

## Attachment 4

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### Environmental Commitments

This attachment describes project mitigation commitments for construction and operation of the project. The mitigation measures are organized by elements of the environment, as presented in the EA. These commitments were included in the EA as Appendix Q, Environmental Assessment Commitments, issued on May 31, 2006. Other information regarding these commitments is noted in Attachment 1 of this document, which contains errata for the project EA. This list of commitments has been modified to identify the parties responsible for specific commitments and to incorporate revisions to the text. These commitments have been adopted as part of FHWA's final decision on the Proposed Project. They are listed to "assist with agency planning and decision-making" and to "aid an agency's compliance with NEPA when no Environmental Impact Statement is necessary" [40 CFR 1501.3(b) and 1508.9(a) (2)].

#### Environmental Commitments Identified in the EA Process

WSDOT has well-established design and construction practices for avoiding or minimizing impacts resulting from environmental conditions anticipated along the project alignment. The following sections describe the measures that WSDOT will include in the project to avoid or minimize impacts during construction and operation.

#### Project Measures to Avoid or Minimize Effects during Construction

Design elements such as boundaries of areas that could be affected and have been incorporated into the project specifications, as well as construction plans and procedures, will avoid or minimize most potential construction impacts. When appropriate, monitoring will be conducted to ensure that these design and construction measures are effective.

#### Measures for Air Quality

- Fugitive dust from construction activities will not be injurious to human health, plants, animals, or property, and not unreasonably interfere with the enjoyment of life and property.
- Mitigation measures to comply with the Puget Sound Clean Air Agency (PSCAA) will be developed to control dust during construction and prevent mud deposits on paved streets (PSCAA Regulation 1, Article 9).
- No burning of slash will occur.
- Exposed soil will be sprayed with water to reduce PM10 emissions and deposition of particulate matter.

- All truck loads will be covered; materials in trucks will be wetted; or adequate freeboard (space from the top of the material to the top of the truck) will be provided to reduce PM10 and deposition of particulates during transportation.
- To decrease deposition of mud on area roadways, BMPs will be implemented per the Temporary Erosion and Sediment Control Plan.
- Particulate matter deposited on paved public roads will be removed to reduce mud on area roadways.
- Dirt, gravel, and debris piles will be covered as needed.
- Construction trucks will be routed and scheduled to reduce delays, which would reduce indirect air quality effects caused by reduced traffic speeds while waiting for construction trucks.
- Well-maintained equipment will be used to reduce CO and NOx emissions.

### **Measures for Energy**

- Construction plans will make every attempt to minimize roadway congestion and adhere to construction practices that encourage efficient energy use, such as limiting idling equipment and locating staging areas near work sites.

### **Measures for Hazardous Materials**

- Proper employee training, contaminated media contingency planning, and secondary containment for hazardous materials will be required of the contractor.
- Contaminated environmental media and hazardous materials should be contained so they are not readily available to the public, and/or public access should be restricted.
- Transportation of contaminated environmental media and hazardous substances on public right-of-way should be packaged and shipped in accordance with U.S. Department of Transportation (DOT) requirements to reduce the potential for releases.
- If a limited Preliminary Site Investigation and/or ambient air monitoring indicate that fugitive dust is an issue:
  - Workers must be notified;
  - Air monitoring during construction should occur;
  - Workers may be required to wear personal protective equipment during construction; and/or
  - Dust suppression techniques may need to be implemented at the proposed project site.

- When working with contaminants or unknowns, permissible exposure limits must be implemented. Worker exposures to any regulated contaminant should not exceed the permissible exposure limits based on a regular eight-hour working day.
- Workers must be provided with personal protective equipment that is appropriate for site conditions.
- The Contractor will provide a Spill Prevention Control and Countermeasure (SPCC) Plan prior to commencing work.
- The Contractor will be required to address stormwater diversion, the use of catch basins and soil berms, stormwater pollution prevention Best Management Practices, and the covering of soil stockpiles to prevent erosion.
- Structures (including all ramps and associated railings) to be demolished and suspected of containing lead-based paint (LBP) should be sampled to determine the characteristics of the debris for disposal purposes.
- LBP waste may need to be analyzed for leachability characteristics prior to determination of an appropriate disposal facility.
- All utility locations should be identified during the Proposed Project's design phase.
- Less than two days and no more than ten days prior to starting excavation, the Underground Utility Location Center must be notified (1-800-424-5555).

### **Measures for Cultural Resources**

- WSDOT will prepare an Unanticipated Discovery Plan for the project that the contractor shall follow. This will avoid or minimize unanticipated effects to historic, cultural, and archaeological resources.

### **Measures for Land Use**

The following measures will be taken to avoid or reduce the effects of construction activities on land uses:

- Advance notice will be provided to local residents and business owners regarding travel delays or detours.
- Construction activities will be timed to avoid peak hours when congestion related to construction would have the greatest affect on local drivers.

### **Measures for Noise**

To reduce construction noise at nearby receptors, WSDOT will incorporate the following activities where practicable:

- Three noise barriers (walls) are proposed for the project corridor. These barriers are feasible considering the total noise environment, which includes traffic noise, aircraft noise, and future light rail noise.
- Limiting noisiest construction activities (i.e., pile driving) to between 7 a.m. and 10 p.m. to reduce construction noise levels during sensitive night-time hours.
- Outfitting construction equipment engines with adequate mufflers, intake silencers, and engine enclosures to reduce their noise by 5 to 10 dBA.
- Turning off construction equipment during prolonged periods of nonuse to eliminate noise.
- Requiring contractors to maintain all equipment and train equipment operators in good practices to reduce noise levels.
- Locating stationary equipment away from receiving properties to decrease noise.
- Constructing temporary noise barriers or curtains around stationary equipment that must be located close to residences to decrease noise levels at nearby sensitive receptors.
- Requiring resilient bed liners in dump trucks being loaded on-site during nighttime hours.
- Requiring contractors to use ambient sound-sensing backup alarms to reduce disturbances from backup alarms during quieter construction periods.
- Prohibit banging of dump-truck tailgates.
- Obtaining noise variances from the cities of Tukwila and SeaTac for construction activities during night-time hours.
- Implementing early construction of permanent noise barriers to provide noise shielding.

## **Measures for Social and Economic Elements**

- Proposed construction activities associated with widening SR 518 as it crosses 42<sup>nd</sup> Avenue South will require closing the local street to set the bridge girders. Traffic would be allowed to use a portion of the roadway during other construction activities, so traffic could continue to flow between the Thorndyke and McMicken neighborhoods during construction.
- To minimize disruptions in the community, many additional activities will occur prior to the start of construction, including the following:
  - Public Services and Utilities

- Coordinating with utility providers to avoid potential construction effects on utilities that could be disturbed by construction.
- Pedestrian, Bicycle, and Transit Facilities
  - Coordinating with all transit agencies operating in the area to alert them of construction activities and their duration. This will allow transit agencies to make temporary changes to affected routes and alert customers.
- Neighborhood Cohesion
  - Providing residents with opportunities to make suggestions to avoid or reduce potential social effects.
- The following additional steps will be taken to reduce potential temporary construction effects on social and economic resources:
  - Public Services and Utilities
    - Coordinating with public service and utility providers throughout the construction period and providing advance notice of construction schedules, activities, road closures, traffic detours, and/or anticipated traffic delays that may occur.
    - Establishing an emergency communication plan with utility providers in case unanticipated utility facilities are discovered or potentially damaged during construction.
  - Pedestrian, Bicycle, and Transit Facilities
    - Installing signage during construction that properly directs pedestrians and bicyclists to temporary detour routes.
    - Providing signage to alert transit riders of potential temporary changes in stop locations and/or services.

## **Measures for Transportation**

- WSDOT will develop a conceptual traffic maintenance plan to illustrate how construction can occur with minimal disruptions to existing traffic patterns and capacity on SR 518, adjacent interchanges at the North Airport Expressway/SR 99 and I-5/I-405, and local roadways.
- WSDOT will obtain detour agreements with the cities of SeaTac and Tukwila, if needed.
- No long-term closures of SR 518, in either direction, are assumed or expected to occur during construction. However, temporary lane shifting will be required to provide a safer construction environment.

- Construction staging will occur within areas of existing WSDOT right-of-way and would provide room for large equipment, material storage, and employee parking.
- When the SR 518 bridge over 42<sup>nd</sup> Avenue South is widened, short-term workday or night-time closures on 42<sup>nd</sup> Avenue South will likely be required while the bridge girders are put in place.
- While under construction, the number of lanes existing today will be maintained during peak hours. This will be achieved by shifting lanes during some construction activities.

### **Measures for Visual Quality**

- To soften the appearance of pavement and provide a visual transition from the roadway, new stormwater facilities along the roadway shoulder will include ecology embankments where space and access allow.
- Design guidelines that include visual standards for the corridor will be established. The guidelines and standards will present ways to ensure visual unity and consistency throughout the SR 518 corridor. These could include defining the appearance and style of built elements such as lighting, railings, sign bridges, retaining walls, and noise barriers.
- Areas where vegetation has been removed will be revegetated. WSDOT's Roadside Classification Plan policies require areas within the right-of-way and construction easements to be revegetated to align with goals for the designated roadside classification.
- Landscaping that is compatible with the existing vegetation's character will be established.
- The Roadside Classification Plan guidelines will be used to blend the Proposed Project into the adjacent land uses while creating a unified experience for the roadway user.
- Retaining walls and noise barriers will be designed to ensure a unified visual appearance as viewed from within the roadway corridor.

## Measures for Geology and Soils

WSDOT will implement required measures to avoid or minimize geologic impacts during construction. These will include the following:

- A large landslide feature was identified at the eastern end of the project. The geotechnical investigation has evaluated the portions of the landslide area adjacent to the project, and the design will include appropriate construction procedures to maintain or enhance slope stability. WSDOT will prepare a Temporary Erosion and Sediment Control Plan.
- WSDOT will prepare project contract plans that include earthwork plans, drainage plans, and slope stabilization plans, including horizontal drains and temporary and permanent erosion control plans.
- During construction, the contractor will drain areas of observed or suspected groundwater seepage to reduce the risk of landslide and surface sloughing through the use of gravel drainage blankets, French drains, horizontal drains, and/or placement of a surface rock facing or similar methods.
- WSDOT will develop the means and methods to avoid or minimize settlement. Construction vibration, particularly that generated by driven pile installation (if allowed by resource agencies), large-diameter drilled pier installation, and any required ground improvement, can cause settlement of adjacent areas underlain by loose granular soils. Project engineers will identify and mitigate these areas during the design phase.
- A detailed Temporary Erosion and Sediment Control Plan will be included as part of the contract. The plan will follow Best Management Practices (BMPs), which may include the following:
  - Quarry spalls and truck washes in locations where construction vehicles exit the site.
  - Regular sweeping and washing of adjacent roadways.
  - Silt fences downslope of all exposed soil.
  - Quarry spall-lined temporary ditches with strategically placed straw bales or other sediment catchment dams.
  - Temporary covers over soil stockpiles and exposed soil slopes.
  - Temporary erosion-control blankets and mulching to minimize erosion prior to vegetation establishment.
  - Temporary sedimentation ponds for removal of suspended solids prior to discharge.
  - Limits on the area exposed to runoff at any given time.

- Should any BMPs or other operation not function as intended, the contractor will take additional action to minimize erosion, maintain water quality, and achieve the intended environmental performance.
- To prevent deterioration of the hillside face, the following features will be constructed:
  - Horizontal drains installed into the hillside.
  - Ditches along the freeway to convey stormwater runoff to detention sites.
  - Rock fill placed along the hillside face to stabilize selected areas as needed.
- Erosion and sedimentation will be reduced by limiting some construction work to the drier months of the year as needed.
- Regulatory agencies will review plans to protect drainageways and control sediments prior to the start of construction.
- Construction activities will require a permit under the National Pollutant Discharge Elimination System's stormwater rules.
- Slopes and earth-retaining structures would be designed to meet current WSDOT seismic design requirements.
- Walls for use within glaciolacustrine silts and clays will be designed assuming that the soils have already deformed and softened and retain only their residual strength.
- Contract provisions will limit visible dust.
- No demolition or excavation will be allowed over active traffic lanes during peak hours.
- Containment systems will be provided beneath existing bridges during sawcutting to catch small debris and avoid drainageways.
- Water collected from construction dewatering systems will be from open sumps and likely be relatively turbid, both initially and intermittently, as equipment works in close proximity to the sumps. Dewatering flows will be routed through temporary sedimentation ponds or baker tanks to remove suspended solids. Advanced treatment to remove very fine suspended clay and silt particles would be conducted as required.
- Erosion and sedimentation will be reduced by limiting construction work to the drier months of the year (typically June 1 through October 31).

## Measures for Ecosystems

- A retaining wall will be constructed to reduce permanent impacts on Wetland 7. Wetlands will be affected only in areas where the wetland abuts the existing roadway and highway safety considerations make avoiding the wetland impossible.
- Wetland and wetland buffer areas that are temporarily affected during construction will be replanted with native species following construction.
- Compensatory mitigation for wetland impacts will be provided within Water Resource Inventory Area (WRIA) 9, which is the WRIA where the wetland impacts will occur. Impacts will be mitigated by purchasing credits from the Springbrook Creek Wetland and Habitat Mitigation Bank.
- All runoff from new impervious surfaces, or equivalent areas of the existing SR 518 lanes, will be managed using stormwater facilities. These facilities are designed to provide enhanced treatment for stream water quality protection in accordance with WSDOT's *Highway Runoff Manual* (WSDOT, 2004b).
- The project will have no permanent effects on federally or state-listed fish species or federal fish species of concern because none exist within the proposed project area.
- The following conservation measures will be taken to avoid any adverse impacts on downstream fisheries resources and aquatic habitat:
  - The 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 (predeveloped) conditions, in accordance with WSDOT's *Highway Runoff Manual* requirements.
  - A Temporary Erosion and Sediment Control Plan will be implemented during construction to control stormwater runoff and minimize sedimentation in Gilliam Creek. The Best Management Practices outlined in the plans will be used to control sediments from all vegetation removal and ground-disturbing activities.
  - Perimeter protection or silt fences will be installed as needed to protect surface waters and other critical areas.
  - All construction activities will comply with water quality standards set forth in the implementing agreement between WSDOT and the Washington State Department of Ecology regarding compliance with the state of Washington surface water quality standards (WSDOT, 2004a).
  - Wherever possible, construction equipment used for project activities will be operated from existing roads or the stream bank. Construction equipment may have to enter a portion of the southwest tributary of

Gilliam Creek to construct an adjacent retaining wall, in which case stream flow will be temporarily routed around the construction zone. The streambed and banks will be restored after construction. Construction equipment will also operate in existing stream channel areas where Tributary 1 and Tributary 2 are realigned. Temporary stream flow routing around these work areas will be accomplished.

- Staging for construction will not occur in environmentally sensitive areas, as defined by the King County Sensitive Areas Ordinance and local jurisdictions, which include wetlands, streams, alongside streams, or on steep slopes, unless allowed in the project permits.
  - Material that may be temporarily stored for use during project activities will be covered with plastic or other impervious material to prevent sediments from being washed from the storage area to surface waters.
  - A Spill Prevention, Control, and Countermeasures (SPCC) Plan will be in effect during project implementation. This plan provides containment and cleanup procedures in the event of an accidental spill of fuel or other chemicals during project construction.
- The Proposed Project will result in no known unavoidable negative effects on fish or aquatic habitat.
  - Project construction will not affect federally and state-listed species and species of concern because no species with this status and no outstanding habitat for these species are known to occur in the proposed project area.
  - Sections of the southwest tributary of Gilliam Creek, Tributary 1, and Tributary 2 will be realigned to accommodate widening of the roadway and grading of the lower hillslope south of SR 518. The realigned segment of each stream channel will replicate or exceed the area of instream habitat in the existing channel. Thus, there will be no loss of habitat that could be accessed by listed fish species in the future.
  - Disturbed riparian areas adjacent to each stream will be planted with native vegetation within a buffer width commensurate with local jurisdiction stream buffer requirements.
  - The stream realignments for the southwest tributary and Tributary 1 will incorporate placement of logs and rootwads for channel stabilization and to enhance biological productivity for the benefit of Gilliam Creek downstream of the project area.
  - Approximately 61 additional feet of the Tributary 1 stream channel will be replaced on the slope beyond (above) the limits of hillslope grading required for the roadway improvements to provide a natural-bed channel where there is currently asphalt lining underlying the channel. A 12-inch culvert through which

the stream currently flows near the base of the slope (above the SR 518 ditch line) will be removed as part of the channel improvements.

- Where possible, retaining walls will be used to lessen the habitat area affected by road widening.
- Only existing disturbed areas will be used for construction staging sites.
- Areas that are temporarily disturbed during construction will be replanted with grass and native species.
- Temporary vegetation clearing and shading will be provided to reduce wildlife habitat until the vegetation is reestablished following construction.

### **Measures for Water Resources**

- The Proposed Project is designed to avoid or minimize adverse effects that could otherwise occur in Gilliam Creek. Because Gilliam Creek is severely altered and degraded compared to its natural condition, it is important that stormwater treatment and flow control measures be included in project plans for protection of the already stressed stream. The stormwater treatment and detention facilities that will be built as part of the Proposed Project will support the city of Tukwila's efforts to improve conditions in Gilliam Creek.
- A Temporary Erosion and Sediment Control (TESC) Plan will be implemented during construction to control stormwater runoff and minimize sediment transport to Gilliam Creek. These measures will greatly reduce the extent of temporary water quality impacts that occur in the creek.
- A Spill Prevention, Control, and Countermeasures (SPCC) Plan will be in effect during construction according to WSDOT standards. This plan details containment and cleanup procedures in the event of a spill of fuel or other chemicals during construction. Effective implementation of the SPCC Plan will greatly reduce the potential for release of toxic materials into Gilliam Creek during construction.
- The proposed stormwater facilities will include treatment systems for runoff from approximately 2.9 acres of new impervious surfaces and approximately 2 acres of existing impervious surfaces in the SR 518 corridor. Ecology embankments are proposed for enhanced treatment of runoff from these portions of SR 518 per WSDOT's *Highway Runoff Manual* requirements.
- The proposed stormwater facilities will include a detention pond to control runoff from the equivalent area of added impervious surfaces (approximately 2.9 acres) and converted pervious (off-road) surfaces (approximately 2.6 acres). The detention pond will be designed to mimic peak flow rates and durations of peak flows to match existing conditions in the project corridor for all storm events up to the 50-year recurrence interval storm event.