 3-14, Please discuss how water quality standards will be met for stormwater generated by this project.***

Response: The project will exceed the minimum requirements for stormwater treatment (following construction), as presented in WSDOT's *Highway Runoff Manual* (2006) by retrofitting treatment for a portion of the existing roadway surface in the project area (see response to Comment No. 28, above). As documented in Appendix P – *Water Resources Discipline Report*, stormwater runoff pollutant loadings to Gilliam Creek from the SR 518 project corridor are expected to be slightly reduced after project construction. The proposed stormwater treatment plans represent a strong attempt by WSDOT to improve water quality conditions in Gilliam Creek, which are severely degraded and far from meeting state water quality standards. The design of the stormwater treatment systems is not aimed at meeting water quality standards but rather meeting and exceeding applicable state stormwater management requirements that are intended to address satisfaction of water quality standards.

#### **Comments on Appendix P – Water Resources Discipline Report**

***Comment 35: Page 3-6, Please provide the data to support the statement as follows:***

***Stormwater detention facilities help to reduce these types of hydrologic impacts and in some cases can completely negate any adverse effects of changes in natural ground cover.***

Response: The Errata to Appendix P – *Water Resources Discipline Report* (Attachment 1) included in the FONSI has deleted the words "...and in some cases can completely negate any adverse effects of changes in natural ground cover." The information to support the remaining text in this paragraph can be found in the stormwater management manuals written by the Washington State Department of Ecology, WSDOT, and King County. Stormwater detention facilities do *help to reduce* hydrologic impacts associated with new impervious surfaces that would otherwise be significant if these facilities were not constructed. The current regulatory standards for stormwater detention have significantly improved since publication of Booth and Jackson (1994) and May, et al., (1997). See also the Errata to the EA (Attachment 1) included in the FONSI regarding edits made to Page 4-2 of Appendix O – *Water Resources Discipline Report*.

***Comment 36: Please note that the statement above contradicts the findings in Booth and Jackson (1994) and May et al. (1997).***

Response: The current regulatory standards for stormwater detention have significantly improved since the publication of Booth and Jackson (1994) and May, et al., (1997), primarily as a result of their findings.

***Comment 37: Page 3-8, Please provide the data (including a complete survey of all culverts in the watershed) to support the following statement:***

***Although low summer base flows are a problem in terms of support for fish habitat in the lower reach of Gilliam Creek downstream of I-5, an even greater problem for fish habitat is scouring and sedimentation resulting from uncontrolled high flows during the wet season, as well as numerous fish passage barriers that are unrelated to the Proposed Project.***

Response: It is beyond the necessary scope of this EA and the supporting discipline reports to prepare a complete inventory of culverts in the Gilliam Creek watershed. The Proposed Project need only document analysis of hydrologic issues, fish passage issues, and other information related to culverts within the area of the project limits. However, major fish passage barriers are known to exist downstream of the project area. The Errata to the EA (Attachment 1) included in the FONSI include an added reference citation for the subject sentence (citing the City of Tukwila's *Gilliam Creek Basin Stormwater Management Plan*). The basin plan describes the existing problems of scouring by high storm runoff flows and sedimentation in the lower reaches of Gilliam Creek.

In response to this and previous comments, more analysis of onsite stream culverts and potential for fish access in the future has been performed by both WSDOT and the Muckleshoot Tribe. The associated information being generated by both WSDOT and the Muckleshoot Tribe will be used for project permitting by State and Federal agencies and also to develop offsite stream enhancements.

***Comment 38: Page 3-11, Please provide the information to support the statement that the "proposed project includes stormwater treatment and detention facilities designed to more than offset potential increases in high flows and pollutant loadings, existing conditions in Gilliam Creek could be improved during the rainy season when the most severe problems occur in the creek". This statement contradicts statements made on page 1-2 (no stormwater detention for a portion of project and a slight reduction of peak flows) and also on page 3-8. Also there is no discussion about the increased impervious surfaces and the proposed stormwater facilities increasing the duration of water volumes that may cause adverse impacts to salmonids in Gilliam Creek.***

Response: In the Errata to the EA (Attachment 1) presented in the FONSI, the text of this sentence has been edited to delete the words "more than" and to delete the end of the sentence stating that existing wet season conditions could be improved. This deleted text is replaced in the Errata with a statement that flow conditions should be unchanged and water quality conditions should improve slightly downstream of the project area as a result of the proposed stormwater treatment facilities, which include retrofit treatment for a portion of the existing SR 518 lanes in the project area.

***Comment 39: Page 4-1, The mitigation measures should include seasonal restrictions in areas prone to erosion and/or landslides to avoid causing these areas to fail and deliver sediment to Gilliam Creek and its associated streams and wetlands.***

Response: The project plans have been carefully developed to avoid the potential for significant erosion or landslides occurring in steep slope areas. The steep slope areas of concern in the project corridor are in the following locations:

- 1) On the south side of SR 518 near the eastbound on-ramp to SR 518 from SR 99, between 42<sup>nd</sup> Avenue South and the eastbound exit ramp to Klickitat Drive, and
- 2) Just east of the 51<sup>st</sup> Avenue South bridge over SR 518.

Extensive geotechnical analysis has been conducted in these areas to support design of walls and cut slopes. Details on this analysis can be found in the technical memoranda contained in the project geotechnical design report (HWA GeoSciences, 2007b). The project plans include maintaining existing horizontal drains in the hillslopes east of 42<sup>nd</sup> Avenue South, and adding more horizontal drains in this area. These drains will help to prevent landslides from occurring during and following construction. Existing rock buttresses at the toe of slope west of 51<sup>st</sup> Avenue South will not be altered in conjunction with cut slopes in this area to ensure slope stability. The Temporary Erosion and Sediment Control Plan being prepared for this project includes extensive use of surface soil stabilization measures during construction to minimize erosion and sediment transport. The permanent detention pond will be constructed at the outset of construction activity to provide a large sedimentation pond facility downstream of nearly all of the areas of grading and soil disturbance. Collectively, the steps that have been taken during project design and the erosion and sediment control measures that will be implemented during construction should be sufficient to offset any potentially significant soil erosion problems during construction. All, or nearly all, of the grading activity in areas where erosion and landslide concerns apply will occur in the dry season.

***Comment 40: Page 4-2, The project proposes to treat and detain all new impervious surfaces (2.7 acres). The project also proposes to detain stormwater generated from areas currently vegetated (1.5 acres). The project does not propose to detain stormwater from existing impervious surfaces; rather it would provide water quality treatment for a portion of these areas (1.3 acres). The project should be modified to provide detention and water quality treatment for all new and existing impervious surfaces in the project area.***

Response: Project funding does not enable WSDOT to retrofit the entire project corridor for treatment and detention of runoff from existing highway lanes. In accordance with WSDOT's *Highway Runoff Manual*, to the extent that retrofitting

can be accomplished cost-effectively, the project drainage plans include additional treatment. State regulatory requirements imposed upon WSDOT do not include retrofitting of treatment and flow control for all existing highway lanes in conjunction with nearby highway improvement projects. WSDOT is implementing stormwater management retrofits to the maximum extent possible across its highway network, but available funding limits the extent of retrofit requested.

***Comment 41: Page 4-2, Please provide the data for the following statements:***

***The treatment facilities would remove significant amounts of roadway runoff pollutants for the protection of water quality in Gilliam Creek. The detention facilities would effectively prevent increased erosion in the Gilliam Creek channel and worsening of flooding conditions downstream of the project area.***

***Other portions of the EA contradict these statements.***

Response: The information to support the highlighted statement in this comment is contained in Appendix P – *Water Resources Discipline Report*. The Errata to the EA (Attachment 1) in the FONSI include additional statements to clarify inconsistencies regarding proposed stormwater treatment and flow control measures, as well as their effectiveness. The proposed ecology embankments for treatment of runoff from the equivalent area of new SR 518 roadway surfaces plus nearly 2 acres of existing highway surfaces will effectively remove a large proportion of the pollutants in runoff that enters them. WSDOT recently published a *Technology Evaluation and Engineering Report* for ecology embankments (Herrera, 2006b) that provides additional justification for the statements made in the EA and in Appendix P – *Water Resources Discipline Report* regarding water quality effects on Gilliam Creek. Monitoring of ecology embankment performance by WSDOT indicates that these treatment systems can remove a large fraction of a wide range of pollutants, including metals and hydrocarbons that are among the urban runoff pollutants currently degrading Gilliam Creek. The project proposes to install ecology embankments using a very similar design to that monitored by WSDOT, and therefore similar performance is expected.

***Comment 42: Page 4-2, The wetland mitigation plan for the Proposed Project includes creation of new wetland areas at an offsite location and creation of a protective buffer around those new wetland areas in accordance with current state and federal regulatory criteria.***

***If the above statement in the EA is referring to the proposed Springbrook Creek Wetland Mitigation Bank as the site for wetland mitigation, the statement is somewhat misleading as there will be a new trail constructed within a portion of these wetlands areas, within the buffer, contrary to state and federal regulatory criteria.***

Response: This comment cited Page 4-2, but the text being referred to is on Page 4-3. A wetland mitigation site specifically for wetland impacts caused by the SR 518 project is no longer proposed. Instead, WSDOT plans to purchase credits from the Springbrook Creek Wetland and Habitat Mitigation Bank to mitigate for permanent wetland impacts. The trail constructed at the bank site is not relevant to the SR 518 project. Refer to the *Mitigation Bank Instrument – Springbrook Creek Wetland and Habitat Mitigation Bank* (WSDOT, 2006b) for more information on the trail at the mitigation bank site.

### **Comment on Appendix A – Pollutant Loading Calculations – of Appendix P – Water Resources Discipline Report**

***Comment 43: The pollutant loading calculations were completed for total suspended solids, total copper and total zinc. These calculations did not include other parameters, such as cadmium, chromium, oil and grease, which are also common pollutants found in stormwater from motor vehicles (WDOE, 2006). In order to analyze whether the proposed project will cause violations of Washington State water quality standards and cause degradation to the existing quality of the surface water, a more comprehensive set of parameters, which are relevant to highways, should be analyzed. In addition, the range (maximum and minimum) of concentrations (and loads) of each pollutant should be estimated for the comparison of No-Build and Proposed Project effects, not just the medians.***

Response: The pollutant loading analysis performed for Appendix P – *Water Resources Discipline Report* followed the applicable analysis criteria developed by WSDOT at the time the report was prepared. Therefore, the analysis was consistent with similar analyses conducted by WSDOT. The methods and data used for these types of analyses are evolving for the environmental documentation of future projects. The proposed stormwater treatment facilities will treat the equivalent area (2.9 acres) of new impervious surfaces as well as retrofit treatment for 2 acres of existing roadway area. The retrofit treatment exceeds the requirements of the *Highway Runoff Manual* and represents a commitment to retrofit treatment to the extent that can be feasibly and cost-effectively accomplished by the project for the benefit of Gilliam Creek. Enhanced treatment (using ecology embankments) will be provided for these project roadway areas. Based on available performance monitoring data gathered by WSDOT (Herrera, 2006b), these treatment systems are expected to remove many other pollutants in SR 518 runoff, including those listed in your comment.

Stormwater associated with highway runoff may contain low levels of cadmium, lead, chromium, and PAH compounds. Often, these compounds are at or below levels that can be detected with current analytical methods and may be effectively filtered or settled out in stormwater BMPs prior to being discharged to nearby

waterbodies. Based on the environmental chemistry and biological fate of these compounds in an aquatic system, exposure to fish species is negligible.

## References

Fisher, Larry, March 4, 2005. Personal communication (conversation with Johnny Grady of Herrera Environmental Consultants regarding habitat utilization by fish in Gilliam Creek). Area Habitat Biologist, Washington State Department of Fish and Wildlife.

Herrera, 2006a. *SR 518 SeaTac Airport to I-5/I-405 Interchange Project Hydraulic Report (draft)*. Prepared for Parsons Brinckerhoff and Washington State Department of Transportation Urban Corridors Office by Herrera Environmental Consultants, Seattle, Washington.

Herrera, 2006b. *Technology Evaluation and Engineering Report: WSDOT Ecology Embankment*. Prepared for the Washington State Department of Transportation by Herrera Environmental Consultants, Inc., Seattle, Washington.

Herrera and RW Beck, 2001. *Gilliam Creek Basin Stormwater Management Plan*. Prepared for City of Tukwila Public Works Department by Herrera Environmental Consultants, Inc., Seattle, Washington, in association with RW Beck, Inc.

HWA GeoSciences, 2007a. *SR 518 SeaTac Airport to I-5/I-405 Interchange Final Geotechnical Data Report*. Prepared for Parsons Brinckerhoff and Washington State Department of Transportation Urban Corridors Office by HWA GeoSciences, Inc., Lynnwood, Washington.

HWA GeoSciences, 2007b. *SR 518 SeaTac Airport to I-5/I-405 Interchange Final Geotechnical Design Report*. Prepared for Parsons Brinckerhoff and Washington State Department of Transportation Urban Corridors Office by HWA GeoSciences, Inc., Lynnwood, Washington.

Partee, Ryan, March 4, 2005. Personal communication (conversation with Johnny Grady of Herrera Environmental Consultants regarding habitat utilization by fish in Gilliam Creek). Fisheries Biologist, City of Tukwila, Washington.

WDFW, 2004. Priority Habitats and Species (PHS) database maps in the vicinity of the SR 518 SeaTac Airport to I-5/I-405 interchange project. Washington State Department of Fish and Wildlife. December 27, 2004.

WSDOT, 2006a. *Highway Runoff Manual*. Publication No. M 31-16. Washington State Department of Transportation Environmental and Engineering Programs.

WSDOT, 2006b. *Mitigation Bank Instrument—Springbrook Creek Wetland and Habitat Mitigation Bank*. Prepared by the Washington State Department of Transportation, Interstate 405 Corridor Program.

**Stewart, Mark**

---

**From:** Stewart, Mark  
**Sent:** Tuesday, August 01, 2006 11:07 AM  
**To:** Stewart, Mark  
**Subject:** FW: comment on EA for SR 518 Sea-Tac Airport to I-5/I-405 Interchange Project

-----Original Message-----

From: Derek Dexheimer [mailto:dex3703@gmail.com]  
Sent: Wednesday, June 28, 2006 9:05 PM  
To: Johnson, Paul E. (UCO)  
Subject: comment on EA for SR 518 Sea-Tac Airport to I-5/I-405 Interchange Project

I believe the EA suffers from two significant flaws: failure to account for global warming pollution and inadequate accounting for the effects of peak oil and energy availability.

Greenhouse gas pollution from CO2 and the effects of climate change caused by automotive traffic and the project's construction are not addressed in the EA. These critical issues are mentioned once in Appendix E. This is a significant oversight and calls into question the validity of the EA.

Regarding peak oil and energy availability, these points are raised in Appendix F. The presumption that the proposed construction will save energy by reducing congestion is based on faulty premises. With the peak in global oil production, cheap energy has become a thing of the past. The inexpensive air travel driving traffic through the proposed construction area cannot survive high energy prices; declining passenger air travel will thus reduce car trips to the airport, reducing traffic volumes. Other non-airport-related travel through the area can be expected to decline as energy prices continue to rise. In addition, with light rail to begin service at the same time construction is complete, high energy prices and light rail convenience will reduce traffic.

Overall, the EA belies a mindset that the American dream of endless motoring and roadbuilding will continue into the indefinite future. It is clear from even a cursory review of the scientific literature and the commodities markets that this social arrangement cannot continue. The energy and talent of WADOT should be applied to developing projects that reduce car use, and barring that, to repairing existing roads and bridges that are actively disintegrating.

Sincerely,  
Derek Dexheimer  
1603 Eagle Ridge Dr S #1  
Renton, WA 98055

## **Individuals**

### **Derek Dexheimer**

E-mail Message: June 28, 2006

Subject: concerned about global warming and effects of peak oil and energy availability

WSDOT understands your concerns about oil and energy availability, and the effects of global warming. As stated in the *Air Quality Discipline Report*, regional air pollutant trends have generally followed national patterns over the last 20 years. Although the average weekday vehicle miles traveled in the central Puget Sound region has increased from 30 million miles in 1981 to 65 million in 1999 (PSRC, 2000), pollutants associated with transportation sources have decreased over time as a result of more stringent federal emission standards for new vehicles and the gradual replacement of older, more polluting vehicles. Maximum carbon monoxide (CO) concentrations measured regionally have decreased considerably over the past 20 years (see Exhibit 5 of the *Air Quality Discipline Report*). Other transportation-related pollutants, such as ozone, have followed similar but less pronounced trends.

The report further states that the Puget Sound Regional Council (PSRC) recently updated the regional emission analysis, which evaluated air quality conditions in the area for Destination 2030, the current Metropolitan Transportation Plan (MTP) for the central Puget Sound region through 2030. The Proposed Project is currently included in PSRC's MTP and Transportation Improvement Program as Project PS-7. The PSRC emission analysis includes updates to reflect new U.S. Environmental Protection Agency emission requirements, including the Tier II Gasoline/Sulfur Rule and the latest plans for jurisdictions within the Puget Sound region. Based on the Destination 2030 analysis, none of the future transportation emissions scenarios will exceed the emissions budget for each pollutant as identified in the Air Quality Management Plan budget for CO and ozone. This means that the projected regional emission rates are anticipated to be lower than the rates necessary to maintain compliance with the National Ambient Air Quality Standards (NAAQS). In addition, no exceedances of the NAAQS for CO are predicted for the Proposed Project.

Assumptions for the analysis are based on what is currently known about oil and energy use, as well as changing trends, including the way consumers and traffic patterns have traditionally developed. This is the only "model" that is currently available because no alternative data clearly provide assumptions for future air travel. Trends for the future indicate that alternative fuels and energy are being studied carefully for all modes of travel, including air travel. For example, cars and trucks are moving to hybrids, hydrogen, clean diesel, ethanol, and compressed natural gas. In addition, locomotive companies are looking at combinations from diesel to hydrogen, and the marine sectors are already using straight fish oil. Although fuels and energy will likely become more expensive, current trends indicate that everyone will continue to pay for it. If the various transportation modes move to different and cleaner fuels as trends indicate, then the assumptions in this environmental analysis are likely still correct, not by official numbers but by the scale or relationship between the activities and their emissions.

**Stewart, Mark**

---

**From:** Williams, David T. (UCO) [WillIDT@wsdot.wa.gov]  
**Sent:** Friday, July 14, 2006 1:56 PM  
**To:** Stewart, Mark; Killen, Susan  
**Cc:** Johnson, Paul E. (UCO); Pelly, Suanne; Harris, Jonathon; Mark Ewbank  
**Subject:** SR 518 EA Comments

**George & Helen Klein**  
(I have their contact info)

We are deeply concerned about the additional noise generated by an added freeway lane. The level of noise as monitored by a sound meter is presently 75 DB during peak traffic and 85 DB with the present construction noise added. The measurement are from the western deck of our house.

8/1/2006

**George and Helen Klein**

E-mail Message: July 14, 2006

Subject: concerned about noise impacts at 15460 42<sup>nd</sup> Avenue South, Tukwila

Noise levels were modeled at six locations, representing one single-family residence and 13 apartment units located northwest of the SR 518 bridge over 42<sup>nd</sup> Avenue South (Receptors N, Q, R, and 12 in Exhibit 10 of the *Noise Discipline Report*). This area includes the residence at 15460 42<sup>nd</sup> Avenue South, Tukwila. The results showed that existing noise levels and future noise levels with the Proposed Project exceed the Noise Abatement Criteria established by the U.S. Federal Highway Administration for all six modeled locations. Noise mitigation was evaluated in this area; however, construction of noise barriers along the north side of the SR 518 bridge over 42<sup>nd</sup> Avenue South was deemed infeasible due to construction constraints at the crossing (see *Noise Discipline Report* Page 3-2, Paragraph 2). However, the Environmental Assessment has been revised to include a noise barrier extension eastward across the south side of the SR 518 bridge over 42<sup>nd</sup> Avenue South (see Attachment 1 of this FONSI).

-----Original Message-----  
From: Robin Tischmak [mailto:rtischmak@ci.tukwila.wa.us]  
Sent: Wednesday, August 09, 2006 4:00 PM  
To: Johnson, Paul E. (UCO)  
Subject: SR-518 Sound Walls

Paul-

I have gone through the comments that were given to me by one of our Councilmembers and have narrowed them down to the following questions:

From the Noise analysis that was done, Receptor Numbers "D" and "G" appear to not receive any noise mitigation from the project. Please explain why no mitigation was provided.  
If a noise wall is not feasible, why does insulation of the buildings not apply ?

Also, a request has been made to have Don Tomaso from our Fire Department included in the design of the noise walls on the north side of SR-518. There could be issues with respect to ladder access or access to fire hydrants in responding to Sound Transit's guideway.

Thanks for any help on this.

Robin

**Robin Tischmak**

E-mail Message: August 9, 2006

Subject: concerned about noise impacts at 15460 42<sup>nd</sup> Avenue South, Tukwila

As stated in the previous response, noise levels were modeled at six locations, representing one single-family residence, 13 apartment units located northwest of the SR 518 bridge over 42<sup>nd</sup> Avenue South (Receptors N, Q, R, and 12 in Exhibit 10 of the *Noise Discipline Report*), and three residences southeast of this overcrossing (Receptors D and G in Exhibit 10 of the *Noise Discipline Report*). The results showed that existing noise levels and future noise levels with the Proposed Project exceed the Noise Abatement Criteria established by the U.S. Federal Highway Administration for all six modeled locations. Noise mitigation was evaluated in this area; however, construction of noise barriers along the SR 518 bridge over 42<sup>nd</sup> Avenue South was deemed infeasible because of construction constraints at the crossing (see *Noise Discipline Report* Page 3-2, Paragraph 2). Insulation of buildings could be feasible, but this remedy would only apply to public use or nonprofit institutional structures, not commercial and residential structures (see *Noise Discipline Report* Page 4-3, Paragraph 6 – Noise Insulation of Buildings and FHWA regulations (23 CFR 772)).