

## 14 RESTORATION, CLOSURE & RECLAMATION

Midas Gold considers site restoration, closure and reclamation to be integral and important components of the Project proposal, as indicated by the naming of this document as a “Plan of Restoration and Operations”. The overall purpose of restoration and reclamation is to restore certain areas impacted by historical exploration, mining and processing activities, as well as to return newly impacted areas to stabilized and productive conditions for long-term, post-Project protection of wildlife, fisheries, land, and water resources in a sustainable environment.

To facilitate effective concurrent reclamation, final reclamation and closure, and post closure management of the Project, an adaptive management strategy will be employed throughout the mine life to ensure that the best final pit configuration, development rock stockpile configuration, channel design and water quality considerations are emplaced for long-term physical and chemical stability of the mine related features.

The mitigation integrated into restoration, closure and reclamation may mean avoiding, minimizing, rectifying, reducing over time, and compensating for impacts on natural resources at Stibnite. The projects identified in this mitigation plan are designed to be durable, and last at least as long as the impacts the plan is designed to offset. The restoration, closure and reclamation plan which follows is designed to achieve overall net benefits and other environmental goals, consistent with the Presidential Memorandum and other mitigation policies and guidance. See the Draft Conceptual Wetland and Stream Mitigation Plan in Appendix F for mitigation-specific items that are also referenced in this section.

The objectives of the restoration, closure and reclamation program follow:

- Conduct site restoration activities early and concurrent with construction and ongoing mining operations, including restoration of impacts related to legacy activities;
- Minimize incremental impact levels by maximizing the location of facilities on previously impacted lands (including any appropriate remediation of legacy impacts before reusing these areas), and implementing concurrent and timely reclamation of newly disturbed areas as soon as practicable after they are no longer required for ongoing operations;
- Protect the public and wildlife through proper policies, procedures and practices during construction, operations, site closure and reclamation;
- Repair and enhance existing habitat, including both unaffected and impacted stream channels and wetlands, where feasible, to maximize wildlife and fish habitat and populations;
- Reclaim for recreation and wildlife habitat;
- Prevent the establishment and spread of noxious weeds; and,
- Maintain consistency with applicable provisions of the Payette and Boise National Forest Land Resource Management Plans (LRMP), along with IDL regulations and standards.

Midas Gold’s restoration plan includes activities designed to improve existing conditions at the Project site that are due to legacy disturbance that has affected habitat, vegetation and soil stability, water quality, wetlands and riparian vegetation, and sediment transport. Such improvements include:

- Removing (and re-processing) of historical tailings so as to eliminate potential sources of metals leaching into groundwater and surface water, thereby enhancing water quality and fish habitat;
- Removal of historical development rock and spent ore material from the Stibnite heap leach pads, Hecla heap leach pad, Yellow Pine pit, West End pit and SODA areas and reusing this material for construction, where suitable;
- Removal of select existing development rock at the historical Yellow Pine and West End pits to reduce erosion, sediment generation and impacts on water quality and fish habitat;
- Backfilling of the Yellow Pine Pit with suitable material to reestablish a sustainable natural riverine flow system and allow permanent passage for fish species of concern into the headwaters of the EFSFSR and its tributaries thus providing access to enhanced waterways and wetlands (including potential spawning areas), thereby supporting development of a robust, self-sustaining fish population;
- Closing and decommissioning the ore processing facilities;
- Removing surface facilities and infrastructure (except where retention of selected facilities will benefit future activities);
- Re-contouring historically and newly impacted sites to reduce sediment run off, enhance vegetative growth and habitat development, and enhancing reclaimed areas' ability to blend into the natural environment;
- Placing growth medium to encourage healthy vegetative growth, which will reduce erosion, sediment run-off and risks of debris flows and avalanches, all of which contribute to degraded water quality and impaired fish habitat;
- Reforesting selected legacy impacted, newly disturbed and burned areas in and around the Project area with appropriate native species to likewise reduce erosion, sediment run-off and risks of debris flows and avalanches that degrade water quality and fish habitat;
- Establishing a vegetative community on surface areas disturbed by legacy and new operations that is reflective of species native to the area and that will encourage and support the development of healthy wildlife populations;
- Reestablishing and enhancing threatened and endangered fish species habitat across the site through stream restoration and fish habitat enhancement projects, wetlands establishment, sedimentation reduction, erosion reduction, repair of the EFMC (Blowout Creek) channel, and recovery and reprocessing of the historical tailings to eliminate potential metals leaching into ground and surface water;
- Replacing, establishing, and enhancing wetland and riparian habitat areas across the site in order to support the development of healthy populations of anadromous and resident fish and native wildlife; and
- Whenever practicable, avoid disturbance to individual bentflowered milkvetch plants. If disturbance cannot be avoided, the plants would be dug up and set aside in a protected area with the associated topsoil until usable in reclamation. The plants would be replaced at their original site, if practicable, before the end of the field season (if the site usage is temporary) or as soon as practicable thereafter to avoid desiccation. If the plants must be held for extended periods of time, they will be placed in cold storage designed for vegetation or transported to a local nursery with experience in propagating bentflowered milkvetch. In Project areas where

this plant is documented or there is potential habitat for it, no seeding or mulching would be conducted and duff would be raked onto the disturbed area with minimal application of large woody material.

With the exception of the Hangar Flats and West End pits, which both will remain open, Midas Gold will contour and grade newly disturbed areas to blend into surrounding terrain. This will include grading and contouring for the Yellow Pine pit backfill, the DRSFs, the TSF, haul roads, and surface facility areas. Minor re-grading and contouring of the Hanger Flats pit along with tree planting and other re-vegetative reclamation is anticipated to occur during closure. These tasks are designed, in part, to minimize the visual impacts of unnatural lines and landforms. Slopes will be graded to blend with surrounding topography and to facilitate the establishment and sustainability of healthy vegetation populations. The DRSFs will have rounded crests and variable slope angles to more closely resemble natural landforms.

Revegetation of selected burned and disturbed areas in the Project vicinity would be conducted as soon as practicable to reduce the potential for wind and water erosion, and to remove greater amounts of carbon dioxide from the atmosphere. Restoring select burned-out forest areas within the watershed serves to store carbon dioxide in the new plant material, thus offsetting related emissions from the mining operation. Following construction activities, areas such as cut and fill embankments along roads, and growth media stockpiles will be stabilized and seeded. Concurrent reclamation will be conducted to the extent practicable to accelerate revegetation of disturbed areas. Midas Gold will regularly inspect sediment and erosion control measures and revegetated areas (such as after high precipitation events) to ensure long-term erosion control and successful reclamation.

Restoration, closure and reclamation practices planned for the Project have been successfully utilized at other mining and exploration sites and operations in Idaho, as well as throughout the western United States. Because reclamation practices and technology are evolving and improving over time, Midas Gold will take advantage of future opportunities to evaluate new reclamation techniques and potentially implement such improved measures if appropriate, in an adaptive management approach.

#### **14.1 GENERAL RECLAMATION PROCEDURES**

Midas Gold will implement various types of reclamation, including:

- Early restoration of legacy impacted areas;
- Construction or early development progressive reclamation;
- Concurrent reclamation during operations;
- Reclamation of legacy and Project disturbance as mitigation for Project impacts on natural resources;
- Reclamation during temporary cessation; and,
- Final closure and reclamation.

Stormwater and other environmental management measures will be important and essential components of construction, concurrent and final reclamation activities (see Section 3).

##### **14.1.1 Construction or Interim Reclamation Practices**

Construction or early interim reclamation practices refers to reclamation efforts on lands impacted during the mine and ore processing facility installation, mine development, power line construction, and access and haul road construction, as well as restoration of historically impacted areas. The focus of this initial reclamation work will be as follows:



- Reduce erosion and sedimentation of waterways resulting from legacy and newly initiated activities;
- Protect, and where possible, improve water quality through sediment reduction and other reclamation activities;
- Minimize invasive plant and weed establishment; and,
- Reduce fugitive dust generation.

Much of the timber vegetation in the Project area has been affected by legacy mining and processing activities or has been burned by wildfires. However, in those areas to be physically disturbed by mining operations where vegetation remains, Midas Gold will cut and push vegetation into windrows where it will be slash burned or chipped and used in growth medium amendment generation (e.g., compost) for use in future reclamation. In areas where no future impacts are anticipated, Midas Gold will undertake extensive tree planting in order to reduce erosion and resulting sedimentation. Any timber salvageable during construction activities will be stockpiled within one of the identified growth media stockpiles for chipping and incorporation into reclamation activities on an as needed basis.

Because of the past site disturbances, and because Midas Gold is utilizing areas of previous disturbance to the extent practicable, there is limited growth media material at the site. Where there are isolated pockets of suitable growth media material within the area proposed for operations, such material will be salvaged for future reclamation and will be stockpiled in areas adjacent to such removal and in central locations for future use. Midas Gold is also planning a composting program to create soil (see Section 8.7.1).

Interim or early reclamation action, which is a component of construction activities, will include seeding, construction of berms, slope drains, slope armoring, rock check dams, silt fences, wattles, water bars, detention basins, surface water channels, revegetation (including tree planting), and stormwater ponds (see Section 14.1.1).

In areas where construction or early interim reclamation is implemented, the sites will be seeded with species and at amounts listed in Table 14-1. In addition to the seed mixture, Midas Gold will plant tree seedlings on hill slopes; the species variety will depend on slope, aspect and elevation, and planting spacing will vary but will be approximately 12 feet by 12 feet. The ultimate species selection will be based on a Forest Service recommended listing of reclamation plants, seed and tree availability, and cost.

Table 14-1, Reclamation Seed Mixture and Reforestation Plant Schedule

Reclamation Seed Mixture					
Species Common Name	Scientific Name	Seed Rate (PLS <sup>(1)</sup> /acre)	Seed/PLS <sup>(1)</sup>	Seeds/ft <sup>2</sup>	Percent Seeds
Triticale	<i>Triticosecale</i>	16.75	13,000	5	5%
Bluebunch Wheatgrass Secar	<i>Pseudoregneria spicata</i>	5.6	140,000	18	18%
Slender Wheatgrass Revenue	<i>Elymus trachycaulus</i>	5.75	159,000	21	21%
Mountain Brome	<i>Bromus marginatus</i>	14.11	71,000	23	23%
Idaho Fescue Joseph CT	<i>Festuca idahoensis</i>	1.45	450,000	15	15%
Blue Flax Appar CT	<i>Linum perenne</i>	0.74	293,000	5	5%
Hairy Vetch	<i>Vicia villosa</i>	10.89	20,000	5	5%
White Yarrow	<i>Achillea facilityefolium</i>	0.13	2,770,000	8	8%
<b>TOTAL</b>		<b>55.43</b>		<b>100</b>	<b>100%</b>
<b>Note:</b>					
(1) PLS = pounds of live seed.					
Reforestation Plant Schedule					
Species Common Name	Scientific Name	Plants/Acre	Height		
Engelmann spruce	<i>Picea engelmannii</i>	150	9"-12"		
Lodgepole pine	<i>Pinus contorta</i>	1,250	9"-12"		
Douglas fir	<i>Pseudotsuga menziesii</i>	500	9"-12"		

Although Midas Gold plans to be proactive with construction reclamation work, the company also recognizes the need for interim or temporary reclamation throughout the operational life of the Project. Interim reclamation allows for temporary stabilization during operations, which will then allow Midas Gold to implement the best technology available at the time of final closure.

#### 14.1.2 Concurrent Reclamation

Reclamation completed during active construction and operations is termed “concurrent” reclamation. Concurrent reclamation differs from early development or interim reclamation in that concurrent reclamation is designed to provide permanent, low-maintenance achievement of final reclamation goals.

The most substantial concurrent restoration work will be reforestation, removal and re-processing of legacy tailings materials, use of legacy SODA material in TSF embankment construction and liner bedding, removal of legacy development rock dumps from the Yellow Pine and West End pit areas and use in the construction or place in DRSFs, and backfilling of the Yellow Pine pit to re-establish (restore) the EFSFSR to approximate conditions that existed prior to mining at the site. Concurrent restoration and reclamation work will continue during operations with the backfill and closure/reclamation of the Yellow Pine open pit as described in Section 14.2.6, as well as continued reforestation efforts on burned and legacy disturbed mining areas in the Project site, and restoration work such as stream channel and wetland enhancement outside of operating areas.

The benefits realized from such concurrent reclamation include reduced erosion, reduced sediment in run-off, improved water quality, improved fish and wildlife habitat, and establishment of permanent fish passage during operations. The benefit of conducting such reclamation concurrent with operations is that such benefits will be realized sooner and, in some cases, very early in the Project life, thereby

seeing improvement of the natural environment sooner in the Project life than would otherwise be the case. This is especially the case for reduced erosion and sediment in runoff from disturbed sites.

### **14.1.3 Final Closure & Reclamation**

At the time of permanent cessation of Project activities, Midas Gold will implement final closure and reclamation activities that include:

- Decommissioning, demolition or disposal of facilities;
- Installation of long-term water management facilities/measures;
- Final contouring and grading;
- Soil or growth medium replacement;
- Nutrient analyses of soil materials;
- Seeding, planting and mulching; and,
- Post-closure reclamation success monitoring.

The objective of such final reclamation activities is to meet the ultimate environmental goals for the Project, including establishing an improved, self-sustaining ecosystem. Some activities described above may have been completed as part of concurrent reclamation activities.

#### **14.1.3.1 Decommissioning, Demolition or Disposal of Facilities**

Unless there is an ongoing post-mining beneficial use for the Project site structures and facilities at the close of reclamation, Midas Gold will dismantle or demolish these structures and facilities, and the materials from the dismantling or demolition work will be salvaged or disposed in onsite areas (such as in one of the onsite DRSFs) and/or in permitted offsite landfills. The structures and facilities to be removed will include the ore processing facility, office and maintenance structures, water and fuel storage tanks, generators, substations, switchgear, power lines, temporary trailers, and ancillary and storage facilities.

During final mine closure, salvageable equipment, instrumentation, furniture and personal property will be removed from the site prior to actual removal of structures and facilities. Temporary trailers and structures will be dismantled or demolished, and materials will be salvaged or disposed at a permitted offsite landfill.

Fuel tanks will be emptied of fuel (either used onsite or hauled offsite), dismantled as necessary, salvaged and hauled off site. Fuel storage areas will be tested for contamination, as will areas where the chemical storage buildings were located. All reagents, petroleum products, solvents, and other hazardous or toxic materials in the ore processing facility and truck shop areas will be removed from the site for reuse, or will be disposed of according to applicable state and federal regulations.

With final closure of facilities, their associated sewage system and associated septic tanks will be decommissioned. Any sewage remaining in the septic tanks will be pumped out by a licensed contractor and hauled to an appropriate site for disposal. Exposed components of the sewage system will be dismantled and buried in a DRSF or removed from the Project area and disposed in an approved offsite facility.

Unsalvageable portions of any facilities, such as concrete pads used for foundations, will be broken and/or covered in-place with a minimum of two feet of rock-soil cover or will be broken up and buried in one of the site's DRSFs. This burial will occur prior to final contouring and will utilize a minimum of two

feet of rock-soil cover to ensure that the materials are not exposed in the future. Should the concrete be subjected to a hazardous substance or oil during operations, triple rinsing with fresh water and/or a cleaner or polymer will be applied to neutralize any deleterious residue.

#### **14.1.3.2 Contouring & Grading**

With the exception of the Hangar Flats and West End pits (which will remain open), Midas Gold will contour and grade historically and newly disturbed areas to blend into the surrounding topography and terrain.

Compacted areas such as roads, ore stockpile areas, parking lots, etc. will be ripped, disked or otherwise left in a roughened condition prior to revegetation. Haulage and access roads will be re-contoured to establish natural drainage patterns. Roadway cuts, berms and loose, unconsolidated material below the road cuts would be reconfigured to blend the road surface with adjacent topography.

#### **14.1.3.3 Soil or Growth Medium Replacement**

There is limited growth medium material at the Project site because of the past site disturbances and the mineral nature of local soils. Where there are isolated pockets of suitable growth medium material within the area proposed for operations, such material will be stockpiled for use in future reclamation. To the extent practical, Midas Gold will attempt to “construct” new soils material using screened fines, available mulched vegetation and compost material (miscellaneous organics and kitchen waste) from the onsite employee housing (see Section 8.7.1).

#### **14.1.3.4 Nutrient Analyses of Soil Material**

Prior to seeding, the soil or growth medium material that has been graded or contoured will be analyzed for pH, nitrogen, phosphorus and potassium to determine its fertility and nutrient status. Based on this analysis, Midas Gold will amend the soil or growth medium material with the appropriate fertilizer at the appropriate application rate.

#### **14.1.3.5 Seeding, Planting, & Mulching**

Graded and contoured areas will be seeded or planted using broadcast, drill or hydro-seeding methods, or hand planting applicable to the specific conditions. Seed mixtures will be adjusted to fit elevation and aspect ranges of the Project, along with the availability of any plant seeds, but the recommended general seeding mixture and tree planting for the site is set forth in Table 14-1. The ultimate species selection will be based on the Forest Service-recommended listing of reclamation plants, availability, and cost.

On disturbed slopes greater than 30% in grade, Midas Gold will apply mulch to aid in stabilizing the area to minimize or prevent erosion, as well as to promote revegetation. Midas Gold will use either a wood, straw or fabric mulch. If straw mulch is used, it will be certified as weed-free, applied at a rate of about 3,000 pounds per acre, and applied over a raked seedbed. Fabric mulches include jute netting and Excelsior erosion control blankets (or their equivalent), and any fabric mulches will be tacked, crimped or otherwise secured to withstand windy conditions common in the mountainous areas of Idaho.

Planting, seeding and mulching will be conducted in the fall and early winter to take advantage of snowpack and springtime moisture. Where cover crops are used in lieu of mulch, seeding will occur in the spring with the cover crop, followed by a fall seeding of the permanent mixture.



Consistent with Midas Gold’s exploration work to date, tree seedlings will be cultivated and planted across the site in appropriate areas to jumpstart the reestablishment of viable forest cover and woody species development. Midas Gold will coordinate such plantings and species with Forest Service and IDL representatives.

#### **14.1.3.6 Post-Closure Reclamation Success Monitoring**

Midas Gold will monitor for reclamation success as discussed in Section 15.7.

### **14.2 SPECIFIC CLOSURE & RECLAMATION PRACTICES**

Specific closure and reclamation practices are discussed below for various site activities and facilities:

- Surface exploration;
- Underground exploration, including adits and raises;
- Tailings storage facility;
- Hangar Flats development rock storage facility;
- Hangar Flats pit;
- Yellow Pine pit;
- Fiddle development rock storage facility;
- West End pit;
- West End development rock storage facility;
- Burntlog access road;
- Onsite employee housing;
- Haul roads, internal site access roads and other compacted sites; and,
- Substation, switchgear and electric transmission line.

#### **14.2.1 Exploration**

Midas Gold will implement a number of steps for reclamation and closure of exploration drill holes, drill pad sites and exploration roads accessing a drill pad site.

##### **14.2.1.1 Exploration Drill Hole Plugging**

As part of the abandonment routine for exploration drilling operations, Midas Gold will continue to plug drill holes at the time of completion using drill cuttings, concrete, cement grout or bentonite grout from the bottom of the hole to within three feet of the ground surface. The concrete or grout will be placed “bottom upward” in the drill hole prior to the drill rig being moved off the drill pad.

If water flow is encountered in a drill hole, cement grout or quick-setting bentonite will be used to seal the zone of water flow, thereby preventing vertical movement and mixing of groundwater.

Native materials and/or a bentonite plug will be placed from the top of the aforementioned plugging to within a few feet of the ground surface. A concrete cap will be set at approximately three inches below the ground surface, and a steel chain, cap or other monument, will be set in the concrete for future location and surveying purposes and to eliminate a post-exploration danger to people and wildlife that might be traversing the area. Plugging and capping will eliminate the potential for water transmission along the length of drill holes and eliminate potential transfer between aquifers, if any.

#### **14.2.1.2 Removal of Structures and Exploration Gear**

At the completion of drilling at a site, Midas Gold will remove any wood platforms (in the case of helicopter drill pads) and any tankage, drill steel, and exploration gear from the site. Most of these items will be reused on another drill site.

#### **14.2.1.3 Re-contouring and Regrading of Drill Pad Sites and Access Roads**

As necessary, and unless the site will be consumed by planned future mining, Midas Gold will contour and grade areas disturbed for exploration to blend into surrounding terrain. Compacted areas, such as roads and drill pads, will be loosened as necessary by ripping or disking, and left in a “roughened” condition prior to fertilizing and seeding. Any contouring and grading work will involve the retention of water-bars and/or restoration of ephemeral surface water channels to handle flows through the area. Re-contouring will reduce visual impacts from reclaimed disturbance, reduce erosion potential and facilitate revegetation.

#### **14.2.1.4 Fertilizing and Seeding of Drill Pad Sites and Access Roads**

Following final grading activities, Midas Gold will apply fertilizer to aid in the growth of vegetation on the disturbed sites. Seeding of the disturbed sites will be conducted by hydro-seeding or broadcast seeding using certified weed-free species mixtures approved by the Forest Service (see Table 14-1). The ultimate species selection will be based on a Forest Service listing of reclamation plants, as well as seed and plant availability. Whenever possible, seeding and planting will be conducted in the late fall or early spring to take advantage of moisture availability. Successful revegetation will reduce erosion and sediment run-off and improve water quality and wildlife habitat.

### **14.2.2 Underground Exploration and Tunnel**

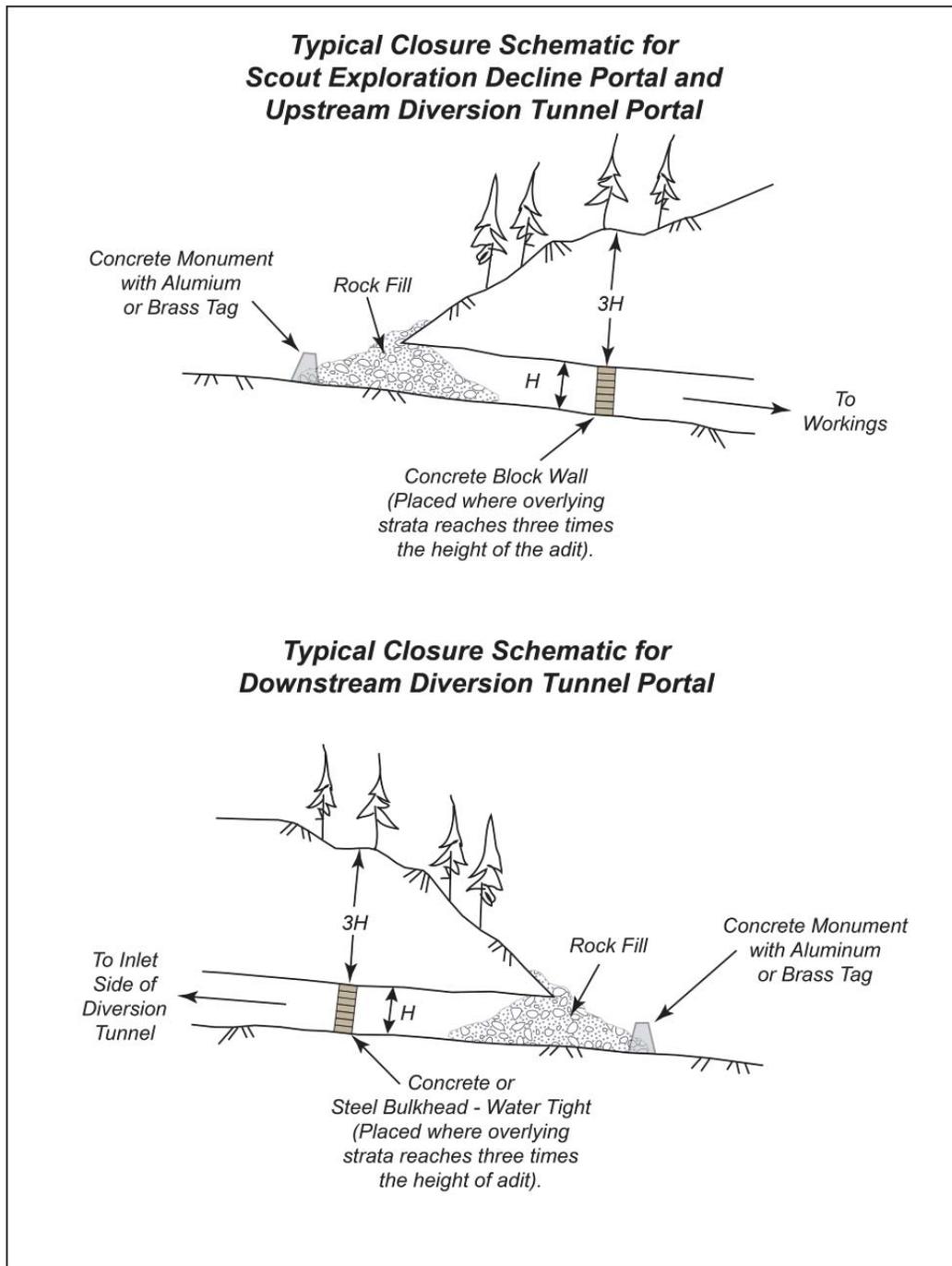
Midas Gold will decommission and close underground facilities and underground support facilities, including the portals of the Tunnel and Scout decline, with the objective of improving public safety, wildlife protection and avoiding groundwater contamination. Details regarding underground exploration activities at the Project are discussed in Section 13.2, while the construction and operational aspects of the Tunnel are discussed in Section 8.1.

For closure of underground facilities, work generally starts at the lowest active point of the underground and proceeds up to the surface. Removal of underground facilities and equipment will consist of the following steps:

- Underground piping, pumps, tanks and pumping equipment will be removed and salvaged, or disposed of in an approved waste disposal facility;
- Piping that cannot be salvaged for reuse will be dismantled as required for backfill placement and left underground;
- Fans, motors, pumps, compressors, power supply, electrical distribution equipment, ventilation curtains and ducts, and other equipment will be removed, as practicable, and salvaged for use at another facility or disposed of in an approved waste disposal facility;
- Non-reactive equipment (e.g. HDPE pipe) may be left underground; and,
- Remaining fuel, lubricants and explosives will be removed from the underground workings and transported to other sites for use, or disposed of according to federal and state standards and regulations.

To prevent future access to underground workings, the underground portals (including the portals for the EFSFSR tunnel) will be closed and sealed through construction of a substantial concrete bulkhead inside the portals upon permanent cessation of operations (see Figure 14-1); where appropriate, watertight bulkheads will be installed. The portal areas will be backfilled with development rock material, extending from the portal bulkhead to outside the actual portal. A permanent informational plaque will be erected at the portal to identify the site, where appropriate.

Figure 14-1, Portal and Tunnel Closure Plan

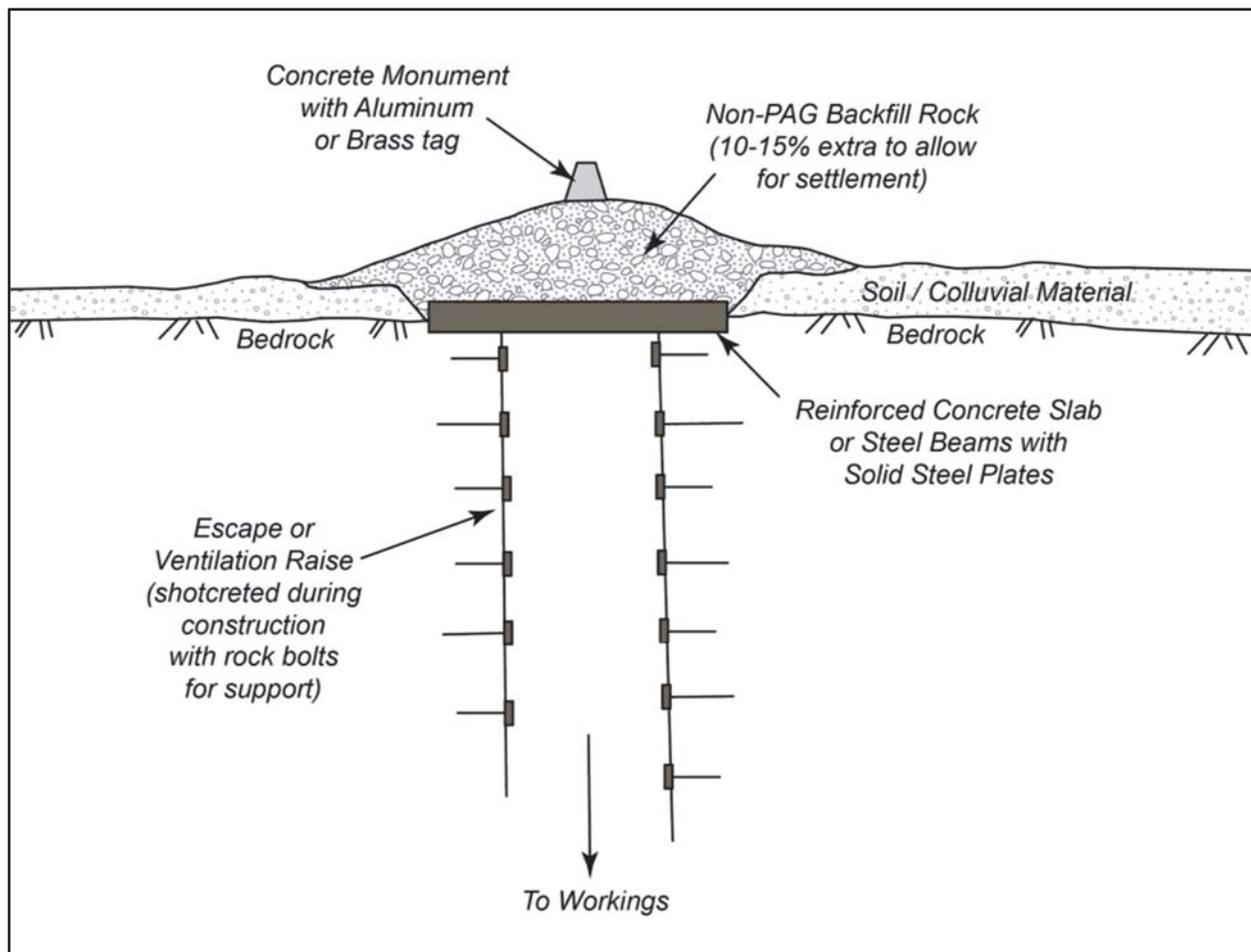


The Scout escape-ventilation raise and Hennessy Creek shaft will each be closed and sealed with an engineered concrete plug, consisting of a reinforced concrete slab placed on firm ground over the opening and anchored into solid bedrock (see Figure 14-2). This concrete plug structure will be constructed as follows:

- A structure of I-beams will be placed over the opening;
- Steel plating will be welded to the framework;
- A concrete plug will be poured on top of the steel plate and reinforced with rebar; and,
- Several feet of rock fill will be placed on top of the concrete. An additional 10 to 15 percent volume of material will be placed to allow for possible future settlement. This rock material will then be graded to provide for drainage away from the covered opening.

The site will then be seeded with species and at amounts listed in Table 14-1.

Figure 14-2, Raise Closure Plan



### 14.2.3 Tailing Storage Facility

At the permanent cessation of ore processing facility operations, Midas Gold will dewater, close and reclaim the TSF. The primary objectives for this facility closure are:

- Prevent potential adverse impacts to human health, wildlife or the environment;

- Minimize future maintenance requirements and provide for a “walk-away” situation;
- Enhance fish habitat and wetlands; and,
- Prevent impacts to the surface and groundwater hydrology of the site.

At present, there are many discussions and opinions amongst government and industry experts on the best way to close a TSF, and tailings closure technology and practices are evolving and improving. Midas Gold will take advantage of future opportunities to explore new closure and reclamation strategies and implement appropriate and practicable improvements to reclamation techniques.

The reclamation and closure of the TSF at the Project site will consist of several steps:

- Elimination of water from the TSF supernatant pool;
- Minor grading of the tailings surface to promote positive drainage toward the restored Meadow Creek alignment;
- Placement of a cover system of non-acid generating (NAG) rock capped by soils on top of the tailings to inhibit erosion and dust generation, and to promote revegetation;
- Revegetation with appropriate mixes of grasses, shrubs and trees to prevent future erosion and create a variety of habitats, manage surface precipitation and run-off and develop a self-sustaining natural habitat;
- Implementation of a surface water management plan to re-establish flows of Meadow Creek and its tributaries across the top of the facility;
- Incorporation of a low flow channel and floodplain corridor to ensure that Meadow Creek can handle all levels of water flows; and,
- Reestablish fish habitat and wetland characteristics to mimic or enhance pre-disturbance habitat carrying capacity.

#### **14.2.3.1 Elimination of Water from TSF Supernatant Pool**

As the Project approaches the end of its operating life, ore processing is nearly complete and minimal additional tailings are being pumped to the TSF, Midas Gold will begin to minimize the amount of excess water within the TSF supernatant pool so that minimal water remains when the final tailings are pumped into the TSF.

After ore processing is complete, Midas Gold will implement an enhanced evaporation program for the water in the supernatant pond that will include spray evaporators (snowmaking misters but operating in warmer temperatures) or other similar evaporation systems to eliminate any remaining surface waters. As needed and as appropriate, and in compliance with discharge allowances and limits under a NPDES permit, Midas Gold may treat and discharge water from the supernatant pool as a way to prepare for final TSF closure and reclamation. Removal of the remaining water from the TSF will allow the surficial layers of the tailings to dry and gain strength, which will, in turn, allow equipment to operate on the tailings surface for grading and the placement of a soil/rock cover.

At or near the end of the operational phase of active tailings placement, Midas Gold will undertake a consolidation analysis of the tailings to better understand tailings consolidation and densities. Midas Gold can then adjust cover design and placement to account for expected or observed settlement as the facility is dewatered and the tailings consolidate.

#### **14.2.3.2 Grading of Tailings Surface**

When tailings are sufficiently consolidated to allow for equipment traffic, Midas Gold will place and spread a layer of rock over the top of the tailings surface to eliminate any potential for ponding and to provide positive post-closure drainage from the facility so that surface water sheds off the tailings as opposed to ponding on them. Once this step is completed, the tailings area will be ready for the soil-rock cover discussed in Section 14.2.3.3.

The grading of the TSF (and the Hangar Flats DRSF) will establish the “corridor” for the permanent restoration of Meadow Creek. Midas Gold will install, construct and synthetically line stream channel(s) across the top of the tailings facility that will allow for the post-closure development of riparian habitat (see Section 14.2.3.4) and minimize potential infiltration of surface water into the tailings.

#### **14.2.3.3 Post-Closure Tailings Cover System**

Midas Gold plans to install a soil-rock cover system over the tailings facility following final grading of the tailings surface. This cover will help minimize infiltration into the tailings, prevent wind and/or water erosion of the tailings material, promote vegetation and wetland restoration, provide for stream and upland habitat restoration, and control sediment produced from the surface of the facility, all of which outcomes are aligned with Midas Gold’s design principles and criteria.

The cover will be comprised of a lower layer of NAG development rock to ensure no tailings erosion, topped by soil or soil-like material for establishment of vegetation. This cover will be placed directly on the surface of the tailings, and the thickness of this soil-rock cover is expected to be about 18 to 36 inches. The actual design thickness may be modified at closure and will be based on the ability of the tailing surface to support heavy equipment. The soil-like material in the cover will contain a sufficient percentage of fine-grained material to limit infiltration and support vegetation. The re-established vegetation will increase evapotranspiration, reduce erosion potential, and enhance the aesthetics of the reclaimed area.

Midas Gold will obtain soil-rock cover material from the adjacent Hangar Flats DRSF, adjacent stockpiled historical SODA material, screened glacial till, and/or growth medium stockpiles. To supplement the soil and growth medium material, Midas Gold will use composted material from Stibnite Lodge for organic material and/or mulched wood products from trees (burned and otherwise) recovered during pre-stripping of areas (see Section 8.7.1) and/or imported suitable organic materials (wood products from thinning projects in the area).

#### **14.2.3.4 Post-Closure Surface Water Management Plan for TSF & Hangar Flats DRSF**

Once grading is completed on the TSF and the adjoining, down-gradient Hangar Flats DRSF, and cover material is replaced on the TSF, Midas Gold will implement the post-closure surface water management system for both facilities.

With final closure and reclamation of the TSF, Midas Gold would then decommission the surface water channels around the TSF and reconnect the up-drainage stream segments in the Meadow Creek watershed (those that were diverted during operations to direct water from these up-gradient streams around the TSF and the Hangar Flats DRSF) to the down-gradient segment of Meadow Creek (see Figure 14-3, Figure 14-4, and Figure 14-5).

By constructing defined channels across the surface of the closed TSF and Hangar Flats DRSF, stream restoration can commence that will allow for growth of native vegetation species, the development of

riparian and wetland habitat, and the creation of wildlife habitat and stable soil conditions, along with the establishment of fish passage and use, in accordance with Midas Gold’s design criteria and principles. In addition, the reconstruction of the Meadow Creek stream segments across the TSF and Hangar Flats DRSF will allow Midas Gold to eliminate and reclaim the diversion channels used to divert non-contact runoff around the TSF and the Hangar Flats DRSF during operations (as described in Section 11.8).

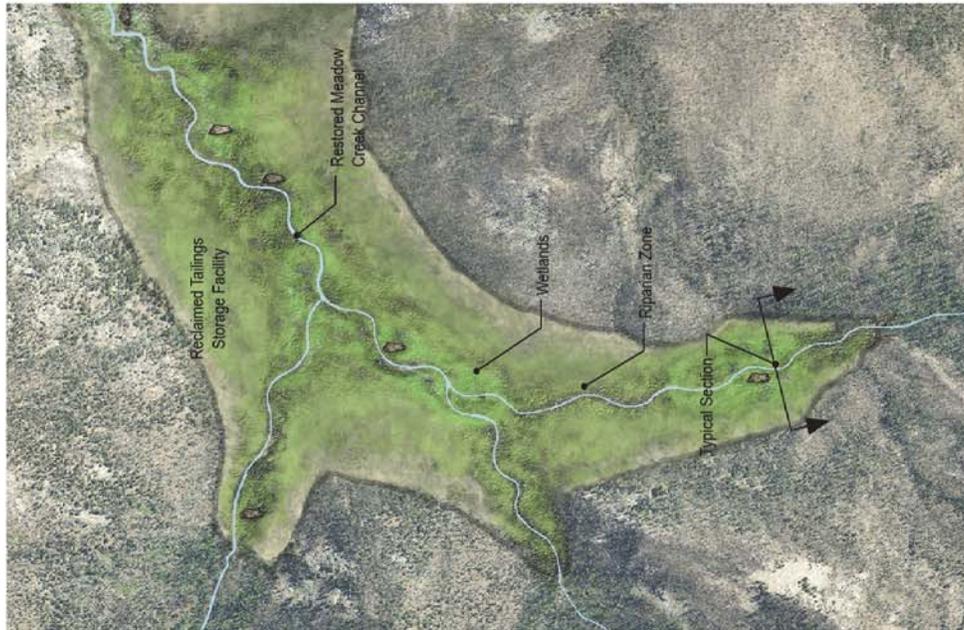
Midas Gold will construct, and synthetically line, a sinuous channel across the top of the TSF, which will offer excellent stable fisheries rearing habitat, and incorporate a broad floodplain to control and contain high runoff flows without spilling out onto the unlined portion of the TSF surface. Midas Gold will promote fish spawning reaches within the new channel with the placement of gravel. Within the channel, Midas Gold will establish a series of pools and riffles that will benefit bull trout and cutthroat trout. Given the nature of the surface of the TSF, the reconstructed channel will have a shallow gradient (typically 1% or less), and that shallow gradient will greatly aid in limiting erosion potential.

High flow events will drive the overall channel and floodplain design, which necessitate the construction of a defined channel bottom ranging from approximately 5 to 10 feet in width, with a bankfull depth reaching approximately two feet. Outward from the channel, Midas Gold will create benches, which would convey higher water depths should a major flood event occur. Midas Gold will also establish outside or “off-channel” fish habitat areas in side channels or oxbows, and provide fish habitat structures throughout the area, comprised of boulders and boulder clusters, root wads and large woody debris, thereby providing velocity breaks and cover for fish.

Midas Gold recognizes the regulatory requirement to provide the USACE with wetland and Waters of the U.S. mitigation associated with the development and operation of the Project. As such, the re-establishment of Meadow Creek across the top of the TSF and the Hangar Flats DRSF presents an opportunity to create wetlands on wide benches adjacent to the Meadow Creek stream channel. Midas Gold plans to incorporate wetland benches with a series of succession species; the closest to the channel being the most water dependent. Additional wetland and stream restoration details can be found in the draft Mitigation Plan (Appendix F).

Figure 14-3 shows that potential succession of plantings from the wettest and most erosive zone to the upland and least erosive zone. Plantings from the wettest to the driest are as follows: (1) emergent wetland zone, (2) overbank zone, and (3) upland zone (see Table 14-2). The riparian plantings of grasses and shrubs, particularly willows, will provide cover to the channel. These extensive wetlands, riparian areas and stream channels make a significant contribution to mitigating impacts on natural resources and meeting Midas Gold’s objectives for a net environmental gain as a result of the Project.

Figure 14-3. TSF Post Closure Plan



Plan View: Reclaimed Tailings Storage Facility

**Legend:**

- Restored Channel
- Constructed Wetlands
- Riparian Zone
- Reclaimed Tailings Storage Facility
- Woody Debris Pile
- Tailings
- Rock Fill / Growth Medium

**Typical Stream Restoration Project Photos**

- Central Idaho
- Restored Stream / Floodplain

**Baseline Stream Condition**

Bank Erosion

Fish Resting Pool

Stream Reconnected with Floodplain

**Construction**

Native or Adapted Vegetation

**Restored Stream +/-10 Years**

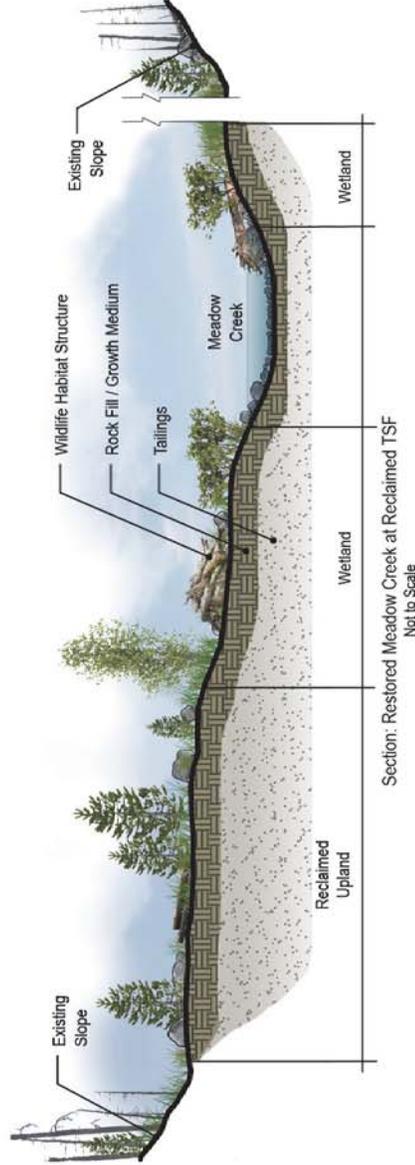


Figure 14-4, TSF & Hangar Flats DRSF Post Closure Oblique

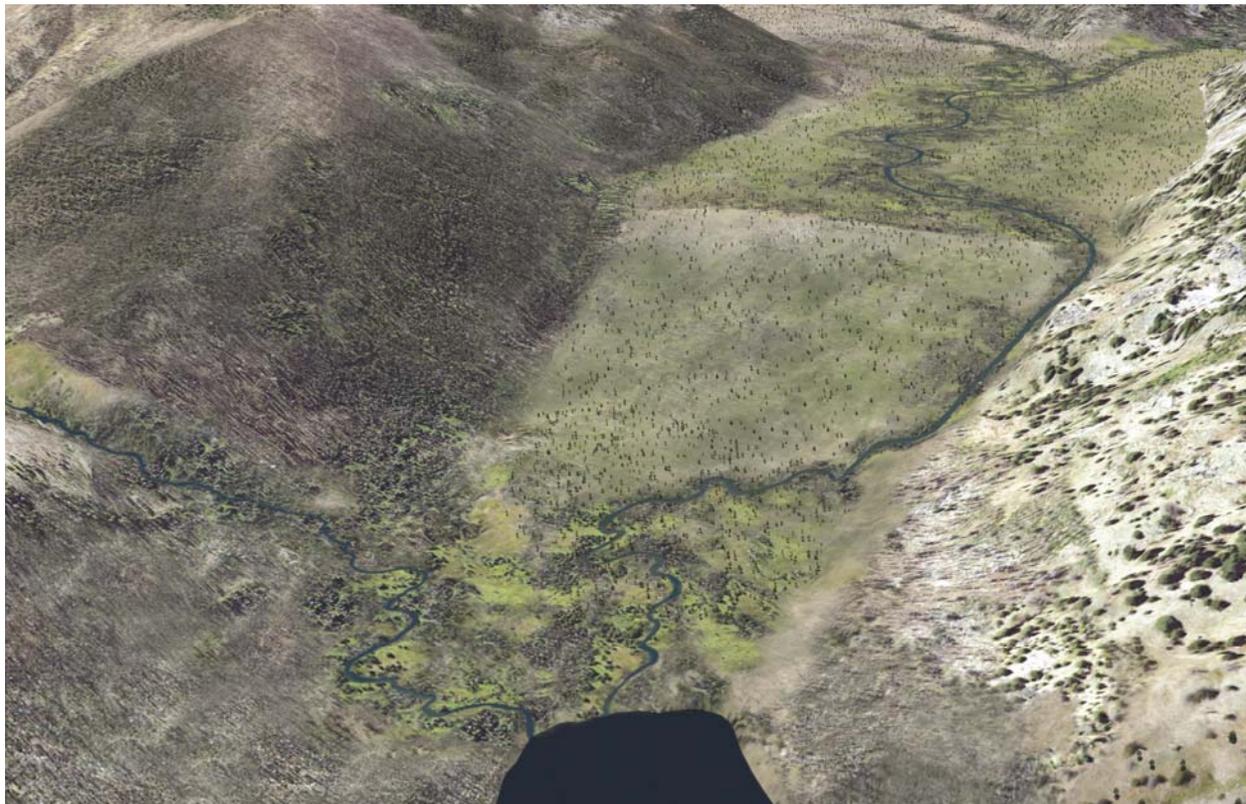


Table 14-2, Wetland Seed Mixture and Riparian Plant Schedule

Wetland Seed Mixture					
Scientific Species Name	Common Species Name	Number of Seeds per Pound	Pounds Pure Live Seed per Acre <sup>(1)</sup>	Percent of Mixture	Wetland Indicator Status <sup>(2)</sup>
<i>Deschampsia caespitosa</i>	Tufted hairgrass	2,500,000	6	15%	FACW <sup>(3)</sup>
<i>Carex rostrata</i>	Beaked sedge	444,000	3	8%	OBL <sup>(4)</sup>
<i>Carex nebrascensis</i>	Nebraska sedge	534,100	7	18%	FACW <sup>(3)</sup>
<i>Calamagrostis canadensis</i>	Bluejoint	2,270,000	8	21%	FACW <sup>(3)</sup>
<i>Agrostis scabra</i>	Ticklegrass	-----	5	13%	FAC <sup>(5)</sup>
<i>Eleocharis palustris</i>	Creeping spikerush	620,000	6	15%	OBL <sup>(4)</sup>
<i>Juncus balticus</i>	Baltic rush	10,900,000	4	10%	FACW <sup>(3)</sup>
<b>Totals</b>			<b>39</b>	<b>100%</b>	
<b>Notes:</b>					
(1) Broadcast seeding rate.					
(2) The Forest Service Region 9 “1996 wetland indicator status” is based on a plant species frequency of occurrence in wetlands.					
(3) FACW = Facultative wetland plants are species that usually occur in wetlands with estimated probability of 67 - 99%.					
(4) OBL = Obligate wetland plants are species that almost always occur in wetlands under natural conditions with estimated probability of 99%.					
(5) FAC = Facultative plants are equally likely to occur in wetlands and non-wetlands with estimated probability of 34 - 66%.					

Riparian Plant Schedule			
Scientific Species Name	Common Species Name	Rooted Height (inches)	Quantity per Acre
<i>Picea engelmannii</i>	Englemann spruce	9	300
<i>Salix sp.</i>	Willow (native – collected on site)	9	500
<i>Cornus stolonifera</i>	Red Twig Dogwood	9	300
<i>Alnus sinuata</i>	Sitka alder	9	500
<i>Ribes sp.</i>	Currant	9	250

#### 14.2.4 Hangar Flats Development Rock Storage Facility

As explained in Section 9.3, development rock removal and storage is an integral and necessary part of the mining operation, and development rock will be moved throughout the life of the Project. A substantial amount of development rock removed from Project mining operations will be placed in the Hangar Flats DRSF, which will also serve as a buttress to the TSF, greatly increasing its factor of safety.

Midas Gold will construct the Hangar Flats DRSF in a series of levels where the haul trucks will “end-dump” the material horizontally across the disposal area. The out-slopes of these individual lifts will be maintained at an overall angle of repose, which is defined as the steepest slope that development rock will conform to naturally. For the Project, the angle of repose will average approximately 35°.

As appropriate during operations, Midas Gold may reclaim portions of the Hangar Flats DRSF that have reached their ultimate design limits while mining is ongoing, under the process previously described as concurrent reclamation. Concurrent reclamation on a DRSF will help minimize fugitive dust impacts, allow time to test and optimize revegetation procedures, take advantage of equipment and personnel already on site, and reduce the time and financial assurance expenditures required for post-closure and reclamation.

As part of concurrent and permanent reclamation work, Midas Gold will reshape DRSF out-slopes by grading with a bulldozer. The goal for final overall out-slopes of the Hangar Flats DRSF will be 3 (horizontal) to 1 (vertical), although slopes at the toe of the facility may be shallower to produce concave features to mimic natural topography. One of the most important goals for DRSF grading and contouring will be to produce a final topography that will conform to and blend with the surrounding terrain, as well as to produce a permanent and stable landform.

Midas Gold will re-establish a lined channel and floodplain corridor for Meadow Creek across the top of the reshaped DRSF, similar to that discussed for the TSF, but at a gradient of approximately 2%. The steeper reconstructed stream channel on the north abutment of the Hangar Flats DRSF will be lined with rock and entrenched with a series of step pools, designed to serve as energy dissipater structures and resting areas for fish. Each pool will be keyed and constructed with durable rock, ensuring a stable channel.

Using the same techniques as for the TSF (see Section 14.2.3.4), Midas Gold will plant a succession of plantings along the channel, including a variety of grasses and shrubs, particularly willows, to provide cover to the channel (see Table 14-2).

#### 14.2.5 Hangar Flats Pit

The Hangar Flats Pit will not be backfilled but will remain open to function as a permanent sedimentation basin downstream of the TSF, Hangar Flats DRSF and Blowout Creek, much like the current Yellow Pine Pit does (to a reasonable extent) today. Pit benches and haul ramps will be reclaimed and re-contoured, as practicable, to facilitate an effective, stable closure that will also provide



a single point for future long-term water treatment, should such ever be required. A growth media stockpile located high in the Hangar Flats pit will be available for concurrent reclamation of the upper portions of the Hangar Flats highwall. Upon final cessation of mining activities, surface water runoff from the TSF, the Hangar Flats DRSF and EFMC will be routed via the reconstructed Meadow Creek drainage to the Hangar Flats open pit, which will serve as both habitat and a “sediment trap” prior to water flowing from the pit downstream into Meadow Creek. Continual freshwater flow into the open pit will also ensure water is continually turned over and refreshed, preventing evaporation concentration of waters that might be seen in a static lake. Midas Gold will also implement riparian reclamation activities around the fringes of the southern portion of the Hangar Flats pit within the EFSFSR and EFMC floodplain (see Figure 14-5).

Midas Gold will block the haul road from the pit with large boulders and/or earthen berms to deter motorized vehicle passage into the pit. These physical barriers will be installed far enough from the crest of the final pit highwall to prevent failure due to normal pit wall sloughing. Midas Gold will also post warning signs at this location as an added safety measure.

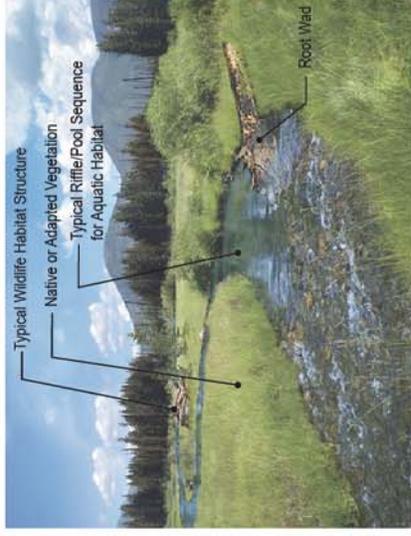
Downstream of the Hangar Flats Pit, Midas Gold will construct meander bends in the re-constructed and improved section of Meadow Creek to its confluence with the EFSFSR. These meanders will be connected to the existing portion of lower Meadow Creek, which maximizes the length of the flowing stream available for anadromous fish spawning. This configuration will also reduce the potential for predation of salmon and steelhead smolts by bull trout that will eventually reside in the Hangar Flats lake. The higher gradient planned for the reconstructed Meadow Creek will also provide better conditions for the development of spawning gravels and salmon redds, thereby enhancing fish habitat as compared to the current artificial channel for Meadow Creek. By providing enhanced habitat and reduced sedimentation, these activities contribute towards Midas Gold’s goal of enhancing fish populations, by providing somewhere for the anadromous fish to spawn once they are able to get past the current fish blockage.

Figure 14-5, Hangar Flats Pit and DRSF Post Closure Details



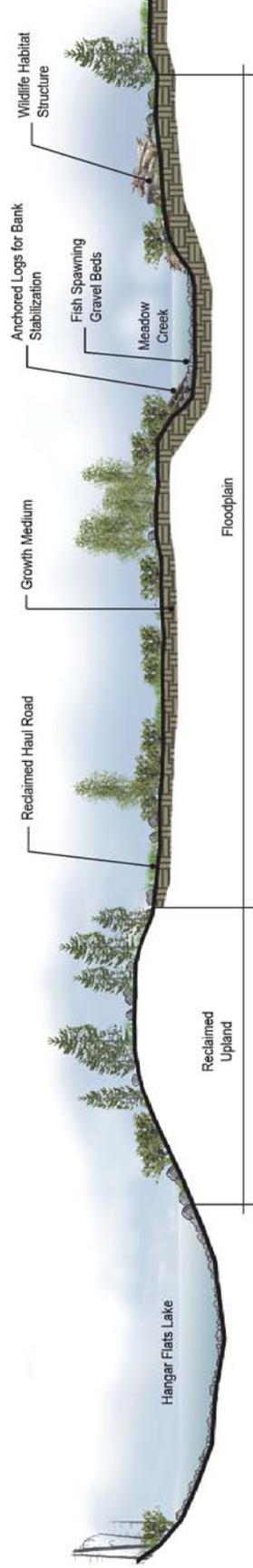
**Legend:**

-  Restored Channel
-  Constructed Wetlands
-  Riparian Zone
-  Reclaimed Development Rock Storage Facility
-  Woody Debris Pile
-  Rock Fill / Growth Medium



Conceptual Rendering: Reclaimed Meadow Creek Below Hangar Flats DRSF

Plan View: Reclaimed Hangar Flats DRSF, Meadow Creek, and Hangar Flats Pit Lake



Section: Restored Meadow Creek and Hangar Flats Pit Lake  
Not to Scale

#### **14.2.6 Yellow Pine Pit**

As part of early construction and development work, as discussed in Section 8.1, Midas Gold will construct the Tunnel around the proposed Yellow Pine Pit to route flows of the EFSFSR. This will facilitate efficient and safe mining operations, protect water quality and foster fish passage during operations to the upper reaches of the EFSFSR and Meadow Creek, where fish passage was blocked and eliminated in 1938 with BMC development of the (now legacy) Yellow Pine Pit. Containing the EFSFSR in the Tunnel will also prevent contact of EFSFSR waters with the mining operations in the Yellow Pine pit, which will be a source of dust, nitrates from blasting agents, and potential petroleum productions from fuel spills or leakage from mining equipment.

Upon permanent cessation of mining activities at the Yellow Pine Pit, Midas Gold plans to backfill the pit with West End development rock to restore the EFSFSR to the approximate original river gradient (see Figure 14-6 and Figure 14-7). West End development rock is deemed to be the best quality material to backfill the Yellow Pine pit due to its geologic characteristics, non-acid generating nature and low sulfide content.

Through the backfilled area, Midas Gold will construct a sinuous channel for the reconstructed EFSFSR with an average gradient of approximately 4.6%, similar to what the gradient was like prior to human activities. To accommodate migrating salmon and bull trout, Midas Gold will establish step pools, resting and shelter areas comprised of rock sills within this reconstructed channel. The vertical relief (drop) between successive pools will be approximately 6 to 18 inches to promote fish passage.

The reconstructed EFSFSR will allow for salmon and trout passage to upstream spawning and rearing habitat. High flow events will drive the overall channel and floodplain construction, with the channel bottom being approximately 20 to 25 feet wide, bankfull width approximately 30 to 40 feet, and depth of approximately 4 to 5 feet (see Figure 14-6). Re-establishing anadromous fish passage to the headwaters of the EFSFSR and its tributaries is one of the guiding conservation principles for Midas Gold.

The area along the reconstructed channel will be seeded and planted to restore wetland and riparian habitat (see Table 14-2). The riparian plantings of grasses and shrubs, particularly willows, will provide cover to the reconstructed channel that is favored by fish.

As part of the reclamation program for the Yellow Pine Pit area, Midas Gold will establish a permanent service road through the backfilled area. This will allow recreational traffic to have long-term access from the community of Yellow Pine to the historical Thunder Mountain Mining District, much as the current access road does.

Once the EFSFSR is reestablished through the backfilled Yellow Pine pit, including proper bank vegetation and the bed conditions from construction have stabilized, Midas Gold will permanently close the Tunnel (see Figure 14-6).

Figure 14-6, Yellow Pine Pit Post-Closure Details

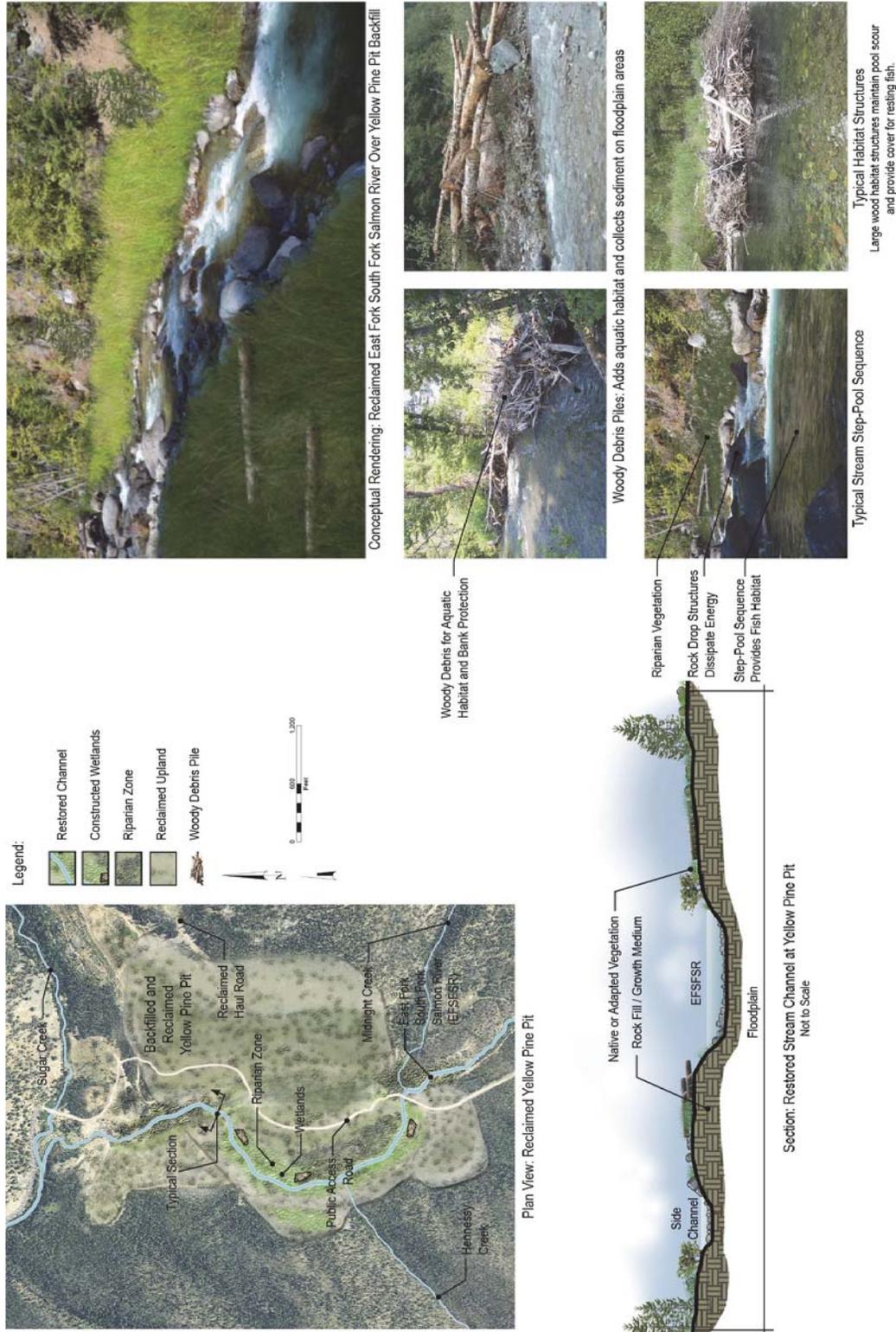


Figure 14-7, Yellow Pine Pit Post Closure Oblique



#### 14.2.7 Fiddle Development Rock Storage Facility

As part of closure and final reclamation, Midas Gold will grade the top of the Fiddle DRSF to promote positive drainage and to prevent pooling of water on top of the development rock. The lower portion, or “toe”, of the DRSF will be graded and seeded to promote facility stabilization and to mitigate sediment generation and migration (see Table 14-1). Riparian plantings of grasses and shrubs, particularly willows, will provide cover to the reconstructed channel to provide riparian habitat, keep water shaded and cool, and stabilize the landform.

As appropriate during operations, Midas Gold may reclaim portions of the Fiddle DRSF while still emplacing material, under the process previously described as concurrent reclamation. Concurrent reclamation on a DRSF will help minimize fugitive dust impacts, allow time to test and optimize revegetation procedures, take advantage of equipment and personnel already on site, and reduce the time and financial assurance expenditures required for post-closure and reclamation.

As part of concurrent and permanent reclamation work, Midas Gold will reshape DRSF out-slopes by grading with a bulldozer. The goal for final overall out-slopes of the Fiddle DRSF will be approximately 3 (horizontal) to 1 (vertical), although slopes at the toe of the facility may be shallower to produce concave features to mimic natural topography. One of the most important goals for DRSF grading and contouring will be to produce a final topography that will conform to and blend with the surrounding terrain, as well as to produce a permanent and stable landform.

Midas Gold will re-establish a lined channel and floodplain corridor across the top of the reshaped DRSF. The steeper reconstructed stream channel on the abutment/groin of the Fiddle DRSF will be lined with rock and entrenched with a series of boulder steps, designed to serve as energy dissipater structures. Steps will be keyed-in and constructed with durable rock, providing a stable channel.

Using the same techniques as for the TSF (see Section 14.2.3.4), Midas Gold will plant a succession of plantings along the channel on top of the DRSF, including a variety of grasses and shrubs, particularly willows, to provide cover to the channel. See Figure 14-8 for a conceptual post closure oblique of the Fiddle DRSF.

*Figure 14-8, Fiddle DRSF Conceptual Post Closure Oblique*



#### **14.2.8 West End Open Pit**

Midas Gold will use development rock from the West End pit to backfill the Yellow Pine pit. While some development rock backfilling of the West End pit is anticipated, a lake is anticipated to form in the north portion of the West End pit with fresh water contributions from surface runoff from the surrounding catchment, groundwater, and direct precipitation. The lake will provide permanent storage for sediment generated from the existing West End development rock dump above the West End pit, as well as from the West End open pit highwalls. Midas Gold will include an overflow spillway for the West End pit to channel water from the lake into lower West End Creek. The spillway will be founded in rock; however, if portions of the upstream or downstream channel are founded in development rock, it will be lined to increase flows into West End Creek and to limit the potential for infiltration through the existing lower West End development rock dump. The spillway will be capable of safely passing a PMP storm event.

To facilitate final closure and post closure management of the West End pit area, an adaptive management strategy will be employed throughout the mine life to ensure that the best final pit configuration, development rock storage facility configuration, channel design and water quality considerations are emplaced for physical and chemical stability of mine related features.

As part of final reclamation, a physical barrier (e.g. boulders, berms, fencing or other appropriate barriers) will be installed around the crest of the pit area to limit easy access in a similar manner to that proposed for the Hangar Flats pit (see Section 14.2.5) wherever motorized access could be reasonably expected.

#### **14.2.9 West End Development Rock Storage Facility**

Although much of the development rock from the operation of the West End pit will be used to backfill the Yellow Pine pit, Midas Gold will also develop a separate DRSF for this pit to facilitate its early stages of development, while mining in the Yellow Pine pit is still occurring. As part of closure and reclamation, Midas Gold will grade the top and slopes of this DRSF to promote positive drainage. Runoff water from West End Creek will first be routed into a constructed wetland on top of the DRSF, with the overflow routed around the northeast side of the DRSF in a designed surface water channel. The lower portion, or “toe”, of the West End DRSF will be graded and seeded to promote facility stabilization and to mitigate sediment generation (see Table 14-1). Riparian plantings of grasses and shrubs, particularly willows, will provide cover to the reconstructed channel to provide riparian habitat, keep water shaded and cool, and stabilize the landform.

As appropriate during operations, Midas Gold may reclaim portions of the West End DRSF while still emplacing material, under the process previously described as concurrent reclamation. Concurrent reclamation on a DRSF will help minimize fugitive dust impacts, allow time to test and optimize revegetation procedures, take advantage of equipment and personnel already on site, and reduce the time and financial assurance expenditures required for post-closure and reclamation.

As part of concurrent and permanent reclamation work, Midas Gold will reshape DRSF out-slopes by grading with a bulldozer. The goal for final overall out-slopes of the West End DRSF will be approximately 3 (horizontal) to 1 (vertical), although slopes at the toe of the facility may be shallower to produce concave features to mimic natural topography. One of the most important goals for DRSF grading and contouring will be to produce a final topography that will conform to and blend with the surrounding terrain, as well as to produce a permanent and stable landform.

Legacy development rock dumps exist in the West End area; one dump is located up-gradient of the existing West End pit and another is located downgradient of the existing pit. The water flowing beneath the dumps was routed through a French drain system constructed by Superior during the dump’s construction. This French drain system clogged up several years after construction and a surface diversion was constructed to handle the flow. A small flex pipe was added between the waterfalls below the upper dump and the lower dump but was undersized and the flow is currently across the top of the lower dump. The top surface of the lower dump will be regraded at closure to facilitate creation of a durable spillway, and a riprap channel will be created on the facility for long term water management in the event the future pit lake over flows. The upper facility will be regraded and vegetated as needed based upon final pit configuration.

#### **14.2.10 Burntlog Road**

Once all final closure/reclamation and related environmental closure monitoring work has been completed at the Project, including reclamation of the TSF and restoration of Meadow Creek (and after final reclamation work on the rest of the Project site), Midas Gold will close and reclaim the portion of the site access road that connects the Burntlog access road and historical Thunder Mountain road that the company constructed to restore the area to conditions similar to those that existed prior to the road upgrades to support the Stibnite Gold Project.

For the section of the Burntlog Road that existed prior to mining, Midas Gold will allow the pre-mining portion of the Burntlog access road to revert (aided by appropriate Midas Gold reclamation) to its approximate pre-mining condition, and Midas Gold will no longer maintain the road. Additionally, the portion of the Thunder Mountain road that is upgraded will be reduced to conditions existing prior to the Stibnite Gold Project such that the historical routes are returned to similar conditions for future use.

Reclamation of the road will include pulling back and re-contouring any road cuts and fills made by Midas Gold, and the company will rip or disk the reclaimed road surface or otherwise leave the road surfaces in a roughened condition prior to seeding with species listed in the Table 14-1.

Midas Gold will remove ditches, cross drains, culverts, safety berms, mile markers, guardrails, and signs upon permanent closure. As appropriate, Midas Gold will leave water bars or other erosion or sediment control structures, but any long-term road maintenance for the Burntlog road will revert to the responsibility of the Forest Service or Valley County on completion of this reclamation work.

#### **14.2.11 Stibnite Lodge**

Midas Gold will continue to use a portion of the Stibnite Lodge during the initial two to three years of physical closure and reclamation activities at the Project; however, that portion of the onsite housing not needed for final closure work will be dismantled and salvaged, or demolished. Upon conclusion of the major closure and reclamation work, Midas Gold will complete the job of dismantling and salvaging, or demolishing the remaining portion of the housing facility (see Section 14.1.3.1).

Midas Gold will rip or disk the parking and building area or otherwise leave the site in a roughened condition prior to seeding and tree planting with species listed in Table 14-1.

#### **14.2.12 Haul Roads, Internal Site Access Roads & Other Compacted Sites**

As part of final closure/reclamation work, Midas Gold will close and reclaim haul roads external to the pits and any internal site access roads not needed for long-term access and monitoring. Road reclamation will include pulling back and re-contouring road cuts and fills and ripping or disking the road surface or otherwise leave the surfaces in a roughened condition prior to seeding (see Table 14-1).

Midas Gold will remove ditches, cross drains, culverts, safety berms, mile markers, guardrails, and signs upon permanent closure. As appropriate, Midas Gold will leave water bars or other erosion or sediment control structures, but roads will be closed for any long-term use.

Areas disturbed by the haul and site access roads will be contoured and graded to blend into surrounding terrain. Compacted areas, such as the road surface or any associated parking or storage areas, will be loosened as necessary by ripping or disking, and left in a “roughened” condition prior to fertilizing and seeding. Contouring and grading work will involve the retention of water-bars and/or restoration of ephemeral surface water channels to handle flows through the reclaimed areas.

#### **14.2.13 Substation, Switchgear & Electric Transmission Line**

After closure activities, when the need for substantial onsite electric power requirements have passed, Midas Gold will disassemble the electric transmission line from the Johnson Creek substation to the site and reclaim temporary spur roads along this transmission line. The upgraded electric transmission line from Warm Lake to the community of Yellow Pine will remain to provide long-term electric power to existing users along the line with greater reliability of service than the current situation, thereby providing a long term benefit to local communities; Midas Gold expects that IPCo will continue to maintain that line.

In addition, Midas Gold will remove the onsite substation and the switchgear. The supporting overhead transmission and distribution lines will be disconnected, reeled onto spools, and removed from the site for recycling or reuse elsewhere. Power pole structures will be cut at the base (below ground surface), loaded onto flatbed trucks and removed for disposal at an approved offsite location. The area around the structures, and any two-tracked spur roads accessing power pole structure sites, will be bladed and scarified as appropriate to eliminate compaction and then will be seeded (see Table 14-1).

#### **14.3 INVASIVE PLANT & NOXIOUS WEED CONTROL**

Midas Gold will monitor and manage weed populations at the site using prevention, training, documentation, monitoring and eradication techniques. To discourage weeds from establishing, disturbance will be kept as low as practicable for safe and efficient operations. Midas Gold will maintain a noxious weed monitoring and control program for the Stibnite Gold Mine.

Invasive and noxious weeds can assault disturbed areas, both in the short and long term. The invasive and noxious weed program will consist of the following general measures:

- Hand pulling and/or hand digging may be used to remove noxious weeds;
- Forest Service and/or Valley County-approved herbicides will be used to prevent and restrict the spread of noxious and invasive weeds; and,
- Certified noxious weed-free mulch and seed mixtures will be used to reclaim disturbed areas and control the spread of invasive and noxious weeds.

#### **14.4 TEMPORARY CLOSURE**

No periods of temporary or seasonal closure are planned; however, circumstances beyond Midas Gold's control could require temporary cessation of operations. Cyclical production trends or slow-downs at mining operations are unpredictable due to circumstances that include fluctuation in metals prices, extreme weather conditions, labor disputes, technical issues with operations or equipment, production costs, taxes, company profitability, and effects of political, regulatory and economic events.

In the event of temporary cessation of mining activities, Midas Gold will notify the Forest Service, IDEQ, IDL and Valley County in writing within 30 days of the temporary curtailment of mining activities. This notification will include reasons for the shutdown and the estimated timeframe for resuming production.

During any temporary shutdown, Midas Gold will continue to implement operational and environmental maintenance and monitoring activities to meet permit stipulations and requirements for environmental protection. Environmental monitoring requirements will continue on defined schedules, as outlined in the appropriate permit approvals. Environmental reports will be submitted in a timely manner.



Regardless of the operating status of the mining, appropriate monitoring will be continued until compliance with permanent regulatory closure requirements is attained, unless modified by the required regulatory authorities.

#### **14.5 RECLAMATION COST ESTIMATE**

Midas Gold will complete the reclamation cost estimate for the Project after the Forest Service has completed its NEPA review and identified a selected or preferred alternative for operations.

The statutory and regulatory authority of the Forest Service and IDL will require that Midas Gold execute a reclamation financial assurance agreement as part of the plan approval and mining/reclamation permit from these agencies. This agreement will ensure that sufficient monies are available at all times in the Project's life to reclaim disturbed areas, based on using third party contractor costs, and conduct monitoring and other measures to prevent or control long-term environmental impacts at the Project site in the event that Midas Gold was unable to meet its reclamation and environmental protection obligations. Financial assurance for reclamation is commonly based in part upon reclamation plans for incremental surface disturbance of the Project. Table 14-3 provides a summary of anticipated surface disturbance for the various components associated with Project development.

No Project construction, mining or ore processing can commence without approval of the Plan of Restoration and Operations, appropriate federal, state and local required permits, and the execution of financial assurance agreements for sufficient reclamation funds with the agencies responsible for the oversight of decommissioning, reclamation and closure of the Project.



Table 14-3, Estimated Project Disturbance

Facility <sup>(1)</sup>	Total Disturbance (acres)	Disturbance on US Forest Service Land			Midas Gold Controlled Private Land			Roadless Area Disturbance (acres)
		New <sup>(2)</sup> Disturbance (acres)	Previously Disturbed <sup>(3)</sup> (acres)	Total Disturbance (acres)	New <sup>(2)</sup> Disturbance (acres)	Previously Disturbed <sup>(3)</sup> (acres)	Total Disturbance (acres)	
<b>Open Pits</b>	<b>521.4</b>	<b>77.2</b>	<b>95.3</b>	<b>172.5</b>	<b>55.6</b>	<b>293.3</b>	<b>348.9</b>	<b>0.0</b>
Yellow Pine	199.5	27.3	11.5	38.8	22.9	137.9	160.7	0.0
West End	178.5	24.0	60.0	84.0	6.9	87.6	94.5	0.0
Hangar Flats	143.5	25.9	23.9	49.8	25.8	67.8	93.7	0.0
<b>Tailings Storage Facility<sup>(4)</sup></b>	<b>413.0</b>	<b>405.2</b>	<b>7.8</b>	<b>413.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>347.2</b>
TSF Impoundment & Water Diversions	413.0	405.2	7.8	413.0	0.0	0.0	0.0	347.15
<b>Development Rock Storage Facilities (DRSFs)</b>	<b>431.1</b>	<b>268.4</b>	<b>69.5</b>	<b>337.9</b>	<b>37.9</b>	<b>55.3</b>	<b>93.3</b>	<b>124.6</b>
Hangar Flats DRSF	165.2	85.9	33.7	119.6	5.8	39.8	45.6	96.6
Fiddle DRSF	170.0	111.5	12.0	123.5	31.0	15.5	46.5	28.0
West End DRSF	95.9	71.1	23.7	94.8	1.1	0.0	1.1	0.0
<b>Growth Media Stockpiles (GMSS)</b>	<b>66.5</b>	<b>17.2</b>	<b>16.2</b>	<b>33.5</b>	<b>0.4</b>	<b>32.7</b>	<b>33.1</b>	<b>0.0</b>
Midnight	11.2	3.9	7.3	11.2	0.0	0.0	0.0	0.0
North Yellow Pine	15.9	3.4	1.5	4.9	0.4	10.6	11.0	0.0
North Homestake	10.9	1.9	1.9	3.8	0.0	7.1	7.1	0.0
Upper Fiddle <sup>(5)</sup>	13.2	0	0.0	0	0.0	0.0	0.0	0
Scout	6.4	0.0	0.0	0.0	0.0	6.4	0.0	0.0
HF East	2.8	0.0	5.4	5.4	0.0	2.8	0.0	5.4
HF West	0.0	0.0	9.6	9.6	0.0	0.0	0.0	9.6
Stibnite Lodge	4.4	0.0	0.0	0.0	0.0	4.4	0.0	0.0
<b>Haul Roads</b>	<b>58.2</b>	<b>0.0</b>	<b>7.2</b>	<b>7.2</b>	<b>0.0</b>	<b>58.2</b>	<b>0.0</b>	<b>7.2</b>
West End Pit to Primary Crusher	18.3	0.0	0.0	0.0	0.0	18.3	0.0	0.0
West End Pit to West End DRSF	4.6	0.0	0.0	0.0	0.0	4.6	0.0	0.0
West End Pit to Yellow Pine Pit	4.9	0.0	0.3	0.3	0.0	4.9	0.0	0.3
Yellow Pine Pit to Primary Crusher	16.3	0.0	0.3	0.3	0.0	16.3	0.0	0.3
Yellow Pine Pit Hangar Flats Pit	10.9	0.0	4.3	4.3	0.0	10.9	0.0	4.3
Hangar Flats Pit to Hangar Flats DRSF	1.6	0.0	1.3	1.3	0.0	1.6	0.0	1.3
Yellow Pine Pit to North Yellow Pine GMS	0.0	0.0	1.1	1.1	0.0	0.0	0.0	1.1
Hennessy Road	1.6	0.0	0.0	0.0	0.0	1.6	0.0	0.0



Facility <sup>(1)</sup>	Total Disturbance (acres)		Disturbance on US Forest Service Land			Midas Gold Controlled Private Land			Roadless Area Disturbance (acres)
	Total Disturbance (acres)	New <sup>(2)</sup> Disturbance (acres)	Previously Disturbed <sup>(3)</sup> (acres)	Total Disturbance (acres)	New <sup>(2)</sup> Disturbance (acres)	Previously Disturbed <sup>(3)</sup> (acres)	Total Disturbance (acres)		
<b>Infrastructure Areas</b>	<b>104.5</b>	<b>1.4</b>	<b>28.9</b>	<b>30.3</b>	<b>0.0</b>	<b>104.5</b>	<b>1.4</b>	<b>28.9</b>	
Primary Crusher / Coarse Ore Stockpile	27.8	0.0	0.0	0.0	0.0	27.8	0.0	0.0	
Main Ore Processing Area	27.3	1.4	12.9	14.3	0.0	27.3	1.4	12.9	
Exploration Decline & Explosives Area	23.6	0.0	0.0	0.0	0.0	23.6	0.0	0.0	
Truck Shop Area	0.0	0.0	6.7	6.7	0.0	0.0	0.0	6.7	
Rapid Infiltration Basin West	0.0	0.0	8.4	8.4	0.0	0.0	0.0	8.4	
Rapid Infiltration Basin East	2.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	
Stibnite Lodge	21.8	0.0	0.0	0.0	0.0	21.8	0.0	0.0	
Yellow Pine Tunnel Inlet	2.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	
Yellow Pine Tunnel Outlet	0.0	0.0	0.9	0.9	0.0	0.0	0.0	0.9	
<b>Rehabilitation / Stockpile / Borrow Area</b>	<b>61.6</b>	<b>0.0</b>	<b>31.4</b>	<b>31.4</b>	<b>0.10</b>	<b>61.6</b>	<b>0.0</b>	<b>31.4</b>	
Hangar Flats DRSF / Pit Area	61.6	0.0	31.4	31.4	0.1	61.6	0.0	31.4	
<b>Access Road</b>	<b>265.7</b>	<b>175.2</b>	<b>90.5</b>	<b>265.7</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>67.3</b>	
Upgraded Burntlog Road	130.4	54.3	76.1	130.4	0.0	0.0	0.0	1.0	
Burntlog-Thunder Mountain Connector	84.6	84.5	0.2	84.6	0.0	0.0	0.0	32.3	
Upgraded Thunder Mountain Road	10.9	6.7	4.2	10.9	0.0	0.0	0.0	4.6	
Thunder Mountain Road to Stibnite Lodge	29.7	29.7	0.0	29.7	0.0	0.0	0.0	29.4	
Stibnite Lodge to Plant Site	10.0	0.0	10.0	10.0	0.0	0.0	0.0	0.0	
<b>Totals</b>	<b>1,991.1</b>	<b>1,055.1</b>	<b>391.9</b>	<b>1,447.0</b>	<b>95.4</b>	<b>448.8</b>	<b>544.1</b>	<b>539.1</b>	
	<b>100%</b>	<b>53%</b>	<b>20%</b>	<b>73%</b>	<b>5%</b>	<b>23%</b>	<b>27%</b>	<b>27%</b>	

**Notes:**

- (1) See it is worth noting that the idea of using the Burntlog Route for long-term site access was originally proposed by a local resident during one of Midas Gold's early community meetings held in Yellow Pine to discuss the Stibnite Gold Project, and this route has been adopted by Midas Gold.
- (2) Figure 7-1 for access road and power line alignments and Figure 8-1 for plan view of Project layout.
- (3) This area has not been substantially previously disturbed by historical mining or related activities.
- (4) This area is currently in-use or was previously disturbed by historical mining and related activities.
- (5) Growth media stockpiles will be located within the footprint of the TSF during the life of the Project.
- (6) Upper Fiddle GMS will be located within the footprint of the Fiddle DRSF during the life of the Project.
- (7) The areas calculated in this table do not include the acreage associated with the upgrade of the power line to the site or exploration activity. Forty-two miles of the existing Idaho Power Company 69 kV line will be upgraded from the existing Lake Fork substation to the Johnson Creek airport, with approximately 8 miles of new 138 kV being constructed from a new substation near the Johnson Creek airport to a new substation at the Project mill site.