

DRAFT Environmental Review Memorandum

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Date March 14, 2008
Subject Draft Existing Environmental Conditions, SR 542 Glacier Gallup Creek Crossing Project

This memorandum documents existing environmental conditions, the potential environmental impacts associated with each alternative, and lists the environmental studies and permits required at the State Road (SR) 542 Glacier Creek and Gallup Creek Crossing projects in Glacier, Washington. The Washington State Department of Transportation (WSDOT) is proposing several alternatives to reconfigure the creek crossings. As part of the analysis of these alternatives, Herrera Environmental Consultants (Herrera) documented the existing environmental conditions at the project site during a site reconnaissance on January 13, 2008 and gathered additional site data through several on-line sources.

Existing Conditions

Wetlands

According to the National Wetlands Inventory (NWI), there are both riverine and forested wetlands upstream and downstream of the SR 542 project area (Figure 1; USFWS 2008). These NWI mapped wetlands are located approximately 800 feet upstream and approximately 600 feet downstream of SR 542 along Glacier Creek (Figure 1). There are no NWI mapped wetlands located along Gallup Creek.

There are also wetlands present in the vicinity of the proposed project site that were observed during field visits, but are not mapped on the NWI. The first unmapped wetland (Wetland 1) is located on the downstream side of Glacier Creek adjacent to SR 542 (Figure 1). This is a small wetland that is associated with a Glacier Creek side channel that flows under SR 542. Based on the *Washington State Wetland Rating System for Western Washington* (Hruby 2004), Wetland 1 is a freshwater riverine wetland. A preliminary assessment of the wetland rating classifies Wetland 1 as a Category III. The Whatcom County Code (WCC) rates wetlands using the *Washington State Wetland Rating System for Western Washington* (Hruby 2004; Whatcom County Code Title 16, Chapter 16 – Critical Areas). According to the WCC, this wetland would likely require a 75-foot buffer and impacts to Wetland 1 would require compensatory

replacement mitigation of acreage at a ratio of 2:1, rehabilitation mitigation at a 4:1 ratio, and enhancement only mitigation at an 8:1 ratio.

A second freshwater wetland (Wetland 2) was observed on the north side of SR 542, approximately 200 meters east of the Glacier Creek crossing (Figure 1). This wetland is not mapped by NWI and is dominated by reed canarygrass (*Phalaris arundinacea*) and salmonberry (*Rubus spectabilis*). Based on the *Washington State Wetland Rating System for Western Washington* (Hruby 2004), Wetland 2 is a freshwater depressional wetland. A preliminary assessment of the wetland rating classifies Wetland 2 as a Category III. According to the WCC, this wetland would likely require a 75-foot buffer and impacts to Wetland 2 would require compensatory replacement mitigation of acreage at a ratio of 2:1, rehabilitation mitigation at a 4:1 ratio, and enhancement only mitigation at an 8:1 ratio.

There are several small wetlands mixed with upland areas and side channel areas in a wetland complex located between Glacier Creek and Gallup Creek on the south side of SR 542. This is called Wetland Area 3 for the purposes of this report. These areas are dominated by salmonberry, red alder, and Western red cedar. Wetland Area 3 has wetland areas in addition to numerous hummocks supporting upland vegetation that are interspersed with lower elevation areas that contain side channels between Glacier and Gallup Creeks. Due to the complexity of the existing conditions in this area, detailed wetland surveys are required to make estimates of the extent of wetland coverage at this location. Based on the *Washington State Wetland Rating System for Western Washington* (Hruby 2004), wetland areas within Wetland Area 3 are freshwater riverine or freshwater depressional wetlands. A preliminary assessment of the wetland ratings classifies the wetlands within Wetland Area 3 as likely Category II. According to the WCC, this wetland would likely require a 110-foot buffer and impacts to wetlands in Wetland Area 3 would require compensatory replacement mitigation of acreage at a ratio of 3:1, rehabilitation mitigation at a 6:1 ratio, and enhancement only mitigation at a 12:1 ratio.

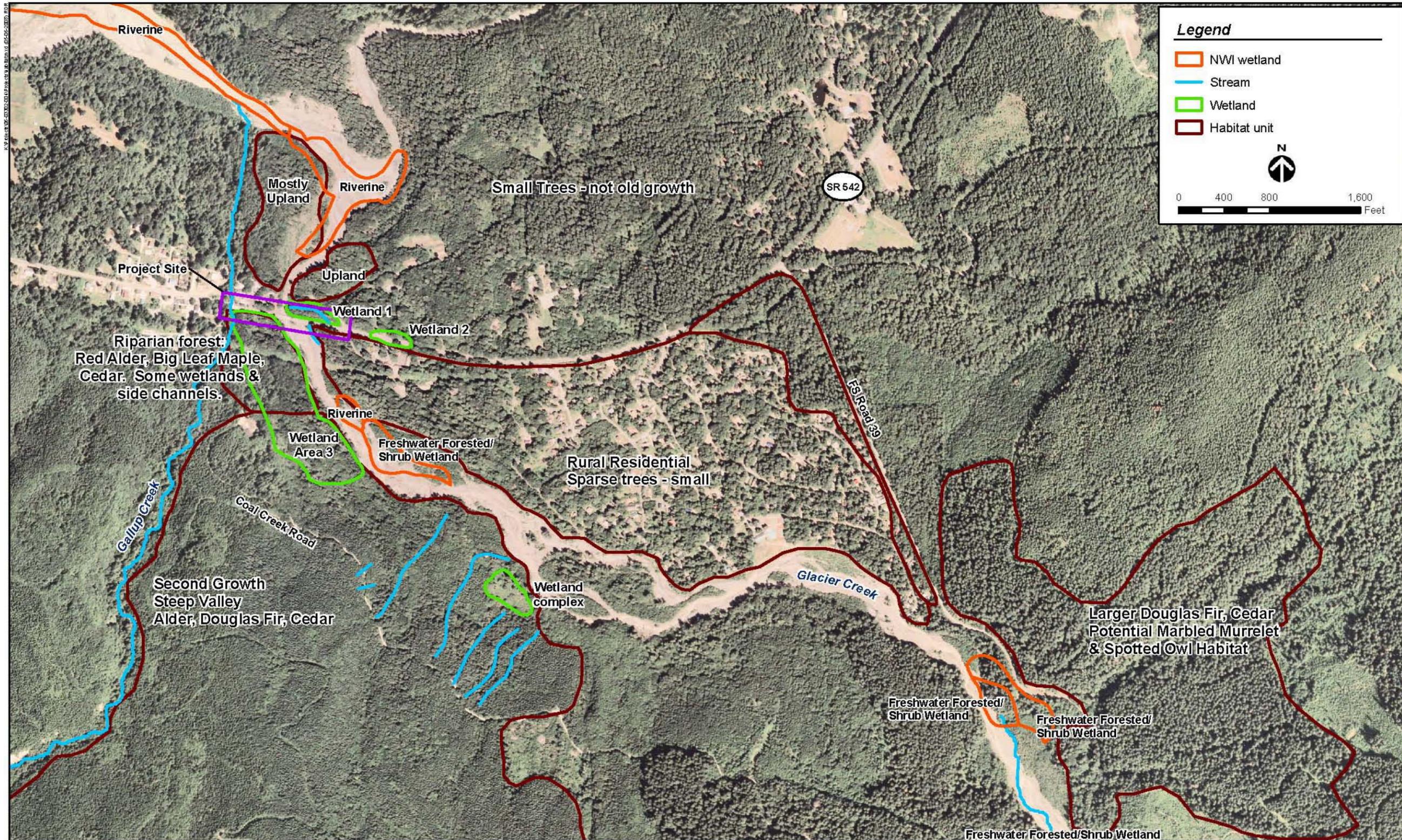
Streams

Glacier Creek and Gallup Creek are the major stream crossings in the project area (Figure 1). Both creeks are fish bearing and provide habitat for numerous ESA-listed fish species. A side channel of Glacier Creek flows north under SR 542, through a partially filled culvert and into Wetland 1, before discharging back into Glacier Creek downstream of SR 542.

Numerous unnamed streams were observed crossing Coal Creek Road upstream of SR 542 (Figure 1). These are steep, intermittent streams that are outside of the footprint of the proposed project alternatives.

Both Glacier Creek and Gallup Creek will most likely be managed under the Shoreline Management Act (SMA) because their mean annual flow is over 20 cubic feet per second (cfs). Whatcom County assigns a buffer of 150 feet on Shoreline streams (Whatcom County Code).

Figure 1. Existing Environmental Conditions at the Glacier Creek/Gallup Creek Crossing Project



Fish and Wildlife

Fish Use

Both Glacier Creek and Gallup Creek support numerous populations of salmonids, including some species listed under the Endangered Species Act (ESA). Reported fish use in Glacier Creek (WDFW 2007) includes:

- Fall run Chinook salmon (*Oncorhynchus tshawytscha*): Federally listed threatened
- Spring run Chinook salmon: Federally listed threatened
- Coho salmon (*Oncorhynchus kisutch*)
- Pink salmon (*Oncorhynchus gorbuscha*)
- Sockeye salmon (*Oncorhynchus nerka*)
- Bull trout (*Salvelinus confluentus*): Federally listed threatened species
- Summer run steelhead (*Oncorhynchus mykiss*): Federally listed threatened species
- Winter run steelhead (*Oncorhynchus mykiss*): Federally listed threatened species.

Reported fish use in Gallup Creek (WDFW 2007) includes:

- Fall run Chinook salmon (*Oncorhynchus tshawytscha*): Federally listed threatened
- Spring run Chinook salmon: Federally listed threatened
- Coho salmon (*Oncorhynchus kisutch*)
- Fall run chum salmon (*Oncorhynchus keta*)
- Pink salmon (*Oncorhynchus gorbuscha*)
- Bull trout (*Salvelinus confluentus*): Federally listed threatened species with potential spawning habitat immediately upstream of the project site in both Gallup Creek and Glacier Creek

- Summer run steelhead (*Oncorhynchus mykiss*): Federally listed threatened species
- Winter run steelhead (*Oncorhynchus mykiss*): Federally listed threatened species.

Wildlife Use

There is one known bald eagle nest in the vicinity of the proposed project. The closest portion of the bald eagle (*Haliaeetus leucocephalus*) management zone to the site is approximately 3,000 feet northwest of the proposed project alternatives near the confluence of Gallup Creek and the North Fork of the Nooksack River (WDFW 2008).

Based on information obtained from the Washington Department of Fish and Wildlife (WDFW) Priority Habitat and Species database, the nearest marbled murrelet (*Brachyramphus marmoratus*) detections are located over two miles from the site (WDFW 2008). Designated critical habitat for Northern spotted owl (*Strix occidentalis*) and marbled murrelet is located within one mile of the proposed activities, east of the town of Glacier, Washington. There are no known locations of Northern spotted owl nests within two miles of the proposed project alternatives.

During the site visit conducted in January 2008, no potential habitat for Northern spotted owl or marbled murrelet was observed in the vicinity of the proposed project alternatives. Much of the forested areas near SR 542 consist of Douglas fir (*Pseudotsuga menziesii*), Western red cedar (*Thuja plicata*), Western hemlock (*Tsuga heterophylla*) and Sitka spruce (*Picea sitchensis*); with the riparian corridors dominated by red alder (*Alnus rubra*) and big-leaf maple (*Acer macrophyllum*). Diameter-at-breast-height (DBH) for these trees did not exceed 24 inches and limbs on these trees were generally less than 7 inches DBH. Suitable marbled murrelet nesting habitat generally has trees with DBH over 32 inches and limbs over 7 inches (WAS 222-16-010). Suitable nesting habitat for Northern spotted owl generally has more than 75 trees with DBH over 20 inches or at least 30 trees with DBH 30 inches or greater (WAC 222-16-085).

United States Forest Service Survey and Manage Species

The Mt. Baker Snoqualmie National Forest (USDA Forest Service 2008, personal communication with Don Gay) was consulted for the presence of Survey and Manage wildlife within the study area. Survey and Manage species are identified and protected under the Northwest Forest Plan. Under this program, the Forest Service and Bureau of Land Management have identified more than 350 species of concern warranting systematic study of their ecological roles in support of a holistic approach to forest management. The USFS suggested that the presence of the terrestrial mollusk, Puget Oregonian snail (*Cryptomastix devia*), be investigated as part of any project plans that would cross Forest Service land.

The Puget Oregonian snail is found in mature to late successional moist forest and riparian zones, under logs, in leaf litter, around seeps and springs, often associated with hardwood debris

and leaf litter and/or talus. It is typically found at elevations below 1,500 feet under or near big-leaf maple and under sword fern (*Polystichum munitum*) growing under these trees, or on the underside of big-leaf maple logs. Young individuals may be found under mosses on the trunks of big-leaf maple (USDI BLM 1999).

Historic Properties

The USFS Glacier Ranger Station is listed on the National Register of Historic Places in Washington (NRHP 2008). This structure was built by the Civilian Conservation Corps in 1939 and was listed in 1980 (Structure #80004013).

Potential Impacts Associated with Each Alternative

No Action

There are no impacts associated with the No Action Alternative.

Alternative 3

Alternative 3 is the environmental option that would present the easiest permitting process. With the proposed length of the bridge (750 feet), in-water work may be avoided. If new piers can be placed in areas that are currently between Gallup Creek and Glacier Creek, work below the ordinary high water mark (OHWM) will be avoided thus eliminating the need for a Hydraulic Project Approval (HPA) from WDFW and a Section 404 permit from U. S. Army Corps of Engineers for this portion of the work (Section 404 permits may be required for other wetland impacts).

Wetland impacts on the south side of SR 542, between Gallup Creek and Glacier Creek would likely be less than 0.25 acres. Wetlands area is variable throughout this location and the exact amount of fill associated with this alternative is undetermined. Section 404 permits from the Corps will be required for wetland fill associated with this alternative.

Compliance with Section 401 water quality regulations, ESA, SMA, Whatcom County Critical Areas requirements, and NEPA/SEPA will be required with implementation of Alternative 3.

Alternative 6

Alternative 6 is similar to Alternative 3 except for the length of the bridge crossings and the associated fill required for the shorter bridge span. With the proposed length of the bridge (300 feet), fill will be required to create the road prism between Gallup Creek and Glacier Creek. Work below the OHWM will likely be avoided with the shorter span lengths. Filling the side channel associated with Glacier Creek will be difficult to get approved by the resource agencies

and the local tribes. Maintaining a no-net fill below the OHWM or avoiding the need to fill the side channel would reduce this problem.

Wetland impacts on the south side of SR 542 resulting from the new road prism between Gallup Creek and Glacier Creek would likely be less than 0.75 acres. Wetlands area is variable throughout this location and the exact amount of fill associated with this alternative is undetermined. A worst-case scenario was assumed that included wetland fill for the entire length of the new road prism between Gallup Creek and Glacier Creek. Section 404 permits from the Corps will be required for wetland fill associated with this alternative.

Compliance with Section 401 water quality regulations, ESA, SMA, Whatcom County Critical Areas requirements, and NEPA/SEPA will also be required with implementation of Alternative 6.

Alternative 10

Alternative 10 presents the most difficulty in obtaining environmental permits associated with the alternative. As a result of the two new crossings associated with this alternative, there is likely to be in-water work, which requires an HPA permit from WDFW, Section 404 permits from the Corps, and water quality management for ESA-listed fish species.

Wetland impacts resulting from the new road prism could range from 1.5 to 3 acres. Wetlands area is variable throughout this location and the exact amount of fill associated with this alternative is undetermined.

Numerous trees will have to be removed as part of this alternative. Although there were not large numbers of significant trees in this area, there are some large conifer trees with diameter at breast height ranging from 12 to 24 inches DBH.

Compliance with Section 401 water quality regulations, ESA, SMA, Whatcom County Critical Areas requirements, and NEPA/SEPA will also be required with implementation of Alternative 6.

Potential Studies and Permits

Potential Studies Required

Numerous studies will be required as part of the environmental documentation for the proposed projects. These studies may include:

- Wetland delineation studies to satisfy the requirements of the Section 404 permit requirements and the Whatcom County Critical Areas Ordinance.
- JARPA Permit application. This will cover all aquatic permits, including: 404, 401, HPA, and local permits.

- Endangered Species Act documentation. ESA documentation will be a requirement for a Biological Assessment and will include stream habitat surveys in both Glacier Creek and Gallup Creek. Also, it is likely that presence/absence surveys for marbled murrelet and Northern spotted owl will be required for ESA consultation.
- NEPA and SEPA documentation.
- Shoreline Management Act Compliance documentation.
- Whatcom County will also require Critical Areas Reports which will include the wetland delineation reports and a habitat conservation areas report.
- *Survey Protocols for Survey and Manage Terrestrial Mollusk Species from the Northwest Forest Plan, Version 3.0 (BLM IM OR 2003-44), (USDI BLM 2003)* would be used to guide the protocols for the required incidental site surveys for terrestrial mollusks.
- Calculations of stormwater runoff flows and water quality will be required as a result of increased impervious surfaces. These calculations will need to meet the requirements established in the *WSDOT Biological Assessment Preparation for Transportation Projects: Advanced Training Manual (WSDOT 2006)*.

Permits Potentially Required

Permits likely associated with all alternatives:

- Corps of Engineers Clean Water Act Section 404 permit for in-water fill or wetland fill.
- Washington Department of Ecology Clean Water Act Section 401 Water Quality Certification.
- USFWS, NOAA Endangered Species Act compliance. All in water work, increase in impervious surfaces, removal of trees, noise generation, etc will require analysis. ESA is required when there is a federal nexus such as federal funding or federal permits (such as a Section 404). There are several species of listed fish in the creeks, in addition to potential marbled murrelet and/or spotted owl habitat near project area.
- WDFW HPA for any work below OHWM in Glacier Creek, Gallup Creek.

- NEPA/SEPA.
- Historical Preservation and Cultural Resources Report, Tribal coordination, and Section 106 approval.
- Section 4f approval.
- Shorelines Management Act.
- Whatcom County Critical Areas Review.
- Coastal Zone Management Consistency Approval.

References

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