

Corridor Alternative 1 is not a prudent alternative due to the following factors:

1. Impacts to Tribal trust lands: Corridor Alternative 1 would bisect one of the few remaining large Tribal trust properties for the Puyallup Tribe of Indians, and was not supported by them (Figure 5-11). A number of project related issues remained unresolved with the Puyallup Tribe of Indians, including visual, noise, and traffic impacts to Tribal trust lands, but the Puyallup Tribe of Indians clearly indicated would only support a corridor alternative which avoided all Tribal trust lands. Commitments to the Puyallup Tribe of Indians are in Appendix K of the SR 167 Tier I EIS and the Tier I ROD.
2. Wetlands: Wetland impacts were reanalyzed as part of the *404(b)(1) Alternatives Analysis*, WSDOT July 2004. A 220-foot corridor width had been applied in estimating wetland impacts for the Tier I document. Refinement of the corridor in Tier II revised the footprint of the project such that impacts were evaluated within an approximately 400-foot area, to accommodate interchange options and park and ride facilities. Application of a 400-foot-wide zone to the analysis of wetland impacts substantially increases the amount of impacts associated with Corridor Alternative 1.

Also, although Tier I wetland impacts were based on wetland inventories³, one partially delineated wetland⁴ would be impacted by Corridor Alternative 1 which also increased impacts. Table 5-4 shows the revised wetland impact analysis.

Table 5-4: Revised Estimated Tier I Corridor Wetland Impacts

Corridor Alternative ^a	Segments	Tier I FEIS Wetland Impacts	Revised Estimated Wetland Impacts
Corridor 1	A & E	14.55	>37.89 ^c
Corridor 2	A, B, & C	7.44	32.9 ^b
Corridor 3	A, B, & D	15.98	>44.08 ^c

a) Corridor Alternative from the Tier I EIS.

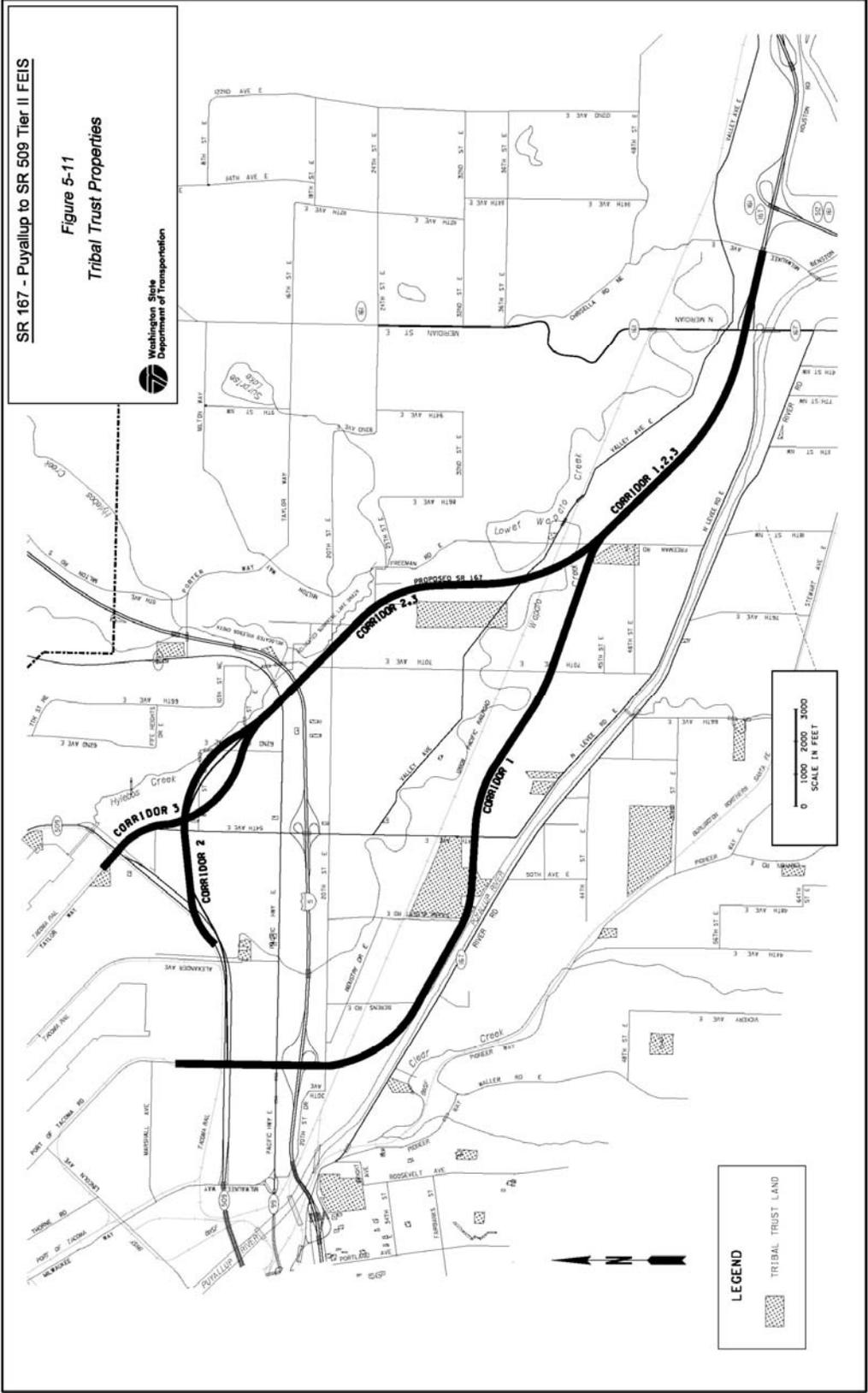
b) Corridor 2 impacts are not an estimate, but actual project impacts from the Tier II EIS.

c) Currently definable estimates. These impacts would most likely increase proportionally with field delineation along the entire corridor.

Corridor Alternative 1 would also limit mitigation opportunities in the Puyallup River basin, as the corridor would impact the Union Pacific Railroad Site, which has a high potential for mitigating all of the projects impacts for wetland fill activities.

³ U.S. Fish and Wildlife National Wetland Inventory maps, along with the Pierce County, City of Fife, and City of Puyallup wetland inventory maps were used to identify wetlands in the project area in Tier I.

⁴ Wetlands were delineated in accordance with the COE *Wetland Delineation Manual* (Environmental Laboratory, 1987). Not all wetlands were completely delineated (i.e. all boundaries and buffer areas identified), just wetlands within the project footprint.



3. Floodplain impacts: The levy system on the Puyallup River is currently failing due to excessive buildup of sediment and the determination by the COE that dredging the sediment is no longer a supportable practice. A study is underway to determine the new boundaries of the floodplain in the Puyallup River Basin. Corridor Alternative 1, with its proximity to the Puyallup River, would be within the extended 100-year floodplain. Designing the roadway within this extended floodplain would be very difficult and potentially costly, as determining what the impacts of the failing levy system would have to facilities in the proximity of the Puyallup River are not currently available.
4. Floodplain benefits: Corridor Alternative 2 includes the relocation of Hylebos Creek. This relocation will address current and future projected increased flooding of I-5 in the vicinity of the city of Fife (Fife Curve). Corridor Alternative 1 would not require the relocation of Hylebos Creek.

Tier 1 Corridor Alternatives 2 and 3

Corridor Alternative 2 and 3 differ only between SR 509 and the I-5 Interchange. Therefore, all 4(f) resources affected by the preferred alternative would also be used by Corridor Alternative 3. Corridor Alternative 3, as shown in Table 5-4, would have the most substantial wetland impact of the corridor alternatives. With 44 acres of wetland impacts, the project would fail to receive the necessary permits to construct the project. Specifically, Corridor Alternative 3 would fail to meet the requirements for Section 404, specifying a design that is the Least Environmentally Damaging and Practicable Alternative (LEDPA).

There are no corridor alternatives meeting the purpose and need of this project that would avoid 4(f) resources based on the current analysis of 4(f) resources. Corridor 1 would use three recreational resources and Corridors 2 and 3 would use two recreational resources. Although one, as opposed to three, historic resources has been identified for Corridor 1, additional historic resources are document in the vicinity of Corridor 1. In addition, Corridor Alternatives 1 and 3 are not feasible and prudent avoidance alternatives due to their impacts to wetlands and the determination by the COE that these alternatives are not LEDPA.

5.7.3 Tier II

In the Tier II analysis, the preferred Corridor Alternative 2 design was refined and interchange options were developed as described in the previous section, Alternatives and Options. Avoidance alternatives associated with the interchanges are discussed below.

I-5 Interchange

After the ROD for the Tier 1 EIS was approved by FHWA, the mainline alignment of SR 167 had to be redesigned because geometric design standards were not met. For the mainline redesign, five different centerline-only options were developed for SR 167 between SR 509 to just south of the I-5 Interchange. All these options met the current design standards and changed the I-5 crossing from a horizontal curve to a tangent section.

Avoidance of the Planned Pacific National Soccer Facility

State and Federal guidelines require a minimum distance of 1 mile between interchanges. Because of the location of Hylebos Creek and the geography of the area in this vicinity, it is not possible to place this interchange any further north than 0.8 miles from the 54th Avenue East I-5 Interchange. In addition, any redesign of the SR 167 mainline to the north would continue to require use of the Interurban Trail. Based on these factors, it is neither feasible nor prudent to relocate the mainline to the north in an attempt to avoid the planned Pacific National Soccer Facility.

Avoidance of Historic Resources

The proposed I-5 interchange location is also limited by the two historic 4(f) resources on 20th Street East on the south/west side of the alignment. Avoidance of these two historic resources would require the relocating the interchange at least 300 feet, which would not meet standards for placement of interchanges to the south. In addition, relocating the proposed I-5 Interchange closer to the existing 54th Avenue East Interchange would impact a commercial area of the city of Fife. As shown in the picture below, the majority of the impacts would be associated with an apartment complex with 241 units, with one through three bedrooms. This complex has a requirement to fill 20 percent of the complex with low income families. The apartment complex reported 90 percent occupancy in 2001. Displacing these families would increase displacement impacts associated with the I-5 Interchange by 217 to 241 Multi-Family Units, an impact of extraordinary magnitude. Therefore, redesigning the mainline to avoid these 4(f) resources is neither feasible nor prudent.



SR 167 Bridge Over Existing 20th Street East

SR 167 will have a direct impact on 20th Street East. Maintaining 20th Street East in its current alignment would avoid the historic 4(f) resource, Site No. 27-4154. Extending the structure for the I-5 Interchange to provide continued access for this local road was evaluated.

In order to accommodate required bridge clearance for this existing roadway, the I-5 Interchange would be required to be elevated to four levels. This option was evaluated in the *Value Engineering Study Report, SR 167 and I-5 Interchange*, October 2000.

Residents in the Fife Heights area expressed concern based on visual impacts from the elevated structures. At three levels, the I-5 interchange will be approximately 80 feet high; adding a fourth level to the I-5 interchange will add approximately 26 to 30 feet of height. Visual and audible impacts for these residents would occur if a four-level interchange was developed (Figure 5-12).

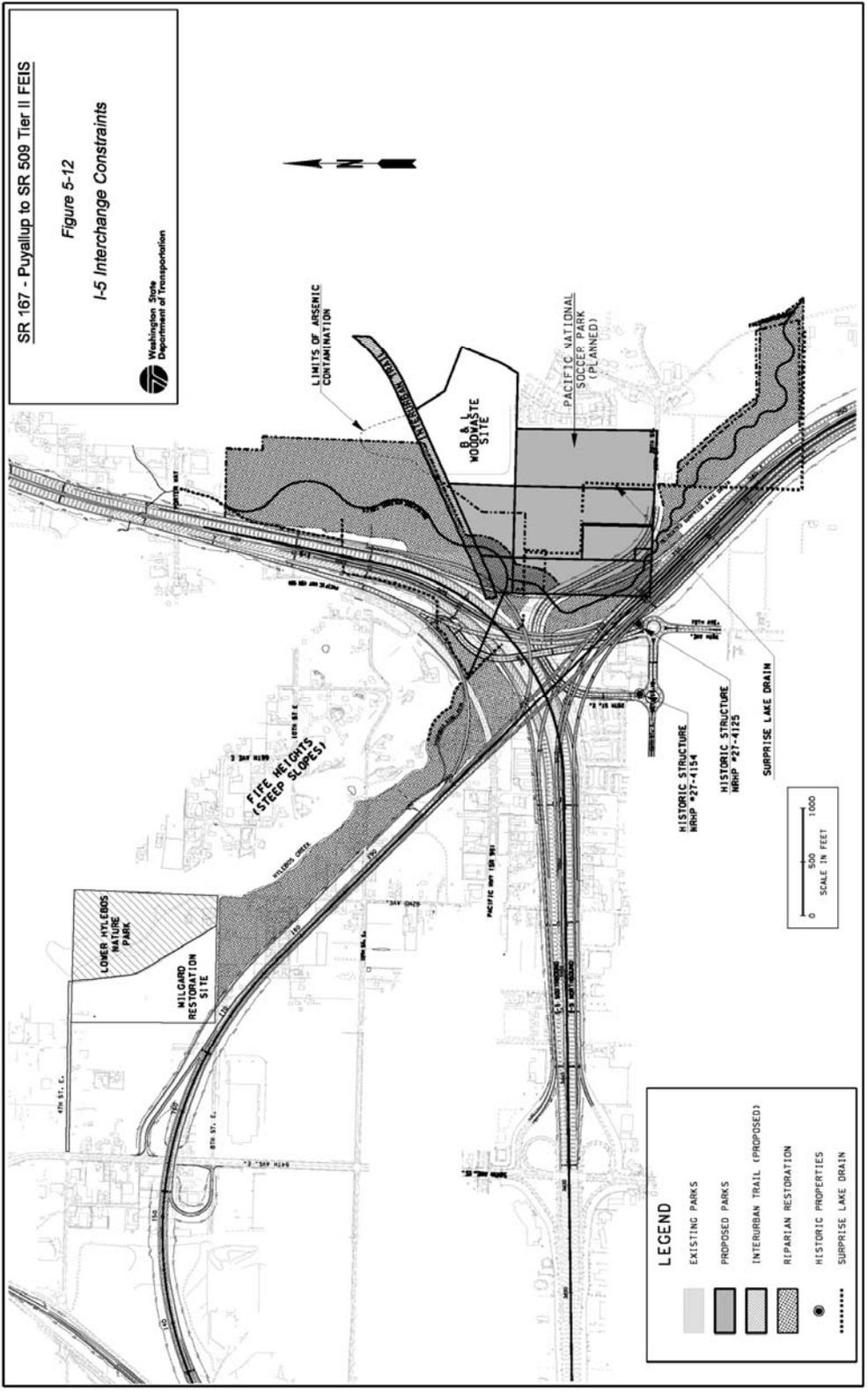
Cost estimates for additional structures necessary to mitigate poor soil conditions and other seismic risk factors for a four-level interchange would be \$87.5 million more than a three-level interchange, due to poor soil stability. Although it is feasible that a four-level structure could be designed for the proposed I-5 interchange, it is not prudent due to an additional construction cost of extraordinary magnitude. Therefore, it was determined that both 70th Avenue East and 20th Street East should be realigned in order to keep the total interchange at three levels.

Placement of the relocation of 20th Street East is limited by design factors, such as the distance between the two-lane roundabouts associated with the 20th Street East and 70th Avenue East relocations. If the relocation was shifted to the west, a large apartment complex described above would be impacted requiring extensive relocations as well as high real estate costs. The apartment complex also contains 48 Section 8, low-income units. Impacts to the apartment complex would include environment justice impacts, due to those low-income facilities. In addition, none of the potential designs for 20th Street East would avoid all 4(f) resources. Therefore, it is not prudent to bridge existing 20th Street East or relocate 20th Street East to the west.

Relocation of Hylebos Creek

The planned Pacific National Soccer Park is impacted by the proposal to relocate Hylebos Creek. Existing Hylebos Creek, between the existing 70th Avenue East bridge and the first existing I-5 crossing, would be filled as part of the northbound I-5 widening. Leaving the creek in the existing location but inside a closed pipe, would not be acceptable to permitting agencies. Impacts to the creek affect 2,050 linear feet of stream bed. Closed pipes of any substantial length are an effective block to aquatic species, such as salmonids. Therefore, a closed pipe could not be installed in the existing location.

Relocating the creek further to the west side of proposed I-5 widening would not provide enough riparian buffer to meet City of Fife Critical Area Ordinances. The channel would need to be linear and potentially armored, which would impact the creek instead of improve it. Furthermore, this area is needed to provide water quality treatment for mainline I-5 and the southbound I-5 to SR 167 off ramp. This is because I-5 in the vicinity of the proposed interchange drains all highway runoff to the west with no other options to channel the stormwater elsewhere.



Crossing I-5 at the preferred location provides the fewest impacts to Hylebos Creek and optimizes flood conveyance. The proposed design will reduce existing and future flooding problems in the vicinity, according to a study prepared for WSDOT (MGS et al., 2004). Portions of I-5 in this vicinity were flooded during the 1990 and 1996 floods. WSDOT is evaluating the I-5 profile in an effort to keep the new I-5 crossing of Hylebos Creek above the floodwater. WSDOT is limited on how high the I-5 profile could be elevated because of the height limitations on the interchange structures due to foundation considerations, and the additional structural costs resulting from extending bridge lengths in response to raising the I-5 profile. Therefore, the relocated stream channel will be designed to successfully address both existing and future flooding of I-5.

FHWA and WSDOT considered locating the new Hylebos Creek crossing in the vicinity of the existing 70th Avenue East Bridge. This would reduce the channel length required for the relocation, minimize impacts to a sewer main, and minimize impacts to the Soccer Complex.

However, this option would not function as efficiently for flood conveyance as the preferred option, potentially resulting in flooding of the new I-5 freeway bridge over Hylebos Creek, and would not resolve the existing problems of flooding over I-5 lanes.

Also, if the Hylebos crossing was moved further north, it would impact the crossing of Surprise Lake Drain. If the Surprise Lake Drain crossing is moved further north, then this stream will impact the Interurban Trail and Soccer Complex. If a connection to relocated Hylebos Creek is not provided, then six bridges (two northbound, two southbound and two HOV) at I-5 would be required instead of three. This will add at least \$10 million to the construction cost of the project, as well as major long-term traffic disruptions on mainline I-5 during construction.

Relocating Hylebos Creek further north would also have greater ecological impacts to Hylebos Creek because of the construction of relocated 70th Avenue East and the southbound I-5 to northbound 167 off-ramp. For the reach between the existing SR 99 and 70th Avenue East bridges, the remaining riparian buffer for Hylebos Creek would be reduced to essentially zero on the north and about 100 feet to the south. These buffers are deficient by any scientific standard, including the City of Fife's Critical Areas Ordinance, and the Integrated Streambank Protection Guidelines, which is the WSDOT standard for best available science. This option would also eliminate the wildlife linkage with the Surprise Lake Tributary, and require separate I-5 crossings for this tributary stream. WSDOT would not likely acquire permits for this work.

Surprise Lake Drain Relocation

The Planned Pacific National Soccer Facility is located within the ditched system of Surprise Lake Drain. The project has proposed to relocate Surprise Lake Drain as part of the mitigation for fill of Surprise Lake Drain by the mainline section of SR 167. In the DEIS, the relocation of Surprise Lake Drain would be located to the east of relocated 20th Street East. The relocation as originally proposed, and the riparian buffer (at least 150 feet wide), would impact the planned soccer facility, requiring use of 12 of 18 proposed soccer fields (approximately 40 of 54 acres) (Figure 5-4).

Through coordination with the City of Fife, FHWA and WSDOT redesigned both the relocation of 20th Street East and the relocation of Surprise Lake Drain. This redesign, though limited by roadway curvature standards for 20th Street East and regulatory buffers for Surprise Lake Drain, minimizes use of the soccer facility such that the City of Fife will be able to design 12 soccer fields in the remaining area (Figure 5-13).

Valley Avenue Interchange

The SR 167 corridor alignment in the vicinity of Valley Avenue is limited by a historic and recreational 4(f) resource to one side, and a historic 4(f) resource on the other side.

One historic resource, a residence, is beneath the structure of the mainline alignment as it bridges Valley Avenue. This residence would be located between the structure of mainline SR 167 and the proposed off-ramp from northbound SR 167 to Valley Avenue.

The following factors confine the alignment near this site:

- Design requirements: a shift of the corridor to avoid 4(f) resources would require the mainline corridor alignment to shift at least 300 feet either east or west of the proposed alignment.
- Geographical limitations to the east of Freeman Road: The corridor alignment cannot be shifted to the east due to cliffs adjacent to Freeman Road.
- Tribal trust lands: Shifting the alignment west would substantially impact six tribal trust properties. One tribal trust property also exists to the east of the alignment (Figure 5-11).
- Crossings of Wapato Creek: The current alignment limits crossings of Wapato Creek to one mainline crossing. Shifting the alignment either east or west would increase mainline crossings by at least one.



5.8 Measures to Minimize Harm

5.8.1 Historic Resources

As outlined in the Memorandum of Agreement (MOA) (see Appendix H), the residences will be offered for sale, based on the buyer's ability to move the residence to a different location. If the house does not sell within a year, photo-documentation will occur and the residences will be demolished.

5.8.2 Recreational Resources

Lower Hylebos Nature Park

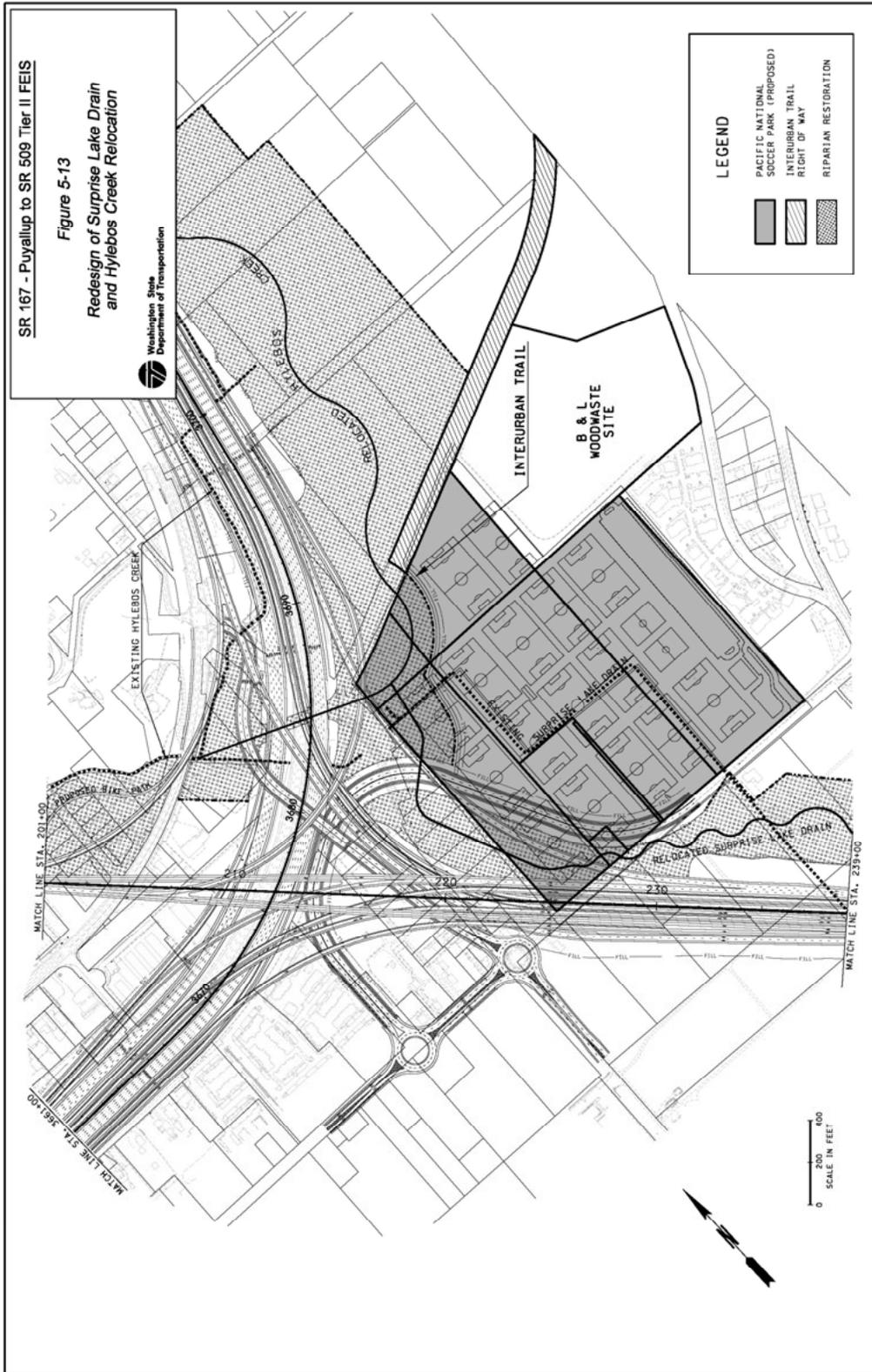
Access to the site, including parking, will be coordinated with the City of Fife. Discussions to date have covered improvements to 4th Street East and the possibility of constructing a pedestrian bridge across Hylebos Creek.

Planned Pacific National Soccer Park

The City of Fife was aware of the highway design at the time they proposed and acquired the soccer complex property, and presentations made to the public of the complex design in June 2003, showed the proposed highway project relative to the proposed layout of soccer fields and associated site improvements. Through meetings with the City of Fife, FHWA and WSDOT prepared an alternative design of the I-5 interchange, which reduced impacts to the planned soccer complex such that 12 fields are possible at this site (Figure 5-13). This meets the minimum requirements for the City of Fife for funding of this facility.

The SR 167 Project has incorporated elements into the design of the project that will benefit the planned Pacific National Soccer Park. The *Analysis of the SR 167 Extension and Riparian Restoration Proposal in the Hylebos Watershed* (MGS et al., 2004) included stormwater runoff from the soccer complex. The project proposal to relocate Surprise Lake Drain from its current ditched location and create a riparian zone around the relocation area will directly benefit the planned soccer facility. The benefits of this relocation would also include reducing flood impacts to the planned Pacific National Soccer Park.

Because funding for construction of SR 167 is not secured at this time, and the City is currently developing the master plan for the soccer complex, FHWA and WSDOT are committed to continue working with the City of Fife as the plans for both the relocation of Surprise Lake Drain and Hylebos Creek with associated regulatory buffers are refined. Final measures to minimize harm to the soccer complex will be determined once construction funding for SR 167 has been secured. Mitigation, if necessary, will be provided for any required use of the developed soccer facility.



Interurban Trail

The project will accommodate the Interurban Trail and re-establish the public access connection to the trail in the vicinity of 70th Avenue East and I-5 (Figure 5-13). The relocated portion of the trail will be ADA accessible, a separated Class I or II non-motorized path linking to the City of Fife's trail system. Any additional facilities, such as parking that are developed for the trailhead of the Interurban Trail by the City of Milton, if use is required, will also be addressed. A conversion package will be put together detailing that all practical alternatives to the conversion have been evaluated and rejected; the fair market value of the land to be converted and the replacement land; that the replacement land is of reasonably equivalent recreation or habitat utility and location; and that the replacement land meets eligibility requirements, prior to construction of SR 167.

In addition, the *Analysis of the SR 167 Extension and Riparian Restoration Proposal in the Hylebos Watershed* (MGS et al., 2004) also determined that flood impacts to the Interurban Trail will be limited to the 100-year storm event with the project's proposal to relocate Hylebos Creek and establish the riparian corridor.

5.9 Coordination

From the beginning of the planning process around 1990, a considerable effort has been made to include a wide assortment of groups and individuals as resources. A Steering Committee (which became a Partners Committee in Tier II) is comprised of representatives from the City of Puyallup, Port of Tacoma, City of Tacoma, City of Edgewood, FHWA, City of Fife, City of Milton, Pierce County, Pierce Transit, Puyallup Tribe, Puget Sound Regional Council, and WSDOT. A citizen's Advisory Committee was made up of citizens from the various jurisdictions who are affected by or interested in the project. Stakeholder interviews were held to solicit the opinions of representatives of the various jurisdictions. Design workshops were held with outside agencies to solicit their ideas about the project. A Value Engineering Study was conducted which looked at 67 options for the design of the I-5/SR 167 interchange. At least four open houses were held to present the project to the public and gather their input. Meetings have also been held with the Tacoma Chamber of Commerce, Edgewood Business Association, Puyallup River Watershed Council, and other businesses, developers, city councils, and local homeowners.

As part of the 404 Merger Agreement process, FHWA and WSDOT regularly met with the National Marine Fisheries Service, COE, U.S. Environmental Protection Agency, U.S. Fish and Wildlife Service, Washington State Department of Ecology, and Washington State Department of Fish and Wildlife representatives.

Specific to the Section 4(f) resources, FHWA and WSDOT has closely coordinated with the SHPO, the cities of Fife, Puyallup, and Milton, Pierce County, and the Puyallup Tribe. A series of meetings was held in the spring and summer of 2004 with the cities and county for the expressed purpose of exploring joint development for the Pacific National Soccer Complex and Interurban Trail, providing access to the City of Fife Lower Hylebos Nature Park, and mitigating construction impacts to the Puyallup Riverfront Trail.

FHWA and WSDOT also met with the Department of Interior–National Park Service and the Puyallup Parks and Recreation Department to discuss noise impacts for the Puyallup Recreation Center.

The MOA prepared to satisfy Section 106 requirements has been developed in cooperation with the SHPO and will be filed with the Advisory Council on Historic Preservation at the conclusion of the consultation. By circulation of this draft Section 4(f) Evaluation, comments will be sought from the U.S. Department of the Interior as required in 23 CFR §771.135(i).

Agency correspondence and the draft MOA comprise Appendix H.

5.10 Conclusion

Based upon the above considerations, there is no feasible and prudent alternative to the use of land from historic resources (6803 20th Street East, 7001 20th Street East, and 7717 Valley Avenue East) and recreational resources (Pacific National Soccer Park and the Interurban Trail, and the proposed action includes all possible planning to minimize harm resulting from such use.