

## 5.0 MITIGATION

NEPA (42 USC §§ 4371 *et seq.*) and the Council on Environmental Quality (CEQ) regulations implementing NEPA (40 CFR 1500 - 1508) require that all relevant, reasonable mitigation measures that could improve the project be identified, even if those measures are outside the jurisdiction of the BIA. Mitigation, as defined in the CEQ regulations, includes:

- Avoiding the impact altogether by not taking a certain action or parts of a certain action.
- Minimizing impacts by limiting the degree or magnitude of the action and its implementation.
- Rectifying the impact by repairing, rehabilitating, or restoring the affected environment.
- Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action.
- Compensating for the impact by replacing or providing substitute resources or environments.

The following sections describe proposed measures to mitigate potential adverse effects of the proposed project and alternatives. Required mitigation measures and necessary permits for project development will be identified in the Final EIS. Unless specified otherwise, the Tribe will be responsible for implementing these mitigation measures. The No Action Alternative does not warrant mitigation measures because it involves no action on the part of the BIA or the Tribe and there is no authority to require the implementation of mitigation.

### 5.1 Mitigation of Short-Term (Construction) Effects

#### 5.1.1 Land Resources

##### *5.1.1.1 Proposed Project: Cascade Locks Resort and Casino*

The adverse impacts of construction on land resources will be minimized by limiting the disturbed area to the locations of proposed project facilities. Staging and equipment maintenance areas for construction of the proposed project facilities will be located in areas that will be developed with the resort and casino building and parking sites, as well as the interchange area. No additional areas will be disturbed for staging and maintenance. Additional construction work zones will be required in the vicinity of the Forest Lane Interchange and will extend approximately 100 feet from the constructed roadway. These areas will be regraded to approximate preconstruction conditions where practicable. The removal of rock and earth material from the interchange area will be minimized to the extent practicable during final design.

Soil erosion and sedimentation could occur as a result of soil excavation, rock removal, and placement of fill material. The construction contractor will implement an erosion and sedimentation control plan to minimize erosion and sedimentation effects from construction activities.

### *5.1.1.2 Hood River Alternative*

The removal of large quantities of rock and earth material from the site (approximately 1.5 million cubic yards for Option A and 1.0 million cubic yards for Option B) will be minimized to the extent practicable during final design of the casino building and access road. The locations of the disposal sites for the excavated rock material will be identified prior to construction. The environmental effects for the construction and operation of disposal sites will be evaluated by Oregon DEQ prior to acceptance of fill (should the disposal site require such clearance). Mitigation measures, if required, will be developed with Oregon DEQ.

The adverse impacts of construction on land resources will be minimized by limiting the disturbed area to the locations of proposed project facilities to the extent practicable. Staging and equipment maintenance areas for construction of the casino building and ancillary facilities will be located in areas that will be developed with the casino building and parking sites. Some construction staging will occur on adjacent industrial lands leased by the Tribe from the current owner. All areas disturbed during construction not within the developed area of the alternative will be restored to preconstruction appearance as soon as possible following the completion of construction.

Soil erosion and sedimentation could occur as a result of soil excavation, rock removal, and placement of fill material. The construction contractor will implement an erosion and sedimentation control plan to minimize erosion and sedimentation effects from construction activities.

### *5.1.1.3 Warm Springs Alternative*

Staging and equipment maintenance areas for construction of the proposed project facilities will be limited to the areas that will be developed with the casino building and parking sites, as well as the improvements to US 26. Equipment and materials will be staged and equipment maintained in areas where facilities will be constructed to minimize the impact on land resources.

Soil erosion and sedimentation could occur as a result of soil excavation, rock removal, and placement of fill material. The construction contractor will implement an erosion and sedimentation control plan to minimize erosion and sedimentation effects from construction activities consistent with Tribal Code and the best management practices of the Integrated Resource Management Plan (Resolution 7410).

## **5.1.2 Land Use Patterns**

### *5.1.2.1 Proposed Project: Cascade Locks Resort and Casino*

The proposed project will require acquisition of right-of-way to accommodate construction of the transportation improvements and related storm water facilities. The buildings and related industrial facilities and activities at the Dennis Snyder Contractors' property will be relocated to accommodate construction of the loop road. No other relocations will be required. To minimize adverse effects, property owners will be compensated with fair market value for property and structures. No additional lands will be needed for construction staging.

### 5.1.2.2 Hood River Alternative

Construction activities will be staged on trust land (Options A and B), fee-to-trust land (Option B), and leased land from nearby commercial/industrial properties and will have no effect on land use patterns, zoning, or plans in the project study area. The proposed alignment of the access road encroaches on properties under the jurisdiction of the Forest Service and Hood River County, and therefore may be required to comply with impact minimization guidelines outlined in the General Management Area Scenic Review Criteria Section of Article 75 (National Scenic Area Ordinance) in the *Hood River County Zoning Ordinance*, pending resolution of the Tribe's claim to ownership of the Historic Columbia River Highway and a right of access to the trust land. Portions of the proposed access road may also be subject to commercial and industrial street design standards outlined in Articles 21 (Commercial Zone) and 31 (Industrial Zone) in the *Hood River County Zoning Ordinance*.

### 5.1.2.3 Warm Springs Alternative

The Tribe will obtain a conditional use permit or zone change from Tribal Council to construct the casino and ancillary facilities.

## 5.1.3 Water Resources

### 5.1.3.1 Proposed Project: Cascade Locks Resort and Casino

Construction activity within Herman Creek is subject to regulation and permitting under the Clean Water Act Section 404 (U.S. Army Corps of Engineers) and/or the Oregon Removal/Fill Law (Department of State Lands). Authorizations by these agencies for work in water will require evaluation of avoidance and minimization measures specific to these resources.

To avoid and minimize effects to water quality from construction activities, the following measures will be taken:

- A pollution control plan will be developed to prevent point source pollution from construction activities. It will include measures to confine, remove, and dispose of concrete, fluids, debris, and hazardous materials, and include a spill containment plan. It will address maintenance of vehicles and dust prevention measures. The plan will include provisions to design, build, and maintain facilities to collect and treat construction discharge water, including contaminated water produced by drilling; provide treatment, collection, or proper disposal offsite of debris, nutrients, sediment, petroleum hydrocarbons, metals, and other pollutants; prevent pollutants, including petroleum products, contaminated water, silt, welding slag, sandblasting abrasive, green concrete, or grout cured less than 24 hours, to contact any area within 150 feet of water. All drilling equipment, drill recovery and recycling pits, and any waste or spoil produced will be isolated and then waste or spoil will be recovered, recycled, or disposed of to prevent entry into waters. The measures included in the pollution control plan will be typical of those measures included in large-scale construction projects and are known to significantly reduce impacts on surface waters.
- An erosion and sedimentation control plan will be developed and implemented for all construction activities requiring clearing, vegetation removal, grading, ditching, filling, embankment compaction, or excavation. Best management practices identified and implemented under the plan will control sedimentation and debris entering surface waters from all vegetation or ground-disturbing activities. The erosion and sedimentation control plan will comply with the National Pollution Discharge Elimination System (NPDES) General Construction Permit (1200-C) regarding erosion prevention and sediment control for on-site

construction activities. Measures to be implemented under the plan include soil and slope protection and stabilization measures and site restoration requirements (e.g., replanting). Implementation of the plan will minimize soil erosion and elevated turbidity in Herman Creek and the Columbia River. The erosion control measures will include the following, which are known to effectively reduce the transport of sediment and other construction wastes to receiving surface waters:

- No paving, chip sealing, or strip painting will be initiated in rainy weather.
- For activities involving concrete mixing, concrete truck chute cleanout areas will be established to properly contain wet concrete and wash water.
- The construction contractor will protect all inlets and catchments from fresh concrete, tackifier, paving, or paint stripping in inclement weather.
- All exposed soils will be stabilized during the first available period, and will not be untreated for more than 7 days without receiving erosion control specified in the erosion and sedimentation control plan. No soils will remain unstable for more than 2 days from October 1 to April 30, and for more than 7 days from May 1 to September 30.
- Disturbed areas will be restored to prework conditions. Temporary fill will be removed. Disturbed areas will be revegetated with native plant species that are specific to the project vicinity. These measures will rectify changes to stream hydraulics and runoff patterns as a result of construction.
- Temporary material storage piles will not be placed in the 100-year floodplain between October 1 and May 1. Materials used within 12 hours of deposition will not be considered temporary material storage piles. All temporary material storage piles will be protected with appropriate best management practices to prevent sediments from leaving the piles. These measures will minimize the potential release of sediments to surface waters.
- Construction will be confined to the minimum area necessary to complete the project.
- Boundaries of clearing limits associated with site access and construction will be flagged to prevent ground disturbance outside the limits. This will control the footprint of the disturbed area and avoid unnecessary ground disturbance.
- All excavated materials will be removed and placed temporarily in upland locations where sediments cannot enter water bodies or wetlands.
- Riprap and other material will be installed from the banks or outside the wetted perimeter as much as possible to avoid direct disturbance to surface waters.

#### *5.1.3.2 Hood River Alternative*

The construction contractor will implement a pollution control plan and an erosion and sedimentation control plan similar to those described in Section 5.2.3.1 to avoid and minimize adverse effects to surface waters.

**Option A** will not affect surface waters.

**Option B** could temporarily affect the seep, a wetland, and one pond at the northern edge of the project site. Activities within these areas will be avoided if possible; if avoidance is not possible, work will be conducted in the “dry” season, thereby minimizing water quality effects during construction. Small culverts will be installed under the temporary access road to allow flow from the seep to continue during construction. A small portion of the pond may be temporarily dewatered for the installation of the pipe.

To accomplish this, a barrier will be used to isolate the needed area. Water from this area will then be pumped to a location for temporary water management (e.g., sediment removal) and then returned to the pond outside the construction area. Temporary effects to the ponds could result in increases in turbidity from erosion. If equipment must be in the pond area, geotextile fabric will be used to separate construction materials from the ground surface.

Fill or removal of material in the seep, wetland, or pond will be subject to regulation under the Clean Water Act, Section 404 (U.S. Army Corps of Engineers) and the Tribal Water Control Board. Authorizations by these agencies for work in waters of the U.S and Tribal waters will require evaluation of avoidance and minimization measures specific to these resources. Control of sediment and hazardous and nonhazardous materials and wastes will be managed through implementation of the pollution and erosion and sedimentation control plans to minimize the risk of discharge of these substances to these surface waters.

### **5.1.3.3 Warm Springs Alternative**

The construction contractor will implement a pollution control plan and an erosion and sedimentation control plan similar to those described in Section 5.2.3.1 to avoid and minimize adverse effects to surface waters.

All construction, including the installation of utilities along Shitike Creek and the waterline crossing the ephemeral drainage, will be managed to remain completely within previously disturbed areas. The ephemeral drainage at the project site will be protected during construction with an undisturbed buffer 30 feet from the edge of the channel outside the existing disturbed portion of the drainage. Construction will likely occur when the drainage is dry; the area disturbed by construction will be restored to preconstruction conditions following the installation of the waterline. Project work requiring crossing of this drainage will require a Hydraulic Project Permit from the Tribal Water Control Board, which will include best management practices to avoid effects on stream hydrology and water quality.

Construction work to install utilities near Shitike Creek will be managed to remain within the existing roadbed (Shitike Creek Road) and runoff will be controlled through the use of best management practices and an erosion and sedimentation control plan (similar to measures described above in Section 5.1.3.1). Through implementation of these measures, effects to water quality will be minimized or avoided.

## **5.1.4 Air Quality**

### **5.1.4.1 All Alternatives**

Construction activities may cause short-term increases in air pollutant emissions. The project will involve earthmoving activities, vehicle traffic on paved and unpaved roads, and temporary storage piles of disturbed earth. The construction contractor will be required to comply with all local, state, and federal regulations concerning air pollution abatement related to construction activities on nontrust lands and federal and tribal regulations on trust lands. The construction contractor will implement measures to minimize dust, such as applying water on suppressants during dry weather and washing trucks and equipment to prevent the transport of dirt and dust from construction areas onto nearby roads. These measures are typical of large-scale construction projects and are known to effectively reduce emissions from construction sites. To reduce the effect of construction delays on traffic flow and resultant emissions, when possible,

road or lane closures will be restricted to nonpeak traffic periods. These measures will reduce the effects of construction activities on air quality to insignificant levels.

### **5.1.5 Biological Resources**

The biological resources potentially affected by construction activities include vegetation, wildlife species and habitat, and protected and sensitive species. Mitigation measures for biological resources are described below.

#### *5.1.5.1 Proposed Project: Cascade Locks Resort and Casino*

##### **Vegetative Communities**

Areas temporarily disturbed by construction activities will be replanted with native vegetation where appropriate. Replanting will replace functions associated with existing vegetation such as visual screening, wildlife habitat, and soil stabilization, thereby restoring some of the affected environment. The following existing vegetative communities will be replanted as follows:

- **Disturbed Area:** Where appropriate, areas around buildings, parking facilities, storm water management facilities, and roadways will be planted with native vegetation and managed as part of the landscape features of the project.
- **Herman Creek Cove Riparian Area:** The outfall area associated with Herman Creek Cove will be replanted after construction to assist with soil stabilization and replace vegetation removed during construction.
- **Government Cove Riparian Area:** The vegetation within the shoreline area associated with Government Cove will be modified. Existing vegetation will be removed and replanted with native vegetation associated with constructed wetlands. Some of the species removed for construction of the wetlands may be replaced with the same species (e.g., alder). Additional mitigation for this loss of shoreline vegetation is not recommended because the affected habitat is marginal and the adjacent shoreline is well vegetated.
- **Bigleaf Maple Grove:** There are no reasonable mitigation measures to avoid or minimize impacts to the bigleaf maple grove. The replanting activity associated with the disturbed area will provide some vegetation in this area to compensate for the loss of this vegetation.
- **Herman Creek Riparian Area:** The vegetation temporarily affected by construction in the Herman Creek riparian area will be replanted and monitored in accordance with state and federal permits (i.e., Clean Water Act Section 404 permit and Oregon Removal/Fill Law permit). Once established, this vegetation will no longer be monitored.
- **Upland Forest:** There are no reasonable mitigation measures to avoid impacts to the upland forest area. Impacts to this community will be minimized through the final design process.

Trees within the construction area over 12 inches dbh will be identified on plan drawings and protected if possible. Protection will include estimated root zones. This will minimize the number of large trees removed during construction.

Staging areas will be limited to previously disturbed areas in order to minimize the temporary disturbance to vegetation. To reduce the staging areas, only enough supplies and equipment needed to complete a specific task will be stored on-site.

### **Wildlife Species and Habitat**

The project will incorporate construction avoidance, minimization, and conservation measures typical of large-scale construction projects. These measures are known to be protective of wildlife, fish, and aquatic resources, and will include the following:

- Develop and implement an erosion and sedimentation control plan to comply with the NPDES General Construction Permit (1200-C) regarding erosion prevention and sediment control for on-site construction activities. The plan will include soil and slope protection and stabilization measures, and site restoration specifications, including planting materials and methods. Implementation of the 1200-C Permit will minimize soil erosion and elevated turbidity in Herman Creek and the Columbia River, which will reduce adverse effects on fish species.
- Construct storm water treatment facilities as described in Appendix C. Treatment will reduce the concentrations of constituents known to degrade water quality such as metals, nutrients and solids; these measures will minimize potential adverse effects on fish and other aquatic species.
- Limit clearing and grubbing operations by developing project plans that identify clearing and trimming trees and other vegetation. Identify specific trees and vegetation to be preserved when possible. Provide limits on areas of approved activity and scope of actions within and outside of the approved work areas. Flag boundaries of approved work areas when adjacent to sensitive biological resources. Limiting vegetative disturbance will minimize the temporary effects to wildlife habitat.
- Conduct vegetation clearing activities to meet the requirements of the Migratory Bird Treaty Act. Meeting the requirements of the Migratory Bird Treaty Act will result in no loss to eggs or birds protected by the Act. Develop a planting plan with guidelines for furnishing, planting, and establishing specified plant materials in areas shown or directed in the project plans. The plan will include directions for planting seasons, layout and preparation of planting areas, and application of herbicides and fertilizers. In addition, prepare planting materials and requirements for establishment to ensure satisfactory growth and survival. Replanting vegetation will restore some habitat that wildlife will use such as breeding areas (e.g., nests), cover, and feeding (e.g., fruits, flowers).
- Identify all sensitive areas, such as streambanks, riparian areas, wetlands, and other habitats in project plans. Demarcate these areas in the field to prevent disturbance by construction activities if outside the necessary construction area. Conduct project activities to avoid or minimize habitat modifications that could impair the ability of threatened, endangered, proposed, or selected sensitive species to complete essential biological behaviors such as breeding, spawning, rearing, migrating, feeding, and sheltering.
- Develop and implement a pollution control plan (see Section 5.1.3.1) to minimize the potential for hazardous materials and wastes at the construction site to enter the surrounding surface waters. These measures will minimize adverse effects of construction on fish and aquatic resources.
- Fuel, operate, maintain, and store vehicles and construction materials in areas that minimize disturbance to habitat and prevent adverse effects from potential fuel spills. If staging areas

are within 150 feet of any waters, provide full containment of potential contaminants to prevent soil and water contamination. Diaper all stationary power equipment operated within 150 feet of waters to prevent leak, soil, and water contamination. These measures will minimize adverse effects of construction on fish and aquatic resources.

- Prior to the preconstruction conference, environmental staff from BIA will review the erosion and sedimentation control plan, pollution control plan, and additional containment measures. This will allow environmental staff to verify that measures outlined in this document will be implemented in the field.

The proposed project will require work in Herman Creek for construction of the improvements to the I-84 bridge over Herman Creek. This will require isolating (i.e., dewatering) approximately 800 linear feet of the creek channel and restricting work to the recommended in-water work period to minimize effects to species present. The in-water work period for Herman Creek is June 15 to August 31, when salmonid activity is typically at its lowest of the year. Construction activity within Herman Creek will be subject to regulation and permitting under the Clean Water Act Section 404 (U.S. Army Corps of Engineers) and/or the Oregon Removal/Fill Law (Department of State Lands). Authorizations by these agencies for work in water will require evaluation of avoidance and minimization measures specific to these resources.

In accordance with the Clean Water Act Section 404 (U.S. Army Corps of Engineers) permit, prior to construction, any native reptiles and amphibians found at the site will be removed and relocated out of the construction zone by a biologist and the areas will be fenced off to prevent re-entry. After construction, these areas will be restored to pre-existing conditions. These efforts will minimize adverse impacts of these species.

### **Federal and State Listed Species**

Construction noise may temporarily disturb bald eagle foraging and a nearby perch site. To minimize this disturbance, noise muffling devices will be used on all construction equipment. Construction activities will not affect the spotted owl or peregrine falcon; therefore, no mitigation is proposed for these species.

Additional avoidance, minimization, and conservation measures for construction effects on federal listed species will be in response to findings of the Biological Assessments. Such measures will be identified in the Letters of Concurrence or Biological Opinions issued by USFWS and NMFS. Measures applicable to construction will be incorporated into the contract document between the Tribe and the construction contractor.

Construction impacts on state sensitive bird species potentially affected by the proposed project (i.e., purple martin, little willow flycatcher, and yellow-breasted chat) will be minimized through the measures identified above for common wildlife species and through compliance with the Migratory Bird Treaty Act. These measures will result in no loss of species viability.

Construction noise associated with the proposed project could temporarily disturb these species. To minimize this disturbance, noise-muffling devices will be used on all construction equipment. Project construction will comply with the Migratory Bird Treaty Act, resulting in no loss to egrets or birds protected by the Act.

Construction activity associated with the widening of the I-84 bridge over Herman Creek may affect fringed myotis bat roosting or possibly maternal colonies. To prevent disruption during mating season, measures will be taken to prevent the establishment of maternal colonies prior

to construction. The conditions of the bridge that are favorable to bats (i.e., crevices) will not be altered by the proposed project and bat use (if present) will be restored after construction.

Construction impacts on state sensitive amphibians, reptiles, and aquatic species potentially affected by the proposed project will be minimized through the measures identified above for common wildlife species and federal listed fish species, and through compliance with the Clean Water Act Section 404 (U.S. Army Corps of Engineers) permit. These measures will result in no loss of species viability.

#### *5.1.5.2 Hood River Alternative*

##### **Vegetative Communities**

Areas temporarily disturbed by construction activities (approximately 4 acres under Option A and 5 acres under Option B) will be replanted with native vegetation where appropriate. Replanting will replace functions associated with existing vegetation such as visual screening, wildlife habitat, and soil stabilization; thereby restoring some of the affected environment.

Staging areas will be limited to previously disturbed areas in order to minimize the temporary disturbance to vegetation. To reduce the staging areas, only enough supplies and equipment needed to complete a specific task will be stored on-site.

Construction of water quality treatment facilities associated with Option B will temporarily disturb approximately 150 linear feet of a small intermittent drainage associated with a seep on the hill slope immediately south of the active rail alignment and a small pond. Fill or removal/fill of material in the seep and pond will be subject to regulation under the Clean Water Act Section 404 (U.S. Army Corps of Engineers) and/or the Oregon Removal/Fill Law (Department of State Lands). Authorizations by these agencies for in-water work will require evaluation of avoidance, minimization, and conservation measures specific for these resources.

##### **Wildlife Species and Habitat**

Effects to wildlife resources will be mitigated by measures similar to those listed for the Cascade Locks site (Section 5.1.5.1 above). The storm water management facilities associated with Option B will require the removal of less than 1 acre of reptile and amphibian habitat associated with the pond and intermittent drainage in the Bryant property. In accordance with the Clean Water Act Section 404 (U.S. Army Corps of Engineers) permit, prior to construction, any native reptiles and amphibians found at the site will be removed and relocated out of the construction zone by a biologist and the areas will be fenced off to prevent re-entry. After construction, these areas will be restored to pre-existing conditions. These efforts will minimize adverse impacts of these species.

##### **Federal and State Listed Species**

Construction noise could temporarily disturb bald eagle foraging and nest activity. Effects to the bald eagle from noise during construction will be reduced by the use of noise mufflers on construction equipment and the development of a blasting plan that will address days and time of blasting operations. The blasting plan will limit blasting operations during periods of high sensitivity to listed species. The plan will include measures to notify appropriate area agencies in advance of blasting operations.

Additional avoidance, minimization, and conservation measures for construction effects will be in response to findings of a Biological Assessment. Such measures will be identified in the Letter of Concurrence or Biological Opinion issued by USFWS. These measures will be incorporated into the contract document between the Tribe and the construction contractor.

The Hood River Alternative will not affect the peregrine falcon; therefore, no mitigation measures are proposed for this species.

In the process of meeting the requirements of the Columbia River Gorge National Scenic Area Management Plan and Oregon Endangered Species Act, where those authorities apply, site-specific plant and animal surveys will be completed to identify state listed plant and animal species or known high-quality habitat that could be affected by construction. These areas will be avoided to the extent practicable.

Construction will remove potential habitat for the little willow flycatcher, the white-headed woodpecker, and the black-backed woodpecker (17 acres under Option A and 19 acres under Option B). The effects of construction on these species will be minimized through the measures identified above for common wildlife species and through compliance with the Migratory Bird Treaty Act. Construction of the Hood River Alternative will not decrease viability of these species.

Measures to minimize the effects of blasting noise on the bald eagle will also minimize the effects of this activity on the state sensitive bird species. Construction impacts on state sensitive amphibians and reptiles affected by the proposed storm water facilities on the Bryant property (Option B) will be minimized through the measures identified above for common wildlife species, and through compliance with the Clean Water Act, Section 404 (U.S. Army Corps of Engineers) permit. These measures will result in no loss of species viability.

#### *5.1.5.3 Warm Springs Alternative*

##### **Vegetative Communities**

The Warm Springs Alternative site is dominated by nonnative species. Areas temporarily disturbed by construction activities will be replanted with native vegetation, where appropriate.

##### **Wildlife Species and Habitat**

Construction effects from the Warm Springs Alternative will be minimal on wildlife species and habitat; therefore, no mitigation measures for wildlife resources are proposed. Project construction will comply with applicable Tribal laws, the IRMP, and the Migratory Bird Treaty Act, which are protective of wildlife species and habitat.

Potential effects to Shitike Creek aquatic species from construction activities will be minimized through the mitigation measures related to water quality impacts, including storm water treatment (Appendix C), and erosion and sediment control. Construction activities will not affect the riparian areas of Shitike Creek; therefore, no mitigation is proposed.

## **Federal and State Listed Species**

A known bald eagle nest is approximately 7 miles away; therefore, no construction impacts are expected and no mitigation measures for bald eagle are proposed at this time. Construction activities will be planned to avoid impacts to Shitike Creek and associated species. Biological Assessments identifying adverse effects to federal listed species will identify additional project effects and appropriate mitigation measures. Additional avoidance, minimization, and conservation measures for construction effects will be in response to findings of a Biological Assessment. Such measures will be identified in the Letters of Concurrence or Biological Opinions issued by USFWS and NMFS. These measures will be incorporated into the contract document between the Tribe and the construction contractor.

### **5.1.6 Historic, Archaeological, and Cultural Resources**

#### *5.1.6.1 Proposed Project: Cascade Locks Resort and Casino*

Construction of the new I-84 interchange could disturb or destroy portions of archaeological site 05/1201-3 (the Young powerhouse), the boundaries of which extend into the construction impact zone. The significance of this site has not yet been determined. If possible, the boundaries of the construction impact zone will be adjusted to avoid the archaeological deposits at 05/1201-3 (preferably including a buffer of 40 to 50 feet). If avoidance is not possible, additional field studies and archival research will be undertaken to determine if there are significant archaeological deposits present in the area that will be subject to ground-disturbing activity. If significant deposits are present, appropriate mitigation measures (which may include data recovery excavations) will be defined in consultation with the SHPO, ODOT, and other interested parties and implemented prior to construction.

An “inadvertent discovery plan” will be developed by the Tribe prior to the beginning of construction activities. The plan will include procedures to be followed if archaeological sites are discovered during construction (e.g., halt construction activities and notify the SHPO).

Effects on the Historic Columbia River Highway/Forest Lane from the construction of the proposed resort and casino facilities and transportation improvements would be no greater in spatial extent or character than the long-term impacts. Section 5.2.6.1 discusses the mitigation measures associated with the Historic Columbia River Highway.

#### *5.1.6.2 Hood River Alternative*

During construction, dust, noise, and traffic from construction vehicles and staging areas could temporarily adversely affect the Historic Columbia River Highway. These effects will be mitigated to the extent feasible by keeping staging areas and construction activities away from the historic highway. Dust will be minimized by watering or performing other methods of dust control. Appropriate agencies will be notified of the blasting schedule.

Other historic, archaeological, and cultural resources are not anticipated to be affected; therefore, no mitigation is proposed. The Tribe will continue to coordinate with the SHPO through final design of the alternative. An “inadvertent discovery plan” will be developed by the Tribe prior to the beginning of construction activities.

### 5.1.6.3 *Warm Springs Alternative*

Based on information provided by the Tribe, adverse effects to cultural resources would occur during the construction of highway access and in undisturbed areas outside the gravel pit. Construction of the proposed interchange with US 26 would eliminate 11 known archaeological sites. These effects will be mitigated with subsurface investigation, documentation, and retrieval as deemed appropriate by, and conducted in consultation with, the Tribal Historic Preservation Officer. The Tribe identified the following possible mitigation measures:

- Modification to road/building design or location to avoid impacts to known cultural resources along the roadway.
- Site testing to determine eligibility status for up to 11 cultural properties if avoidance is not possible.
- Submittal of detailed information about construction to the Tribal Cultural Resources Department, including all utilities, buildings, and staging areas.

The Tribe will develop a mitigation plan under the guidance of the Cultural Resources Program and the IRMP to reduce the cumulative effects on cultural resources.

An “inadvertent discovery plan” will be developed by the Tribe prior to the beginning of construction activities.

## 5.1.7 **Socioeconomic Conditions**

### 5.1.7.1 *Proposed Project: Cascade Locks Resort and Casino*

It is anticipated that construction of the Cascade Locks Resort and Casino will result in more than 400 temporary construction jobs (Ford, 2006). These jobs will provide a net benefit to the City of Cascade Locks and surrounding communities; therefore, no mitigation is proposed.

During the construction of the utility service to the proposed project site, residents of the community may experience minor interruptions during off-peak hours. Because this effect is minor and temporary, no mitigation is proposed.

### 5.1.7.2 *Hood River Alternative*

It is anticipated that construction of the Hood River Alternative will result in approximately 400 temporary construction jobs (Ford, 2006). These jobs will provide a net benefit to the City of Hood River and surrounding communities; therefore, no mitigation is proposed.

During the construction of the utility service to the Hood River site, residents of the community may experience minor interruptions during off-peak hours. Because this effect is minor and temporary, no mitigation is proposed.

### 5.1.7.3 *Warm Springs Alternative*

It is anticipated that construction of the Warm Springs Alternative will result in more than 100 temporary construction jobs (Ford, 2006). These jobs will provide a net benefit to the community of Warm Springs and surrounding communities; therefore, no mitigation is proposed.

During the construction of the utility service to the Warm Springs site, residents of the community may experience minor interruptions during off-peak hours. Because this effect is minor and temporary, no mitigation is proposed.

## **5.1.8 Environmental Justice**

### *5.1.8.1 Proposed Project: Cascade Locks Resort and Casino*

Construction of the proposed project will have beneficial economic effects on the City of Cascade Locks, surrounding communities, and tribal members. Adverse effects from construction are not anticipated to be disproportionately borne by low-income or minority populations; therefore, no mitigation is proposed.

### *5.1.8.2 Hood River Alternative*

Construction of the Hood River Alternative will have beneficial economic effects on Hood River County, the City of Hood River, surrounding communities, and tribal members. Adverse effects from construction are not anticipated to be disproportionately borne by low-income or minority populations; therefore, no mitigation is proposed.

### *5.1.8.3 Warm Springs Alternative*

Adverse environmental effects of construction of the Warm Springs Alternative will include increased traffic and noise. These effects will be borne primarily by the population around Warm Springs, which is a high minority and low-income population. The anticipated effects, however, will not be high and adverse; therefore, they will not represent environmental justice effects. No mitigation is proposed.

## **5.1.9 Resource Use Patterns**

### *5.1.9.1 Proposed Project: Cascade Locks Resort and Casino*

Construction of the proposed project could result in temporary adverse effects to tribal and recreational fishing at Government Cove and Herman Creek. To minimize effects, the following measures will be implemented:

- Plan construction activities to minimize changes to fishing access.
- Provide public notice of planned construction activities such as temporary road closures and other changes in access.
- Distribute periodic news releases or notices to area residents and tourist centers to advise them of changes in pedestrian and bicycle routes during construction activities.
- Clearly mark new construction areas to ensure the general public's safety.
- Implement dust mitigation during work hours.

Construction of the transportation improvements will result in temporary effects on access to the ODFW Oxbow Fish Hatchery Lower Herman Creek rearing ponds, BPA substation, Herman Creek Campground, as well as other recreational resources in the Columbia River Gorge. To minimize effects, the following measures will be implemented:

- Plan construction activities to minimize changes to fish hatchery, substation, and campground access.
- Provide public notice of planned construction activities such as temporary road closures and other changes in access.

- Distribute periodic news releases or notices to area residents and tourist centers to advise them of changes in pedestrian, bicycle, or transit routes during construction activities.
- Clearly mark trail modifications and new construction areas to ensure the general public's safety.
- Implement dust mitigation during work hours.

#### **5.1.9.2 Hood River Alternative**

Mitigation measures for this alternative will be the same as for the Cascade Locks site.

Construction effects to the Mark O. Hatfield Trailhead and Visitor's Center will be mitigated by the measures identified above for the Cascade Locks site and by:

- Reserving parking areas for trail users.
- Keeping access to the trailhead open to the maximum feasible extent.
- Notifying appropriate agencies of blasting and construction schedules.

#### **5.1.9.3 Warm Springs Alternative**

Construction activities associated with the Warm Springs Alternative will have no effect to hunting, gathering, fishing, mining, timber harvesting, or recreational activities; therefore, no mitigation is proposed.

### **5.1.10 Transportation Networks**

#### **5.1.10.1 Proposed Project: Cascade Locks Resort and Casino**

ODOT governs the location of local street intersections on roadways that have an interchange with a state or interstate highway. Known as the Division 51 standards, intersections are to be no closer to an interchange than 1,320 feet. The current design of the Forest Lane Interchange and associated roadway improvements places the intersection of Forest Lane and the loop road closer than 1,320 feet from the new Forest Lane Interchange. The location of the loop road/Forest Lane intersection was selected to minimize impacts on the Historic Columbia River Highway (i.e., Forest Lane), avoid construction in the Herman Creek riparian area, and meet Division 51 standards to the extent feasible. The Tribe will continue consultation with ODOT regarding the design and location of the intersection and obtain the necessary deviation approvals.

Adverse effects to traffic circulation systems from construction vehicles will be mitigated by the design of construction plans ensuring that access remains available during the construction period. Flaggers will be used to direct and route traffic where necessary to minimize disruptions. The construction contractor will submit a traffic control plan consistent with ODOT and city regulations, and provide advanced public notice of planned construction activities such as temporary road closures and interchange ramp closures. Additional mitigation measures for construction of the new interchange related to construction noise are addressed in Section 5.1.11.1.

### *5.1.10.2 Hood River Alternative*

Over the life of construction of the Hood River Alternative, some 65,000 to 68,000 heavy vehicle trips will be needed to remove the excavated earth from the site. The construction contractor will submit a traffic control plan consistent with ODOT and Hood River County regulations. The plan will likely include the following methods to mitigate the effects of high traffic volumes:

- Provide public notice of planned construction activities such as temporary road closures and other changes in access.
- Distribute periodic news releases or notices to area residents and tourist centers to advise them of changes in pedestrian and bicycle routes during construction activities.
- Clearly mark new construction areas to ensure the general public's safety.
- Remove material during non peak hour.
- Use flaggers to notify and control traffic.

Impacts to traffic circulation systems from construction vehicles will also be mitigated by the design of construction plans ensuring that access remains available during the construction period. Additional mitigation measures for construction of the access road are related to construction noise which is addressed in Section 5.1.11.2.

### *5.1.10.3 Warm Springs Alternative*

Adverse effects to traffic circulation systems from construction vehicles will be mitigated by the design of construction plans ensuring that access remains available during the construction period. Additional mitigation measures for construction of the new interchange are related to construction noise which is addressed in Section 5.1.11.3. Flaggers will be used to direct and route traffic where necessary to minimize disruptions. The construction contractor will submit a traffic control plan consistent with ODOT and Warm Springs regulations.

## **5.1.11 Noise**

### *5.1.11.1 Proposed Project: Cascade Locks Resort and Casino*

Construction activities related to ancillary facilities of the resort and casino on nontrust lands will be consistent with local noise ordinances, which may limit such activities to certain hours. Construction activities on trust lands will be consistent with agreements between the labor unions (per the Tribal-State Compact), the Tribe, and Hood River County.

Effects from blasting at the Port of Cascade Locks quarry site, if required for excavation, will be reduced by the implementation of a blasting plan for the project that will include restrictions on day/time for blasting, possible restriction on size of blast medium (limiting noise from individual blasts) and notification of appropriate agencies in advance of activities. Because blasting will occur over a relatively short period of time and is in an area with a history of blasting activities, no mitigation is recommended.

Construction of the proposed interchange and other roadway improvements will require compliance with ODOT's standard construction noise specification. Following is a summary of ODOT's requirements.

- No construction shall be performed within 300 meters of an occupied dwelling unit on Sundays, legal holidays, and between the hours of 10:00 p.m. and 6:00 a.m. on other days.
- All equipment used shall have sound control devices no less effective than those provided on the original equipment. No equipment shall have unmuffled exhaust.
- All equipment shall comply with pertinent equipment noise standards of the EPA.
- No pile driving or blasting operations shall be performed within 900 meters of an occupied dwelling unit on Sundays, legal holidays, and between the hours of 8:00 p.m. and 8:00 a.m. on other days.
- The noise from rock crushing or screening operations performed within 900 meters of any occupied dwelling shall be mitigated by strategic placement of material stockpiles between the operation and the affected dwelling, or by other means.

During construction of the interchange and related roadway improvements, should a specific noise impact complaint occur during the construction of the project, the construction contractor may be required to implement one or more of the following noise mitigations as directed by ODOT's Project Manager.

- Locate stationary construction equipment as far from nearby noise-sensitive properties as possible.
- Shut off idling equipment.
- Reschedule construction operations to avoid periods of noise annoyance identified in the complaint.
- Notify nearby residences whenever extremely noisy work will be occurring.
- Install temporary or portable acoustic barriers around stationary construction noise sources.

#### *5.1.11.2 Hood River Alternative*

Construction activities related to ancillary facilities of the resort and casino on nontrust lands will be consistent with local noise ordinances, which may limit such activities to certain hours. Construction activities on trust lands will be consistent with agreements between the labor unions (per the Tribal-State Compact), the Tribe, and Hood River County. Construction activities associated with the construction of the access road will comply with the noise minimization measures listed above in Section 5.1.11.1.

Effects from blasting will be reduced by the implementation of a blasting plan for the project that will include restrictions on day/time for blasting, possible restriction on size of blast medium (limiting noise from individual blasts) and notification of appropriate agencies in advance of activities. Because blasting is expected to occur over a relatively long period of time, blasting noise will remain an adverse effect.

### 5.1.11.3 *Warm Springs Alternative*

Construction activities on trust lands will be consistent with tribal ordinances. Construction activities associated with the construction of the interchange on US 26 will comply with the noise minimization measures listed above in Section 5.1.11.1.

## 5.1.12 **Visual**

### 5.1.12.1 *Proposed Project: Cascade Locks Resort and Casino*

Adverse effects on visual quality from construction will be reduced through the use of watering or other measures to minimize dust, and keeping staging areas on-site and away from residential areas. The presence and visibility of construction equipment and vehicles at the new interchange will adversely affect viewers traveling on I-84 and the Historic Columbia River Highway. These short-term adverse effects are unavoidable. No other mitigation is proposed.

### 5.1.12.2 *Hood River Alternative*

Adverse effects on visual quality from construction will be reduced through the use of watering or other measures to minimize dust, and keeping staging areas on-site and away from the Historic Columbia River Highway and residential areas.

### 5.1.12.3 *Warm Springs Alternative*

Construction activities will temporarily change the visual quality of the site through the presence of construction equipment and material. Visual effects from construction will be mitigated by implementation of dust suppression measures, and other measures determined by the Tribe.

## 5.1.13 **Hazardous Materials**

### 5.1.13.1 *Proposed Project: Cascade Locks Resort and Casino*

Prior to construction and right-of-way acquisition, a Phase I Environmental Site Assessment will be performed on properties to be acquired (with the exception of the fee-to-trust property, for which a Phase I Environmental Site Assessment has been completed; HDR, 2006b) to determine the presence or absence of hazardous materials or waste. If such materials are found to be present on a property, they will be removed and the site remediated prior to construction of the loop road. There are no known hazardous materials present on the site of the proposed resort and casino; therefore, no removal or mitigation for the site is proposed.

If hazardous materials are discovered during construction, the contractor will stop all activities in the immediate area. If the discovery is made on nontrust land, the contractor will notify the City of Cascade Locks and the Oregon DEQ and follow the procedures in ORS 465 – Hazardous Waste and Hazardous Materials I, Public Health and Safety, Reduction of Use of Toxic Substances and Hazardous Waste Generation and ORS 466 Hazardous Waste and Hazardous Materials I, Public Health and Safety, Storage, Treatment and Disposal of Hazardous Waste and PCBs. For the trust property, the contractor will notify federal and tribal authorities and follow procedures as required by the Tribe's Fire and Safety Department and the Bureau of Natural Resources Environmental Division.

Construction equipment and materials could introduce hazardous materials to the site. To reduce the potential release of such materials to the environment, the contractor will prepare a pollution control plan, which will include a spill containment plan for hazardous materials and

waste. Best management practices associated with the pollution control plan are presented in Section 5.2.5.1.

#### *5.1.13.2 Hood River Alternative*

No known hazardous materials are present at the Hood River site. However, if hazardous materials are discovered during construction, the contractor will direct that all activities in the immediate area stop. The contractor will then notify federal, tribal, and/or local authorities for proper treatment and disposal.

Construction equipment and materials could introduce hazardous materials to the site. Use of best management practices and implementation of a pollution control plan, which will include a spill containment plan for hazardous materials and waste will reduce the potential release of such materials to the environment. Best management practices associated with the pollution control plan are presented in Section 5.1.3.1.

#### *5.1.13.3 Warm Springs Alternative*

Any hazardous materials present on the Warm Springs Alternative site will need to be removed and remediated prior to construction. If hazardous materials are discovered during construction, activities in the immediate area will stop. The contractor will then notify the Tribe's Fire and Safety Department and the Bureau of Natural Resources Environmental Division, and follow appropriate procedures.

Construction equipment and materials could introduce hazardous materials to the site. Use of best management practices and implementation of a pollution control plan will reduce the potential release of such materials to the environment.

## **5.2 Mitigation of Long-Term (Operational) Effects**

### **5.2.1 Land Resources**

#### *5.2.1.1 Proposed Project: Cascade Locks Resort and Casino*

There are no topographic, soil, or geologic resources of regional, statewide, or national importance that will be affected in the long term by the proposed project; no mitigation is proposed. Grading is expected to be balanced on-site; no design mitigation for topographic alteration is required.

#### *5.2.1.2 Hood River Alternative*

There are no topographic, soil, or geologic resources of regional, statewide, or national importance that will be affected in the long term by the Hood River Alternative; no mitigation is proposed. The Hood River Alternative will create a barren rock cut slope. The long-term impact is the permanent removal of 1.0 to 1.5 million cubic yards of rock and earth, and exposure of the rock at the cut slope. The Tribe will maintain the cut slope to minimize possible rock fall or other hazards. Vegetation, soil, and loose rock will be removed from the rock wall and rim to minimize potential rock fall.

#### *5.2.1.3 Warm Springs Alternative*

There are no topographic, soil, or geologic resources of regional, statewide, or national importance that will be affected in the long term by the Warm Springs Alternative; no mitigation is proposed.

## **5.2.2 Land Use Patterns**

### *5.2.2.1 Proposed Project: Cascade Locks Resort and Casino*

Mitigation measures for right-of-way acquisition are identified in Section 5.1.2.1. No additional mitigation measures for land use impacts are required.

Mitigation for the effects of the project on the Historic Columbia River Highway is discussed in Section 5.2.6.1 (Cultural Resources).

### *5.2.2.2 Hood River Alternative*

Mitigation measures for construction of the access road are identified in Section 5.1.2.2. No additional mitigation measures for land use impacts are required.

### *5.2.2.3 Warm Springs Alternative*

Development of the Warm Springs Alternative will require a conditional use permit or zone change. No mitigation is required.

## **5.2.3 Water Resources**

### *5.2.3.1 Proposed Project: Cascade Locks Resort and Casino*

The Tribe will prepare storm water management plans to ensure the proposed storm water treatment system will provide appropriate storm water treatment, such as infiltration and onsite detention (see Appendix C). The plan will address both operation and maintenance and will include a program for monitoring the condition of the system to identify any needs for change. The Tribe will also prepare a landscape maintenance plan for chemical use (e.g., herbicides, pesticides) and will strictly adhere to manufacturer guidelines.

ODOT will be responsible for maintenance of water quality facilities associated with the interchange.

### *5.2.3.2 Hood River Alternative*

The Tribe will prepare storm water management plans to ensure the proposed storm water treatment system will provide appropriate storm water treatment, such as infiltration and onsite detention (see Appendix C). The plan will address both operation and maintenance and will include a program for monitoring the condition of the system to identify any needs for change. The Tribe will also prepare a landscape maintenance plan for chemical use (e.g., herbicides, pesticides) and will strictly adhere to manufacturer guidelines.

### *5.2.3.3 Warm Springs Alternative*

The Tribe will prepare storm water management plans to ensure the proposed storm water treatment system will provide appropriate storm water treatment, such as infiltration and onsite detention (see Appendix C). The plan will address both operation and maintenance and will include a program for monitoring the condition of the system to identify any needs for change. The Tribe will also prepare a landscape maintenance plan for chemical use (e.g., herbicides, pesticides) and will strictly adhere to manufacturer guidelines.

Design measures necessary to protect the water resources of Shitike Creek, the community of Warm Springs, and public health and safety include:

- All utilities required for the proposed project along Shitike Creek should be located within Shitike Creek Road. Shitike Creek Road is located adjacent to the creek and within its floodplain. The road crosses a number of wet areas and comes within a few feet of the water's edge in places. No widening or changes in location of this road will be allowed. Necessary permits will be obtained from the Branch of Natural Resources and other tribal departments as necessary prior to implementation.
- Sewer lines located within Shitike Creek Road will be designed to prevent overflow from reaching the stream channel.
- Storm water retention facilities capable of treating 100 percent of the 2-year 24-hour storm will be installed to treat runoff from the project area as well as Highway 26 (see Appendix C).
- The unimproved trail from Shitike Creek Road to the project area will be improved to reduce the amount of silt reaching the floodplain and stream channel.

The Tribe has adequate water rights in the Deschutes River to meet water supply demands of the Warm Springs Alternative. Expansion of the Warm Springs water supply system may be required to be in place at casino startup. Alternatively, the Tribe could implement conservation measures for some users to make water available for the new casino. The appropriate mitigation will be developed by Tribal Council.

## **5.2.4 Air Quality**

### *5.2.4.1 Proposed Project: Cascade Locks Resort and Casino*

No project-specific mitigation of air quality impacts is required. Vehicular emissions associated with the proposed project will not affect the attainment status of the region. Improvements in federal (EPA) fuel and emissions standards for new on-road and nonroad vehicle engines will result in a downward trend in overall emissions with or without the proposed project. Efforts to reduce vehicle trips to the project site (Section 5.1.10.1) will further reduce vehicle emissions. A shuttle service to and from the casino from a number of locations is envisioned as part of general facility operation. The details of potential shuttle routes or shuttle frequency have not been developed at this stage, but a service that reduces the number of trips to the casino will help reduce facility-related emissions from vehicles.

### *5.2.4.2 Hood River Alternative*

No project-specific mitigation of air quality impacts is required. Vehicular emissions associated with the proposed project will not affect the attainment status of the region. Improvements in federal (EPA) fuel and emissions standards for new on-road and nonroad vehicle engines will result in a downward trend in overall emissions with or without the Hood River Alternative. Efforts to reduce vehicle trips to the project site (Section 5.1.10.2) will further reduce vehicle emissions. A shuttle service to and from the casino from a number of locations is envisioned as part of general facility operation. The details of potential shuttle routes or shuttle frequency have not been developed at this stage, but a service that reduces the number of trips to the casino will help reduce facility-related emissions from vehicles.

### 5.2.4.3 *Warm Springs Alternative*

No project-specific mitigation of air quality impacts is required. Vehicular emissions associated with the proposed project will not affect the attainment status of the region. Improvements in federal (EPA) fuel and emissions standards for new on-road and nonroad vehicle engines will result in a downward trend in overall emissions with or without the Warm Springs Alternative. Efforts to reduce vehicle trips to the project site (Section 5.1.10.3) will further reduce vehicle emissions.

The Tribe will prepare an emissions inventory and air dispersion modeling (point source) study to accurately estimate mobile and stationary source emissions on the reservation to further improve air quality.

Mitigating factors can be best determined once an emissions inventory and air dispersion modeling study is completed. Mitigation measures include enforcement of the Integrated Resource Management Plan, a Tribal Air Code, fire management practices, additional area tree and shrub plantings, moderate length vehicle highway access ramps, community wood stove change-outs, no-idling zones for diesel engine vehicles, and nonsmoldering firewood burned in casino fireplaces.

## 5.2.5 **Biological Resources**

### 5.2.5.1 *Proposed Project: Cascade Locks Resort and Casino*

The landscaped areas of the project site will include native vegetation to partially compensate for the loss of vegetation from the development. Effects of increased human activity (e.g., noise, traffic, light) on habitat and species behavior will be minimized to the extent practicable through project design (e.g., storm water management facilities, lighting approved by the International Dark Sky Association) and measures to reduce vehicular trips to the resort and casino (e.g., employee shuttle service). Potential effects of storm water discharge on fish species, including state sensitive species, will be minimized with the storm water management facilities and best management practices for use of hazardous materials on site (see Section 5.1.3). The proposed storm water management system (Appendix C) will reduce pollutant loads and minimize the effects to fisheries and aquatic resources in the Columbia River, Herman Creek, Dry Creek, Herman Creek Cove, and Government Cove.

Noise and light resulting from operation of the proposed project could disturb wildlife in the immediate project vicinity. Noise impacts from long-term operations of the resort and casino will be mostly attributable to vehicle noise. The Tribe is developing Transportation Demand Management measures to reduce the number of vehicles accessing the facility (see Section 5.1.10.1), which will slightly reduce noise levels, although the amount of reduction may not be sufficient to alter wildlife behavior. Effects of the project on wildlife crossing mortalities are immeasurable and do not warrant mitigation, although reduced traffic will reduce the risk of mortalities. Lighting of the surface parking areas will utilize full cut-off “Dark Sky Friendly” fixtures approved by the International Dark Sky Association to minimize glare and light emissions from the proposed project, which could disturb wildlife in the immediate project vicinity.

Additional avoidance, minimization, and conservation measures for project operations will be implemented in response to findings of the Biological Assessments. Such measures will be identified in the Letters of Concurrence and/or Biological Opinions issued by USFWS and NMFS. These measures will be incorporated into the project design and operation plans.

### 5.2.5.2 *Hood River Alternative*

The landscaped areas of the project site will include native vegetation to partially compensate for the loss of vegetation from the development. Effects of increased human activity (e.g., noise, traffic, light) on habitat and species behavior will be minimized to the extent practicable through project design (e.g., storm water management facilities, lighting approved by the International Dark Sky Association) and measures to reduce vehicular trips to the resort and casino (e.g., employee shuttle service). For Option B, potential effects of storm water discharge on reptiles and amphibians species dependent on receiving waters, including state sensitive species, will be minimized with the storm water management facilities and best management practices for use of hazardous materials on site (see Section 5.1.3).

Noise and light resulting from operation of the Hood River Alternative could disturb wildlife in the immediate project vicinity. Noise impacts from long-term operations of the resort and casino will be mostly attributable to vehicle noise. The Tribe is developing Transportation Demand Management measures to reduce the number of vehicles accessing the facility (see Section 5.1.10.1), which will slightly reduce noise levels, although the amount of reduction may not be sufficient to alter wildlife behavior. Effects of the project on wildlife crossing mortalities are not measurable and do not warrant mitigation, although reduced traffic will reduce the risk of mortalities. Lighting of the surface parking areas will utilize full cut-off “Dark Sky Friendly” fixtures approved by the International Dark Sky Association to minimize glare and light emission from the proposed project, which could disturb wildlife in the immediate project vicinity.

### 5.2.5.3 *Warm Springs Alternative*

The facilities will be designed to avoid adverse effects to wildlife. No mitigation is proposed.

## 5.2.6 **Historic, Archaeological, and Cultural Resources**

### 5.2.6.1 *Proposed Project: Cascade Locks Resort and Casino*

Under the provisions of the Programmatic Agreement for the Historic Columbia River Highway in Cascade Locks, the Tribe will consult with the Historic Columbia River Highway Advisory Committee and the agreement’s signatories (i.e., FHWA, ODOT, SHPO, City of Cascade Locks, and Hood River County) to develop the conditions of a “No Historic Properties Adversely Affected” determination if the provisions of the Programmatic Agreement cannot be met. In a subsequent process, the BIA will forward the conditions of the no adverse effect determination through the Section 106 consultation process with the SHPO. The Tribe will implement the conditions identified in the consultation process through a Memorandum of Understanding with BIA and other consulting parties as identified (e.g., FHWA, ODOT, SHPO, City of Cascade Locks, and Hood River County). In addition, photodocumentation will be made along that portion of Forest Lane that will be reconstructed prior to reconstruction. If pavement is to be removed, a core sample of the original pavement of the Historic Columbia River Highway will be collected from this portion of Forest Lane. The Tribe will develop an interpretive and educational display on the Historic Columbia River Highway at the Cascade Locks Resort and Casino. The display will focus on the highway in the Cascade Locks area and its importance in the historical development of the community.

Based on current design of proposed facilities, no other impacts to historic, archaeological, or cultural resources are anticipated. Storm water collection facilities will be designed to avoid known cultural resources. Additional field work may be warranted if project boundaries are refined during final project design to include areas not previously surveyed.

### 5.2.6.2 Hood River Alternative

The Hood River Alternative will have substantial indirect effects on the Historic Columbia River Highway in the segment between OR 35 and the trust parcels. These will be reduced by the incorporation of the following measures into the facility:

- Landscape features, including grading and planting of evergreen trees and shrubs, will be used to screen views of the access road and casino building from the Historic Columbia River Highway. Vegetation will also reduce the audible impacts associated with the access road. Vegetative screening will be designed specifically to maintain the natural appearance of woodlands and conifer forest consistent with the appearance along most of the corridor between Hood River and the Mosier Tunnels.
- The access road overcrossing of the historic highway will incorporate design features (e.g., faux rock finishes, arch forms) consistent with other overcrossings and bridges along the historic highway. All landscape plantings and other features associated with the access road will be designed to meet the requirements of the Columbia River Gorge National Scenic Area Management Plan.

If the Hood River Alternative were selected, the Tribe will initiate consultation with the National Park Service and the SHPO under Section 106 to determine appropriate mitigation for the adverse effect on the Historic Columbia River Highway.

### 5.2.6.3 Warm Springs Alternative

Based on information provided by the Tribe, adverse effects to cultural resources could occur as a result of the Warm Springs Alternative. Cultural plant-gathering areas could be eliminated as a result of the development. The Tribe recommends improving or expanding plant gathering in other areas to mitigate this potential effect. The presence of the casino within viewshed of the Brunoe Cemetery will diminish the quality of the traditional use of that site. The Tribe will consult with the Brunoe family to identify appropriate measures to mitigate the adverse effect of the project on this resource. The Tribe will develop a mitigation plan under the guidance of the Cultural Resources Program and the IRMP to reduce the cumulative effects on cultural resources. If the Warm Springs Alternative were selected, the Tribe will initiate consultation with the Tribal Historic Preservation Officer under Section 106 to determine appropriate mitigation for adverse effect on cultural resources.

## 5.2.7 Socioeconomic Conditions

### 5.2.7.1 Proposed Project: Cascade Locks Resort and Casino

#### **Social and Economic Conditions**

The project will have beneficial effects resulting from increased revenues to the Tribe and agencies participating in the Tribal-State Compact, increased job opportunities for tribal members and local residents, and a direct and indirect improvement in the tribal, community, and regional economies. The proposed project will result in direct and indirect employment and population increases in the City of Cascade Locks and surrounding communities. This increase will, in turn, result in increased economic activity as well as increased demand for public services. Provisions of the Tribal-State Compact are described in Chapter 2 (Alternatives) and include a Community Benefit Fund, which will provide grants to benefit the communities of Cascade Locks and Hood River, Wasco, Jefferson, Sherman, Gilliam, Wheeler, Deschutes,

Crook, Clackamas, Multnomah, and Washington Counties to provide resources to local agencies to meet the needs potentially caused by the proposed project. Future grants from the fund could be used to treat and prevent gambling addiction, for public health and safety, and for education. The project itself is mitigation for existing economic needs; therefore, no additional mitigation for socioeconomic effects is proposed.

### **Public Services and Utilities**

The proposed project is not expected to affect existing utilities; therefore, no mitigation is proposed at this time. However, in the event the Cascade Locks Resort and Casino has an effect on utilities, the Tribe and City of Cascade Locks have agreed to a Memorandum of Agreement (MOA), which is described below and included in Appendix L.

On March 25, 2005, an MOA between the Tribe, the City of Cascade Locks, and Hood River County was signed to identify roles and responsibilities, and measures to help minimize both the short- and long-term potential effects from the project, including effects on utilities. The MOA was developed to mitigate potential effects in all areas that result from the operation of a casino (City of Cascade Locks et al., 2005). Mitigation measures include the Tribe agreeing to acquire utility service, without interruption, and pay the rate commensurate with other large industrial users, established by the City Council for its water, sewer, electric, cable television, and broadband Internet services. If the City determines that the casino facilities require additional utility capacity or improvements, the Tribe will pay for additional construction costs.

The Tribal-State Compact for the Cascade Locks Resort and Casino (April 6, 2006) also includes provisions to minimize and mitigate effects to utilities. The Tribe will utilize appropriate energy-efficient and other “green” building technologies and standards in design and construction of the resort to reduce environmental and energy consumption.

#### *5.2.7.2 Hood River Alternative*

### **Social and Economic Conditions**

As with the Cascade Locks project, this alternative will have a beneficial effect on the economy of the Tribe, the communities, and the region, and will itself be mitigation for the existing economic need. No additional mitigation is required.

### **Public Services and Utilities**

Utility mitigation is not proposed under the Hood River Alternative because no additional demand will be placed on the City of Hood River’s water and wastewater systems. Also, additional demand on other services such as electricity, telecommunications, or solid waste will be met by existing service providers and therefore no mitigation is recommended.

No other demands on utilities or utility connections associated with the Hood River Alternative will require mitigation.

### 5.2.7.3 *Warm Springs Alternative*

#### **Social and Economic Conditions**

This alternative will not meet the economic needs of the Tribe, as it will not generate sufficient revenues to match existing and projected economic deficits, nor will it provide sufficient revenues to improve the Tribe's long-term economic condition and support its self-sufficiency (see Section 2.2.4.1). The only way to mitigate for the unmet economic need is to create additional revenue streams. These have been pursued by the Tribe during the past three decades, as detailed previously in Sections 1.3 and 2.2.

#### **Public Services and Utilities**

Six new fire department employees will need to be hired if the casino were built west of the community of Warm Springs. An additional ladder truck will also be needed to extinguish a major fire should it occur at the site. The existing water supply system is not capable of meeting the needs of the Warm Springs Alternative. Expansion of the Warm Springs water supply system may be required to be in place at casino startup. Alternatively, the Tribe could implement conservation measures for some users to make water available for the new casino. The appropriate mitigation will be developed by Tribal Council. No other mitigation for infrastructure and utilities is needed.

## **5.2.8 Environmental Justice**

### 5.2.8.1 *Proposed Project: Cascade Locks Resort and Casino*

The proposed project will provide an economic benefit for the Tribe as well as for Cascade Locks and surrounding communities. Revenues from the Community Benefit Fund may be available to provide social services to low-income and minority populations in the area. No mitigation measures related to environmental justice are recommended.

### 5.2.8.2 *Hood River Alternative*

The Hood River Alternative will provide an economic benefit for the Tribe and Hood River County and surrounding communities. Revenues from the Community Benefit Fund may be available to provide social services to low-income and minority populations in the area. No mitigation measures are recommended.

### 5.2.8.3 *Warm Springs Alternative*

The Warm Springs Alternative will increase tribal revenues, but will provide limited economic benefits to the Tribe. Revenues from the Community Benefit Fund may be available to provide social services to low-income and minority populations in the area. No mitigation measures are recommended.

## **5.2.9 Resource Use Patterns**

### 5.2.9.1 *Proposed Project: Cascade Locks Resort and Casino*

The Tribe does not consider a resort/casino on the Cascade Locks site to have an adverse effect on Tribal resource use patterns, including hunting, fishing and gathering; no mitigation is proposed.

The proposed project has been designed to avoid impacts to recreation resources. However, if the recreation resources in the vicinity experience a substantial increase in use, it may be necessary to acquire additional equipment and hire maintenance staff for existing recreational facilities. Funding for such resource improvements may be available through the Tribe-Oregon Benefit Fund or Community Benefit Fund.

#### *5.2.9.2 Hood River Alternative*

The Tribe does not consider a casino on the Hood River sites to have a significant adverse effect on Tribal resource use patterns, including hunting, fishing and gathering; no mitigation is proposed.

Increased use of the Mark O. Hatfield Trailhead and Visitors' Center and other existing recreation facilities in the vicinity may generate the need for additional equipment and maintenance staff at these facilities. Funding for such resource improvements may be available through the Tribe-Oregon Benefit Fund or Community Benefit Fund.

#### *5.2.9.3 Warm Springs Alternative*

The Tribe does not consider a casino on the Warm Springs site to have an adverse effect on Tribal hunting or fishing activities; no mitigation is proposed for these resource uses. Cultural plant-gathering areas could be eliminated as a result of the development. The Tribe will consider improving or expanding plant gathering in other areas to mitigate this potential effect.

The Warm Springs Alternative will not generate the need for additional maintenance, staff, or equipment at existing recreation facilities. The Tribe will provide additional staff at the Museum at Warm Springs if warranted by increased visitation.

### **5.2.10 Transportation Networks**

#### *5.2.10.1 Proposed Project: Cascade Locks Resort and Casino*

Increased traffic associated with the resort and casino would contribute incrementally to regional congestion on westbound I-84. As provided in the Tribal-State Compact, the Tribe will work in consultation with ODOT to minimize the effect of traffic generated by the resort and casino on I-84 mobility. The Tribe will develop Transportation Demand Management (TDM) measures (e.g., employee shuttle service) to reduce the effect of casino traffic on this facility.

The BIA will work with ODOT and the City of Cascade Locks to develop an Interchange Area Management Plan (IAMP) to protect the function of the interchange and ensure safe and efficient operation between the interchange and connecting roadways (see Section 4.2.2.1).

#### *5.2.10.2 Hood River Alternative*

The intersection of OR 35 and the Historic Columbia River Highway does not currently meet ODOT's mobility standards. Opportunities for adding capacity at this intersection have been investigated in previous studies (ODOT, 2005b), but are limited by the presence of the historic highway and the physical constraints of this area (topography, Hood River). With the additional traffic resulting from the Hood River Alternative, the mobility and safety at the intersection will further decline and mitigation will be necessary. The Tribe will develop mitigation measures in consultation with ODOT that will be sensitive to the presence of the Historic Columbia River Highway.

The Hood River Alternative will adversely affect traffic mobility on the Interstate system at the Exit 63/Exit 64 westbound weave section by exceeding ODOT's mobility standard for that section. The Tribe will develop TDM measures (e.g., employee shuttle service) to reduce the effect of casino traffic on this facility.

Additional vehicular traffic on the Historic Columbia River Highway between OR 35 and the casino access road will increase the safety hazard for bikes/pedestrians on this segment. Mitigation will be developed in cooperation with ODOT and SHPO and could include: (1) improved signage to encourage drivers to be aware of bikes/pedestrians, (2) addition of a hiker/bike lane through shoulder widening, or (3) new hiker/biker access to the historic highway from OR 35 to a location east of the casino access road.

### *5.2.10.3 Warm Springs Alternative*

The Warm Springs Alternative will require the construction of a new interchange on US 26 to provide safe access to the site. The Tribe will coordinate the design of the interchange with ODOT to meet ODOT standards and requirements.

The Tribe will coordinate the proper approvals and negotiate a revised easement with ODOT regarding the expressway classification of US 26 in the area where the casino access drive will be located.

## **5.2.11 Noise**

When traffic noise impacts have been identified as a result of increased traffic flow and transportation improvement projects, noise abatement measures must be considered. Recommendations regarding appropriate mitigation measures for the proposed project and alternatives are presented below.

### *5.2.11.1 Proposed Project: Cascade Locks Resort and Casino*

Under the Cascade Locks Resort and Casino project, project-related effects are expected at Receptors 2, 3, 4, 8, 13, 17, 24, 28, 33, 37 (commercial), and 39. All of the predicted project-related traffic noise impacts occur along I-84 and WaNaPa Street corridors. The following traffic noise abatement measures were considered:

- Traffic management measures (e.g., traffic control devices and signing for prohibition of certain vehicles types, time-use restrictions for certain vehicle types, modified speed limits, and exclusive land designations). This option is not consistent with the purpose and need for the proposed transportation improvements; therefore, it was eliminated from further consideration.
- Altering the horizontal and vertical alignments of I-84 and WaNaPa Street. This is also not consistent with the purpose and need for the proposed transportation improvements; therefore, it was eliminated from further consideration.
- Acquisition of property rights (either in fee or lesser interest) for construction of noise barriers. The proposed project does not have funding to acquire property for the purpose of constructing noise barriers; therefore, this option was eliminated from further consideration.
- Acquisition of real property or interests therein (predominantly unimproved property) to serve as a buffer zone to preempt development that would be adversely affected by traffic noise. The proposed project does not have funding to acquire property to construct buffer zones; therefore, this option was eliminated from further consideration.

- Noise insulation of public use or nonprofit institutional structures. None of the effected receptors are public or nonprofit institutional structures.
- Construction of noise barriers (including landscaping for aesthetic purposes), whether within or outside the highway right-of-way. There are a few limited opportunities to construct noise walls in the affected project area; therefore, this option was evaluated further.

Due to the existing alignments and intended uses of these roadways, noise barriers are the most feasible noise mitigation option. Noise barriers have the greatest potential to succeed as a mitigation measure for the proposed project, and therefore were considered for mitigating predicted traffic noise impacts on existing buildings.

A noise barrier must be continuous and have substantial length and height to be effective. According to ODOT policy, noise barriers are feasible when terrain, access, safety, or other physical constraints do not preclude them and where they can provide benefits – defined as at least 5 dBa of noise reduction, with a noise reduction goal of 7 to 8 dBa. Noise barriers are not proposed unless a single barrier on a feasible location can effectively reduce traffic noise at several adversely affected residences for a reasonable cost (\$24,000 per residence). Noise barriers are typically not constructed for a single residence because they are not cost effective.

The project team used FHWA’s Traffic Noise Model to perform the mitigation analysis and determine the cost per residence that would benefit from the noise barriers. The modeling goal in this analysis is to maximize the number of receptors that would benefit from the noise barriers to improve the cost-effectiveness of the mitigation.

The analysis included mitigation of all predicted traffic noise impacts, not just project-related traffic noise impacts. Using the maximum number of predicted traffic noise impacts, this approach serves as a screening assessment. If it is determined that noise walls are not cost effective assuming the maximum number of impacts, then reducing the number of receptors would make the walls even less cost effective and, therefore, not reasonable. Table 5-1 is a summary of the mitigation analysis results.

Table 5-1: Noise Barrier Analysis Summary–Proposed Project

Affected Receptors	Barrier	\$/Benefited Receptor	Reasonable?
1-7	1	\$118,915	No
8-14	2	\$108,979	No
16-17; 20-23	3	\$409,153	No
18-19	4	\$121,506	No
24-25	5	<i>Barrier unable to achieve &gt;5 dBa reduction</i>	
28	6	\$183,077	No
29-31; 33-34	7	\$160,487	No
37	Single commercial receptor (noise barrier not investigated)		
39	Single residential receptor w/direct access to WaNaPa Street (noise barrier not investigated)		

The cost of these modeled noise barriers would exceed \$24,000 per benefited residence; therefore, these noise walls are not cost effective, are considered unreasonable, and are not recommended for construction.

Mechanical systems (such as heating, ventilation, and air conditioning systems) associated with the facility are another potential source of noise at the proposed site. The design and specification of the systems is not advanced sufficiently so that a noise analysis can be performed at this time. There is no indication that noise from these systems will result in adverse impacts on sensitive receptors; no mitigation measures are proposed or required.

### 5.2.11.2 Hood River Alternative

Under the Hood River Alternative, impacts are expected at Receptors 3 through 9. The same traffic noise abatement measures described in Section 5.1.11.1 could be applied.

All of the noise-predicted traffic impacts occur along the proposed casino access road. For the same reasons described above, noise barriers have the greatest potential to succeed as a mitigation measure on this project.

During modeling, detailed design of noise barriers for the Hood River Alternative was difficult due to the hilly terrain in the project area and the lack of final design elevation information. The reasonableness of potential noise barriers was evaluated by determining the number of benefited receptors that would be necessary to make the wall cost reasonable. Both 10- and 20-foot-tall noise walls were evaluated along the Hood River Alternative access road (3,248 feet long). The walls shielded Receptors 4 through 9. Table 5-2 is a summary of the results of the noise barrier analysis. Receptor 3 is a commercial receptor; therefore, a noise wall was not modeled to mitigate potential traffic noise impacts at Receptor 3.

Table 5-2: Noise Barrier Analysis Summary–Hood River Alternative

Affected Receptors	Barrier	Area (ft <sup>2</sup> )	Cost of Barrier	No. of Benefited Receptors Needed	Reasonable
4-9	1 (10-foot)	32,480	\$812,000	34	No
4-9	2 (20-foot)	64,960	\$1,624,000	68	No
3	Single commercial receptor (noise barrier not investigated)				

Receptors 4 through 9 represent 11 residences. For a 10-foot wall to be cost reasonable, it would need to provide greater than 5 dBa benefit to at least 34 residences. For a 20-foot wall to be cost reasonable, it would need to provide greater than 5 dBa benefit to at least 68 residences. There are not enough benefited residences for these walls to be considered reasonable on a cost effectiveness basis (per the ODOT reasonable cost of \$24,000 per benefited residence). Analysis results indicate these walls should not be constructed.

Mechanical systems (such as heating, ventilation, and air conditioning systems) associated with the facility are another potential source of noise at the proposed site. The design and specification of the systems is not advanced sufficiently so that a noise analysis can be performed at this time. There is no indication that noise from these systems will result in adverse impacts on sensitive receptors; no mitigation measures are proposed or required.

### 5.2.11.3 Warm Springs Alternative

No noise impacts were predicted under the Warm Springs Alternative; therefore, mitigation was not investigated.

Mechanical systems (such as heating, ventilation, and air conditioning systems) associated with the facility are another potential source of noise at the proposed site. The design and

specification of the systems is not advanced sufficiently so that a noise analysis can be performed at this time. There is no indication that noise from these systems will result in adverse impacts on sensitive receptors; no mitigation measures are proposed or required.

## **5.2.12 Visual**

### *5.2.12.1 Proposed Project: Cascade Locks Resort and Casino*

In the planning and design of the proposed project, the Tribe has been sensitive to its location in the Columbia River Gorge National Scenic Area and has proposed building materials and landscaping with colors and textures that are harmonious and blend with the existing visual environment.

The design of the transportation improvements (and related illumination, landscaping, and signage) will be consistent with ODOT's I-84 Corridor Strategy for the Columbia River Gorge (ODOT, 2005c). The proposed Forest Lane Interchange will be landscaped to restore and revegetate affected areas to the extent practicable to minimize the long-term visual impact of the interchange. Lighting of the surface parking areas will utilize full cut-off "Dark Sky Friendly" fixtures approved by the International Dark Sky Association to minimize glare and light emission from the proposed project.

### *5.2.12.2 Hood River Alternative*

The Hood River Alternative site and its surroundings present very little opportunity for visual screening that could mitigate the impacts associated with the construction and operation of the facility.

For the access road, the Tribe will incorporate design guidelines of the Management Plan for the Columbia River Gorge National Scenic Area related to roads in the General Management Area and for facilities seen from key viewing areas. Specifically, for the planning and design of the access road, the Tribe will:

- Minimize grading activities to the maximum extent practicable.
- Design the road to be visually subordinate, to the maximum extent practicable, as seen from the Historic Columbia River Highway.
- Provide vegetation and landscaping along the road to minimize its visibility from key viewing areas.

If required by law, the Tribe will submit designs and obtain approval for the access road in accordance with the Columbia River Gorge National Scenic Area Act.

The design of the transportation improvements (and related illumination and signage) will be consistent with ODOT's I-84 Corridor Strategy for the Columbia River Gorge (ODOT, 2005c). Lighting of the surface parking areas will utilize full cut-off fixtures approved by the International Dark Sky Association to minimize light emission from the proposed project.

### *5.2.12.3 Warm Springs Alternative*

In the planning and design of the Warm Springs Alternative, the Tribe will be sensitive to the landscape setting and incorporate building materials and landscaping with colors and textures that are harmonious and blend with the existing visual environment.

## **5.2.13 Hazardous Materials**

### *5.2.13.1 All Alternatives*

Activities associated with the operation of the project that will involve the use of hazardous materials or the generation of hazardous waste will be conducted under the regulatory authority of the EPA and the Tribe. No mitigation is required.