# Appendix B:

# Environmental Protection Plan

## Stream Diversions

**TCRA Action Work Plan**

**submitted pursuant to**

**Administrative Settlement and Order on Consent for Removal Actions**

**(CERCLA Docket No. 10-2021-0034)**

**Stibnite Mine Site**

**Stibnite, Valley County, ID**

**Prepared for:**

U.S. Environmental Protection Agency Region 10

United States Department of Agriculture Forest Service Intermountain Region

**Prepared by:**

Perpetua Resources

405 S 8th St,
Boise, ID, 83702

**July 2021**

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# LIST OF ABBREVIATIONS

| ABBREVIATION | DESCRIPTION |
|---|---|
| ASAOC | Administrative Settlement Agreement and Order on Consent |
| AST | Above ground storage tank |
| BMPs | Best management practices |
| BPA | Bonneville Power Administration |
| CERCLA | Comprehensive Environmental Response, Compensation, and Liability Act |
| DOT | Department of Transportation |
| EPA | U.S. Environmental Protection Agency |
| EPP | Environmental Protection Plan |
| ESA | Endangered Species List |

| | |
|---|---|
| ESOP | Environmental Standard Operating Procedure |
| IDEQ | Idaho Department of Environmental Quality |
| IDFG | Idaho Department of Fish and Game |
| NCP | National Oil and Hazardous Substances Pollution Contingency Plan |
| NEPA | National Environmental Policy Act |
| NFS | National Forest System |
| NMFS | National Marine Fisheries Service |
| NOAA | National Oceanic and Atmospheric Administration |
| NPL | National Priorities List |
| OSC | On-Scene Coordinator |
| PCF | Project completion form |
| RCA | Riparian Conservation Area |
| RMP | Resources Management Plan |
| SDS | Safety Data Sheet |
| SGP | Stibnite Gold Project |
| SPCC | Spill Prevention, Control, and Countermeasure Plan |
| SWPPP | Stormwater Pollution Prevention Pan |
| TCRA | Time Critical Removal Action |
| USDA | U.S. Department of Agriculture |
| USFS | U.S. Forest Service |
| USFWS | U.S. Fish and Wildlife Service |

# 1. INTRODUCTION AND PURPOSE

Respondents Perpetua Resources Corp., Perpetua Resources Idaho, Inc. (formerly Midas Gold Corp. and Midas Gold Idaho, Inc. Respectively), Idaho Gold Resources Company, LLC and Stibnite Gold Company (collectively "Perpetua Respondents" or "Perpetua") have prepared this Environmental Protection Plan detailing measures to minimize harm to the environment during implementation of Time Critical Removal Actions (TCRAs) in accordance with the requirements of an Administrative Settlement Agreement and Order on Consent (ASAOC) for Removal Actions with the U.S. Environmental Protection Agency (EPA) and the U.S. Department of Agriculture Forest Service (USFS; EPA 2021). The work is being conducted under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP).

EPA has determined that response actions under the ASAOC are exempted by law from the requirement to obtain Federal, State, or local permits for on-site remedial actions (CERCLA Section 121(e)(1)). However, this does not remove the requirement to meet the substantive provisions of permitting regulations and environmental standards that are established by other regulatory jurisdictions.

The purpose of this Environmental Protection Plan (EPP) is to define and consolidate environmental protection measures relevant to conducting removal actions at the Site. It is intended to detail overarching environmental practices necessary to ensure the protection of human health and the environment, as well as compliance with related environmental agreements. The performance standards and best management practices (BMPs) presented here apply to all phases of the ASAOC implementation. Site specific environmental controls or criteria for each TCRA work element that are unique to the integrity or characteristics of the work element are contained in the individual TCRA Work Plans or resource specific assessments.

# 2. ACCESS AND TRANSPORTATION

Stibnite is located in remote, mountainous terrain in central Idaho and has limited infrastructure, including roads and facilities. The Site lies within lands managed by the Payette National Forest. There are three existing access routes to the Site from Cascade or McCall, Idaho: the Johnson Creek, South Fork and Lick Creek Routes as shown on Figure 2-1. The Johnson Creek Route is the primary access to the Site during non-winter conditions and relies on Johnson Creek Road (FS 413). The distance from Cascade to Stibnite is approximately 74 miles along this route. The South Fork Route (along FS 474) is the only access to the site in winter months. The distance from Cascade to Stibnite is approximately 96 miles along this route. The Lick Creek route is also available in snow-free months. The distance from McCall to Stibnite along the Lick Creek Route (FS 412) is approximately 67 miles though this route is not proposed to support field activities.

Multiple jurisdictions are responsible for the access routes to the Site, including the State of Idaho, the USFS and Valley County. Access maintenance and improvements are dependent on coordination with the appropriate jurisdiction. The maintenance of certain National Forest System (NFS) roads on the Payette National Forest is coordinated between the USFS and Valley County through Schedule A agreements. This includes 14 miles of roadway between Yellow Pine and Stibnite (FS 412). Perpetua maintains a Road Maintenance Agreement with Valley County for this route that includes general upkeep, dust abatement and snow removal according to the Road Maintenance Standards and BMPs for the Payette National Forest (**Appendix A**).

A large portion of the transportation route for the project is narrow, and unpaved, following river and stream corridors. Within the project area itself, all routes are graveled or unimproved. Temporary access routes for construction will rely on primitive route conditions. Environmental protections for access and transportation are intended to reduce wear on roads and construction access corridors, reduce the potential for accidents and hazardous fuel spills along winding mountain roads, and to preclude erosion and sediment transport from the road system to surface waters.

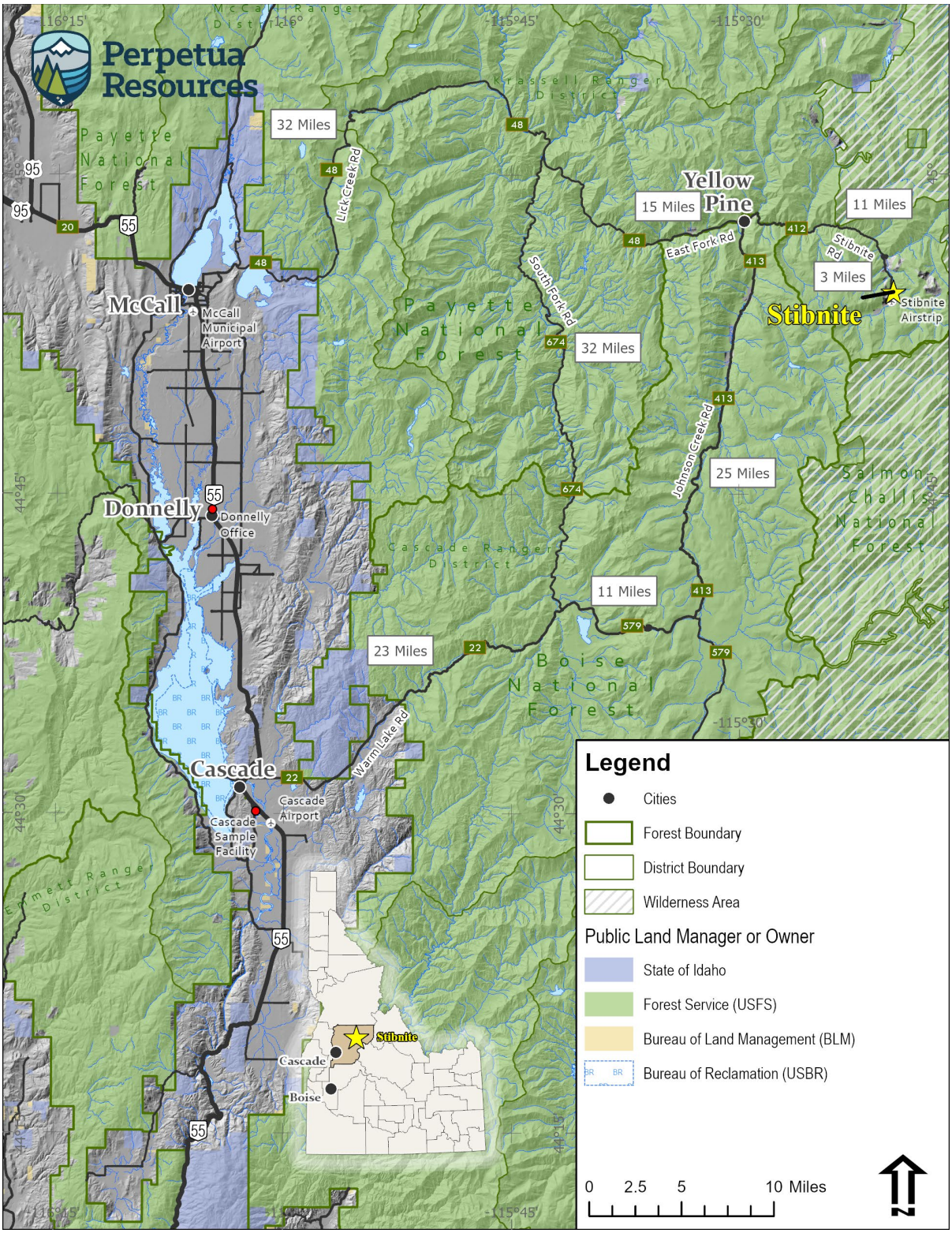


**Figure 2-1 Project Location Map**

An active private airstrip owned by Perpetua lies adjacent to Meadow Creek near the On/Off Leach Pad . During active haulage operations to the repository, the airstrip will be closed for air traffic. Any scheduled private flights will be coordinated by the site Supervisor and Field Operations Manager. Table 2-1 summarizes environmental protection measures associated with access and transportation that will be implemented during removal actions completed under the ASAOC.

**Table 2-1 Access and Transportation Environmental Protection Practices**

| | |
|---|---|
| **A.** | **Traffic and Access Management** |
| 1. | Perpetua will maintain a strict policy for all employees and contractors to obey approved speed limits. |
| 2. | Road restrictions and load limits will be observed for all project related travel. |
| 3. | Pilot cars will be used during equipment mobilization and demobilization when appropriate. Vehicle to vehicle communication will be maintained for all piloted or convoy transports. |
| 4. | Documented annual inspections of commercial transport vehicles will be required. Commercial transport vehicles will also be inspected by the driver at Knox or Landmark prior to accessing Johnson Creek Road. Transport companies are required to document these local vehicle inspections. |
| 5. | Tire chains will be required for snow or icy road conditions. All project vehicles will be equipped with properly sized chains for both steering and drive tires. It is not uncommon to receive snow in the region during what are considered summer months. Vehicles will be equipped with appropriate tools and equipment in anticipation of weather events. |
| 6. | The South Fork Route from Cascade to Yellow Pine will be used for non-fuel haul project access when Johnson Creek Road is closed due to winter conditions. Commercial fuel hauling will not occur on the South Fork Route in support of ASAOC work. |
| 7. | Vehicles will be equipped with appropriate tools and equipment for fire suppression during dry periods. |
| 8. | All equipment and materials will be kept within construction limits or road areas to protect the work site and environment from damage. |
| 9. | Temporary parking areas will be designated within the work site to accommodate construction personnel and equipment. |
| **B.** | **Road Maintenance and Temporary Access** (For those portions of the access route under Perpetua's maintenance authority). |
| 1. | Roadways, temporary staging, storage areas and temporary access roads will be maintained in a sound, reasonably serviceable condition. |
| 2. | Maintenance may require blading and shaping the roadbed, including shoulders and turnouts to remove ruts, washes, and other irregularities that prevent normal runoff from the road surface. |
| 3. | Blading shall restore the road surface without loss of aggregate/gravel surfacing material or natural road base material. |
| 4. | All fallen trees, limbs, or brush in the travel way or road ditch line shall be removed and scattered outside the travel way. Rocks and debris hazards will also be removed from the roadway. |
| 5. | Temporary access routes will not be constructed in landslide prone areas or areas prone to saturation. |
| 6. | Adequate drainage facilities in the form of ditches, culverts, or other conduits will be installed as necessary to maintain temporary access roads. All temporary access and haul roads will have cross drains installed in drainageways. |
| 7. | Existing drainage dips and roadside ditches shall be cleaned and reestablished if needed with the out-slope grade restored to equal or exceed the gradient of the road. |
| 8. | Snow plowing will include full width snow removal to a smooth ice floor by snowplow equipment. |
| 9. | Hazards will be posted as appropriate according to the standards and approval of the road corridor jurisdiction. |
| 10. | Road maintenance activities will be avoided during times in which Endangered Species Act (ESA) listed fish are spawning immediately downstream of disturbance. |
| 11. | Road maintenance activities will be avoided when surface material is saturated. |
| 12. | Hazards, obstacles, and maintenance needs along the entire access route will be reported to the appropriate jurisdiction for coordinated mitigation. |
| **C.** | **Temporary Stream Crossings and Bridges** |
| 1. | Existing stream crossings will be preferentially used whenever reasonable, and the number of temporary stream crossings will be minimized. |
| 2. | Temporary bridges and culverts will be installed to allow for equipment and vehicle crossing over perennial streams during construction. Treated wood shall not be used on temporary bridge crossings or in locations in contact with or directly over water. |

| | |
|---|---|
| 3. | Vehicles and machinery shall cross streams at right angles to the main channel whenever possible. |
| 4. | After project completion, temporary stream crossings will be obliterated, and banks restored. |
| 5. | Any large wood, topsoil, and native channel material displaced by construction will be stockpiled for use during site restoration at a specifically identified and flagged area. |
| **D.** | **Fuel and Equipment Hauling** |
| 1. | The USFS Project Administrator and Valley County Sheriff Dispatch will be notified a minimum of 48 hours in advance of fuel convoys. |
| 2. | Drivers will be experienced in hauling on backcountry roads and will be familiar with the travel routes. |
| 3. | Hauling will be during daylight hours and in acceptable weather. |
| 4. | Pilot and emergency response vehicles will carry appropriate spill containment and first aid equipment. |
| 5. | Fuel will not be hauled on the weekends along Johnson Creek Road. |

## 3. FUGITIVE DUST CONTROL

Unpaved roads, earth disturbance, soil transport, and material piles have potential to increase particulate emissions associated with remediation activities. Table 3-1 consolidates environmental protection measures associated with fugitive dust control for the removal actions to be completed under the ASAOC.

**Table 3-1 Dust Control Environmental Protection Practices**

| | |
|---|---|
| 1. | Fugitive dust control will be provided during all phases of project implementation. |
| 2. | The weather forecast and meteorological conditions, as well as daily visible emissions checks will be utilized to reduce dust emissions during project implementation. |
| 3. | Proper dust control will be employed along transportation corridors and active construction areas using aquatic safe dust suppression chemicals (typically magnesium chloride, calcium chloride salts, or lignin sulfonate) or water trucks in accordance with applicable road maintenance agreements. |
| 4. | Dust-abatement additives and stabilization chemicals (typically magnesium chloride, calcium chloride salts, or lignin sulfonate) will not be applied within 25 feet of water or a stream channel and will be applied to minimize the likelihood that they will enter streams. |
| 5. | Perpetua will use their existing, future, or temporary water rights in coordination with Idaho Department of Water Resources for dust suppression activities, as appropriate and required. |
| 6. | Further reduce vehicular speeds and routes of travel during dry periods of high dust generation. |
| 7. | Cover loose soil and debris or wet as appropriate to prevent wind generation of dust. |
| 8. | Limit soil disturbance and sequence work elements as practicable to limit open soil. Retain native vegetative cover as much as possible. |
| 9. | All equipment used for the application of water will be equipped with a positive means of shut-off. |

## 4. EROSION AND SEDIMENT CONTROL

Perpetua maintains a Stormwater Pollution Prevention Plan (SWPPP) for the larger Stibnite Gold Project and has adopted a suite of BMPs for erosion and sediment control based on Idaho Department of Environmental Quality's (IDEQ) *2005 Catalog of Stormwater Best Management Practices for Idaho Cities and Counties* (IDEQ BMP Catalog) (IDEQ 2005). This SWPPP covers areas outside of the ASAOC actions. However, the general standards established are relevant to controlling stormwater runoff for ASAOC activities. As such they have been incorporated into this EPP where applicable (**Appendix B**). Table 4-1 summarizes the list of erosion and sediment control BMPs selected from the IDEQ BMP Catalog. Construction and design specifications are described in full in the IDEQ BMP Catalog.

Erosion and sediment controls will be installed prior to earth disturbing activities. These controls will be installed along the perimeter of disturbed areas that may receive stormwater, except where site conditions prevent the use of such controls (in which case, installation will be modified to maximize their use to the extent practicable). Final stabilization of active construction areas will be initiated immediately following construction completion. If conditions exist where it is not possible to initiate permanent stabilization measures within 14 days, Perpetua will retain existing controls and implement temporary stabilization measures as soon as practicable. Interim measures such as mulching will be employed until permanent vegetative (or other) stabilization is achieved.

Maintenance and inspection of erosion and sediment controls will be conducted and documented weekly at a minimum or more frequently as appropriate. Maintenance will include removal of sediment before it accumulates to one-half of the aboveground height of any sediment or erosion control structure. If erosion and sediment controls require maintenance or corrective action to continue operating effectively, all efforts will be made to fix them immediately after discovery and complete such work in a timely manner. When a control must be replaced or repaired, Perpetua will complete the work within seven days, or as soon practicable.

**Table 4-1 Erosion and Sediment Control Environmental Protection Practices[1]**

| IDEQ BMP # | Description of BMP | |
|---|---|---|
| 1. | Timing of Construction | Schedule and sequence construction work and erosion control applications to occur when the potential for erosion is lowest. |
| 2. | Staging Areas | Collect runoff from staging and storage areas or divert water flow away from such areas. |
| 3. | Preservation of Vegetation | Protect existing vegetation and utilize natural buffer areas. |
| 4. | Clearing Limits | Minimize the total amount of bare soil exposed. |
| 5. | Stabilization of Entrance and Exit | To limit sediment and debris tracking. |
| 6. | Temporary Roads | Measures to prevent erosion and sedimentation on temporary access. |
| 8. | Cover for Materials and Equipment | Partial or total physical enclosure of materials, equipment, or activities to prevent potential pollutant and material loss. |
| 9. | Stockpile Management | Minimize erosion of any stockpiles from stormwater and wind via temporary cover or watering, as necessary. Prevent up-slope stormwater flows from causing erosion of stockpiles (e.g., divert flows around the stockpile). Minimize sediment from stormwater that runs off stockpiles, using sediment controls (e.g., sediment barrier or downslope sediment control). |
| 15. | Mulching | Temporary to reduce erosion, retain moisture and encourage seed germination. Any straw products used on site will be certified weed free. |
| 20. | Topsoiling | Placement of topsoil or other suitable plant growth material over disturbed areas, when practicable, to provide suitable soil medium for vegetative growth. |
| 21. | Seeding | Use of approved seed mix to prevent weed encroachment and encourage vegetative cover. |
| 23. | Planting | Establish rooted vegetation or vegetative shoots in disturbed areas or as screens. |
| 25. | Slope Roughening | Establish a rough soil surface by creating horizontal grooves, furrows, or depressions, or running parallel to the slope contour. |
| 26. | Gradient Terracing | Establish earth embankments or ridge and channel arrangement constructed along the face of a slope at regular intervals. |
| 30. | Rocked Surface or Slope | Created by an arranged layer or pile of rock placed over the soil surface on slopes. Rocked surfaces protect against erosion and dissipate the energy of runoff or surface water flow. |
| 30., 31. | Outlet and Inlet Protection | Install riprap with filter fabric or mesh at inlets and at or below storm drain outfalls to provide filtering and reduce the speed of concentrated stormwater flows, thereby reducing erosion, scouring, and tracking. |

| IDEQ BMP # | Description of BMP | |
|---|---|---|
| 33. | Temporary Stream Crossing | Provides a means for construction vehicles to cross streams or watercourses without moving sediment to streams, without damaging the streambed or channel, and without causing flooding. |
| 35., 36. | Fiber Rolls and Silt Fencing | Assist in sediment control by retaining some of the eroded soil particles and slowing the runoff velocity to allow particle settling. |
| 37. | Vegetative Buffers | A gently sloping area of vegetative cover that runoff water flows through before entering a stream, or other conveyance. |
| 38. | Sediment Traps | A dam or basin used to collect, trap, and store sediment produced by construction activities, or as a flow detention facility for reducing peak runoff rates. |
| 40. | Temporary Swale | Excavated drainage way designed to prevent runoff from entering disturbed areas by intercepting and diverting it to a stabilized outlet, or to intercept water and divert it to a sediment-trapping device. |
| 41. | Earthen Dike | A temporary berm or ridge of compacted soil located in a manner to channel water to a desired location. |
| 43. | Temporary Berms | A ridge of compacted soil, compost, or sandbags which intercepts and diverts runoff from small construction areas. |
| 46. | Dewatering | Reduce, remove or temporarily displace water from watercourses, excavations, and other collection areas. |

[1]Derived from IDEQ's *Catalog of Stormwater Best Management Practices* (IDEQ 2005).

## 5. WASTE MANAGEMENT

In order to effectively manage waste during implementation of ASAOC actions, trash and other miscellaneous inert (non-hazardous) garbage will be collected in bins onsite. Waste will be transported to Donnelly, Idaho where it is collected by the local waste hauler and transported to the Valley County Landfill. Used oils, solvents, grease, and antifreeze will be handled separately from normal trash and garbage. Waste management BMPs are summarized in Table 5-1.

An on-site workcamp will be used during implementation of the ASAOC actions during the snow free months (Figure 5-1). Perpetua also retains a temporary housing trailer that includes a bath house. This camp is located on private property and has a septic drainfield for all toilets, showers, and household water. These facilities will be maintained and staffed by Perpetua, including a camp manager.

If any event occurs during performance of the ASAOC activities that causes or threatens to cause a release of waste material on, at, or from the Site that either constitutes an emergency situation or that may present an immediate threat to public health or welfare or the environment, all appropriate actions will be immediately taken to prevent, abate, or minimize such release or threat of release. These actions will be taken in accordance with the applicable provisions of the ASAOC, including, but not limited to, the Health and Safety Plan (EPA and USFS 2021).

**Table 5-1 Environmental Protection Practices for Waste Management**

| | |
|---|---|
| 1. | Locate and maintain construction work area and access corridors in a clean, safe, and sanitary condition at all times. |
| 2. | Garbage and trash will be removed regularly and disposed of in an approved waste disposal facility. General clean-up operations will be conducted daily. |
| 3. | Adequate trash receptacles will be provided throughout the work site. All dumpsters will have lids that will be kept firmly closed when not in use. |
| 4. | All facilities will follow local public health standards and regulations. |
| 5. | Any on-site portable toilets will be located away from surface water bodies and will be serviced by a state licensed sewage waste disposal contractor. No garbage will be burned. |
| 6. | At project completion, all equipment, supplies, and refuse will be removed from the project site and disposed of according to established solid and liquid waste management practices and applicable local, state, and federal law. |
| 7. | No toxic or hazardous substances will be used on site, except for standard petroleum fuel and lubricant products (diesel, gasoline, grease, and hydraulic oils), and “over-the- counter” retail products. After completing operations, all empty fuel and lubricant containers will be removed from the operations area and transported and disposed in accordance with local, state, and federal requirements. |

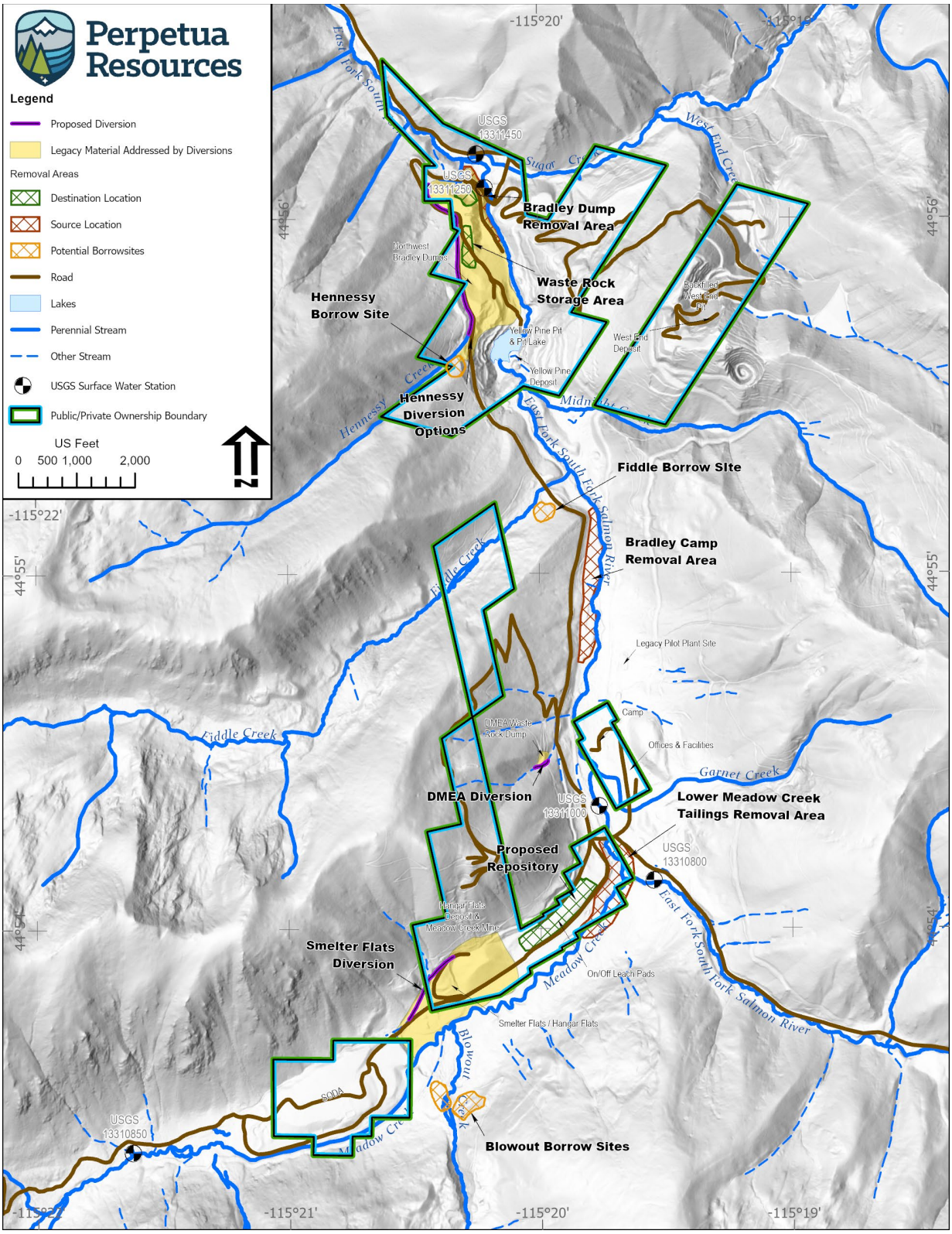


**Figure 5-1 Map of ASAOC Locations**

## 6. FUEL HANDLING AND SPILL PREVENTION

Perpetua maintains a Spill Prevention, Control and Countermeasure Plan (SPCC) for the larger Stibnite Gold Project that includes all contact information, reporting requirements and response criteria. The SPCC is included in Appendix C. ASAOC actions will be supported with fuel from the Perpetua fuel site. The Stibnite Project fuel infrastructure is located near the core shed/maintenance shop (Figure 5-1) and includes a primary fuel storage area and a secondary fuel storage area. The primary fuel storage area includes 49,000-gallon (aggregate) diesel fuel storage and has a containment system comprised of a concrete floor that is sloped toward a plugged drain near the center. The sloped design collects any spilled fuel and water, to be disposed of offsite. The containment area is covered with a pole-supported roof to minimize precipitation accumulation within containment.

A secondary fuel storage area is located immediately west of the Shop and contains two aboveground storage tanks (AST) consisting of two 2,500-gallon, double-walled gasoline tanks within tertiary containment, a 100-gallon premium gasoline AST and three 55-gallon drums with premium gasoline within two clamshell containments. Any additional fuel will be stored in sealed 55-gallon steel drums, approved double-walled fuel tanks, or in approved single-walled tanks within secondary containment. Fuel will be managed, tanks would be inspected, and any oil release would be responded to in accordance with the SPCC plan.

The shop building houses two small, double-walled, used-oil ASTs. The used oil is burned in the building furnace to provide heat. In addition, Jet A fuel (5,000 gallons) and diesel (2,500 gallons) is stored in double walled tanks within tertiary containment adjacent to the helicopter hangar.

If any event occurs during performance of the ASAOC activities that causes or threatens to cause a release of fuel on, at, or from the Site that either constitutes an emergency situation or that may present an immediate threat to public health or welfare or the environment, all appropriate actions will be immediately taken to prevent, abate, or minimize such release or threat of release. These actions will be taken in accordance with the applicable provisions of the ASAOC, including, but not limited to, the Health and Safety Plan (EPA and USFS 2021). Specific requirements for spill prevention, control, and response as they relate to pollution control are summarized in Table 6-1.

**Table 6-1 Environmental Protection Practices for Fuel Handling and Spill Prevention[1]**

| | |
|---|---|
| **A.** | **Minimize Potential Pollutant Discharge** |
| 1. | A copy of the SPCC plan will be kept at an appropriate onsite facility. Staff handling fuel or petroleum products will be trained to successfully implement the SPCC plan. |
| 2. | Vehicles and equipment will be inspected daily for fluid leaks before leaving construction staging and material storage areas. |
| 3. | Fuel will be properly stored, labeled, and inventoried. |
| 4. | Secondary containment, spill kits, or other equivalent measures will be used for fueling operations. |
| 5. | Fueling sources and facilities will be located away from surface waters and drainageways. |
| 6. | Fuel, equipment, and fueling activities will be located so that potential leaks and spills are able to be contained or diverted before discharge. |
| 7. | All spills will be cleaned up, documented, or reported immediately as appropriate. |
| 8. | Used oil and oily material recovered from spill cleanup operations will be disposed of in a manner approved by IDEQ, and in compliance with applicable EPA regulations. |
| 9. | Pumps used adjacent to water shall use spill containment systems. |
| 10. | Safety Data Sheets (SDS) for all products will be posted and available on site. |
| 11. | All fuel containers will be marked with contents, owner's name, and contact information. |
| **B.** | **Equipment Staging and Material Storage** |
| 1. | Transport of equipment is generally done before mid-March or after June when road conditions allow. As needed, end of season equipment mobilization will take place in late November or early December. |

| | |
|---|---|
| 2. | Equipment will be stored at the site laydown yards and adjacent to the core shack on private property whenever possible. Some equipment is already on site from previously permitted exploration activities. |
| 3. | Equipment will be maintained in good condition and inspected regularly for leaks and damage. |
| 4. | All equipment brought on-site will be in proper operating order, used in the manner it is designed for, and maintained as such. |
| 5. | Equipment will be cleaned of dirt and mud prior to demobilization or transport on public paved roadways. |
| 6. | Vehicle and equipment cleaning, maintenance, refueling, and fuel storage will be conducted at least 150 feet away from any natural water body. |
| 7. | Materials will be stored in accordance with the manufacturer's instructions when applicable. Regular inspection of material storage areas will be conducted for signs of liquid leakage, or tears in protective packaging for other stored materials. |
| 8. | All storage and staging areas will be kept clean and free of accumulated waste. |
| **C. Primary Fuel Storage Area and Fueling** | |
| 1. | All petroleum products will be transported in accordance with state and federal Department of Transportation (DOT) regulations and handled and stored as per applicable state and federal petroleum product storage and handling laws and regulations. |
| 2. | Fuel will be stored in identified storage areas, in sealed 55-gallon steel drums, approved double-walled fuel tanks, or in approved single-walled tanks within secondary containment. |
| 3. | Fuel delivery vehicles will drive completely into containment areas, and all refueling operations will be completed therein. |
| 4. | No sources of flame or potential sparks will be in the vicinity when fueling. |
| 5. | Hoses will be maintained in a position to prevent spillage. |
| 6. | All hoses and the delivery trucks will be inspected regularly. |
| 7. | A detailed log of fueling activities will be kept up to date. |
| 8. | Fuel containment sites, engines and other equipment with fuel or lubricants will be periodically checked for leakage or spillage and in accordance with the SPCC plan |
| 9. | All bulk fuel storage will be placed outside of the floodplain and high-water mark of surface waters. |
| 10. | A standard spill prevention kit, and fire kit will be stored at the re-fueling site and would be readily available during off-loading of fuel from the fuel truck or during refueling operations. |
| 11. | Regular inspections will be performed for all hazardous material and fuel storage areas. |
| **D. Spill Response** | |
| 1. | All fuel transport drivers will be required to have spill response, safety, and resource awareness training. |
| 2. | The operator will immediately report any fuel, oil, or chemical discharges or spills greater than 25 gallons on land, or any spill directly in a stream as required by applicable federal and state regulations. |
| 3. | In the event of a spill, all personnel will be accounted for to ensure their safety. |
| 4. | Appropriate cleanup with be initiated immediately according to the parameters in the SPCC and other authorities. |
| 5. | Two or more stored spill containment/response caches will be placed along the fuel delivery route. |
| 6. | Report all spills as required to appropriate authorities. |

[1]Derived primarily from *Stibnite Gold Exploration Project, Spill Prevention, Control, and Countermeasures Plan*, (Perpetua 2019).

## 7. STOCKPILES AND BORROW SOURCES

Material stockpiles and borrow sources will be required for the removal actions to support project objectives and reclamation of work areas. Stockpiling will be utilized to preserve native topsoil and vegetation wherever possible, and additional construction material stockpiles will be created as borrow materials are sorted (screened) to segregate various silt/sand, gravel, cobble, and boulder fractions for later use. General BMPs for borrow sources and stockpiles are summarized in Table 7-1. Perpetua has developed a Borrow Source Development Plan for the ASAOC actions. The primary objective of this borrow source investigation is to find suitable material that meets geotechnical specifications and agreed upon chemical concentration criteria for use. Perpetua has identified four proposed borrow sources that likely do not contain mineralization. It is estimated Perpetua will require approximately 50,000 cubic yards of borrow material for the Phase 1 removal actions.

**Table 7-1 Environmental Protection Practices for Borrow Sources and Stockpiles**

| | |
|---|---|
| **A. Stockpiles** | |
| 1. | Keep stockpiled soil and vegetative material that is to be reused clean by clearly isolating from other potential contaminant sources. |
| 2. | Direct surface water away from stockpiles to prevent erosion or deterioration of materials. |
| 3. | Maintain dust control on stockpiles as necessary. |
| 4. | Prevent weeds from establishing on stockpiles. Treat weed occurrences on and near stockpiles as appropriate. |
| 5. | BMPs (straw wattles, etc.) will be placed around stockpiles to prevent sediment transport during storm events. If soil stockpiles will be stored for more than one season they will be seeded or mulched to prevent weed encroachment. |
| **B. Borrow Sources** | |
| 1. | Work will be performed in designated borrow areas only. Land disturbance will be minimized to the greatest extent possible. Vegetation located outside of the construction limits will not be disturbed. |
| 2. | Topsoil and any brush removed will be stockpiled separate from the excavated material and used in site reclamation. Tree removal will be kept to the minimum amount necessary for safe access and operation. Cut trees and root wads will be retained on site for reclamation. |
| 3. | Standard reclamation practices will be followed, including segregating and stockpiling topsoil, implementing stormwater and sediment BMPs, backfilling and placing topsoil, and revegetation. Any areas leveled for test pits or temporary access will be re-contoured and re-seeded. |
| 4. | Borrow areas will be managed to prevent and/or limit sediment from entering surface water or land adjacent to the site. |
| 5. | Earthwork will be executed in a manner to minimize the exposure and duration of exposure of unprotected soils. |
| 6. | Protect side slopes and backslopes as soon as rough grading is completed by diverting surface runoff and/or establishing runoff drop structures and channels, to prevent erosion of said slopes. |
| 7. | All excavations will be free of overhangs, and the sidewalls will be kept free of loose material. |

## 8. RESTORATION AND REVEGETATION

All disturbed areas and borrow sources will be restored and revegetated as soon as practicable following construction. Standard restoration and revegetation practices will be followed, including segregating and stockpiling topsoil, implementing stormwater and sediment BMPs, backfilling and placing topsoil, and revegetating. Table 8-1 summarizes environmental protection practices for restoration and revegetation.

**Table 8-1 Environmental Protection Practices for Restoration and Revegetation**

| | |
|---|---|
| 1. | Initiate vegetative stabilization as soon as conditions allow. Establish a goal of 70% cover within three years of planting. |
| 2. | Reclamation seeding will be done with native seed mixtures appropriate for the elevation and habitat. Prior to installation, types, locations, and amounts of seed will be approved by the Forest Service. |
| 3. | Topsoil and any brush removed will be stockpiled separate from fill material and used in reclamation. |
| 4. | For any borrow source, standard reclamation practices will be followed, including segregating and stockpiling topsoil, implementing stormwater and sediment BMPs, backfilling and placing topsoil, and revegetation. |
| 5. | To minimize the risk of noxious weed infestations or spread of weed seeds, equipment will be inspected and cleaned prior to mobilizing onto the Payette National Forest or Project Area. |
| 6. | All access routes shall be restored to their original condition and prepped for seeding by scarifying the surface at the end of construction. |
| 7. | Project areas will be inspected prior to project-related activities and treated if they are found to be weed-infested. Herbicide use, where prescribed, will be in accordance with the *South Fork Salmon River Sub Basin Noxious and Invasive Weed Management Program* (USFS 2007). |
| 8. | Only certified weed free straw, wattles or bales will be used on site. |
| 9. | Soil stockpiles will be kept in a clean and orderly manner. Water may be used during dry periods to prevent soil loss to dust. Seeding or mulching may be necessary to prevent weeds. Perimeter sediment controls may need to be installed. |

## 9. WILDLAND FIRE PREVENTION

The Site is located in a wildland fire prone area. As such, care and diligence will be taken during dry conditions and the traditionally recognized wildland fire season. Table 9-1 summarizes Environmental Protection Practices to prevent wildland fire resulting from project activities and reduce wildland fire risk from an outside source.

**Table 9-1 Environmental Protection Practices to Prevent Wildland Fire**

| | |
|---|---|
| 1. | Equipment that could potentially come into contact with dry vegetation will be required to have functional spark arrestors. |
| 2. | Fire suppression equipment will be kept at each work site and in vehicles as appropriate. This includes shovels, axes, buckets, and fire extinguishers. |
| 3. | All activities will be conducted in accordance with State of Idaho fire protection procedures (as outlined in IDAPA 20.04.01), local Valley County Fire District regulations, and Forest Service rules and regulations and 36 CFR 228.11. |
| 4. | Several fire-response kits will be spaced strategically around the project area in case of fire. |
| 5. | On-site staff will monitor local and on-site fire conditions and maintain contact with local area fire officials to ensure appropriate fire management procedures are followed in the event of implementation of fire restrictions or woodland use restrictions (e.g., “Red Flag Warnings”). |
| 6. | Any fire occurrence will be reported immediately to the local fire management units. |
| 7. | The Site will be kept clean and clear of debris. |

## 10. FISHERIES AND AQUATIC RESOURCES

Four federally listed or Forest Service sensitive fish species and their critical habitats are associated with the Stibnite area: Chinook salmon (*Oncorhynchus tshawytscha*), steelhead trout (*Oncorhynchus mykiss*), bull trout (*Salvelinus confluentus*), and westslope cutthroat trout (*Oncorhynchus clarkii lewisi*). Chinook salmon, steelhead, and bull trout are federally listed as threatened under the Endangered Species Act (ESA), and westslope cutthroat trout is a Forest Service sensitive species. All actions conducted under this ASAOC have incorporated resource protections and management considerations specific to current regulatory guidance, species specific design criteria, and proven BMPs for fisheries resources to preclude impacts to fisheries and aquatic species and habitat. This includes the following guidance:

- Endangered Species Act (ESA) Section 7(a)(2) Biological Opinion and Magnuson-Stevens Fishery Conservation and Management Act Essential Fish Habitat Response for the Payette National Forest, December 2020.
- National Marine Fisheries Service (NMFS), 2019. Re-initiation of the Endangered Species Act Section 7(a)(2) Programmatic Biological Opinion and Magnuson-Stevens Fishery Conservation and Management Act Essential Fish Habitat Consultation Habitat Restoration Projects in the Salmon River Basin (HUC 170602), Clearwater River Basin (HUC 170603), Hells Canyon Subbasin (HUC 17060101), and Lower Snake-Asotin Subbasin (HUC 17060103), Idaho NMFS Consultation Number: WCR-2018-9898.
- Formal Section 7 programmatic consultation on Bonneville Power Association’s (BPAs) Columbia River Basin Habitat Improvement Program, 2014.
- Stibnite Gold Project Stream Design Report (Rio ASE, 2021).
- U.S. Bureau of Reclamation’s Large Woody Materials Risked-Based Design Guidelines, September 2014.

During the TCRA removal actions, resource protections will be established, prior to the onset of disturbance, to protect aquatic habitat and minimize sediment introduction during instream work and work adjacent to streams. Work in these areas will be conducted during dry conditions (summer and fall season), utilize structural controls, include turbidity monitoring for adaptive project management, and incorporate native plants in reclamation plans. Fisheries and other aquatic resource protection measures are listed in Table 10-1.

**Table 10-1 Environmental Protection Practices to Protect Fisheries and Aquatic Resources**

| **A. Fisheries and Aquatic Resources** | |
|---|---|
| 1. | Environmental protection practices outlined in applicable programmatic or project-specific biological assessments for fisheries and aquatic resources will be incorporated into all phases of ASAOC action implementation, as appropriate. |
| 2. | Work requiring equipment to operate partly or wholly below the ordinary high-water line will be completed during the approved in-water work window. Equipment must be thoroughly cleaned before entering the water. |
| 3. | In fish-bearing waters, intake hoses will be screened with the most appropriate mesh size (generally 3/32 of an inch), or as determined through coordination with NOAA Fisheries and/or USFWS. Water supply points, service areas, and other needs for road and facility construction projects are to be identified before implementation to avoid impacts to, soil, water and riparian resources and occupied special status plant habitat. |
| 4. | Fish passage will be provided at all proposed and reconstructed stream crossings of existing and potential fish-bearing streams. |
| 5. | Potential water sources will be surveyed by Perpetua in coordination with the Forest Service for Columbia spotted frog egg masses and other amphibians after ice melt and avoid disturbing any water sources with identified egg masses or other species. Exceptions: If egg masses are found at a water source essential for project activities, the egg masses would be relocated in coordination with the USFS. |
| 6. | Any work area within the wetted channel will be isolated from the active stream whenever ESA-listed fish are reasonably certain to be present, or if the work area is less than 300 feet upstream from known spawning habitats. |
| 7. | Work area isolation and fish salvage activities will comply with the in-water work window. |
| 8. | Work area isolation and fish capture activities will occur during periods of the coolest air and water temperatures possible, normally early in the morning versus late in the day, and during conditions appropriate to minimize stress and death of species present. |
| 9. | Plume or turbidity monitoring may be required both upstream and downstream of instream work. |

## 11. CULTURAL RESOURCES

Archaeological surveys have been completed in the general project area to support SGP NEPA permitting activities. Upon completion of work plans and 30% designs for the removal action, Perpetua or the USFS On-Scene Coordinator (OSC) will coordinate with the USFS archaeologist or heritage program manager to determine if existing NEPA cultural survey coverage adequately covers the TCRA work area, and if cultural resources have been identified within 200 feet of TCRA work areas or access roads. If existing coverage is determined to be inadequate, USFS and/or Perpetua will arrange for additional on-the-ground archaeological surveys to be completed prior to initiation of construction or ground disturbing activities.

If previously undiscovered cultural resources (historic or prehistoric objects, artifacts, or sites) are encountered or exposed as a result of construction operations, operations will immediately cease within 100 feet of the discovery to secure the location. The agency OSCs will be notified, and operations would not proceed in that area until approval is received from USFS archaeologist and/or agency OSC.

These provisions shall not apply to mining-related historical infrastructure and mining-related discarded materials likely to be present in the work areas, including historical building foundations, tailings dams, bottles, cement pads, plumbing pipes, track, rails, electrical wiring, barrels, shingles, bedframes, papers, old shoes, and other 20th century historical materials.

## 12. OTHER RESOURCE SPECIFIC PROTECTION PRACTICES

Recent permitting and design for the larger Stibnite Gold Project proposed by Perpetua has resulted in an increased understanding of baseline and existing condition for natural resources associated with the Site. Standards and guidelines in the Payette National Forest Land Resource Management Plans (RMP; USFS 2010) that are designed to reduce or prevent undesirable impacts resulting from proposed management activities are incorporated into all ASAOC

actions. Many of the Environmental Protection Practices presented in previous sections are intended to limit or mitigate impacts to multiple resources. Resource specific mitigations and design features are emphasized in individual Work Plans and tailored to the individual project location, engineering design, surface water features, and site-specific conditions.

The Statement of Work (SOW) for the ASAOC requires that a biological assessment be completed that characterizes baseline conditions of existing habitat in and around Time Critical Response Action (TCRA) areas; addresses potential project impacts that the projects may have on threatened or endangered species, their habitat, and their food stocks; and describes best management practices and conservation measures designed to avoid or minimize any negative impacts. The SOW further requires that a Clean Water Act Section 404 analysis memorandum be prepared, if the recommended removal action alternatives will impact jurisdictional wetlands. The memorandum shall document the information gathered regarding practicability and cost, long and short-term effects from all proposed alternatives, minimization of adverse effects, and an analysis of the need for any mitigation. Environmental protection practices outlined in the project specific biological assessment and wetland memorandum are incorporated into all phases of ASAOC action implementation.

Table 12-1 lists overarching resource specific environmental protection practices and incorporates best management practices and mitigation features by reference.

**Table 12-1 Other Resource Specific Environmental Protection Practices**

| | |
|---|---|
| **A. Wildlife** | |
| 1. | Environmental protection practices outlined in the project specific biological assessment for terrestrial species will be incorporated into all phases of ASAOC action implementation, as appropriate. |
| 2. | The appropriate state and federal wildlife managers will be notified of occupied Endangered Species Act or sensitive species nests, dens or critical habitat encountered during project implementation. Sightings of listed or sensitive wildlife species will be reported to the USFS. |
| 3. | Any adverse wildlife encounters will be reported to the appropriate state and federal wildlife managers. |
| 4. | Calving and fawning areas will be protected from project-related disturbance during big game calving or fawning season. |
| 5. | To prevent inadvertent entrapment of common and special-status wildlife during construction, all excavated, steep-walled holes or trenches more than two feet deep will be covered with tarp, plywood, or similar materials at the close of each working day to prevent animals from being trapped. |
| 6. | Boreal and great gray owl and northern goshawk sightings or nests will be reported to the USFS for appropriate follow up. |
| **B. Wetlands and Riparian Areas** | |
| 1. | Environmental protection practices outlined in the project specific wetland memorandum will be incorporated into all phases of ASAOC action implementation, as appropriate. |
| 2. | Wetland and stream reclamation areas with be restored with native plant species as appropriate. |
| 3. | Existing access routes will be preferentially used whenever reasonable, and the number and length of temporary access roads and paths through riparian areas, wetlands and floodplains will be minimized. |
| 4. | Wetlands and riparian areas outside of the work limits will be protected wherever access roads traverse through these features and will be restored to their original grade and condition. Protection measures will include stripping and stockpiling wetland vegetation for subsequent reclamation, protective mats, and wood chips or quarry spalls underlain with geotextile fabric will be installed. All protective materials will be removed at project completion. |
| 5. | The removal of riparian vegetation during construction of temporary access roads will be minimized. When temporary vegetation removal is required, vegetation will be cut at ground level (not grubbed). |
| **C. Weeds and Invasive Species** | |
| 1. | Project areas will be inspected for noxious and invasive species prior to the onset of the project. Weeds will be avoided or treated as appropriate. Equipment will be inspected prior to entering the project area. |
| 2. | Project areas will be inspected for special status species plants prior to the onset of the project. Any protected plants encountered will be reported to the USFS and consideration will be given to preserve or move these individuals. |
| 3. | Seeds and plants used for seedings and plantings in revegetation projects will originate from genetically local sources of native species. |

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| 4. When feasible, growth media and seedbank materials from wetlands and riparian disturbance areas will be salvaged and stockpiled for subsequent restoration. |
| 5. Borrow sites will be inspected for weeds prior to use. |
| 6. Contractors will be required to pressure wash and remove all dirt, grease, oil, fuel, vegetation and weed seeds before bringing equipment on site to limit introduction of noxious weeds, aquatic invasive species, and pollutants to the site. |
| 7. Watercraft, waders, boots, and any other gear to be used in or near water will be inspected for aquatic invasive species. Wading boots with felt soles are not to be used due to their propensity for aiding in the transfer of invasive species unless approved decontamination procedures have been used. |
| **D. Soil** |
| 1. For borrow sources and all areas of temporary disturbance, standard reclamation practices will be followed, including segregating and stockpiling topsoil, implementing stormwater and sediment BMPs, backfilling and placing topsoil, and revegetating. |
| 2. To minimize material loss and sediment runoff from the temporary roads and roadbeds, water bars, silt fencing, certified weed-free wattles, and/or weed-free straw bales will be installed in strategic downslope areas and in Riparian Conservation Areas (RCAs). |
| **E. Air Quality** |
| 1. When practicable, pumps, generators, and engines will be turned off when not in use to avoid unnecessary noise generation and reduce energy consumption and emissions. |
| **F. Night Sky and Noise** |
| 1. Work will be conducted during daylight hours whenever possible. |
| 2. Whisper Quiet light plants with light shields will be used to mitigate visual impacts from night necessary operations. |
| 3. Buildings and equipment and drill rigs will have limited external lighting and will employ noise-minimizing practices. Light shields will be placed over outside lights, confining light to the immediate area in order to further limit visual impacts. |

## 13. SITE SPECIFIC PROTECTIONS – STREAM DIVERSIONS

**Table 13-1 Site Specific Protection Measure Summary - Stream Diversions**

| |
|---|
| **A. General Consideration** |
| 1. All permanent diversions will be constructed to accommodate the 100-year flood event. |
| 2. Any material not used in restoration, and not native to the floodplain, will be disposed of outside the floodplain. |
| 3. Any large wood, topsoil, and native channel material displaced by construction will be stockpiled for use during site restoration at a specifically identified and flagged area. |
| 4. Natural materials used for implementation of aquatic restoration, such as large wood, gravel, and boulders, may be staged within 150 feet of watercourses if clearly indicated in the plans that area is for natural materials only. |
| 5. If there is a potential for eroded sediment to enter the stream, sediment barriers will be installed and maintained for the duration of project implementation. |
| **B. Temporary Access Roads** |
| 1. All temporary access roads will be depicted in the design package. The Contractor may not deviate from these locations without prior approval. |
| 2. Establish access road for access from public roads to the work area of a width and load-bearing capacity to provide unimpeded traffic for construction purposes. |
| **C. Work Area Isolation and Cofferdams** |
| 1. The Contractor shall place temporary cofferdams between the actively flowing river surface water and all active work areas. The Contractor may place temporary cofferdams at additional locations to achieve required water quality standards, or simplify construction as determined by the Contractor. |
| 2. Fill material for bulk bags or “super sacks”, if used, shall be clean, washed, and rounded material similar in gradation to the existing channel substrate, and not contain fines. Material must be approved before use. |
| 3. Cofferdams and diversion dams must be built in a manner to meet turbidity limits as defined in the project Specifications. Use of gravel and soil to build a pushup type cofferdam or flow diversion dam are acceptable at locations not connected to surface water flow but will not be allowed in the actively flowing channel. |
| **D. Dewatering and Pumping** |

| | |
|---|---|
| 1. | Dewatering will occur at a rate slow enough to allow species to naturally migrate out of the work area. |
| 2. | Where a gravity feed diversion is not possible, a pump may be used. Pumps will be installed and operated to avoid repetitive dewatering and rewatering. |
| 3. | When fish are present, pumps will be screened in accordance with NMFS fish screen criteria. |
| 4. | Dissipation of flow energy at the bypass outflow will be provided to prevent damage to the stream channel and riparian vegetation. |
| 5. | Seepage water will be pumped to a temporary storage and treatment site or into upland areas to allow water to percolate through soil and vegetation prior to reentering the stream channel. |
| **E. Staged Rewatering Plan** | |
| 1. | When reintroducing water to dewatered areas and newly constructed channels, a staged rewatering plan will be applied. The following will be applied to all rewatering efforts. Complex rewatering efforts may require additional notes or a dedicated sheet in the construction details.<br>• Turbidity monitoring protocol will be applied to rewatering efforts.<br>• Pre-wash the area before rewatering. Turbid wash water will be detained and pumped to the floodplain or sediment capture areas rather than discharging to fish-bearing streams.<br>• Install seine nets at upstream end to prevent fish from moving downstream until 2/3 of total flow is restored to the channel.<br>• Starting in early morning introduce 1/3 of new channel flow over period of 1 to 2 hours.<br>• Introduce second third of flow over next 1 to 2 hours and begin fish salvage of bypass channel if fish are present.<br>• Remove upstream seine nets once 2/3 flow in rewatered channel and downstream turbidity is within acceptable range (less than 40 NTU or less than 10% background).<br>• Introduce final third of flow once fish salvage efforts are complete and downstream turbidity verified to be within acceptable range.<br>• Install plug to block flow into old channel or bypass. Remove any remaining seine nets. |
| **F. Turbidity Monitoring** | |
| 1. | Record the reading, location, and time for the background reading approximately 100 feet upstream of the project area using a recently calibrated turbidimeter or via visual observation. |
| 2. | Record the turbidity reading, location, and time at the measurement compliance location point.<br>• 50 feet downstream for streams less than 30 feet wide.<br>• 100 feet downstream for streams between 30 and 100 feet wide.<br>• 200 feet downstream for streams greater than 100 feet wide. |
| 3. | Turbidity will be measured (background location and compliance points) every 4 hours while work is being implemented. |
| 4. | If exceedances occur for more than two consecutive monitoring intervals (after 8 hours), the activity will stop until the turbidity level returns to background. The OSCs will be notified of all exceedances and corrective actions at project completion. |
| 5. | If turbidity controls (coffer dams, wattles, fencing, etc.) are determined ineffective, crews will be mobilized to modify, as necessary. Occurrences will be documented in the project daily reports. |

## 14. SITE SPECIFIC PROTECTIONS – BRADLEY MAN CAMPS

**Table 14-1 Site Specific Protection Measure Summary - Bradley Man Camps Removal**

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|---|---|
| **A. Repository BMPs** | |
| 1. | The tailings and waste rock will be placed in lifts, with the lift height sufficient to achieve design compaction. Maximum lift height specifications are set based on maximum anticipated particle size in the fill. Max lift heights for soils with cobbles is typically twice the maximum particle size (lift height = 2 * max particle size). As the waste dumps are likely to contain |

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| | material exceeding 18", larger lift heights are likely warranted. One foot lift height may be appropriate for tailings depending on compaction specifications. |
| 2. | After material placement, spreading, and leveling to the appropriate lift thickness, tailings and waste rock will be uniformly compacted. |
| 3. | Work will be executed in a manner to minimize the exposure and duration of exposure unprotected waste rock or tailings. |
| 4. | A waste placement plan will be developed in the design and construction planning phases once final time critical removal actions are selected, as it must coordinate activities between multiple removal projects. Perpetua proposes to take advantage of atmospheric drying during the hot and dry construction period on site and has included additional methodologies to enhance drying in the description of the removal action. The field investigation will collect data to assess the effectiveness of these proposals. |
| 5. | Maximum final side slopes will not exceed 3H:1V |
| 6. | Minimum final slope will be 3% to minimize ponding potential. |
| 7. | Standard stormwater management, sediment control, and dust control BMPs will apply to repository construction. |
| 8. | The repository cover will be graded to drain and minimize ponding to reduce infiltration. |
| 9. | Traffic associated with the repository will yield on public roadways. Flaggers, signage and barricades will be used at the site entrance as necessary for safety. |
| 10. | Water sprinkling will be conducted as needed to control dust. |
| **B. Haul Traffic** | |
| 1. | Caution signs and directional signs will be installed during hauling operations. Night operations, if required, will include lighting as necessary. |
| 2. | The haul route will be inspected and maintained regularly for surface integrity, erosion and sediment control and dust suppression. |
| **C. Stream Protection Adjacent to Work Area** | |
| 1. | Roll out protection will be applied in work areas immediately adjacent to the East Fork South Fork Salmon River. |
| 2. | Equipment will not be allowed to enter the water column. |
| **D. Dewatering and Pumping** | |
| 1. | Dewatering will utilize land application within the existing work phases as necessary. |
| 2. | Wet material will be staged within the work area for drying prior to being hauled to the Repository. |

## 15. SITE SPECIFIC PROTECTIONS – TAILINGS REMOVAL

**Table 15-1 Site Specific Protection Measure Summary – Tailings Removal**

| | |
|---|---|
| **A. Temporary Access Roads** | |
| 1. | All temporary access roads will be depicted in the design package. The Contractor may not deviate from these locations without prior approval. |
| 2. | Establish access road for access from public roads to the work area of a width and load-bearing capacity to provide unimpeded traffic for construction purposes. |
| **B. Work Area Isolation and Cofferdams** | |
| 3. | The Contractor shall place temporary cofferdams between the actively flowing river surface water and all active work areas. The Contractor may place temporary cofferdams at additional locations to achieve required water quality standards, or simplify construction as determined by the Contractor. |

4. Fill material for bulk bags or "super sacks", if used, shall be clean, washed, and rounded material similar in gradation to the existing channel substrate, and not contain fines. Material must be approved by the Contracting Officer and clearly defined in the Cofferdam and Flow Diversion Plan submittal.
5. Cofferdams and diversion dams must be built in a manner to meet turbidity limits as defined in the project Specifications. Use of gravel and soil to build a pushup type cofferdam or flow diversion dam are acceptable at locations not connected to surface water flow but will not be allowed in the actively flowing channel.

**C. Fish Salvage**

1. Fish salvage activities is expected to be completed by project partners (IDFG or third-party) and will not be the responsibility of the Contractor.
2. Monitoring and recording will take place for duration of salvage.
3. Salvage activities should take place during conditions to minimize stress to fish species, typically periods of the coolest air and water temperatures which occur in the morning versus late in the day.
4. Salvage operations will follow the ordering, methodologies, and conservation measures specified below:
    - Slowly reduce water from the work area to allow some fish to leave volitionally.
    - Block nets will be installed at upstream and downstream locations and maintained in a secured position to exclude fish from entering the project area.
    - Block nets will be secured to the stream channel bed and banks until fish capture and transport activities are complete. Block nets may be left in place for the duration of the project to exclude fish if passage requirements are met.
    - Nets will be monitored hourly during in-stream disturbance.
    - If block nets remain in place more than one day, the nets will be monitored at least daily to ensure they are secured and free of organic accumulation. If bull trout are present, nets are to be checked every 4 hours for fish impingement.
    - Capture fish through seining and relocate to streams.
    - While dewatering, any remaining fish will be collected by hand or dip nets.
    - Seines with a mesh size to ensure capture of the residing ESA-listed fish will be used.
    - Minnow traps will be left in place overnight and used in conjunction with seining.
    - Electrofish to capture and relocate fish not caught during seining per electrofishing conservation measures.
    - Continue to slowly dewater stream reach.
    - Collect any remaining fish in cold-water buckets and relocate to the stream.
    - Limit the time fish are in a transport bucket.
    - Minimize predation by transporting comparable sizes of fish in buckets.
    - Bucket water to be changed every 15 minutes or aerated.
    - Buckets will be kept in shaded areas or covered.
    - Dead fish will not be stored in transport buckets but will be left on the stream bank to avoid mortality counting errors.

5. Salvage guidelines for bull trout, mussels (possible but not anticipated), and other native fish are as follows.
   - Conduct site survey to estimate salvage numbers.
   - Pre-select site(s) for release and/or mussel bed relocation.
   - Salvage of bull trout will not take place when water temperatures exceed 15 degrees Celsius.
   - If drawdown lasts less than 48 hours, salvage of mussels may not be necessary if temperatures support survival in sediments.
   - Salvage mussels by hand, locating by snorkeling or wading.
   - Salvage bony fish with nets or electrofishing.
   - Regularly inspect dewatered site in case mussels may become visible.
   - Mussels may be transferred in coolers.
   - Mussels will be placed individually to ensure ability to burrow into new habitat.

**D. Dewatering and Pumping**

1. Dewatering will occur at a rate slow enough to allow species to naturally migrate out of the work area.
2. Where a gravity feed diversion is not possible, a pump may be used. Pumps will be installed and operated to avoid repetitive dewatering and rewatering.
3. When fish are present, pumps will be screened in accordance with NMFS fish screen criteria.
4. Dissipation of flow energy at the bypass outflow will be provided to prevent damage to the stream channel and riparian vegetation.
5. Seepage water will be pumped to a temporary storage and treatment site or into upland areas to allow water to percolate through soil and vegetation prior to reentering the stream channel.

**E. Staged Rewatering Plan**

1. When reintroducing water to dewatered areas and newly constructed channels, a staged rewatering plan will be applied. The following will be applied to all rewatering efforts. Complex rewatering efforts may require additional notes or a dedicated sheet in the construction details.
   - Turbidity monitoring protocol will be applied to rewatering efforts.
   - Pre-wash the area before rewatering. Turbid wash water will be detained and pumped to the floodplain or sediment capture areas rather than discharging to fish-bearing streams.
   - Install seine nets at upstream end to prevent fish from moving downstream until 2/3 of total flow is restored to the channel.
   - Starting in early morning introduce 1/3 of new channel flow over period of 1 to 2 hours.
   - Introduce second third of flow over next 1 to 2 hours and begin fish salvage of bypass channel if fish are present.
   - Remove upstream seine nets once 2/3 of flow is in rewatered channel and downstream turbidity is within acceptable range (less than 40 NTU or less than 10% background).
   - Introduce final third of flow once fish salvage efforts are complete and downstream turbidity verified to be within acceptable range.
   - Install plug to block flow into old channel or bypass. Remove any remaining seine nets.

**F. Turbidity Monitoring**

1. Record the reading, location, and time for the background reading approximately 100 feet upstream of the project area using a recently calibrated turbidimeter or via visual observation.

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|---|---|
| 2. | Record the turbidity reading, location, and time at the measurement compliance location point.<br>• 50 feet downstream for streams less than 30 feet wide.<br>• 100 feet downstream for streams between 30 and 100 feet wide.<br>• 200 feet downstream for streams greater than 100 feet wide. |
| 3. | Turbidity will be measured (background location and compliance points) every 4 hours while work is being implemented. |
| 4. | If there is a visible difference between a compliance point and the background, the exceedance will be noted in the project completion form (PCF). Adjustments or corrective measures will be taken to reduce turbidity. |
| 5. | If turbidity controls (coffer dams, waddles, fencing, etc.) are determined ineffective, crews will be mobilized to modify, as necessary. Occurrences will be documented in the project construction report. |

## 16. ENVIRONMENTAL STANDARD OPERATING PROCEDURES

Perpetua has developed a series of environmental standard operating procedures (ESOPs) and associated plans that apply to operations at the Site. Copies of the following ESOPs and plans will be retained on site for the duration of the project:

| | |
|---|---|
| ESOP-001 | Spill Response |
| ESOP-003 | Equipment Fueling |
| ESOP-004 | Fuel Transportation |
| ESOP-013 | Waste Management |
| ESOP-022 | Hach Turbidity Meter Use and Calibration |
| ESOP-023 | Weed Management |
| ESOP-024 | Herbicide Spill Response |
| ESOP-028 | Spill Prevention, Control, and Countermeasure Plan (SPCC Plan) |
| ESOP-029 | Stormwater Pollution Prevention Plan (SWPPP) |
| ESOP-034 | Fueling Vehicle and Portable Containers |

## 17. TRAINING

Employee and contractor training are an important part of the Environmental Protection Program. Pre-project briefings and tailgate sessions will be conducted to ensure that personnel and operators are aware of environmental standards and concerns during all phases of the ASAOC action. A log will be kept of all training sessions.

## 18. DOCUMENTATION

Perpetua has developed an environmental monitoring and documentation system that will support the ASAOC actions and ensure environmental protections are in place and current. All environmental protection records will be retained by Perpetua and available upon request.

## 19. REFERENCES

**Bonneville Power Administration (BPA), 2014.** Habitat Improvement Program Handbook. Abbreviated Guidance of General and Specific Conservation Measures, Biological Opinion Requirements and RRT Guidance.

**Idaho Department of Environmental Quality (IDEQ), 2005.** Catalog of Stormwater Best Management Practices for Idaho Cities and Counties. Water Quality Division. September 2005.

**National Marine Fisheries Service (NMFS), 2019.** Re-initiation of the Endangered Species Act Section 7(a)(2) Programmatic Biological Opinion and Magnuson-Stevens Fishery Conservation and Management Act Essential Fish Habitat Consultation Habitat Restoration Projects in the Salmon River Basin (HUC 170602), Clearwater River Basin (HUC 170603), Hells Canyon Subbasin (HUC 17060101), and Lower Snake-Asotin Subbasin (HUC 17060103), Idaho NMFS Consultation Number: WCR-2018-9898. noaa_20696_DS1.pdf

**National Marine Fisheries Service (NMFS), 2020**. Endangered Species Act (ESA) Section 7(a)(2) Biological Opinion and Magnuson-Stevens Fishery Conservation and Management Act Essential Fish Habitat Response for the Payette National Forest, December 2020.

**Perpetua Resources Incorporated, 2019.** Stormwater Pollution Prevention Plan (SWPPP). Stibnite Gold Exploration Project, January 2019.

**Perpetua Resources Incorporated, 2021**. Spill Prevention, Control and Countermeasure Plan (SPCC). Stibnite Gold Exploration Project. February 2019.

**Rio ASE, 2021**. Stream Design Report, Stibnite Gold Project. March 2021.

**U.S. Bureau of Reclamation (USBR), 2014.** Pacific Northwest Region Resource & Technical Services Large Woody Material - Risk Based Design Guidelines. September 2014. Extracted 30 March 2021 https://www.usbr.gov/pn/fcrps/documents/lwm.pdf.

**U.S. Environmental Protection Agency and U.S. Department of Agriculture Forest Service (EPA and USFS), 2021**. Administrative Settlement Agreement and Order on Consent for Removal Actions, Stibnite Mine Site. CERCLA Docket No. 10-2021-0034.

**U.S. Fish and Wildlife Service (USFWS), 2013**. Formal section 7 programmatic consultation on BPA's Columbia River Basin Habitat Improvement Program. Oregon Fish and Wildlife Office, Portland, Oregon.

**U.S. Forest Service (USFS), 2003**. Final Forest Plan Revision Payette National Forest. July 2003.

**U.S. Forest Service (USFS), 2007**. South Fork Salmon River Sub Basin Noxious and Invasive Weed Management Program.

**U.S. Forest Service (USFS), 2010**. Payette National Forest Land Resource Management Plan.

**Valley County, 2020**. Road Maintenance Agreement for Yellow Pine to Stibnite Road. Cascade, Idaho.

# Appendix A:
## Valley County Road Maintenance Agreement

**Stibnite Mine Site**

**Stibnite, Valley County, ID**

**Prepared for:**

U.S. Environmental Protection Agency Region 10

United States Department of Agriculture Forest Service Intermountain Region

**Prepared by:**

Perpetua Resources

405 S 8th St,
Boise, ID, 83702

**July 2021**

# Appendix B:

# Catalog of Stormwater Best Management Practices

## For Idaho Cities and Counties

**Stibnite Mine Site**

**Stibnite, Valley County, ID**

**Prepared for:**

U.S. Environmental Protection Agency Region 10

United States Department of Agriculture Forest Service Intermountain Region

**Prepared by:**

Perpetua Resources

405 S 8th St,
Boise, ID, 83702

**July 2021**

# Appendix C:
## Spill Prevention Control and Countermeasures Plan
## (SPCC)

**Stibnite Mine Site**

**Stibnite, Valley County, ID**

**Prepared for:**

U.S. Environmental Protection Agency Region 10

United States Department of Agriculture Forest Service Intermountain Region

**Prepared by:**

Perpetua Resources

405 S 8th St,
Boise, ID, 83702

**July 2021**

# Appendix D:

## Comment Response Table

### For Idaho Cities and Counties

**Stibnite Mine Site**

**Stibnite, Valley County, ID**

**Prepared for:**

U.S. Environmental Protection Agency Region 10

United States Department of Agriculture Forest Service Intermountain Region

**Prepared by:**

Perpetua Resources

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**July 2021**