

# Appendix B: Mitigation Measures Common to all Action Alternatives

The National Park Service places a strong emphasis on avoidance, minimization, and mitigation of impacts. To help ensure that field activities associated with the Badger Pass Ski Lodge Rehabilitation Project protect natural, cultural, and social resources and the quality of the visitor experience, mitigation measures have been developed. The following section discusses mitigation measures that would occur prior to, during, and after construction of the proposed improvements.

Mitigation Measure	Responsibility	Critical Milestones
<b>CONSTRUCTION MITIGATION MEASURES</b>		
Prior to entry into the park, steam-clean heavy equipment to prevent importation of non-native plant species, tighten hydraulic fittings, ensure hydraulic hoses are in good condition and replace if damaged, and repair all petroleum leaks.	Yosemite National Park, Project Manager; Contractor	Prior to and concurrent with project activities
Inspect the project to ensure that impacts stay within the parameters of the project area and do not escalate beyond the scope of the environmental assessment, as well as to ensure that the project conforms with all applicable permits or project conditions. Store all construction equipment within the delineated work limits. Confine work areas within creek channels to the smallest area necessary.	Yosemite National Park, Project Manager; Contractor	Prior to and concurrent with project activities
Implement compliance monitoring to ensure that the project remains within the parameters of National Environmental Policy Act (NEPA) and National Historic Preservation Act (NHPA) compliance documents.	Yosemite National Park, Project Manager; Contractor	Concurrent with project activities
Provide a project orientation for all construction workers to increase their understanding and sensitivity to the challenges of the special environment in which they will be working.	Yosemite National Park, Project Manager	Prior to and concurrent with project activities
If deemed necessary, demolition/construction work on weekends or federal government holidays may be authorized, with prior written approval of the Superintendent.	Yosemite National Park, Project Manager;	Prior to and concurrent with project activities
Remove all tools, equipment, barricades, signs, surplus materials, and rubbish from the project work limits upon project completion. Repair any asphalt surfaces that are damaged due to work on the project to original condition. Remove all debris from the project site, including all visible concrete, timber, and metal pieces.	Yosemite National Park, Project Manager; Contractor	Upon completion of project activities
The Construction Contractor shall prepare a Health and Safety Plan to address all aspects of Contractor health and safety issues compliant with OSHA standards and other relevant regulations. The Plan shall be submitted for park review and approval prior to construction.	Contractor	Prior to and concurrent with project activities
A Storm Water Pollution Prevention Plan (SWPPP) shall be prepared by the Construction Contractor and implemented for construction activities to control surface run-off, reduce erosion, and prevent sedimentation from entering water bodies during construction. The SWPPP shall be submitted for park review and approval prior to construction.	Contractor	Prior to and concurrent with project activities
A construction work schedule shall be prepared by the Construction Contractor for the project that minimizes effects on wildlife in adjacent habitats and peaks in visitation. The work schedule shall be submitted for park review and approval prior to construction.	Contractor	Prior to and concurrent with project activities
Supervisory construction personnel shall attend an Environmental Protection briefing provided by the park prior to working on site. This briefing is designed to familiarize workers with statutory and contractual environmental requirements and the recognition of and protection measures for archeological sites, sensitive habitats, water resources, and wildlife habitats.	Contractor	Prior to and concurrent with project activities
The park shall develop a Communications Strategy Plan to alert necessary park and Concessioner employees, residents and visitors to pertinent elements of the construction work schedule.	Yosemite National Park, Project Manager	Prior to and concurrent with project activities
Provide proper and timely maintenance for vehicles and equipment used during construction to reduce the potential for mechanical breakdowns.	Yosemite National Park, Project Manager; Contractor	Prior to and concurrent with project activities

Mitigation Measure	Responsibility	Critical Milestones
<b>HYDROLOGY AND WATER QUALITY</b>		
Where working areas are adjacent to or encroach on live streams, barriers shall be constructed that are adequate to prevent the discharge of turbid water in excess of specified limits.	Contractor	Prior to and concurrent with project activities
All disturbed soil and fill slopes shall be stabilized in an appropriate manner.	Contractor	Prior to and concurrent with project activities
Store equipment and materials away from all waterways.	Yosemite National Park, Project Manager; Contractor	Concurrent with project activities
Construction limits in the vicinity of wetlands should be clearly delineated with construction fencing	Contractor	Prior to and concurrent with construction activities
Wastewater contaminated with silt, grout, or other by-products from construction activities shall be contained in a holding or settling tank to prevent contaminated material from entering watercourses or wetlands.	Contractor	Concurrent with project activities
<p>Waters shall be free of changes in turbidity that cause a nuisance or adversely affect beneficial uses. Increases in turbidity attributable to controllable water quality factors shall not exceed the following limits, as described in <i>The Water Quality Control Plan</i> for the Central Valley Regional Water Quality Control Board (CVRWQCB 1998). In determining compliance with the limits below, appropriate averaging periods may be applied, provided that beneficial uses will be fully protected</p> <ul style="list-style-type: none"> <li>▪ Where natural turbidity is between 0 and 5 Nephelometric Turbidity Units (NTUs), increases shall not exceed 1 NTU.</li> <li>▪ Where natural turbidity is between 5 and 50 NTUs, increases shall not exceed 20%.</li> <li>▪ Where natural turbidity is between 50 and 100 NTUs, increases shall not exceed 10 NTUs.</li> <li>▪ Where natural turbidity is greater than 100 NTUs, increases shall not exceed 10%.</li> </ul>	Contractor	Prior to and concurrent with project activities
Remove hazardous waste materials generated during implementation of the project from the project site immediately.	Contractor	Concurrent with project activities
Dispose of volatile wastes and oils in approved containers for removal from the project site to avoid contamination of soils, drainages, and watercourses. Keep absorbent pads, booms, and other materials onsite during projects that use heavy equipment to contain oil, hydraulic fluid, solvents, and hazardous materials spills.	Contractor	Concurrent with project activities
Incorporate trench plugs into new and abandoned utility corridors through wetland areas where required to prevent formation or continuation of groundwater conduits.	Yosemite National Park; Project Manager; Contractor	Concurrent with project activities
Surface drainage facilities shall be designed to transport runoff in a non-erosive manner.	Yosemite National Park; Project Manager; Contractor	Prior to and concurrent with project activities
Use silt fencing at drainages to prevent construction materials from escaping work areas.	Contractor	Concurrent with project activities
Material from construction work shall not be deposited where it could be eroded and carried to the stream by surface runoff or high stream flows.	Contractor	Concurrent with project activities

Mitigation Measure	Responsibility	Critical Milestones
<b>VEGETATION (INCLUDING SPECIAL STATUS PLANTS)</b>		
Contractor will develop a Revegetation Plan in conjunction with the park's Resources Management and Science Division, to be approved prior to construction activities.	Yosemite National Park, Project Manager; Contractor	Prior to project activities
<p>Ensure that all earth moving equipment and hand tools enter the park free of mud or seed-bearing material to prevent the introduction of non-native plants. The NPS will inspect all equipment prior to use on the project.</p> <p>Map and treat noxious weeds prior to construction. Certify all seeds and straw material as weed-free. Ensure that imported top-soil is weed-free. The NPS will approve sources of imported fill material that will be used within the top 12 inches of the finished grade. Monitor and treat invasive plants for three years post-construction.</p>	Yosemite National Park, Project Manager; Contractor	Prior to, concurrent with and following project activities
Install temporary fencing (black silt fencing or orange construction fencing) around the entire project area to protect natural surroundings (including sensitive plants, trees, and root zones) from damage. Avoid fastening ropes, cables, or fences to trees.	Yosemite National Park, Project Manager; Contractor	Prior to and concurrent with project activities
Use native seed mix or seed-free mulch to minimize surface erosion and the introduction of noxious weeds.	Contractor	Concurrent with project activities
<p>The Park Botanist shall be notified if any special status plant species are identified in the construction disturbance zone. Adverse impacts to the Yosemite bog orchid, a special status plant species, are not acceptable. If other special-status plant species are identified within the construction disturbance zone, in particular within restoration and revegetation areas, the Park Botanist will work with the project manager to avoid impacts or mitigate unavoidable impacts. If it is not feasible for construction activities to avoid special-status plant species, species conservation measures may include salvage of special-status plants for use in revegetating disturbed areas and transplantation of special-status plants wherever possible using methods and monitoring identified in the revegetation plan, monitoring to ensure successful revegetation, protection of plantings, and replacement of unsuccessful plant materials if practicable.</p>	Yosemite National Park, Project Manager; Contractor	Prior to and concurrent with project activities
Delineate wetlands and apply protection measures during construction. Wetlands shall be delineated by qualified National Park Service staff or certified wetland specialists and clearly marked prior to work. Perform activities in a cautious manner to prevent damage caused by equipment, erosion, siltation, etc.	Yosemite National Park, Project Manager; Contractor	Prior to and concurrent with project activities

Mitigation Measure	Responsibility	Critical Milestones
<b>WILDLIFE (INCLUDING SPECIAL STATUS WILDLIFE)</b>		
Schedule construction activities with seasonal consideration of wildlife lifecycles to minimize impacts during sensitive periods (i.e., after bird nesting seasons, when bats are neither hibernating nor have young, etc).	Yosemite National Park, Project Manager	Prior to project activities
Limit the effects of light and noise on adjacent habitat through controls on construction equipment.	Yosemite National Park, Project Manager; Contractor	Prior to and concurrent with project activities
Prior to tree management activities, qualified biologists will screen the area for bat roosts, nesting birds, and other features that are important wildlife habitat.	Yosemite National Park, Project Manager; Contractor	Prior to and concurrent with project activities
Provide adequate education and enforcement to limit construction worker activities that are destructive to wildlife and habitats.	Yosemite National Park, Project Manager	Concurrent with and following project activities
A qualified bat biologist will conduct surveys prior to construction to evaluate whether habitat that will be affected by the proposed action provide hibernacula or nursery colony roosting habitat for bat species.	Yosemite National Park, Project Manager	Prior to project activities
If bats are detected during reproduction or hibernation periods, disturbance of potential habitat will be delayed until the bats can be excluded from the area in a manner that does not adversely affect their survival or that of their young.	Yosemite National Park, Project Manager, Contractor	Concurrent with project activities
If bats are detected during reproduction or hibernation periods, disturbance of potential habitat will be delayed until the bats can be excluded from the area in a manner that does not adversely affect their survival or that of their young.	Yosemite National Park, Project Manager, Contractor	Concurrent with project activities
If surveys conducted immediately prior to construction do not reveal any bat species present within the project area, then the action will begin within three days to prevent the destruction of any bats that could move into the area after the survey.	Yosemite National Park, Project Manager	Prior to and concurrent with project activities
<b>FEDERAL AND STATE PERMIT REQUIREMENTS</b>		
The NPS will apply for and comply with all federal and state permits required for construction-related activities.	Yosemite National Park, Project Manager	Prior to project activities
<b>HISTORIC PROPERTIES</b>		
The Park will adhere to the <i>Park Programmatic Agreement Among the National Park Service at Yosemite, the California State Historical Preservation Officer, and the Advisory Council on Historic Preservation Regarding Planning, Design, Construction, Operations, and Maintenance, Yosemite National Park, California (1999 PA)</i> to mitigate adverse effects.	Yosemite National Park, Project Manager	Prior to and concurrent with project activities
Mitigation measures include avoiding impacts and designing new development to be compatible with surrounding historic resources. Standard mitigation measures, as defined in the 1999 PA, include photo documentation, salvage, and reevaluation of National Register status (updating National Register Nomination form.	Yosemite National Park, Project Manager	Prior to and concurrent with project activities
Culturally associated tribes will be given notice prior to ground disturbing activities at the project site and may be present at the project site to monitor ground disturbance during construction.	Yosemite National Park, Project Manager, Contractor	Prior to and concurrent with project activities
Continue to consult with culturally associated American Indian tribes throughout the project to avoid or mitigate damage to American Indian traditional resources.	Yosemite National Park, Project Manager	Prior to, concurrent with and following project activities
Design all new construction within historic districts and landscapes or adjacent to historic sites to be compatible in terms of architectural elements, scale, massing, materials, and orientation.	Yosemite National Park, Project Manager	Prior to project activities
Undertake all treatments within historic landscapes in keeping with the Secretary of The Interior's Standards for the Treatment of Historic Properties.	Yosemite National Park, Project Manager	Prior to project activities

Mitigation Measure	Responsibility	Critical Milestones
<b>DUST ABATEMENT MEASURES</b>		
Cover and/or seal truck beds and stockpiles to minimize blowing dust or loss of debris.	Contractor	Concurrent to project activities
Limit truck and related construction equipment speeds in active construction areas to a maximum of 15 miles per hour and strictly adhering to park regulations and posted speed limits in other areas while inside park boundaries.	Contractor	Concurrent to project activities
Maintain adequate dust suppression equipment and using clean water to control excess airborne particulates at staging areas, active construction zones, and unpaved roads leading to/from active construction areas.	Contractor	Concurrent with project activities
<b>EMERGENCY NOTIFICATION MEASURES</b>		
Develop an emergency notification plan that complies with park, federal, and state requirements and allows contractors to properly notify park, federal, and/or state personnel in the event of an emergency during construction activities. This plan will address notification requirements related to fire, personnel, and/or visitor injury, releases of spilled material, evacuation processes, etc. The emergency notification plan will be submitted to the park for review/approval prior to commencement of construction activities.	Yosemite National Park, Project Manager	Prior to project activities
Notify utilities prior to construction activities. Identify locations of existing utilities prior to removal activity to prevent damage to utilities. The Underground Services Alert and NPS maintenance staff will be informed 72 hours prior to any ground disturbance. Construction-related activities will not proceed until the process of locating existing utilities is completed (water, wastewater, electric, communications, and telephone lines). An emergency response plan will be required of the contractor.	Yosemite National Park, Project Manager	Prior to and concurrent with project activities
<b>EROSION CONTROL MEASURES</b>		
Use approved siltation and sediment control devices in construction areas to reduce erosion and surface scouring.	Contractor	Concurrent with project activities
Use approved siltation and sediment control devices appropriate to the situation in grading areas to capture eroding soil before discharge to riparian channels.	Contractor	Concurrent with project activities
Conserve and salvage topsoil for reuse. Materials will be reused to the maximum extent possible.	Contractor	Concurrent with project activities
<b>HAZARDOUS MATERIALS MEASURES</b>		
An Oil and Hazardous Materials Spill Prevention, Control, and Countermeasure Plan shall be prepared by the Construction Contractor for the project to address hazardous materials storage, spill prevention and response. The Plan shall be submitted for park review and approval prior to construction.	Contractor	Prior to and concurrent with project activities
Store and use all hazardous materials in compliance with federal regulations. All applicable Materials Safety Data Sheets will be kept on site for inspection.	Contractor	Concurrent with project activities
Hazardous or flammable chemicals shall be prohibited from storage in the staging area, except for those substances identified in the Oil and Hazardous Materials Spill Prevention, Control, and Countermeasure Plan. Hazardous waste materials shall be immediately removed from project site in approved containers.	Contractor	Concurrent with project activities
Comply with all applicable regulations and policies during the removal and remediation of asbestos, lead paint, and polychlorinated biphenyls.	Contractor	Concurrent with project activities
<b>SOUNDSCAPES</b>		
Ensure that all construction equipment has functional exhaust/muffler systems.	Contractor	Concurrent with project activities
Submit a construction work plan/schedule that minimizes construction-related noise in noise-sensitive areas to the park for review/approval prior to commencement of construction activities.	Contractor	Prior to project activities
Use hydraulically or electrically powered construction equipment, when feasible.	Contractor	Concurrent with project activities
Locate stationary noise sources as far from sensitive receptors as possible.	Contractor	Concurrent with project activities
Limit the idling of motors except as necessary (e.g., concrete mixing trucks).	Contractor	Concurrent with project activities
To the extent possible, perform all on-site noisy work above 76 A-weighted decibels (dBA) (such as the operation of heavy equipment) between the hours of 8:30 a.m. and 5:00 p.m. to minimize disruption to nearby park users.	Contractor	Concurrent with project activities

Mitigation Measure	Responsibility	Critical Milestones
<b>SCENIC RESOURCES PROTECTION MEASURES</b>		
Fence construction staging areas and construction activity areas to visually screen construction activity and materials.	Contractor	Concurrent with project activities
Consolidate construction equipment and materials to the staging areas at the end of each work day to limit the visual intrusion of construction equipment during nonwork hours.	Contractor	Concurrent with project activities
<b>SPILL PREVENTION/ RESPONSE MEASURES</b>		
Develop and implement a comprehensive spill prevention/response plan that complies with federal and state regulations and addresses all aspects of spill prevention, notification, emergency spill response strategies for spills occurring on land and water, reporting requirements, monitoring requirements, personnel responsibilities, response equipment type and location, and drills and training requirements. The spill prevention/response plan will be submitted to the park for review/approval prior to commencement of construction activities.	Contractor	Prior to project activities
To minimize the possibility of hazardous materials seeping into soil or water, check equipment frequently to identify and repair any leaks. Standard measures include hazardous materials storage and handling procedures; spill containment, cleanup, and reporting procedures; and limitation of refueling and other hazardous activities to upland/nonsensitive sites. Provide an adequate hydrocarbon spill containment system (e.g., absorption materials, etc.) on site, in case of unexpected spills in the project area. Ensure equipment is equipped with a hazardous spill containment kit at all times. Ensure that personnel trained in the use of hazardous spill containment kits.	Contractor	Concurrent with project activities
<b>STORMWATER POLLUTION PREVENTION MEASURES</b>		
Develop and implement a comprehensive stormwater pollution prevention plan for construction activities that complies with federal and state regulations and addresses all aspects of stormwater pollution prevention. The plan will be submitted to the park for approval prior to construction activities. The plan will include measures such as: <ul style="list-style-type: none"> <li>▪ Take measures to control erosion, sedimentation, and compaction, and thereby reduce water pollution and adverse water quality effects. Use silt fences, sedimentation basins, etc. in construction areas to reduce erosion, surface scouring, and discharge to water bodies.</li> <li>▪ To the extent possible, schedule the use of mechanical equipment during periods of low precipitation to reduce risk of accidental hydrocarbon leaks or spills. When mechanical equipment is necessary outside of low precipitation periods, use NPS– approved methods to protect soil and water from contaminants</li> <li>▪ Dispose of volatile wastes and oils in approved containers for removal from construction sites to avoid contamination of soils, and drainages. Inspect equipment for hydraulic and oil leaks prior to use on construction sites, and implement inspection schedules to prevent contamination of soil and water. Keep absorbent pads, booms, and other materials on site during projects that use heavy equipment to contain oil, hydraulic fluid, solvents, and hazardous material spills</li> </ul>	Contractor	Prior to and concurrent with project activities
<b>TRAFFIC CONTROL AND VISITOR PROTECTION MEASURES</b>		
Provide protective fencing enclosures around construction areas, including utility trenches, to protect public health and safety.	Contractor	Concurrent with project activities
<b>TRANSPORTATION MEASURES</b>		
Install appropriate traffic signs.	Yosemite National Park, Project Manager	Concurrent with and following project activities
<b>UTILITY MEASURES</b>		
Verify utility locations by contacting the Underground Services Alert prior to the start of construction.	Yosemite National Park, Project Manager; Contractor	Prior to project activities
Promptly reconnect utility services that are interrupted because of construction activities and provide advance notification if utility service will be disrupted.	Yosemite National Park, Project Manager; Contractor	Concurrent with and following project activities
<b>VISITOR EXPERIENCE MEASURES</b>		
Limit construction activities to the off-season to allow for continued visitor access to the ski area during the winter.	Yosemite National Park, Project Manager; Contractor	Prior to and concurrent with project activities

Mitigation Measure	Responsibility	Critical Milestones
<b>NIGHT SKY MEASURES</b>		
Direct and shield night lighting associated with construction equipment to minimize light scatter effects.	Contractor	Concurrent with project activities
All new exterior lighting installed as part of this rehabilitation project will conform to the <i>Yosemite National Park Outdoor Lighting Guidelines</i> .	Yosemite National Park, Project Manager	Concurrent with and following project activities
<b>WASTE MANAGEMENT MEASURES</b>		
Require construction personnel to adhere to park regulations concerning food storage and refuse management.	Yosemite National Park, Project Manager; Contractor	Concurrent with project activities
Properly secure trash during the workday and remove all trash from site at the end of each workday.	Yosemite National Park, Project Manager	Concurrent with and following project activities
Develop and implement a comprehensive waste management plan that complies with federal and state regulations and addresses all aspects related to the transportation, storage, and handling of construction-related hazardous and nonhazardous liquid and solid wastes and submit the plan to the park for review/approval prior to the commencement of construction activities.	Contractor	Prior to project activities

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