Washington State Department of Transportation
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SR 520 Bridge Replacement and HOV Program
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December 14, 2011

Randall Overton
Bridge Administrator
Thirteenth Coast Guard District
915 Second Avenue
Seattle, WA 98174-1067

Re: I-5 to Medina: SR 520 Bridge Replacement and HOV Project
Governor A. D. Rosellini Bridge Replacement

Dear Mr. Overton:

The Washington State Department of Transportation (WSDOT) is submitting the enclosed application package for the I-5 to Medina: SR 520 Bridge Replacement and HOV Project. This overall Project includes the construction/replacement of three separate bridge structures. As requested by U.S. Coast Guard (USCG) staff each bridge is being submitted as a separate application. This application package is for the replacement of the Governor Albert D. Rosellini Bridge, the main SR 520 bridge structure across Lake Washington. WSDOT is applying for a Bridge Permit from the USCG) under the authority of the General Bridge Act of 1946.

Current project schedules estimate that construction must begin in early 2012 to meet the targeted December 2014 opening of the new floating span. To remain on schedule, WSDOT would need to obtain all permits applied for in this submittal prior to March 1, 2012, in order to incorporate permit conditions into contract documents.

As recommended by the USCG at a June 22, 2011 coordination meeting to ensure maximum construction flexibility, WSDOT would like to make the following request regarding the permit provisions:

1. WSDOT requests that the exact location of the work bridges as shown on the plans are not a requirement of the permit conditions.
2. WSDOT requests that permit conditions that accommodate a design-build scenario pursuant to Chapter 5(F) of the Bridge Administration Manual. WSDOT and its contractors are still evaluating the design of the west approach structure which could affect the vertical clearances of the navigation channel. WSDOT will maintain a minimum vertical clearance of 44 feet consistent with the existing structure.
3. Because of the potentially long timeframe for project construction, WSDOT requests that the USCG issue the permit with a 15-year expiration period. This time frame is consistent with the permit requests to the U.S. Army Corps of Engineers (Corps).

In accordance with the information requested in the USCG Bridge Permit Application Guide, Table 1, below, lists the contents of this application package. If a required element is not currently available, an estimated date of availability is included in the table. Please be aware that many of documents were

prepared for the overall I-5 to Medina Project and therefore contain information on portions of the project that are not the subject of this application package.

Table 1 – Bridge Permit Submittal Package Contents

Included Information	Hard Copies Enclosed	Discs Enclosed
Cover Letter and Application	1	2
Completed JARPA Form – Attachment A	1	2
Supplemental Project Description – Attachment B	1	2
Public Notice Mailing List – Attachment C	1	2
NEPA Record of Decision - Attachment D	---	2
NEPA Final Environmental Impact Statement – Attachment E	---	2
Floating Bridge and Approaches Figures – Attachment F	1	2
Biological Assessment – Attachment G	---	2
Biological Opinions – Attachment H	---	2

Information Not Available	Date Anticipated
Department of the Army Permit (Section 404 and Section 10)	March 2012
CZM Consistency Determination	March 2012
NEPA Addendum	January 2012

The Federal Highway Administration (FHWA) is the National Environmental Policy Act (NEPA) Lead Agency and WSDOT is the State Environmental Policy Act (SEPA) Lead Agency. A NEPA and SEPA Final Environmental Impact Statement (EIS) has been prepared and issued on June 17, 2011, completing the SEPA process. FHWA issued a NEPA Record of Decision on August 4, 2011, completing the NEPA process.

WSDOT and FHWA are in the process of preparing a NEPA addendum to reflect the update designs presented in this package. However at this time no additional significant adverse impacts have been identified and FHWA does not intend to re issue the ROD. Current schedules have that addendum being completed January 2012.

Please, if you have any questions regarding the application or project please contact me at 206-770-3632 or whites@consultant.wsdot.wa.gov.

Sincerely,

Regulatory Compliance Manager
SR 520 Bridge Replacement and HOV Program

cc: WSDOT Document Control
Project File

Governor A. D. Rosellini Bridge Replacement Project
Bridge Permit Application Letter

Applicant Information:

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Project Information:

The project will replace the existing State Route (SR) 520 Governor Albert D. Rosellini Bridge (floating bridge) and bridge approaches (Bridge No. 520/8) with new structures. The new bridge and approaches are comprised of an aggregate of fixed span structures and a floating span.

Federal Lead Agency and Funding

The Federal Highway Administration (FHWA) is the lead federal agency for the project and is contributing federal money to the Project. A National Environmental Policy Act (NEPA) Final Environmental Impact Statement (EIS) has been prepared and was issued on June 17, 2011, completing. FHWA issued a NEPA Record of Decision on August 4, 2011, completing the NEPA process.

WSDOT and FHWA are in the process of preparing a NEPA addendum to reflect the update designs presented in this package. However at this time no additional significant adverse impacts have been identified and FHWA does not intend to re issue the ROD. Current schedules have that addendum being completed January 2012.

The complete project is anticipated to cost $1.5 billion which will come from a mix of federal and state funding.

Project Location and Description

The project is located in King County, Sections 21, 22, 23 and 24 Township 25 North, Range 4 East and passes through the cities of Seattle and Medina. The existing bridge and proposed replacement cross Lake

Washington approximately 8.2 miles south of the northern end of the lake. The proposed bridge will start in the Seattle neighborhood of Montlake traveling east across a series wetlands and small inlets of Union Bay, commonly referred to as the Arboretum area. Continuing east the structure will cross Foster Island as a fixed bridge structure before beginning to enter Lake Washington just north of the Madison Park neighborhood. As the bridge approaches the open water of Lake Washington it will begin to rise in elevation before connecting to the floating portion of the bridge at a transition span. The floating portion of the bridge continues east across Lake Washington before transition to a fixed approach structure on the east side of the lake which connects to land in Medina.

The following sections describe the replacement of each structural element in a geographic sequence from west to east: the west approach fixed span structures, the floating span, and the east approach fixed span structures. Additional information regarding environmental effects and impacts is available in the attached supporting documents.

West Approach

The existing bridge has two separate structures, the Union Bay Bridge and the west approach of the floating bridge, on either side of Foster Island. The project will replace these with two structures, one for eastbound traffic and one for westbound traffic, that travel over Foster Island as continuous fixed-span bridges throughout their length. The west approach will begin in Montlake and extend through Union Bay, across Foster Island, and out into Lake Washington, terminating at the west transition span and the beginning of the floating bridge. Improvements in this area will also include the removal of the existing Lake Washington Boulevard eastbound on-ramp and westbound off-ramp and the R.H. Thomson Expressway ramps.

Substructure elements will include drilled shafts and concrete support columns; no mudline footings are planned. The total number of columns and the number of in-water columns will be reduced relative to existing conditions. Overall, the width of the new west approach will range between 252 feet near Montlake to 112 feet at the west transition span, with a gap width ranging between 7 and 40 feet. The height of the bridge over water will increase from about 12 feet near Montlake to 48 feet near the west transition span. The overall length of the structure is approximately 6,025 feet.

The new bridges in the west approach area will require construction of temporary work bridges adjacent to the existing bridge. Traffic will use the existing bridge until the northern half of the new bridge is built and then shift to the new north structure while the existing bridge is demolished and the new south structure is built. Construction activities and durations in this area will occur over a 6-year period. Work bridges constructed adjacent to the Lake Washington Boulevard on- and off-ramps will be in place for 2 years to facilitate demolition of these existing ramps. There will be periods of time when navigation through the existing west navigation channel is temporarily closed or completely blocked due to intensive construction activities.

The west approach substructure will consist of 42 pier bents: 39 in-water pier bents and an additional three pier bents on Foster Island. Most span lengths will be 150 feet, although the spans between pier bents 13 to 14 and 17 to 18 (on either side of Foster Island) will be 129 feet in length, and span 41 (the easternmost span before the transition span) will be 160 feet in length. The transition span between pier 42 and the floating bridge will be 190 feet.

Vessels passing under the new west approach will be able to use two navigation channels at the eastern end of the structure: one opening located beneath the transition span, between pier bent 42 and the first pontoon and the one span west between pier bent 42 and 41. The minimum overhead vertical clearance

for the westerly navigation channel will be approximately 47 feet and the easterly 48 feet. At these minimum vertical clearances both channels will be 142 feet wide. The shallowest water depth in the navigation channels is approximately 23 feet at the west edge of the westerly channel.

Floating Bridge

The existing floating bridge will be replaced with a similar although larger structure composed of support columns and a roadway deck constructed on a foundation of hollow concrete pontoons that will be connected in series across the deeper portion of the lake. The new floating span will be located between 190 and 160 feet north of the existing bridge. The new six-lane floating bridge will consist of a single row of 21 longitudinal pontoons, 2 (perpendicular) cross pontoons (one at each end of the floating bridge), and 54 supplemental stability pontoons. The longitudinal pontoons will measure 360 feet long by 75 feet wide by 28.5 feet deep. The cross pontoons will measure 240 feet long by 75 feet wide by 33 and 34.5 feet deep. The supplemental stability pontoons will measure 98 feet long by 50 to 60 feet by 28.5 feet deep. The overall length of the new floating span will be approximately 7,710 feet, compared to the existing 7,580 feet.

As with the existing floating bridge, the floating pontoons for the new bridge will be anchored to the lake bottom to hold the bridge in place. The anchor types are likely to consist of fluke anchors for the deepest anchor locations (180 feet deep or more) and gravity anchors for shallower, sloped anchor locations. The use of a third type of anchor referred to as shaft anchors is being evaluated at locations where gravity anchors might interfere with navigation. A total of 58 anchors are proposed: 58 fluke anchors, 8-12 gravity anchors and up to 5 shaft anchors. Submerged anchor cables have the potential to create a navigation hazard and would be appropriately signed or cordoned off and marked with buoys. The new floating span will not provide a navigation opening such as the draw-span on the existing Evergreen Point Bridge. Vessels will be limited to the navigation clearances associated with the new east and west approach navigation openings.

Construction activities associated with pontoon installation are anticipated to occur over an estimated 3-year period, beginning in 2012 and ending in early 2015. The existing draw-span is anticipated to remain operational until the final mid-span pontoons are installed in 2013-2014.

East Approach

The existing east approach structure will be replaced with a higher and wider structure, and the alignment will be shifted north. Similar to the west approach bridge two separate structures will be constructed one for eastbound traffic, the other for westbound traffic. The new east approach structures will sit on two spread footing foundations constructed 8-10 feet below the mudline. One footing will be in-water, 200 feet from the shoreline and the other just on shore. Two support columns will rise from each footing. Segmental cast-place-box girders will be used to create the superstructure and roadway. The segmental approach first builds on top of each support column then moves out from the base in both directions casting box girder segments in sequence. This construction method does not require extensive work bridges or false work to support the concrete forms. The combined width of the north and south structures will range from 134 to 152 feet, from west to east and will be approximately 630 feet long. The transition span between the floating bridge and the east approach structure will be 190 feet long

A temporary construction work bridge will be constructed to the north of the proposed bridge alignment, adjacent to and facilitating construction of the approach structure and the in-water foundation pier. Cofferdams would be installed around the pier foundations to allow for excavation and work area isolation. Construction of the east approach would generally coincide with the floating span construction.

There will be periods of time when navigation through the east approach is temporarily closed or completely blocked due to intensive construction activities.

The navigation channel under the east approach structure will be located between the floating bridge and the westerly foundation pier. At the minimum vertical clearance of 70 feet, the navigation channel will be 231 feet wide with a minimum water depth of 20 feet.

The drawings for the new floating bridge and approaches are included in Attachment F.

Interim West Connection Bridge

The previous description of the west approach bridge structure represents the full construction of the project. However due to funding constraints WSDOT is planning for an interim design that would replace the east approach and floating bridge structures but then use an interim connection bridge to connect the west side of the new floating bridge to the existing west approach structure. The drawings in Attachment F contain plan and elevation figures of the west connection bridge.

The west connection bridge will be constructed in a similar fashion to the ultimate west approach structure and will be approximately 58 feet wide and 1,335 feet long. The navigation channels will also be similar to the ultimate structure with the easterly navigation channel having a minimum vertical clearance of 43 feet and the westerly 47 feet. Both channels will be 142 feet wide. Because the new floating bridge will block the main existing west navigation channel and the existing west approach structure will be in place during this interim condition the effective navigation channel will be minimum of 43 feet vertical by 85 feet horizontal due to overlapping between the different elements piers and pontoons.

Purpose and Need

The Evergreen Point Bridge is a critical component of the Puget Sound region's transportation infrastructure. It is one of only two major connections across Lake Washington that link urban centers in Seattle and the Eastside. The SR 520, I-5 to Medina Project addresses two key issues facing the SR 520 corridor: 1) bridge structures that are vulnerable to catastrophic failure; and 2) traffic demand that exceeds capacity.

The Evergreen Point Bridge and its approaches are in danger of structural failure. WSDOT studies have demonstrated that the floating span of the Evergreen Point Bridge is highly vulnerable to windstorms, while the Portage Bay Bridge and the east and west approaches to the Evergreen Point Bridge are vulnerable to earthquakes. In 1999, WSDOT estimated the remaining service life of the floating portion of the Evergreen Point Bridge to be 20 to 25 years, based on its structural condition and the likelihood of severe windstorms. Its life expectancy now is only 8 to 13 years. WSDOT also estimates that over the next 50 years, there is a 20 percent chance of serious damage to the Portage Bay Bridge and the east and west approach structures from an earthquake due to their hollow columns that do not meet current seismic design standards.

The floating span of the Evergreen Point Bridge opened in 1963 and now carries approximately 115,000 vehicles per day across the lake, providing east-west access for commuters, freight, transit, and general purpose traffic. The corridor currently carries nearly twice as many vehicles as it was originally designed for, resulting in extended congestion and impaired mobility.

Legal Authority

The legal authority for the proposed bridges is found in the General Bridge Act of 1946, as amended. The existing and proposed bridges will be owned by WSDOT. The proposed bridge will be located in WSDOT right-of-way. WSDOT has been authorized by the state legislature to construct and maintain state highways, including bridges by Revised Code of Washington (RCW) 47.01.260(1).

Navigation Information

Summary of Construction Impacts on Navigation

Bridge construction will have various effects on navigation that would be mitigated to the extent practicable. A detailed description of the construction sequencing, timing, and impacts is included in the Supplemental Project Description, Attachment B. The following identifies potentially adverse effects to navigation and summarizes the proposed measures to minimize effects:

- Intensive construction activities are anticipated to necessitate periodic temporary closures or complete blockages of both the east and west navigation channels throughout the period of construction.
- At no time shall the existing east and west navigation channels be closed or blocked simultaneously.
- The existing center channel draw-span shall be blocked no earlier than April 1, 2013. Prior to blocking the center draw-span, blockage of the east navigation channel will be cleared, limiting the minimum vertical clearance to the 54 feet of the existing navigation channel. The width of the channel will be limited to 150 feet between the existing floating bridge and the new foundation pier.
- The permanent vertical clearance of 70 feet for the east navigation channel will be established, by demolishing the existing approach structure, no later than March 31, 2015.

Clearance and Elevation Summary

Horizontal and Vertical Clearance at Normal High Water (Normal Low Water is two feet lower)

Existing West Approach:

Vertical Clearance: 44 feet

Horizontal Clearance (between piers): 206 feet

Proposed West Approach:

Vertical Clearance: 48 feet (east channel); 47 feet (west channel)

Horizontal Clearance (between piers): 142 feet (each channel)

Existing Floating Bridge:

Vertical Clearance: N/A feet

Horizontal Clearance: 200 feet (bridge opening)

Proposed Floating Bridge:

Vertical Clearance: N/A feet

Horizontal Clearance: N/A feet

Existing East Approach Bridge:

Vertical Clearance: 57 feet

Horizontal Clearance: 207 feet

Proposed East Approach Bridge:

Vertical Clearance: 70 feet

Horizontal Clearance: 231 feet

Water Elevation: Normal High Water +18.72 feet; Normal Low Water +16.72 (NAVD 1988)

Length and Width of Overall Project:

- West Approach Structure – 6,025 feet long by 252 feet wide (max)
- West Transition Span – 190 feet long
- Floating Bridge – 7,635 feet long by 195 feet wide (at supplemental stability pontoons)
- East Transition Span – 190 feet long
- East Approach Structure – 630 feet long by 152 feet wide (max)
    - **Total – 14,670 feet**

Depth and Width of Waterway at MHW:

The waterway depth across the site varies from 20 feet to more than 200 feet deep. The minimum water depth for the west navigation channel is 23 feet and for the east navigation channel is 20 feet. In the vicinity of the bridge Lake Washington is approximately 2.8 miles wide.

Waterway Characteristics

Please see the Navigable Waterways Discipline Report of the FEIS, Attachment E, for a detail discussion of the existing waterway and vessel usage.

Construction and Demolition Activities

Please see the Supplement Project Description, Attachment B, for a detailed description of construction and demolition activities and methods.

Scheduled Construction Commencement Date: Assuming all required permits are obtained, construction of the new floating bridge is scheduled to begin 2012.

Anticipated Completion Date: Construction of the currently funded portion of the project, including the east approach, floating bridge and interim west connection bridge and demolition of the existing structures is scheduled to be completed by mid- 2015. If funding becomes available the complete west approach structure is scheduled to be completed by the end of 2017.

Summary of Maintenance of Traffic: Please see Chapter 3 of the FEIS, Attachment E, for a description of how vehicle and vessel traffic will be maintained during construction.

Required Agency Authorizations (Permits Required)

In addition to the USCG Bridge Permit, the project will require the following permits:

NEPA - FHWA

SEPA - WSDOT

Shoreline Substantial Development/ Conditional Use Permits – Cities of Seattle and Medina,

Critical Areas Ordinance - Cities of Seattle and Medina

Hydraulic Project Approval – Washington Department of Fish and Wildlife

Section 401 Water Quality Certification – Washington Department of Ecology

Coastal Zone Management Act Consistency – Washington Department of Ecology

Aquatic Resources Use Authorization – Washington Department of Natural Resources

Section 404/ Section 10 Permit – US Army Corps of Engineers

Environmental Effects

Significant Effect(s) on the Environment

The Federal Highway Administration (FHWA) as NEPA lead agency and WSDOT as SEPA lead agency prepared a draft (August 2006), supplemental draft (January 2010), and final (June 2011) environmental impact statement for the SR 520, I-5 to Medina project, which includes the floating bridge and its east and west approaches. FHWA signed the project's Record of Decision on August 4, 2011. With implementation of the proposed mitigation, the project will have no significant adverse effects on the environment.

Environmental Documentation

Alternatives:

Chapter 2 of the Final EIS summarizes the alternatives evaluated for this project and the process used to develop them. Prior to publication of the Draft EIS in August 2006, FHWA, Sound Transit and WSDOT engaged in an extensive alternatives screening process. Many engineering and environmental factors, as well as cost considerations, were used to compare the alternatives. Key factors included impacts on neighborhoods, parks and recreation, cultural resources, and traffic.

Based on the results of the screening process, the Draft EIS evaluated three alternatives: No Build, 4-Lane, and 6-Lane. The SDEIS evaluated No Build plus three design options of the 6-Lane Alternative (Options A, K, and L), which were developed during a legislatively mandated project mediation process. The Final EIS evaluated No Build; Options A, K, and L; and a Preferred Alternative similar to Option A. The discussion below will focus on the alternatives evaluated in the Final EIS.

Common to all the build alternatives is that they involve replacement of the floating bridge and its approaches with a new 6-lane bridge. The location of the floating span and the navigational channel and the design of the east approach structure are the same between the Preferred Alternative and Options A, K, and L. However, the Preferred Alternative and options vary in the design of the west approach to the floating span. A summary of the differences is provided below.

Preferred Alternative: The Preferred Alternative will replace the existing floating span with a new bridge located approximately 190 feet north of the existing bridge at the west end and 160 feet north of the existing bridge at the east end. The design and layout of the floating bridge and both east and west approach structures are described above.

In the Preferred Alternative option the west approach structure will have a constant slope of 0.7% from east to west to allow for gravity drainage of stormwater runoff. The grade will increase from 12 feet above the water surface at the Montlake shoreline up to 48 feet at the west transition span to the floating bridge.

Option A: This option would have the same floating span and east approach as the Preferred Alternative. The west approach would be similar to the Preferred Alternative, but its profile, rather than having a constant grade, would rise over Foster Island, lower somewhat to the east, then rise to meet the west transition span. The minimum overhead clearance for navigation would be approximately 41 feet, 3 feet lower than today.

Option K: This option would also have the same floating span and east approach as the Preferred Alternative. In the west approach area, the bridge structures would widen as they approached the shoreline to accommodate a new single-point urban interchange, located approximately 1000 feet east of the existing interchange. The interchange would be depressed, requiring the construction of a 500-foot-long fill section into Union Bay. Width of the west approach structure would range from 192 to 250 feet to accommodate six westbound lanes (two off-ramps, two general-purpose lanes, two HOV lanes, and an HOV/transit direct access ramp) and five eastbound lanes (two on-ramps, two general-purpose lanes, and an HOV lane). Span lengths would be shorter than the Preferred Alternative (20 to 140 feet) as a result of the low structure height, which would remain approximately 6 feet above the water through the Arboretum before rising to meet the west transition span. As with option A, the minimum navigational channel clearance would be 41 feet.

Option L: This option would also have the same floating span and east approach as the Preferred Alternative. The west approach footprint would be similar to that of Option K, but the profile would be different because the new interchange would be elevated rather than depressed. Width of the west approach structure would range from 199 to 270 feet to accommodate six westbound lanes (two off-ramps, two general-purpose lanes, two HOV lanes, and an HOV/transit direct access ramp) and five eastbound lanes (two on-ramps, two general-purpose lanes, and an HOV lane). Span lengths would be from 63 to 350 feet. Like the Preferred Alternative, this option would have a constant slope, although it would be shallower (0.3% as opposed to 0.7%). As with option A, the minimum navigational channel clearance would be 41 feet.

Water Quality Certification:

Water Quality Certification will be obtained from the Washington State Department of Ecology (Ecology). A Joint Aquatic Resources Permit Application (JARPA) was submitted for the overall I-5 to Medina Project in March of 2011.

For those portions of the approach structures that can be conveyed to land by gravity, including most of the west approach, stormwater will be treated in accordance with the Ecology approved Highway Runoff Manual. This treatment will utilize constructed wetland stormwater facilities to provide an enhanded level of treatment.

For those portions of the approach structures and floating bridge that stormwater cannot be conveyed to land WSDOT has completed an All Known, Available, and Reasonable Technologies (AKART) study.

The study recommended modified catch basins, discharge into "lagoons" integrated into the supplemental stability pontoons and the use of high-efficiency sweeping, which have been incorporated into the project design. A detailed description of the stormwater treatment is in Chapter 2.7.1 of Attachment E.

Coastal Zone Management Plan:

WSDOT understands that a Coastal Zone Management Act (CZMA) consistency determination is required for the Coast Guard to issue the bridge permits. The Project has submitted applications for Shoreline Substantial Development Permits from the Cities of Medina and Seattle and an application for a 401 Water Quality Certification from Department of Ecology. These permits are required for Ecology to issue a CZMA consistency determination. All local jurisdictions and Ecology have committed to issuing the shoreline approvals and 401 certification by February 15, 2012 with a concurrent issuance of the CZMA determination.

Floodplains: N/A

Historic Preservation:

FHWA and WSDOT have consulted with the Washington State Historic Preservation Office (SHPO), the Advisory Council on Historic Preservation (ACHP), US Army Corps of Engineers (Seattle District), National Oceanic and Atmospheric Administration, and the following federally recognized Tribes in accordance with Section 106 National Historic Preservation Act of 1966: Muckleshoot Indian Tribe, Nisqually Tribe, Puyallup Tribe, Snoqualmie Tribe, Suquamish Tribe, Tulalip Tribes, and Yakama Nation. In addition, the Duwamish Tribe, a non-federally-recognized tribe, is kept informed of the project.

WSDOT identified over 300 historic properties, two historic districts, and one traditional cultural property within the Area of Potential Effects (APE). Under Section 106, WSDOT also consulted with 16 additional groups, including jurisdictional agencies, community, and historic groups. A programmatic agreement between FHWA, WSDOT, SHPO, ACHP, the Corps, NOAA and the Section 106 concurring parties regarding measures to resolved adverse effects to historic properties eligible for listing on the National Register of Historic Places was executed in June 2011.

SHPO concurred upon the Section 106 Technical Report for the project in March 2011. The report includes salient identification, inventory, and analysis archaeological, historic, and traditional cultural properties within the APE for the projects, and potential measures to resolve adverse effects to these resources. Prior to start of construction, archaeological investigation will occur as outlined in the Archaeological Treatment Plan, which was finalized in September 2011. Additionally, the Programmatic Agreement addresses how Section 106 review of mitigation sites and other project elements outside of the APE will occur when site selection is complete.

In addition to cultural resource interests, the Muckleshoot Indian Tribe has treaty fishing rights in Lake Washington. For this reason, the Muckleshoot Indian Tribe has been actively involved in the Natural Resources Technical Working Group and Section 106 processes for the project. WSDOT and FHWA have worked to address the Tribe's concerns about treaty fishing, cultural resources, and habitat through the NEPA, Section 106, and mitigation plan coordination. WSDOT and FHWA have also engaged at the executive level in Government-to-Government consultation with the Muckleshoot Indian Tribe to resolve impacts to the Tribe's treaty fishing rights. This consultation resulted in a Memorandum of Agreement that documents FHWA's and WSDOT's commitment to a set of specific measures to offset treaty fishing impacts.

Wetlands:

The Ecosystems Discipline Report (Attachment 7 to the FEIS) details the presence, extent, and characteristics of wetlands in the project area, along with impacts to wetlands and the proposed mitigation. For the project as a whole, there are no reasonable and feasible alternatives that would avoid impacts to wetlands.

The floating bridge and east approach would not affect any wetlands. In the west approach area, the project would fill approximately 0.1 acre of wetland and 0.4 acre of wetland buffer, and would shade 4.3 acres of wetland and 0.9 acre of buffer. The affected wetlands are primarily lake fringe wetlands containing aquatic bed, emergent, scrub-shrub, and forested vegetation classes.

Mitigation for wetland impacts was determined in consultation with resource agencies through the Natural Resource Technical Working Group, and is documented in the Conceptual Wetland Mitigation Plan. Wetland mitigation for the west approach includes creation and/or enhancement of wetlands at three sites: the Union Bay Natural Area, the WSDOT peninsula, and the Cedar River floodplain/Elliot Bridge site.

Threatened and Endangered Species/Essential Fish Habitat:

Three federally listed ESA fish species occur in the project area: bull trout *(Salvelinus confluentis)*, chinook salmon (*Oncorhynchus tshawytscha)*, and steelhead *(O. mykiss)*. The floating bridge and approaches would result in a relatively small area of aquatic substrate displacement (up to 20,600 feet) and up to 44.6 acres of over-water shading. Because the area of in-water impact is small, and the shading would generally be less intense (in the west approach area) or in deep-water areas not used extensively by fish (in the floating bridge area), these impacts are not expected to have a significant effect on fish use or populations in the lake.

Mitigation for aquatic resource impacts is documented in the Conceptual Aquatic Habitat Mitigation Plan. For the floating bridge and approaches, mitigation will occur at the South Lake Washington, Bear Creek, and Cedar River floodplain/Elliot Bridge sites. Improvements at these sites will benefit spawning, rearing, and migratory habitat for multiple species of salmonids.

FHWA and WSDOT prepared a Biological Assessment (BA) to document project effects to federally listed Endangered Species and Essential Fish Habitat (Attachment G). FHWA initiated formal consultations with the National Marine Fisheries Service (NMFS) and the U.S. Fish and Wildlife Service (USFWS) on November 23, 2010. USFWS and NMFS issued their Biological Opinions on April 15, 2011 and May 20, 2011, respectively (Attachment H). Both Services concurred that the project may affect, but is not likely to adversely affect threatened and endangered species and critical habitat. NMFS identified a list EFH Conservation Recommendations that WSDOT will implement to avoid and minimize impacts to EFH

Migratory Bird Treaty Act:

WSDOT has developed protocols and best management practices that are designed to prevent birds from nesting on any structures that would be adversely impacted (i.e. modified or demolished) during the nesting season. Prior to construction activities WSDOT's contractors will have to develop a bird protecting plan to implement these protocols. If exclusion activities fail and it is determined that project activities will disturb active nests WSDOT will receive the appropriate approvals from the Washington Department of Fish and Wildlife and USFWS.

Noise Impacts:

The project will result in both construction and operational noise impacts. Noise impacts from the project are discussed in detail the Noise Discipline Report, Attachment 7 of the FEIS. (Attachment E).

Construction activities will comply with local jurisdictions maximum noise criteria or obtain appropriate variances. The primary construction noise would result from impact methods such as pile driving. During pile-driving, ambient noise levels could exceed 100 decibels within 100 feet of the active construction area, although these levels would drop off quickly with distance. Underwater noise levels without mitigation would result in behavioral effects on juvenile and subadult salmonids within 72 to 446 feet of the pile installation. The use of vibratory pile installation techniques wherever feasible would minimize ambient noise, while the implementation of bubble curtains for in-water pile driving would minimize effects on underwater noise. Pile driving impacts and mitigation are discussed in more detail in the Biological Assessment (Attachment G).

To address operational noise impacts from the highway WSDOT conducted noise modeling to identify those properties that would exceed the state noise abatement criteria. For those properties that would exceed the criteria WSDOT identified mitigation measures, primarily noise barrier walls that would reduce the noise. During project operation, a combination of 4-foot traffic barriers with noise-absorptive coating and quieter concrete pavement throughout the corridor would reduce noise in most areas to below current and No Build levels.

Clean Air:

Air quality impacts from the project are discussed in detail in the Air Quality Discipline Report (Attachment 7 of the FEIS) (WSDOT 2011). WSDOT performed an emissions burden analysis as well as mobile source air toxics (MSAT) and project-level conformity analyses. In 2030, the Preferred Alternative would result in slightly lower emissionsof criteria pollutants and MSATs in the SR 520 corridor than current or No Build conditions as a result of mobility improvements. The project also would comply with federal air quality conformity requirements. In addition, greenhouse gas emissions in the SR 520 corridor would be lower as a result of the project.

Prime and Unique Farmland: N/A

Wild and Scenic Rivers: N/A

Relocation:

Chapter 5 of the FEIS discusses the relocation impacts from the project. Two residential structures and associated docks will be removed or relocated during construction of the east approach.

Cumulative and Secondary Impacts:

Cumulative and secondary impacts from the project are discussed in detail in the Biological Assessment (Attachment G) and the Final Indirect and Cumulative Effects Analysis Discipline Report (Attachment 7

of the FEIS) (WSDOT 2011). The analyses found that the project could result in minor increases in cumulative effects on ecosystems, tribal fishing, and cultural resources, while providing small net decreases in cumulative effects on water resources, air quality, recreation, and transportation. In general, no secondary (indirect) impacts are expected to occur as a result of the project.

Navigation:

Navigation impacts from the project are discussed in detail in the Navigable Waterways Discipline Report (Attachment 7 of the FEIS) (WSDOT 2011). The new bridge design would eliminate the draw span in the center of the existing floating bridge, but would increase the clearance over the west navigational channel to 48 feet and increase the clearance over the east navigational channel to 70 feet. This clearance will accommodate all recreational and commercial vessels that currently utilized the waterway.

Fill:

As described in the JARPA form (Attachment A) fill material will include concrete for bridge piers, and pre-cast concrete anchors and associated fill (to provide level surfaces or additional resistance). All materials used will be sourced from an approved source site. More than 100,000 cubic yards of structures and fill will be placed below OHWM. Fill in wetlands and buffers is discussed above under "Wetlands."

Adjacent Property Owners within ½ mile radius:

Adjacent property owners are listed in Attachment C.

Underlying Studies and Information

- Table 1, above, lists several underlying studies and information that are included as attachments to this application.
- Extensive information on the project description, impacts, and mitigation is contained in the Final EIS (WSDOT 2011).

References

WSDOT (Washington State Department of Transportation), 2011, SR 520 I-5 to Medina: Bridge Replacement and HOV Project Final Draft Environmental Impact Statement. Washington State Department of Transportation, Seattle, WA. http://www.wsdot.wa.gov/Projects/SR520Bridge/EIS.htm#FEIS (accessed September 23, 2011).