

DRAFT

Stibnite Gold Project
Environmental Monitoring and Management Program

Prepared for
Midas Gold Idaho, Inc.
Valley County, Idaho
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This is a draft and is not intended to be a final representation of the work done or recommendations made by Brown and Caldwell. It should not be relied upon; consult the final report.



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List of Abbreviations

ARPA	Archaeological Resource Protection Act
BACT	best available control technology
BMP	best management practice
BNF	Boise National Forest
BO	biological opinion
CAA	Clean Air Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CMP	Compensatory Mitigation Plan
CO	carbon monoxide
CRMP	Cultural Resource Management Plan
CWA	Clean Water Act
Cyanide Code	International Cyanide Management Code for the Manufacture, Transport, and Use of Cyanide in the Production of Gold
DA	Department of the Army
DRSF	development rock storage facility
EMMP	Environmental Monitoring and Management Program
EMS	Environmental Management System
EPA	U.S. Environmental Protection Agency
EFSFSR	East Fork of the South Fork of the Salmon River
ESA	Endangered Species Act
HAP	hazardous air pollutant
IDAPA	Idaho Administrative Procedures Act
IDEQ	Idaho Department of Environmental Quality
IDL	Idaho Department of Lands
IDWR	Idaho Department of Water Resources
IPDES	Idaho Pollutant Discharge Elimination System
IDFG	Idaho Department of Fish and Game
LAER	lowest achievable emission rate
LRMP	Land Resource Management Plan
MBTA	Migratory Bird Treaty Act
Midas Gold	Midas Gold Idaho, Inc.
MSGP	Multi-Sector General Permit
NAAQS	National Ambient Air Quality Standards
NAGPRA	Native American Graves Protection and Repatriation Act of 1990
NEPA	National Environmental Policy Act
NFS	National Forest Service
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service

NO _x	oxides of nitrogen
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
NSPS	New Source Performance Standards
PAG	potentially acid generating
PEM	palustrine emergent marsh
PFO	palustrine forested
PM _{2.5}	particulate matter with an aerodynamic diameter less than or equal to 2.5 micrometers
PNF	Payette National Forest
POC	point of compliance
PRO	Plan of Restoration and Operations
PSS	palustrine scrub-scrub
Project	Stibnite Gold Project
RCRA	Resource Conservation and Recovery Act
RIBS	Rapid Infiltration Basins
ROD	Record of Decision
SDWA	Safe Drinking Water Act
the Services	USFWS and NOAA Fisheries
SGP	Stibnite Gold Project
SHPO	State Historic Preservation Office
SO ₂	sulfur dioxide
SPCC	Spill Prevention, Control, and Countermeasures Plan
SWWB	site-wide water balance
SWPPP	Stormwater Pollution Prevention Plan
THPO	Tribal Historic Preservation Officer
TSCA	Toxic Substances Control
TSF	tailings storage facility
USACE	United States Army Corps of Engineers
USC	United States Code
USFS	United States Forest Service
USFWS	United States Fish and Wildlife Service
VOC	volatile organic compound
WMP	Water Management Plan

Section 1

Introduction

In September 2016, Midas Gold Idaho, Inc. (Midas Gold), submitted the Stibnite Gold Plan of Restoration and Operations (PRO) to the U.S. Forest Service (USFS) Payette National Forest (PNF) for mining on National Forest Service (NFS) lands in accordance with USFS regulations for locatable minerals set forth in 36 Code of Federal Regulations (CFR) 228 Subpart A (Midas Gold 2016).

To comply with its statutory and regulatory obligations to respond to the submitted PRO, the USFS is in the process of evaluating the PRO. USFS is considering the requirements set forth in 36 CFR 228.8, including those to minimize adverse effects to the extent feasible, comply with applicable laws, regulations, and standards for environmental protection; provide for reclamation; and respond to the PRO as set forth in 36 CFR 228.5(a). The USFS officially determined the PRO to be administratively complete in December 2016.

Approving the PRO and issuing permits under the Clean Water Act (CWA) would be major federal actions subject to the National Environmental Policy Act (NEPA). Accordingly, the USFS and regulatory agencies are developing an environmental impact statement¹ to consider and publicly disclose the potential environmental effects of the Proposed Action. A plan of operations for locatable mining activities on NFS land, such as the Stibnite Gold Project (SGP or Project), is subject to review, reasonable modification to minimize disturbance of surface resources, and approval by the USFS per the Organic Administration Act of June 4, 1897, federal mining laws, as amended (16 U.S. Code [USC] 478, 551 and 30 USC 22 et seq.) and regulations in 36 CFR 228.4(e) and 228.5(a). Additional alternatives and Project design features may be evaluated in the environmental impact statement. Alternatives and design features determined reasonable and necessary to meet USFS regulations for locatable minerals set forth in 36 CFR 228 Subpart A may require changes and/or additions to the PRO. The mine is also subject to permitting conditions by a variety of federal and state agencies including the U.S. Environmental Protection Agency (EPA), U.S. Army Corps of Engineers (USACE), Idaho Department of Environmental Quality (IDEQ), Idaho Department of Water Resources (IDWR), and Idaho Department of Lands (IDL).

1.1 Purpose and Scope

The Environmental Monitoring and Management Program (EMMP) is designed to provide a proactive and adaptive management tool in implementing the Midas Gold Environmental Policy (Midas Gold 2017). This EMMP provides an overview of the actual or anticipated monitoring and/or management requirements for each of the regulatory permits and establishes Midas Gold's commitments to environmental monitoring and management of mine facilities and environmental resources.

The EMMP allows the Midas Gold operations team to monitor its operations and environmental commitments, document permit compliance, and reduce potential impacts to environmental resources. This EMMP describes the component monitoring and management plans that will be developed and used by Midas Gold to manage water resources, manage and monitor mine facilities, and monitor environmental and cultural resources. The EMMP includes environmental tasks and lists environmental permits, licenses, authorizations, and corresponding obligations. Midas Gold will

¹ Cooperating agencies consist of the EPA, USACE, IDL, IDEQ, Governor's Office of Energy and Mineral Resources, and Valley County.

also implement an Environmental Management System (EMS) that will include details on organizational structure and responsibilities, training, legal requirements, regulatory requirements, internal audits, detailed procedures and operational controls, and communication. The EMS will contain a compliance calendar with detailed schedules for Midas Gold to track compliance inspections, monitoring requirements, and regulatory submission deadlines.

This EMMP will be a living document and revisions will be tracked accordingly; the individual component plans will be provided as Appendices and will be updated periodically as new information is obtained and changes are made during mine operations, subsequent permitting actions, and closure. The component plans include operations plans, management plans, and monitoring plans. The EMMP will primarily incorporate the management actions and monitoring portion of some plans. For example, the complete Stibnite Gold Mitigation Plan will not be incorporated into the EMMP, but the management actions, monitoring, and reporting required to implement it will be included. These plans will continue to evolve throughout the life of the project.

The EMMP is currently based on Midas Gold's PRO but will ultimately reflect the specific details of the plan of operations authorized by the USFS (i.e., the PRO modified by the preferred alternative and design features). The EMMP covers managing all aspects of the project including the processing plant, tailings storage facility (TSF), open pits, development rock storage facilities (DRSFs), roads, maintenance, warehousing, laboratory, exploration activities, and ancillary facilities.

1.2 Project Description

A summary of the PRO is provided below. Sections below describe the location and phasing of the project.

1.2.1 Location

The Project area is located at Stibnite in Valley County approximately 92 miles by air and 144 miles by road northeast of Boise, Idaho, approximately 44 air miles northeast of the city of Cascade, Idaho and 10 air miles east of Yellow Pine, Idaho. Operations would impact approximately 500 acres of patented mining claims owned or controlled by Midas Gold and on approximately 1,500 acres of unpatented mining claims located on adjacent NFS lands administered by the PNF. Two supporting-infrastructure corridors (transmission line and mine access road) are located primarily on the Boise National Forest (BNF). Parts of the Project area, such as the Stibnite mine site, have been impacted by historical mining and ore processing operations. Some of these impacts have been reclaimed and/or remediated, but some historical mining impacts remain.

1.2.2 Phasing

Midas Gold's stated objective is to economically develop and operate a modern mine, while providing environmental restoration of impacts related to historical mining activities at the Project site and socioeconomic benefits to surrounding areas. The PRO includes descriptions of the following operations and activities to be conducted on a mixture of NFS, state, and private lands:

- **Redevelopment and construction (3-year duration)** includes developing supporting infrastructure, including upgraded and extended powerlines, communication sites, new roads (including a long-term, temporary mine access and public bypass route), maintenance facility, onsite housing, oxygen plant, and water management infrastructure; relocating and reusing spent ore and constructing a lined TSF; modifying the stream channel to reduce sedimentation and restore wetland function and fish passage (including temporarily rerouting the EFSFSR through a fish-passable tunnel); planting burned areas; initial mining of one open pit (which will

require closing the Stibnite Road through the mine site); and constructing DRSFs and temporary ore stockpile facilities, crusher, and ore processing facilities.

- **Mining and ore processing (12- to 15-year duration)** includes resuming mining from two historical and one new open pit at an average life-of-mine ore mining and processing rate of approximately 20,000 to 25,000 tons per day, and an average life-of-mine development rock mining rate of 75,000 to 100,000 tons per day.
- **Closure and reclamation (5-year duration)** includes removing structures and facilities, decommissioning temporary roads, recontouring, additional wetland mitigation, reconstructing the Stibnite Road and various stream channels in the Project area, and placing and revegetating growth media.
- **Post-closure and monitoring (5- to 10-year duration)** will include restoration of certain areas impacted by historical exploration, mining and processing activities, as well as to return newly impacted areas to stabilized and productive conditions for the long-term, post-Project protection of wildlife, fisheries, land, and water resources in a sustainable environment. Monitoring is expected to continue for 5 years after the completion of final reclamation. Monitoring programs will meet the requirements of applicable regulatory agencies to establish the effects of Project activities and the efficiency of environmental management and mitigation measures. Monitoring will also provide information regarding project performance and will be used as the basis for designing additional or altering existing mitigation measures, if necessary.

1.3 Adaptive Management and Plan Updates

Midas Gold is developing this EMMP as a functional management and compliance tool for mine management, recognizing that effective management over time will require review and adaptive response, and that environmental variability, unanticipated environmental conditions, and change may occur over the life of the Project. Adaptive management will be an important part of the implementation of some components of the EMMP.

In simple terms, adaptive management is a process of adjusting management actions and/or directions based on new information as it becomes available (NRC 2003, NOAA 2007, Williams et al. 2009). Adaptive management has been applied to a variety of monitoring and management situations and can be especially helpful for larger, multi-year projects that have long-term environmental monitoring requirements. Adaptive monitoring, or adaptive assessment (NRC 2003), is often used in monitoring programs to determine if the program is achieving expected objectives and as a basis for refining the objectives and implementation of future phases of the program.

Figure 1-1 depicts a generalized adaptive management framework for implementing adaptive management within the context of an environmental monitoring and management plan. In this approach, the need for monitoring and adaptive elements is assessed, the monitoring plan is designed with the appropriate measurement metric and performance standards, and the monitoring plan is implemented. Monitoring results are then periodically evaluated, and adjustments are made to address certain outcomes defined by the plan (Figure 1-1). This provides for a feedback loop to the monitoring so that adjustments can modify the monitoring or be reassessed periodically to determine whether the expectations of the management program and associated performance standards need to be updated.

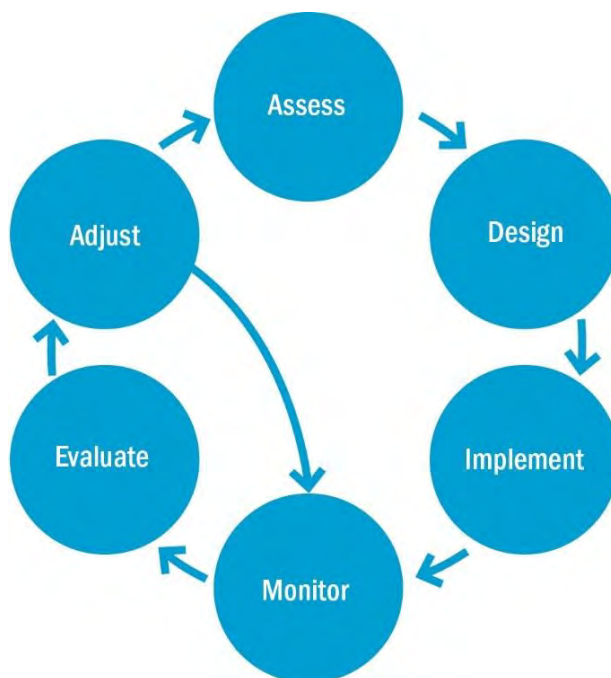


Figure 1-1. Adaptive Management Framework for the Stibnite Gold Project EMMP

The result is continuous cycle of implementing the component monitoring and management plans, evaluating the results, adjusting the plans or management actions based on results, reporting, and documentation of adjustments and results.

As the Project permitting and authorization process continues, and the monitoring plans are more fully developed, the need for adaptive management will be fully considered by Midas Gold. The reasons for using adaptive management are varied and situation specific, as are the planned responses to information gained during monitoring; not all are known at this time in the NEPA and permitting process.

The response framework of adaptive management can be varied and apply differently to different component elements of the EMMP. Not all components of the EMMP will require explicit adaptive management elements. For example, water quality monitoring by Midas Gold will likely require reporting to IDEQ, who will subsequently review the data for compliance and violations and required actions. The terms and conditions of water quality monitoring may in fact include prescriptive responses following the review of monitoring results. This is essentially a form of adaptive management for compliance monitoring that incorporates design, implementation, monitoring, and response if parameters exceed certain thresholds.

Adaptive responses leading to adjustment of environmental management actions can also be built into monitoring and response plans. This is especially true when a desired environmental outcome or effect is predicted or expected based on environmental analysis and monitoring and response is needed to ensure that the outcome is achieved, the management action adjusted, or a different approach taken. A good example of this may be the operation of the EFSFSR Tunnel Fishway. Some elements of the population of the fish potentially using the fishway are not fully understood. Midas Gold is working with federal and local regulatory agencies to identify strategies for meeting fish passage objectives, including the development and implementation of an adaptive management approach to its operation. That plan would rely on monitoring and evaluation to identify if fishway objectives are being met, determining if corrective actions are required, and establishing a timeline

for completion for adaptive management and maintenance actions. If the results of the monitoring program indicate that fish passage in the EFSFSR diversion is not fully achieving the anticipated performance standards, the reasons for failure would be evaluated and corrective actions (including switching to trap and haul) would be evaluated. It is expected that these will be discussed and considered as part of the plan developed during the ESA Section 7 informal consultation process.

There can also be adaptive elements that address the potential for environmental change or response to unexpected events or outcomes.

More details of monitoring and maintenance, performance standards, and adaptive management will be fully addressed at the appropriate time, when the component mitigation, monitoring, and management responses can be more fully outlined, and after the agencies and public have been provided an opportunity to comment on the draft EIS and environmental monitoring and management plans. Midas Gold will continue to consult with federal and local regulatory agencies to identify strategies for meeting mitigation obligations including, where appropriate, the development and implementation of an adaptive management plan for certain elements of the Project.

1.4 Authorizations and Permitting

Numerous permits, licenses, and approvals are needed from federal and state regulatory agencies in order to maintain requirements that Midas Gold subscribes to. Copies of the authorizations and approvals are provided in Appendix A. The EMMP component monitoring and management plans that support the various permits, licenses, and approvals

The component monitoring and management plans are designed to provide the SGP mine operations personnel with an understanding of the pertinent information on objectives, scope, methodologies, schedules, and reporting requirements and implementation plans to achieve those objectives. The relevant guidance documents and best management practices (BMPs) that guide the development and implementation of the programs will be defined within each component plan. Component plans included as appendices in this document are as follows.

- Appendix A: Copies of Authorizations and Permits
- Appendix B: Water Management Plan
- Appendix C: Cyanide Operation and Permanent Closure Plan
- Appendix D: Reclamation and Closure Plan
- Appendix E: Spill Prevention, Control, and Countermeasure Plan
- Appendix F: Ground Control Plan
- Appendix G: Dam Design Approval
- Appendix H: Transportation Risk Management Plan
- Appendix I: Stormwater Pollution Prevention Plan
- Appendix J: Surface Water Quality Monitoring Plan
- Appendix K: Groundwater Quality Monitoring Plan
- Appendix L: Wetlands Monitoring Plan
- Appendix M: Fisheries and Aquatic Habitat Monitoring Plan
- Appendix N: Wildlife Management Plan
- Appendix O: Vegetation Monitoring Plan
- Appendix P: Cultural Resource Management Plan
- Appendix Q: Environmental Legacy Management Plan

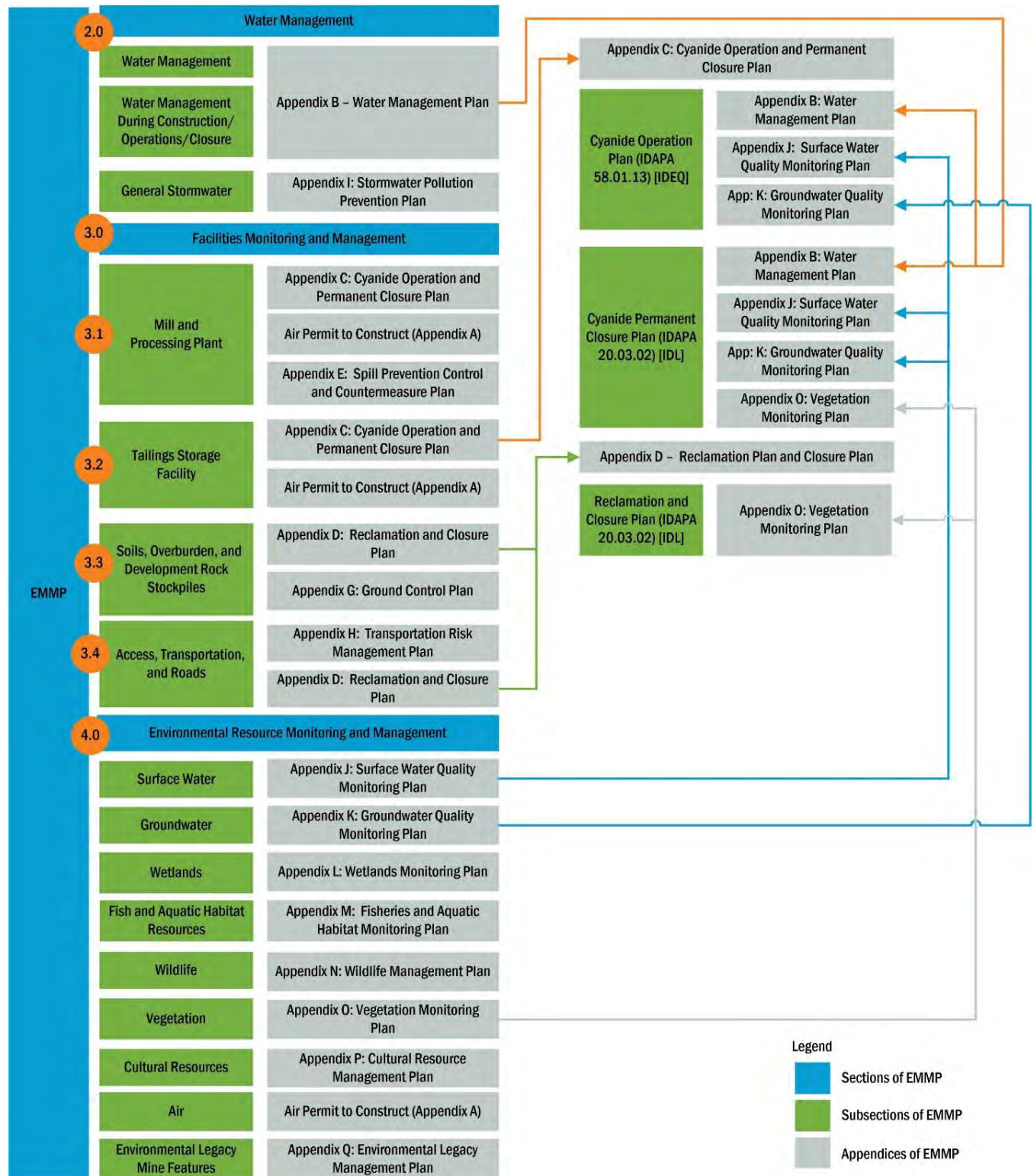


Figure 1-2. Monitoring and Management Program Schematic

1.5 Document Organization

The EMMP document contains three main sections and the component plans as appendices.

- Section 2 provides a framework for water management including a background on the site-wide water balance (SWWB) model, objectives of the water management program, overview of the water management plan, and the regulatory context.
- Section 3 describes the following facilities: 1) mill and processing plant, 2) soils, overburden, and development rock storage facilities, 3) TSF, and 4) access, transportation, and roads. For each facility, the following information is provided:
 - a general description of the facility
 - the objectives of the monitoring and management program that applies the facility
 - the component plans relevant to the facility and that will be used to monitor and manage the facility
 - the regulatory context under which the facility will be constructed, used, and closed
- Section 4 provides the environmental resource monitoring and management plan overviews. The following environmental resources are included in Section 4: surface water, groundwater, wetlands and streams, fish and aquatic resources, wildlife, vegetation, air quality, cultural resources, and environmental legacy mine features. For each environmental resource, the following information is provided:
 - General description of the environmental resource
 - Objectives of the monitoring and management program that applies to the environmental resource
 - The component plans relevant to the environmental resource and associated monitoring and/or management activities
 - Regulations that apply to the environmental resource

Many of the items contained in the EMMP will be carried from year to year during the life of the project, and some items will be identified in the document as projects or obligations that are scheduled for a specific time period. It is important that the documents be routinely updated to reflect changes at the Project site and changes to permits. Revisions are tracked at the beginning of the document and within each Appendix (component plan).

This document is intended to be a resource for all site personnel since all personnel share in the responsibility for site environmental management.

Section 2

Water Management

Water quality and water quantity are of great importance to Midas Gold and water management will be an integral part of the project. Midas Gold will install and maintain water management infrastructure at the Project site with the primary objective of preventing perennial, ephemeral, and intermittent streams, and stormwater from coming into contact with mining facilities and disturbed areas, while also minimizing erosion and sediment generation, promoting fish passage and increasing spawning habitat, and rehabilitating existing areas of previous disturbance. Midas Gold will also capitalize on opportunities during the initial site cleanup, mine development, operations, and closure to restore and enhance wetlands, riparian habitat, and stream channels, and to improve water quality at the Project site. All surface water management features will be designed to convey and contain runoff from an appropriately sized storm event commensurate with the acceptable level of risk and feature lifespan.

The following sections provide an overview of the water management strategy and features, objectives, plan development, and applicable federal and state regulations. Specific details regarding how waters at the Project site will be managed during construction, operations, and closure of the SGP are provided in the Water Management Plan (WMP, Appendix B). Stormwater pollution prevention control measures and best management practices (BMPs) are described in the Stormwater Pollution Prevention Plan (SWPPP, Appendix I). Surface water and groundwater monitoring plans are described in Section 4 and provided in Appendices J and K, respectively.

2.1 General Description

Water management at the SGP will involve several elements, including:

- Diversion of freshwater streams
- Pit dewatering
- Stormwater management
- Process water management
- Potable water supply and sanitary wastewater management

The sections below provide a brief overview of each component. More detail is provided in the WMP (Appendix B).

2.1.1 Stream Diversions

A primary water management objective will be to prevent streams and stormwater from encountering mining facilities by temporarily diverting streams and non-contact stormwater around site features during the life of the mine to “keep clean water clean.” The SGP is located within the upper reaches of the EFSFSR, and several streams flow through the Project area. Impacts to streams will be minimized through installation of temporary stream diversions, water management features, and BMPs designed to reduce erosion and fine sediment delivery to the streams. The streams will either be diverted during mining operations and then restored once operations have ceased or enhanced in place as operations shift within the Project area. Many of these stream diversion channels will also intercept and divert clean stormwater runoff from areas upslope of the mine features. Once mining

operations are completed, the streams will be restored to conditions that are beneficial for fisheries and aquatic life. In addition, certain sections of streams that have been impacted by historical mining activities will be restored or enhanced to improve fish habitat and passage by removing local barriers to fish migration, restoring riparian vegetation, installing habitat improvement features, and reestablishing active floodplains.

2.1.2 Pit Dewatering

Development of the Yellow Pine and Hangar Flats pits will require dewatering the existing Yellow Pine pit lake and the alluvium from portions of the EFSFSR and Meadow Creek valleys ahead of mining to limit groundwater inflow to the pits and maintain stability of the pit slopes. Midas Gold will install a series of dewatering wells in the alluvial material and shallow, fractured bedrock surrounding the pits. Pit dewatering will be initiated during the mine development and construction phase and the wells will be pumped as needed to minimize groundwater inflow to the pits and maintain stable pit walls; additional pumping may occur if needed for process makeup water. Water from the dewatering wells will be used in ore processing or other beneficial site uses (e.g., fire suppression, dust control, underground exploration), sent to the Rapid Infiltration Basins (RIBs), and/or treated, if necessary, to meet applicable National Pollutant Discharge Elimination System (NPDES) permit limits and discharged.

2.1.3 Stormwater

Prior to mining and construction, Midas Gold will install stormwater controls and BMPs to reduce erosion and sediment delivery to local streams from construction activities. These BMPs may include sediment catch basins, runoff collection ditches, silt fencing, straw wattles, water bars, culverts, energy dissipation structures, terraces, and other preventative features installed ahead of construction. These features will be designed in accordance with USFS, IDEQ, and IDL requirements and will become part of the SWPPP. Additional sediment and erosion control measures will be used during operations and may include restoring, reclaiming, and revegetating disturbed areas as soon as practicable; temporarily stabilizing short-term disturbance areas such as road cut and fill slopes and facility construction and staging areas; and planting trees in areas of the site burned by forest fires.

During operations, stormwater at the Project site will be managed to segregate clean stormwater runoff from stormwater that has encountered development rock, tailings, exposed pit walls, the ore processing area, and ore stockpiles. Clean “non-contact” stormwater from undisturbed areas upslope of the mine will be diverted around the mine features and released into the stream system. Similarly, non-contact runoff from the general infrastructure areas, haul roads, laydown yards, parking areas, building sites, and reclamation areas will be captured in runoff collection ditches and conveyed to sediment catch basins where the water can evaporate, infiltrate, or be discharged into the stream system.

Stormwater that has encountered mine facilities such as the TSF, DRSFs, pits, ore stockpiles, and ore processing area is considered contact water and has the potential to introduce increased levels of sediment and other possible contaminants into the ground and surface water. Contact water will include stormwater runoff from the mine features, toe seepage from the DRSFs, and underground exploration water (if these features intersect mineralized zones that introduce unacceptable levels of metals loading). Contact water will be captured and conveyed to lined containment ponds for use, to the extent possible, in the mining and ore processing operations. Contact water that cannot be used may be treated, if necessary, to meet applicable NPDES permit limits and discharged, or disposed of through forced evaporation. Stormwater runoff in the open pit bottoms will be contained within the

pit and used for dust suppression, transferred to contact water storage ponds, or allowed to evaporate.

2.1.4 Potable Water and Sanitary Wastewater

Potable water will be needed for human consumption and sanitary use at the Project site. The water will be sourced from an existing well near the current exploration housing facility and supply potable water to the mine office and other facilities at the ore processing facility, maintenance (truck shop), and surface support facilities for underground exploration. A separate wellfield will be developed adjacent to the Worker Housing Facility to provide potable water for that facility. All potable water will be filtered and chlorinated to make it suitable for cleaning, cooking, showering, and drinking.

Sanitary wastewater generated at the mill, administration buildings, and truck shop will be collected in vaults and transported to the Worker Housing Facility for processing through the Worker Housing Facility wastewater treatment plant, which would use a membrane bioreactor system. Midas Gold has successfully permitted the use of this type of system for use at its exploration housing facility at Stibnite and anticipates its use in support of the SGP.

2.1.5 Process Water

Process water is defined by Idaho Administrative Procedures Act (IDAPA) 58.01.13.007.24 as “Any liquids which are intentionally or unintentionally introduced into any portion of the cyanidation process. These liquids may contain cyanide or other minerals, meteoric water, ground or surface water, elements and compounds added to the process solutions for leaching or the general beneficiation of ore, or hazardous materials that result from the combination of these materials.” The cyanidation process or facility includes “The portion of a new ore processing facility, or a material modification or a material expansion of that portion of an existing ore processing facility, that utilizes cyanidation and is intended to contain, treat, or dispose of cyanide containing materials including spent ore, tailings and process water.” Based on these definitions, process water at the SGP will include any water used for ore processing, including the tailings slurry, and also includes precipitation that falls on the TSF.

The ore processing facility and TSF will be operated as a closed-circuit operation (i.e., the process water will be recycled within the facilities and not discharged into the environment). The process water will be mixed with the tailings to create a slurry that will be piped from the ore processing facility to the TSF where the tailings solids will separate from the slurry and settle. Some process water will naturally evaporate or remain as residual water entrained in the tailings and the rest will combine with meteoric water falling on the TSF to form a supernatant pond on the TSF surface. Reclaimed water would be pumped from the supernatant pond and returned to the ore processing facility to minimize the need for makeup water. Any additional fresh water needed for the ore processing facility will be supplied from the pit dewatering wells.

As the mine approaches the end of its operating life and ore processing is nearly complete, Midas Gold will gradually eliminate excess water within the TSF supernatant pond through use in the ore processing and by forced evaporation so that minimal water remains when the final tailings are pumped into the TSF. Upon conclusion of ore processing operations, any remaining water in the supernatant pond will be removed via enhanced evaporation using mechanical evaporators as part of final closure activities. If enhanced evaporation efforts do not adequately reduce the pond volume, the water will be treated, if necessary, to meet applicable NPDES permit limits and discharged. Treated water that is compliant with discharge limits would be directed to the EFSFSR as a surface discharge and/or to alluvial groundwater via RIBs.

2.2 Objectives

The main objective of the water management program is to protect water resources and provide procedures and guidance for Midas Gold to follow in managing all types of water at the Project site during construction, operations, and closure. Specific water management program objectives include the following:

- Identify and characterize the various water streams potentially affecting water quality during construction, operations, and closure
- Temporarily divert freshwater streams and non-contact stormwater around mine site features to prevent contact and protect water quality and downstream aquatic habitat
- Route surficial groundwater expressions (i.e., seeps and springs) under the mine facilities (e.g., TSF and DRSFs) in underdrains to prevent contact and limit the amount of water requiring treatment during construction, operations, and closure
- Minimize erosion and sediment transport in stormwater runoff that may impact waters of the United States
- Avoid any unauthorized discharges of contact stormwater runoff to waters of the United States
- Achieve pit dewatering requirements
- Supply an adequate quantity and quality of makeup water to the plant during commissioning, startup, and operations
- Protect mining operations and facilities from flooding and erosion
- Maintain stream baseflows to protect instream habitat and biota and downstream water rights
- Manage and treat wastewater effluent and contact water to ensure compliance with NPDES/Idaho Pollutant Discharge Elimination System (IPDES) requirements
- Restore the Project site to a self-sustaining natural ecosystem with enhanced habitat for natural fish and wildlife populations and improved water quality

2.3 Plan Development

The water management program is described in the WMP and SWPPP. Both plans work together with the surface water and groundwater monitoring plans (Appendices J and K, respectively) described in Section 4. The WMP (Appendix B) summarizes the results of the SWWB model and describes the strategies and procedures that will be used to manage water at the Project site and to protect waters of the United States. The plan describes how water will be managed at the Project site during construction, operations, and closure activities. The plan also describes the temporary diversion, restoration, and enhancement of several existing streams that flow through the Project site. The plan is a requirement component of the various permit applications and project plans, and is intended to work in conjunction with those documents to meet the necessary regulatory requirements. Specific elements of the WMP include the following:

- Pit dewatering
- Stream diversions
- Stormwater management
- Contact water management
- Process water management
- Offsite facility water management
- Potable water supply

- Sanitary wastewater
- Snow management
- Post-closure water management

The SWPPP (Appendix I) complies with EPA and Idaho stormwater regulations and focuses on stormwater runoff and discharges at the Project site during construction and operations. As required by the EPA's Multi-Sector General Permit (MSGP) Part 5.2, the SWPPP contains the following elements:

- Stormwater pollution prevention team
- Site description (including site maps)
- Summary of potential pollutant sources
- Description of control measures and stormwater BMPs
- Schedules and procedures for maintenance, inspections, and monitoring
- Documentation to support eligibility considerations for Endangered Species Act (ESA) and National Historic Preservation Act (NHPA) compliance

2.4 Regulatory Context

Both federal and state regulations apply to water management at the Project site. Stormwater discharges from this facility are authorized under the MSGP as identified in 40 CFR 122.26(b)(14). Midas Gold is currently operating under the MSGP with an active Notice of Intent and SWPPP, which will be updated to reflect current activities at the SGP as they are conducted. Additionally, Midas Gold will comply with monitoring, inspection, and annual reporting requirements for the duration of the Project and until a Notice of Termination is submitted to EPA following reclamation and closure. Additional state regulations under IDAPA apply to process water management and design of the TSF embankment and water management features. Applicable rules promulgated by EPA, IDEQ, IDL, and IDWR are described below.

2.4.1 Federal Regulations

Federal regulations applicable to the water management include the following:

CWA (EPA). The CWA establishes the basic structure for regulating all discharges of pollutants into waters of the United States and regulates water quality standards for surface waters. If an operated facility could result in discharge(s) to navigable waters of the United States, CWA Section 401 requires the operator to obtain a certification from the state stating that the discharge will comply with provisions of the CWA. CWA Section 402 makes it unlawful to discharge any pollutant from a point source into navigable water unless a permit is obtained. The NPDES permit program was developed to control the discharges. In July 2018, permit authority transferred from EPA to Idaho. Industrial permits are scheduled to be issued by Idaho starting July 1, 2019; therefore, all discharges at the SGP are anticipated to be regulated under the new IPDES program.

40 CFR 122—EPA Administered Permit Programs—The National Pollutant Discharge Elimination System. This regulation identifies coverage applicability, scope, and provision for all NPDES permits including the most recent version of the NPDES general permit for stormwater discharges from industrial activity, most commonly referred to as the MSGP, which was issued in 2015 and recorded in Federal Register 34403. The program is promulgated under the CWA.

The MSGP also includes specific requirements for demonstrating protection of endangered and threatened species and critical habitat in compliance with the ESA and historic properties preservation in accordance with the NHPA.

2.4.2 State Regulations

Idaho state regulations applicable to the water management include the following:

Idaho Administrative Procedures Act (IDAPA) 58.01.02—Water Quality Standards (IDEQ). IDEQ is responsible for adopting and enforcing water quality standards, provided in this rule, that protect beneficial uses and meet the requirements of the CWA. Beneficial uses of water bodies in the state are designated by IDEQ, and water quality standards are defined for each use.

IDAPA 58.01.11—Groundwater Quality Rule (IDEQ). IDEQ is responsible for developing and enforcing groundwater quality standards in the state. Section 401 of the Ground Water Quality Rule allows for degradation of groundwater quality beneath a mine as long as IDEQ has issued a point of compliance (POC) determination. While contaminant concentrations in groundwater within the mine area may be above groundwater standards, the POC determination sets the location(s) at which groundwater quality must meet concentrations specified in the determination.

IDAPA 58.01.13—Rules for Ore Processing by Cyanidation (IDEQ). IDEQ requires that a permit be obtained for the use of cyanide in ore processing facilities. The permit requires that a water management plan be prepared that provides for handling and containing process water including the methods to manage and/or treat all process water and pollutants; all runoff and runoff water; emergency releases; and excess water due to flood, rain, snowmelt, or other similar events (IDAPA 58-10.13.03. s. ii). The permit also establishes a demonstration of sufficient design capacities for the TSF reclaim and slurry pipelines and process water containment vessels. The permit requires submittal of a water quality monitoring plan, discussed below in Section 4.

IDAPA 58.01.25—Rules Regulating the IPDES (IDEQ). Industrial, municipal, and other point sources of pollution that discharge wastewater directly to surface waters are required to obtain an IPDES permit. IPDES permits establish site-specific water quality standards for point sources that may discharge into surface waters.

IDAPA 37.03.05—Mines Tailings Impoundment Structure Rules (IDWR). Establishes sizing and design requirements for the TSF water management features.

IDAPA 37.03.06—Safety of Dams Rules (IDWR). Establishes sizing and design requirements for the TSF embankment.

IDAPA 37.03.07—Stream Channel Alteration Rules (IDWR). Establishes sizing and design requirements for the stream diversions.

IDAPA 20.03.02—Rules Governing Exploration, Surface Mining, and Closure of Cyanidation Facilities (IDL). One of the requirements for permanent closure of a cyanidation facility is to provide a water management plan for the time that the cyanidation facility is in permanent closure through the defined post-closure plan. The rule references IDAPA 58.01.13 (described above) for the requirements of the water management plan. The rule also establishes design flows and sizing requirements for the haul road culverts, best management practices (BMPs) and reclamation measures for nonpoint sources and sediment control (e.g., settling ponds minimum criteria), and decommissioning of the TSF.

Section 3

Facilities Monitoring and Management

Several facilities will be located at the SGP; major facilities will include the Mill and Processing Plant, TSF, DRSFs, and roads. Each major facility will be monitored and managed in accordance with applicable regulations to protect human health and the environment. The focus of this section will include the primary permits and approvals required for construction and operation of the Mill and Processing Plant, TSF, and DRSFs and their respective required component plans.

For each major facility in this section, the following information is provided: a general description of the facility, the primary permit or approval that applies to the facility, the component plans relevant to the permit and approval that will be used to monitor and manage each respective facility, and the regulatory context under which each facility will be constructed, used, and closed.

3.1 Mill and Processing Plant

The processes and chemicals used in the Mill and Processing Plant are summarized below. The objectives of the monitoring and management program designed to protect human health and the environment and the regulatory context under which the Mill and Processing Plant will operate are also provided.

3.1.1 General Description

Ore processing for the SGP will occur at the Mill and Processing Plant. Ore processing involves the separation of gold, silver, and antimony from its host rock through physical reduction of rock fragments followed by chemical processing and thermal oxidation to separate metal-bearing minerals from surrounding rock. The Mill and Processing Plant will consist of several buildings and equipment used to process ore including an electrical substation, crushers, grinding and flotation circuits, pressure oxidation circuit, leach circuit, electrowinning and gold refining, and a neutralization circuit. It will also consist of ore stockpiles, administrative buildings, and a warehouse. The processes and chemicals used include the following:

- Run-of-mine ore stockpiling, crushing, and grinding (with lime as necessary to control alkalinity)
- Antimony flotation, dewatering, and concentrating using sodium cyanide and lime
- Gold and silver flotation using soda ash and xanthates
- Oxidation and neutralization of gold/silver concentrate using oxygen, lime, and caustic soda
- Gold and silver leaching and carbon adsorption using sodium cyanide, lime, and granular activated carbon
- Carbon stripping and regeneration using acid and water then hot alkaline caustic strippers
- Gold and silver recovery using flux
- Tailings neutralization with sulfur dioxide, air, and a soluble copper catalyst to oxidize the cyanide and reduce its toxicity prior to placing in the TSF

3.1.2 Required Permits and Plans

Due to the use of cyanide for ore processing, the Mill and Processing Plant requires a Cyanidation Permit. The Cyanidation Permit requires submittal of the following plans:

- Cyanide Operation and Maintenance Plan
- Water Management Plan (Section 2)
- Water Quality Monitoring Plan (Sections 4.1 and 4.2)
- Emergency and Spill Response Plan
- Seasonal and Temporary Closure Plan
- Permanent Closure Plan
- Wildlife Protection Plan (Section 4.5)

The Mill and Processing Plant will also be subject to other permits and requirements discussed elsewhere in this document including:

- Air Permit to Construct (Section 4.7)
- Spill Prevention, Control, and Countermeasures Plan (SPCC) (Appendix E)

The Cyanide Operation and Maintenance Plan, Seasonal and Temporary Closure, and Permanent Closure plan are discussed below. Please see sections referenced above for water management, water quality monitoring, air permitting, and stormwater pollution prevention.

3.1.3 Plan Development

Cyanide Operations and Maintenance Plan. This plan describes procedures and methods to be implemented during operation of the Mill and Processing Plant and includes the following:

- An overall plan with techniques for evaluating the integrity and performance of all primary and secondary containment systems
- Schedule for inspections and containment systems
- Schedule for inspections of piping and conveyance systems that carry process water
- Response plans for specific actions that will result in mitigation of compromised or damaged containment

Permanent Closure Plan. This plan provides a description of the procedures, methods, and schedule that will be implemented in treating and disposing of cyanide-containing materials for final reclamation. The Permanent Closure Plan requires the following plans:

- Water management during closure and post-closure
- Water quality monitoring for surface water and groundwater during closure and post-closure

Seasonal and Temporary Closure Plan. This plan provides a description of the procedures, methods, and schedule that will be implemented for the treatment and disposal of process water and pollutants, the control of drainage from the cyanidation facility, and secure storage of chemicals during the period of seasonal or temporary closure.

Emergency and Spill Response Plan. This plan describes procedures and methods to be implemented for the abatement and clean up of any pollutant that may be discharged from the cyanidation facility during use, handling or disposal of processing chemical, petrochemicals and/or fuels, and any other deleterious materials.

3.1.4 Regulatory Context

International guidance has been developed for the use of cyanide and is described under federal regulations; however, state rules are more stringent and will be followed. The applicable IDEQ and IDL rules that govern development, operation, and closure of the Mill and Processing Plant are described below.

3.1.4.1 International Guidance

Federal guidance applicable to the use of cyanide at the SGP include the following:

Cyanide Code. The International Cyanide Management Code for the Manufacture, Transport, and Use of Cyanide in the Production of Gold (Cyanide Code) is a voluntary program set up to assist the global gold mining industry and those that produce, transport, and use cyanide for gold mining in improving cyanide management practices (<https://www.cyanidecode.org/>). It was developed to reduce the exposure of workers and communities to harmful concentrations of cyanide and limit releases of cyanide to the environment. In the United States, cyanide regulations are promulgated by the states, which generally have more stringent rules and guidelines for the use of cyanide than are present in the Cyanide Code.

3.1.4.2 State Regulations

Idaho State regulations applicable to the use of cyanide at the SGP include the following:

IDAPA 58.01.13—Rules for Ore Processing by Cyanidation (IDEQ). The IDEQ requires that a permit be obtained for the use of cyanide in ore processing facilities. The permit requires that facility layout and design, ore processing information, water management systems, containment systems, TSF design, water balance documentation, and all monitoring programs be approved prior to construction.

IDAPA 20.03.02—Rules Governing Exploration, Surface Mining, and Closure of Cyanidation Facilities (IDL). This section of IDAPA provides the authority for enforcing the regulation and deals with application procedures and requirements for surface mining operations, reclamation plan amendments, permanent closure completion, and performance bonding requirements for surface mining and cyanidation facilities.

3.2 Tailings Storage Facility

This section provides a general description of the TSF, objectives of the monitoring and management program, and the regulatory context under which the TSF will be constructed, used, and closed.

3.2.1 General Description

Tailings are the finely ground rock materials that remain after desired economically recoverable minerals are removed from the ore. The neutralized tailings will be conveyed from the Mill and Processing Plant to an engineered TSF via a double-contained slurry line. Prior to hydraulically transporting tailings to the TSF, the tailings slurry will be thickened to reduce the amount of water sent to the TSF, producing a viscous material that will result in denser, stronger, faster tailings consolidation.

The TSF will include an embankment composed of development rock and historical spent ore, and successive raises will be constructed using the downstream method. Tailings deposition/storage will occur within a fully lined impoundment, surrounded by surface water diversion features and underlain by an underdrain network. The Hangar Flats DRSF will function as a buttress downstream of the dam, overlapping the TSF embankment and providing significant additional geotechnical

stability over and above that provided by the embankment. The compacted rockfill embankment will be constructed in stages as mining progresses, which minimizes the initial disturbance and allows for operational flexibility and adaptive management.

Midas Gold will reclaim water from the supernatant pond that forms on the TSF surface as the tailings consolidate. The reclaimed water will be pumped back to the ore processing facility for reuse. The TSF will be designed and operated as a “closed circuit” (zero discharge) facility. If excess water accumulates in the TSF, the inventory will be managed through an enhanced evaporation system or discharged following treatment under an IPDES permit.

3.2.2 Required Permits and Plans

The TSF will be composed of neutralized tailings that have come in contact with cyanide at the Mill and Processing Plant. Due to this contact, the TSF is considered part of the cyanidation facility and is required to have a Cyanidation Permit. The Cyanidation Permit and associated component plans are discussed in Section 3.1.

The TSF will require construction of a Mine Tailings Impoundment Structure (Tailings Dam). Construction of a tailings dam requires approval from the IDWR through submittal of an application for construction or enlargement of a new or existing dam. The approval process requires submittal of the following plans:

- Tailings Dam Operation Plan
- Abandonment Plan
- Emergency Procedure Plan

The TSF will also be subject to permits and requirements discussed elsewhere in this document including:

- Air Permit to Construct (Section 4.7)

The Tailings Dam Operation Plan, Abandonment Plan, and Emergency Procedure Plan are discussed below.

3.2.3 Plan Development

Tailings Dam Operation Plan. This plan will assure the project is safely managed for its intended purpose and provides operating rule curves or specific limits and procedures for controlling inflow and storage.

Abandonment Plan. This plan provides a safe, stable, maintenance-free condition at any time tailings are not being actively placed for an extended period of time.

Emergency Procedure Plan. This plan provides procedures for protection of life and property.

3.2.4 Regulatory Context

The state of Idaho is the primary lead on constructing, operating, and closing the TSF through the IDEQ, IDL, and IDWR rules.

3.2.4.1 State Regulations

Idaho state regulations applicable to the TSF include the following:

IDAPA 58.01.13—Rules for Ore Processing by Cyanidation (IDEQ). The IDEQ requires that a permit be obtained for the use of cyanide in ore processing facilities. The permit requires that facility layout, ore processing information, water management systems, containment systems, TSF design, water balance documentation, and all monitoring programs be approved prior to construction.

IDAPA 20.03.02—Rules Governing Exploration, Surface Mining, and Closure of Cyanidation Facilities (IDL). This section of IDAPA deals with application procedures and requirements for surface mining operations, reclamation plan amendments, permanent closure completion, and performance bonding requirements for surface mining and cyanidation facilities.

IDAPA 37.03.05—Mine Tailings Impoundment Structures Rules (IDWR). This regulation is applicable to mine tailings structures greater than or equal to thirty (30) feet in height and provides design and construction requirements. Mine tailings impoundment structures are regulated in the same manner as water storage projects, with an additional provision that a surety bond be secured by the owner payable to IDWR for reclamation of the project works. The rules include required plans and submittals.

IDAPA 37.03.06—Safety of Dams Rules (IDWR). This regulation provides design and construction requirements for hydraulic structures greater than or equal to ten feet in height and reservoirs that impound a volume of water greater than or equal to fifty acre-feet. The rules include dam sizing classification, risk category, inspection requirements, required plans and submittals.

3.3 Soils, Overburden, and Development Rock Stockpiles

Materials handling and management objectives, and regulatory considerations are described below. Specific procedures for reclamation and closure are provided in the Reclamation and Closure Plan provided in Appendix D. Procedures for controlling ground failures are provided in the Ground Control Plan (Appendix F).

3.3.1 General Description

All available soils will be salvaged and stockpiled as growth media for future reclamation. Overburden will be segregated from ore during mining, and materials not transported to the Mill and Processing Plant facility for minerals recovery will be placed in DRSFs. Control procedures will also be implemented to protect worker safety and the environment. General descriptions of these activities are provided below.

Soils. There is limited growth media at the Project site because of past disturbance and the limited nature of local soils (Tetra Tech 2017). Where there are isolated pockets of suitable growth media within the area proposed for operations, such material will be stockpiled for use in future reclamation.

Overburden segregation and handling. Segregation of overburden from ore to use for development rock will be conducted during mining based on geologic descriptions, properties, visual observations, and geochemistry. Geochemical properties of development rock were established during baseline testing, and additional test work will continue during mine operations as needed to support adaptive management for material use and placement. The continued testing and adaptive management strategy will provide data to support proper storage locations for neutral metal leaching rock or in the event potentially acid generating (PAG) development rock is encountered during mining operations. However, no PAG material is anticipated based on results of the geochemical analysis performed to date. The Yellow Pine DRSF and TSF embankment are likely facilities where PAG storage cells could be used in the event such materials are encountered.

Development rock placement. Development rock will be stockpiled in DRSFs near active mining operations. Where practical, a portion of the development rock will be reused during restoration activities. For example, a large volume of development rock will be used to reconstruct the valley currently occupied by the Yellow Pine pit and restore the EFSFSR to its estimated pre-mining course.

In addition, development rock will provide material for the construction of the TSF embankment and the substantial downstream buttress that will ensure its long-term stability.

DRSF locations include the West End DRSF in West Valley near the West End pit, Fiddle DRSF in the Fiddle Creek Valley near the Yellow Pine pit, and Hangar Flats DRSF and TSF buttress near the Hangar Flats pit in the Meadow Creek Valley. Stormwater and streams in the vicinity of the various DRSF areas will be diverted around the facilities; similarly, water from seeps and springs below the DRSFs will be intercepted through the construction of French drains, or similar, to inhibit contact between water and the development rock to minimize sediment and metals entering the water. Water that contacts development rock will be directed to geomembrane-lined ponds, and the water will be pumped for reuse in the ore processing facility or treated to appropriate discharge standards and discharged, if necessary.

Ground control. The main purpose of ground control in a mining context is to ensure that all cut and fill slopes, embankments, stockpiles, and excavations made through rock and soil are kept safe and stable at all times. This practice can also sometimes be referred to by miners as slope management or strata control.

3.3.2 Objectives

The following list includes objectives for managing soil and development rock:

- Maximize growth media salvage for use in reclamation activities
- Minimize disturbance by consolidating development rock in engineered DRSFs where seepage can be monitored
- Minimize adverse impacts to the environment following development rock placement in DRSFs
- Provide adequate materials to reclaim the Project site during closure activities

The following list includes objectives for the ground control management program:

- Reduce the risk of short- and long-term uncontrolled ground failure
- Contribute to the development and maintenance of a safe working environment
- Contribute to efficient ore reserves extraction

3.3.3 Plan Development

Procedures for managing soil are provided in the Reclamation and Closure Plan. Procedures for controlling ground failures are provided in the Ground Control Plan (Appendix F).

3.3.4 Regulatory Context

Both federal and state regulations apply to water quality associated with seepage from the DRSFs. Applicable rules promulgated by EPA and IDEQ are described below.

3.3.4.1 Federal Regulations

Federal regulations applicable to water quality associated with seepage from the DRSFs include the following:

CWA (EPA). The CWA establishes the basic structure for regulating all discharges of pollutants into waters of the United States and regulates water quality standards for surface waters. The CWA requires that drainage and seepage from reclaimed soil covered areas and the DRSFs needs to be collected, tested, and treated if necessary prior to discharging to the local environment.

CWA §401—Idaho Certification (IDEQ). If an operated facility could result in discharge(s) to navigable waters of the United States, CWA §401 requires the operator to obtain a certification from the state

stating that the discharge will comply with CWA provisions. There may be provisions in the 401-certification received from IDEQ that relate to monitoring components of water quality standards that have to be met during operations and reclamation. Water quality sampling locations and methodologies are provided in the Surface Water Quality Monitoring Plan (Appendix J).

CWA §402—NPDES (EPA). CWA §402 makes it unlawful to discharge any pollutant from a point source into navigable water unless a permit is obtained. The NPDES permit program was developed to control the discharges. In July 2018, permit authority transferred from EPA to Idaho. Industrial permits are scheduled to be issued by Idaho starting July 1, 2019; therefore, all discharges at the SGP are anticipated to be regulated under the new IPDES program.

3.3.4.2 State Regulations

Idaho state regulations applicable to water quality associated with seepage from the DRSFs include the following:

IDAPA 58.01.02—Water Quality Standards (IDEQ). IDEQ is responsible for adopting and enforcing water quality standards that protect beneficial uses and meet the requirements of the CWA. IDEQ water quality standards are provided in IDAPA 58.01.02.

IDAPA 58.01.25—Rules Regulating the IPDES (IDEQ). Seepage discharge from DRSFs must be managed under an IPDES permit. This permit will set discharge limits on seepage water entering waters of the United States.

3.4 Access, Transportation, and Roads

This section provides a description of the roads on the Project site, objectives of road management and maintenance, an overview of the Transportation Risk Management Plan (Appendix H) and regulations that pertain to the roads.

The Project will require logistical and materials handling support for the efficient, safe, and economical operation of the mine and will create traffic to the Project site from buses, vans, and other light vehicles carrying employees and contractors; trucks transporting materials and supplies; and individual vehicles conveying vendors, government personnel, and visitors to the Project site. Maintenance of haul roads and smaller facility access roads is important for safety and the protection of the environment.

3.4.1 General Description

The current primary summer access to the Project from the south is from Cascade, Idaho, and State Highway 55 using the following routes:

- Cascade to Landmark: two-lane, paved Warm Lake Road, identified as Valley County 10-579 (35.6 miles)
- Landmark to Yellow Pine: single-lane, unpaved “Johnson Creek” county road, identified as Valley County 10-413 (25.3 miles)
- Yellow Pine to Stibnite: single-lane, unpaved “Stibnite” county road, identified as Forest Service 50-412 Road (14 miles)

From the north, the Project can also be accessed by Lick Creek Road and East Fork Road from McCall. Long-term access for mine equipment and supplies will be via the upgraded and extended Forest Service Road NF-447 (known as the Burntlog Road) and upgraded portions of Forest Service Road 375 (known as the Thunder Mountain Road). Helicopter transportation may also be used for equipment delivery.

Public access to the existing Thunder Mountain Road (Forest Service Road 375) will be provided via the Burntlog and Trapper Flats Road routes. Midas Gold proposes that Stibnite Road (Forest Service Road 412) will be closed from near the confluence of Sugar Creek and EFSFSR to the area southeast of the worker housing facility, once the upgrades to the Burntlog and Trapper Flats Roads are completed.

The Stibnite Gold Logistics Facility will be located on Warm Lake Road to coordinate transportation to the Project site, and a maintenance facility, referred to as the Landmark Maintenance Facility, will be located on Burntlog Road.

Haul roads will be constructed to transport ore, development rock, and reclamation materials from mining or storage areas for ongoing use in restoration activities to the ore processing plant or DRSFs or to transport vehicles to the mobile equipment maintenance shop. The majority of personnel employed at the Project site will primarily use haul roads for access to the reclamation and construction areas, pits, DRSFs, tailings area, ore processing facility, and maintenance areas. Midas Gold will also construct and maintain internal service and access roads and trail systems, designed specifically for smaller vehicles and foot traffic, to facilitate access to certain sites and facilities for safety and maintenance. These sites include the Stibnite Lodge, water quality monitoring sites, well sites, radio communications tower, perimeter of the TSF, and various other monitoring sites.

3.4.2 Objectives

The objectives of the transportation management program are listed below.

- Provide procedures for safely transporting people to and from the Project site
- Provide safe traffic patterns via traffic control signage and instruction for site workers
- Provide maintenance requirements for safe, year-round use of access roads, haul roads, and smaller facility access roads
- Provide procedures for safely transporting operational materials, supplies, and chemical reagents to the Project site including hazardous materials
- Provide procedures and protocols for material spill response and cleanup
- Provide reference to procedures and protocols to reduce fugitive dust and sediment runoff from roadways
- Provide reference to procedures and protocols for road decommissioning and reclamation

3.4.3 Plan Development

Road maintenance and procedures for safely transporting people and materials to the mine are provided in the Transportation Risk Management Plan (Appendix H). In addition, the plan references procedures and protocols for reducing fugitive dust and sediment transport during access to the mine. Methods for closure and reclamation of applicable roads will be outlined in the Reclamation and Closure Plan (Appendix D).

3.4.4 Regulatory Context

Road safety at the mine site primary falls under Mine Safety and Health Administration rules. Air quality regulations are addressed in Section 4.7.

3.4.4.1 Federal Regulations

Federal regulations applicable to the access, transportation, and roads at the SGP include the following:

53 Federal Register 32520 Subpart H§56.91 Mine Safety and Health Administration Traffic Safety. This regulation has traffic control requirements for mine sites to provide for safe vehicle movement.

3.4.4.2 State and Local Regulations

Midas Gold will coordinate with the USFS and Valley County Road and Bridge Department regarding the road upgrades and extension, which will include an agreement for such matters as routine road maintenance, dust control, and snow removal to provide safe and efficient year-round access to the Project. State regulations applicable to access, transportation, and roads at the SGP include the following:

IDAPA 58.01.05 Rules & Standards for Hazardous Waste. The Rules & Standards for Hazardous Waste outlines regulations that businesses and other facilities must comply with regarding hazardous waste. The rule provides requirements for hazardous waste identification, generators, transporters, owners and operators, disposal, permits, decision making, and inspection frequencies. Idaho has state primacy over hazardous waste and, with only a few exceptions, incorporates Resource Conservation and Recovery Act (RCRA) by reference.

Section 4

Environmental Resource Monitoring and Management

Environmental resource monitoring and management is the set of actions used to comply with applicable environmental rules and regulations, ensure that undue or reasonably avoidable adverse impacts to environmental resources through the construction, operation, closure and post-closure of the mine are prevented, and that positive benefits of the projects are achieved. Environmental management, based on monitoring, allows proactive assessment of needed changes to respective monitoring plans and activities to meet thresholds.

Monitoring plans define the activities needed to measure the implementation of agreed-upon activities and the reporting of results to applicable regulatory agencies. Review of monitoring results allows the evaluation of success in achieving compliance with agreed-upon values or thresholds and allows the need for management action and their effectiveness to be assessed.

Monitoring and management plans (as appropriate) have been developed for the different environmental resources that could potentially be impacted by the mine. For each environmental resource addressed, a general description of the setting and current condition is provided along with data quality objectives and the regulations pertinent to the respective plans.

The following environmental resources are included in Section 4: surface water (natural features), groundwater, wetlands and streams, fish and aquatic resources, wildlife, vegetation, air, cultural resources, and environmental legacy mine features. For each environmental resource, the following information is provided:

- General description of the environmental resource
- Objectives of the monitoring and management program that applies to the environmental resource
- The component plans relevant to the environmental resource and associated monitoring and/or management activities. Components of each plan are summarized below; the plans are provided as appendices.
- Regulations that apply to the environmental resource

4.1 Surface Water (Natural Features)

A description of natural surface water bodies at the SGP (excludes contact water and stormwater – See Section 2), objectives of the monitoring program, the regulatory context under which surface water will be monitored, and components of the monitoring plan are described in the following sections.

4.1.1 General Description

Natural surface water features in the Project area include the EFSFSR and its tributaries, intermittent drainages, seeps and springs, and wetlands. The EFSFSR, its tributaries, and selected seeps and springs have been the focus of surface water baseline studies (HydroGeo 2012; HDR 2017a) and will be the focus of ongoing monitoring activities. Wetlands are addressed in Section 4.3.

The EFSFSR originates southeast of the SGP area, flows from south to north, then turns more westerly farther downstream of the SGP. All drainages in the area are tributary to the EFSFSR. The tributaries include Meadow Creek, East Fork Meadow Creek, Rabbit Creek, Garnet Creek, Fiddle Creek, Midnight Creek, Hennessy Creek, West End Creek, and Sugar Creek. The sizes of each creek's drainage area are included in Table 4-1 to provide a general comparison of the different watershed and stream sizes.

Sub-Watershed	Drainage	Approximate Drainage Area (square miles)
Headwaters EFSFSR	EFSFSR (upstream of Sugar Creek)	25.0
	Meadow Creek	7.7
	East Fork Meadow Creek	2.4
	Rabbit Creek	0.6
	Garnet Creek	0.5
	Fiddle Creek	2.0
	Midnight Creek	0.9
	Hennessy Creek	0.7
Sugar Creek	West End Creek	0.6
	Sugar Creek	17.4

Source: HydroGeo, Inc., 2012; HDR 2017a.

4.1.2 Objectives

The specific objectives of the surface water monitoring program are listed below.

- Define surface water quality sample collection procedures, sampling location and frequency, laboratory analysis, and reporting requirements.
- Comply with IPDES permit requirements for discharges to surface water.
- Document water quality near mine facilities to assist in identifying potential mining-related impacts.
- Provide a basis for the timely planning and implementation of mitigation measures, if required.
- Obtain accurate and defensible data by following a Project-specific quality assurance project plan and standard operating procedures.
- Provide accurate and complete reporting of potential mining-related impacts to appropriate regulatory agencies.

4.1.3 Plan Development

The Surface Water Quality Monitoring Plan is provided in Appendix J and includes monitoring locations and data quality objectives, types of water bodies, monitoring protocols, analyte list, and monitoring and reporting schedule. Surface water monitoring associated with reclamation, operations, closure, and post-closure are outlined in the plan but are subject to change based on changing conditions.

4.1.4 Regulatory Context

Surface water quality is regulated under both federal and state requirements. The applicable rules are described below.

4.1.4.1 Federal Regulations

The CWA establishes the basic structure for regulating all discharges of pollutants into waters of the United States and regulates water quality standards for surface waters.

CWA §401—Idaho Certification (IDEQ). If an operated facility could result in discharge(s) to navigable waters of the U.S., CWA §401 requires the operator to obtain a certification from the state stating that the discharge will comply with provisions of the CWA.

CWA §402—NPDES (EPA). CWA §402 makes it unlawful to discharge any pollutant from a point source into navigable water unless a permit is obtained. The NPDES permit program was developed to control the discharges. In July 2018, permit authority transferred from EPA to Idaho. Industrial permits are scheduled to be issued by Idaho starting July 1, 2018; therefore, all discharges at the SGP are anticipated to be regulated under the new IPDES program.

4.1.4.2 State Regulations

Idaho state regulations applicable to the surface water quality at the SGP include the following:

IDAPA 58.01.02—Water Quality Standards (IDEQ). IDEQ is responsible for adopting and enforcing water quality standards, which are provided in this rule, that protect beneficial uses and meet the requirements of the CWA. Beneficial uses of water bodies in the state are designated by IDEQ, and water quality standards are defined for each use. If the water quality of a water body does not meet the criteria necessary to support the designated beneficial use, the water body is considered impaired for the constituent that does not meet criteria.

IDAPA 58.01.25—Rules Regulating the IPDES (IDEQ). Industrial, municipal, and other point sources of pollution discharging wastewater directly to surface waters are required to obtain an IPDES permit. IPDES permits limit the amount of pollution point sources may discharge into surface waters.

4.2 Groundwater

A general description of groundwater presence and flow, objectives of the groundwater monitoring program, the regulatory context under which groundwater will be monitored, and components of the monitoring plan are described in the following sections.

4.2.1 General Description

Groundwater in the SGP area primarily occurs in the Quaternary unconsolidated sedimentary deposits present in valleys and on mountainsides (in alluvial, colluvial, glacial, and glaciofluvial materials) (HDR 2016; SPF 2017). Groundwater in the underlying crystalline bedrock is present only in fractures, and flow is controlled by localized fracture zones generally present near the bedrock/Quaternary contact and along fault zones. Where the fractures are filled with gouge, alteration products, or other low-permeability materials, groundwater flow in bedrock is limited. No regional aquifer has been identified in the bedrock (BC 2017).

Groundwater flow directions are generally controlled by topography and stream elevations. Groundwater flow directions in the alluvial aquifer are approximately south to north and are aligned with the drainages in the area. Groundwater elevations in the bedrock wells generally decline from south to north and suggest a general flow direction from south to north; however, given the relatively impermeable nature of the granitic bedrock, groundwater flow paths are likely controlled by

fracturing and are discontinuous. Both downward and upward vertical gradients have been measured in the well pairs screened in the alluvial aquifer and the bedrock within the Project area (BC 2017).

Groundwater in both alluvial and bedrock wells have been monitored by Midas Gold since 2012 to establish baseline conditions in the historic Stibnite Mining District (HDR 2016). Continued monitoring in wells located upgradient and downgradient of specific mine features will provide information regarding the potential for mine-related impacts to groundwater during operations and closure.

4.2.2 Objectives

The specific objectives of the groundwater monitoring program are listed below.

- Confirm drinking water standards are being met at drinking water supply wells.
- Document the characteristics of groundwater upgradient and downgradient of mine facilities when required to assist in identifying potential mining-related impacts by other permits.
- Provide a basis for the timely planning and implementation of mitigation measures, if required.
- Obtain accurate and defensible data by following a site-specific quality assurance project plan and standard operating procedures.
- Provide accurate and complete reporting of potential mining-related impacts to appropriate regulatory agencies.

4.2.3 Plan Development

The Groundwater Quality Monitoring Plan, included as Appendix K, will include monitoring well locations, well construction details, monitoring protocols, analyte list, reporting requirements, adaptive management, and monitoring and reporting schedule. Groundwater monitoring associated with reclamation, operations, closure, and post-closure will be outlined but are subject to change based on changing conditions. A compliance program for monitoring drinking water will be a component of the groundwater monitoring plan.

4.2.4 Regulatory Context

General groundwater quality is regulated under state rules; however, when groundwater is used for drinking water, as it will at the SGP, the federal Safe Drinking Water Act (SDWA) will apply. The applicable rules are described below.

4.2.4.1 Federal Regulations

Federal regulations applicable to the groundwater quality at the SGP include the following:

SDWA. This act sets drinking water standards for all public water systems. Public water systems are those having at least 15 service connections or serving at least 25 people for at least 60 days a year. There are three classifications of public water systems: (1) community water systems (supplies water to the same population year-round), (2) non-transient non-community water system (supplies water to at least 25 of the same people at least 6 months a year), and (3) transient non-community water system (provides water to the public where people do not remain for long periods of time [like a gas station or campground]).

4.2.4.2 State Regulations

Idaho state regulations applicable to the groundwater quality at the SGP include the following:

IDAPA 58.01.11—Ground Water Quality Rule (IDEQ). The Ground Water Quality Rule establishes water quality standards for groundwater in the state and describes requirements for its protection. Although Section 400 of the rule sets forth that no groundwater shall be degraded by human activity, Section 401 allows mining to degrade water quality in the immediate vicinity of the mine as long as a POC is established downgradient of the mine. Midas Gold may request that IDEQ set a POC for the SGP downgradient of the mine through a POC application. Upon review and approval of the application, IDEQ will set the required monitoring network for long-term compliance in a POC determination letter.

Baseline water quality conditions will be used to develop baseline (background) concentration limits against which water quality changes during mining will be compared. IDEQ approval of baseline concentration limits will likely be part of the POC approval process.

4.3 Wetlands and Streams

Numerous wetlands and streams are present in the SGP area. A general description of the wetlands and stream objectives of the compensatory mitigation plan (CMP, TetraTech 2018), regulatory context for the work, and components of the monitoring plan are described below.

4.3.1 General Description

Baseline information on wetlands and streams have been reported in the Wetland Resource Baseline Study and its addendums (HDR 2013, 2014a, 2014b, 2015, 2016, 2017a; TetraTech 2018). Wetlands throughout the Project area consist of palustrine forested (PFO) wetlands, palustrine scrub-scrub (PSS) wetlands, palustrine emergent marsh (PEM) wetlands, and open water habitats. Wetlands are situated in valley bottoms and along steep slopes that drain to the valleys downslope. Project activities that result in permanent losses to wetland areas under jurisdiction of the USACE require mitigation and restoration as described in the CMP. Overall, the estimated impacts to wetlands will be approximately 145.87 acres (46 percent PFO, 27 percent PSS, 24 percent PEM and less than 4 percent Open Water). Streams consist of ephemeral, intermittent, and perennial reaches in the Blowout, EFSFSR, Fiddle, Garnet, Hennessy, Meadow, Midnight, and West End Creek watersheds as well as the streams along the Burnt Log Access Road and Transmission Line corridor within the assessment area. The total stream length estimated to be impacted by the project equal 84,117 linear feet or approximately 16 miles (TetraTech 2018).

4.3.2 Objectives

The CMP describes the losses to wetlands and waters of the United States and the required and proposed mitigation. The goal is to comply with federal regulations so there is no net loss of wetland functions because of the SGP. Specific objectives of the CMP include the following:

- Monitor restoration of wetland and stream areas that are disturbed from historical mining activities and restore and establish onsite wetlands after mining completion.
- To the extent possible, restore PEM, PSS, and PFO wetland habitats in similar ratios to baseline conditions.
- Restore hydrologic conditions that will support wetland vegetation and overall function.
- Restore wetland plant communities comparable to existing wetlands and/or reference site wetlands that would be sustainable over the long-term with minimal human intervention.
- Restore and increase wetland functions and values within the Project area.
- Restore stream function based the proposed stream functional assessment functional index used to quantify ecological function “uplift”.

4.3.3 Plan Development

Wetland and stream mitigation monitoring activities include, but are not limited to, the following items and provided in Appendix L:

- Monitoring schedule by year, season, and method during and after mine operations
- Vegetation monitoring requirements and methods
- Soils monitoring requirements and methods
- Groundwater monitoring and methods for near surface saturation conditions
- Geomorphic stream monitoring requirements and methods
- Conduct biological monitoring (fish, macroinvertebrates, and/or habitat). Monitoring will need to demonstrate a maintained biological integrity suitable for not only the threatened and endangered species but also overall biological health.
- Riparian corridor vegetation monitoring requirements and methods
- Reporting requirements as required by the Section 404

4.3.4 Regulatory Context

Wetlands are regulated by both federal and state agencies as described below.

4.3.4.1 Federal Regulations

The CWA establishes the basic structure for regulating all discharges of pollutants into waters of the United States and regulates water quality standards for surface waters.

CWA §401—Idaho Certification (IDEQ). If an operated facility could result in discharge(s) to navigable waters of the United States, CWA §401 requires the operator to obtain a certification from the state stating that the discharge will comply with provisions of the CWA. As it pertains to wetlands, there may be provisions in the 401 certification received from the IDEQ relating to monitoring components of water quality standards that must be met during operations and reclamation. Water quality sampling locations and methodologies are provided in the Surface Water Quality Monitoring Plan (Appendix J) as described in Section 4.1.

CWA §404—Waters of the U.S. (USACE/EPA). Wetlands and streams subject to regulation under Section 404 of the CWA will be impacted by mining operations and post-closure restoration at the SGP. Restoration efforts will be focused on improving the wetlands and streams to support water quality, as well as wildlife and aquatic life. As part of Project development, Midas Gold will file an application with the USACE for a Department of the Army (DA) permit issued pursuant to Section 404 of the CWA (33 USC 1344). The Wetlands Monitoring Plan will incorporate the monitoring and success factors outlined in the DA permit and CMP.

The Section 404 permit requires consultation under the ESA to assess potential impacts to listed threatened and endangered species. Monitoring activities for the ESA will be conducted under the Fisheries and Aquatic Habitat Monitoring Plan (Appendix M) discussed in Section 4.4 and the Wildlife and Vegetation Monitoring Plans (Appendices N and O) discussed in Sections 4.5 and 4.6.

4.3.4.2 State Regulations

Idaho state regulations applicable to the wetlands and streams at the SGP include the following:

IDAPA 37.03.07—Stream Channel Alteration Rules (IDWR/IDL). Similar to the Section 404 permit application, there will be mitigation and monitoring requirements from IDWR related to the stream channel diversions and restoration during mining activities. Any permit conditions in the Stream

Channel Alteration permit will be incorporated into the fisheries and aquatic resources mitigation plan and/or the CMP development.

Restoration and mitigation activities will start and continue through operations into mine closure as outlined in the CMP.

4.4 Fish and Aquatic Resources

Protecting fish and aquatic habitat is of utmost importance to Midas Gold. The following sections describe the habitats important to fish species and populations, objectives of the fisheries and aquatic resources mitigation plan (BC 2018c), context under which the fish and aquatic habitat are regulated, and components of the Fisheries and Aquatic Habitat Monitoring Plan (Appendix M).

4.4.1 General Description

The EFSFSR and tributaries, Meadow Creek, and Sugar Creek in the SGP area provide critical habitat for Snake River spring/summer Chinook salmon, Snake River Basin steelhead, Columbia River bull trout, and/or Westslope cutthroat trout, as described below.

- The spring/summer Chinook salmon occur naturally in the EFSFSR up to the Yellow Pine pit but are introduced upstream from the Yellow Pine pit by the Idaho Department of Fish and Game (IDFG) with the Nez Perce Tribe. Critical habitat for Chinook salmon was designated in 1993 (58 FR 68543) and includes the EFSFSR up to approximately 1,200 feet upstream from the confluence with Sugar Creek (National Marine Fisheries Service [NMFS] 1993, later revised in 1999).
- Snake River Basin steelhead are an anadromous form of rainbow trout that are classified as a threatened Distinct Population Segment (NMFS 2006). Critical habitat for Snake River Basin steelhead was designated in 2005 and includes the EFSFSR up to approximately 1,200 feet upstream from the confluence with Sugar Creek and Sugar Creek as well as Burntlog Creek (NMFS 2005).
- Columbia River bull trout occur throughout the SFSR watershed. The U.S. Fish and Wildlife Service (USFWS) designated Critical Habitat for bull trout in the EFSFSR and in Tamarack, Sugar, Cane, Cinnabar, Meadow, Burntlog, Trapper, and Riordan Creeks (USFWS 2010; USFWS 2015). Within the SGP area, bull trout occur in the EFSFSR and Sugar Creek.
- Westslope cutthroat trout are designated by the Regional Forester as a “sensitive” species and occur in the EFSFSR both upstream and downstream of the Yellow Pine pit.

4.4.2 Objectives

The objective of the Fisheries and Aquatic Habitat Monitoring Plan is to describe the measures proposed by Midas Gold to protect fish and aquatic resources during mine operations, site reclamation, and closure and post-closure activities. Monitoring will be conducted under the Fisheries and Aquatic Habitat Monitoring Plan (Appendix M) to demonstrate avoidance and minimization of impacts to fish species and aquatic habitat as well as document ongoing mitigation measures, such as stream habitat enhancement and fish passage operations, flow management, and BMPs in order to satisfy the requirements outlined in the Biological Opinions from National Oceanic and Atmospheric Administration (NOAA) Fisheries and USFWS under the ESA.

Specific objectives of the fish and aquatic habitat monitoring plan are listed below.

- Manage operations to protect water quality during mining operations.
- Manage water infrastructure to protect fish during construction and mining operations.
- Maintain instream flows for fish species and other aquatic resources.

- Implement site-wide BMPs.
- Conduct stream restoration and enhancement, concurrently with mining where practicable.
- Conduct mitigation monitoring as outlined in the Section 404 permit application and USACE approval.
- Conduct monitoring associated with the reasonable and prudent measures as well as conservation measures outlined in the USFWS and NOAA Fisheries Biological Opinions (BOs).

4.4.3 Plan Development

Restoration activities will start and continue through mining operations and extend into closure activities as appropriate as outlined in the Fisheries and Aquatic Resources Mitigation Plan (BC 2018c). In addition the Fishway Operations and Maintenance Plan will include measures to minimize and mitigate for potential impacts from the fishway passage as well as adaptive management measures to address potential future changes to the management of the fishway passage. Monitoring, as described in the Fisheries and Aquatic Habitat Monitoring Plan (Appendix M) will include, but not be limited to, the following items:

- Monitoring and maintenance activities associated with water diversions
- Fish handling, salvage, and protection measures during dewatering activities
- Monitoring and measures for fish and aquatic impact avoidance and minimization during draining of the Yellow Pine pit lake
- Management measures for blasting mitigation
- Sitewide BMPs, include erosion control road stabilization, sediment and dust control, and stormwater management
- Inspections and maintenance activities on restoration stream reaches
- Additional monitoring for adaptive management activities during mine operations and post-closure restoration

4.4.4 Regulatory Context

Fish and aquatic habitat are regulated under both federal and state rules.

4.4.4.1 Federal Regulations

The CWA establishes the basic structure for regulating all discharges of pollutants into waters of the U.S. and regulates water quality standards for surface waters.

CWA §401—Idaho Certification (IDEQ). If an operated facility could result in discharge(s) to navigable waters of the U.S., CWA §401 requires the operator to obtain a certification from the state stating that the discharge will comply with provisions of the CWA. As it pertains to fisheries and aquatic habitat, there may be provisions in the 401-certification received from IDEQ that relate to monitoring components of biotic integrity and how the integrity relates to water quality uses/classifications, water quality standards, and the antidegradation review as part of the certification process.

CWA §404—Waters of the U.S. (USACE/EPA). As described in Section 4.3, mining operations and post-closure restoration will impact wetlands and streams subject to regulation under Section 404 of the CWA. Restoration efforts will be focused on improving wetlands and streams to support aquatic life. As part of the Project development, Midas Gold will file an application with the USACE for a DA permit issued pursuant to Section 404 of the CWA (33 USC 1344).

ESA—Incidental Take Permit (USFWS, NOAA Fisheries). The Project will undergo review under the ESA as it may affect federally listed threatened and endangered species. The USFS is the lead

federal agency for the ESA consultation, and the action agencies are USFWS and NOAA Fisheries (together, the “Services”). USFWS has ESA responsibility for bull trout, and NOAA Fisheries has ESA responsibility for Chinook salmon and steelhead. The Services will issue BOs for the applicable fish based on the baseline and potential impacts assessment completed in the USFS’s Biological Assessment. The Fisheries and Aquatic Resources Mitigation Plan (BC 2018c) will incorporate the reasonable and prudent measures as well as conservation measures outlined in the Services’ BOs, and the associated monitoring requirements will be included in the Stibnite Gold Mitigation Plan and Fisheries Monitoring Plan.

Magnuson-Stevens Fishery Conservation and Management Act. In addition to complying with the ESA, the USFS is required to consult with NOAA Fisheries and comply with the Magnuson-Stevens Fishery Conservation and Management Act on actions that might adversely affect essential fish habitat. Essential fish habitat includes habitats that fish rely on throughout their life cycles, including spawning and rearing habitats. At the SGP, the primary essential fish habitat is the designated critical habitat for Chinook salmon.

4.4.4.2 State Regulations

Idaho state regulations applicable to aquatic habitat at the SGP include the following:

IDAPA 37.03.07—Stream Channel Alteration Rules (IDWR/IDL). Similar to the Section 404 permit application, there will be mitigation and monitoring requirements from IDWR related to the stream channel diversions and restoration during mining activities. These requirements will be incorporated into the monitoring plan.

4.5 Wildlife

A description of wildlife and wildlife habitat, objectives of the monitoring program, regulations that apply to wildlife, and components of the plan are provided in this section.

4.5.1 General Description

Wildlife habitat in the SGP consists of upland mixed forest (Ponderosa Pine, Douglas fir, lodgepole pine, subalpine fir, and whitebark pine in high elevations), grassland, and wetland and riparian communities. The habitat surrounding the SGP has been altered by past mining activities in the historic Stibnite Mining District and by frequent wildfires. The SGP consists of narrow valleys and steep mountains with elevations ranging from 6,000 to over 8,500 feet above mean sea level.

Wildlife species that may occur in the SGP include big game species (elk and mule deer), large predators (grey wolf, wolverines, and fox), rodents (marmots, squirrels, and mice), and migratory birds, including raptors. Several USFS sensitive species occur in the SGP area and have been described in the wildlife baseline study (HDR 2017c) and Wildlife Management Plan (Appendix N).

Four wildlife species protected under the ESA are listed as potentially occurring at the SGP: North American wolverine (proposed threatened), Northern Idaho ground squirrel (threatened), Canada lynx (threatened), and gray wolf (recovery). These species will be addressed in the USFWS’s BO for the Project.

4.5.2 Objectives

The objectives of the wildlife management plan are listed below.

- Protect wildlife during operations and closure activities by reducing their exposure to the Project area through monitoring and maintenance of BMPs and avoidance measures.

- Repair and rehabilitate habitats adversely affected by historical mining impacts in the Stibnite area, with the primary goal of producing a net benefit to upland habitat in the Project area following mining and closure.
- Provide upland and wildlife habitat restoration and rehabilitation to exceed Idaho standards for mineral mine reclamation and improve long-term habitat conditions for wildlife species of management importance.
- Comply with the BO Conditions of Approval for the SGP authorized by the USFWS.
- Comply with federal wildlife laws and resource management plans including the Migratory Bird Treaty Act (MBTA), Bald and Golden Eagle Act, and PNF and BNF Land Resource Management Plans (LRMPs).

4.5.3 Plan Development

Restoration, mitigation, and monitoring activities will start during construction and continue through mine closure in accordance with the Wildlife Management Plan (Appendix N). The management plan will include the following:

- Operations, maintenance and minimization measures associated with vegetation management, dust control, traffic measures, good housekeeping measures, limiting access in critical wildlife zones and corridors, breeding season restrictions, and a trapping and relocation program
- Structural measures including fencing and signage for safe traffic control and exclusion zones, manage facilities to be less attractive to wildlife, safe storage and disposal of chemicals and hazardous materials, and proper lighting for safety
- Requirements of the Cyanidation Permit and applicable sections of the Cyanide Operations and Maintenance Plan for the TSF applicable to wildlife
- Planting plans during mine operations and restoration plans for post-closure geared for wildlife benefits
- Monitoring and inspections including routine monitoring and inspections to track wildlife use and assess need for additional BMPs to protect wildlife and wildlife habitat
- Training activities including awareness, wildlife sighting, proper operations and maintenance, safety, and other measures to protect employees and reduce wildlife impacts from mine operations and post-closure restoration activities

4.5.4 Regulatory Context

The following federal and state legislation, guidelines, management plans, and management directions provide guidance for the plan directives.

4.5.4.1 Federal Regulations

Federal regulations applicable to wildlife habitat at the SGP include the following:

ESA—Incidental Take Permit (USFWS). The ESA prohibits the taking of fish and wildlife species classified as endangered or threatened, unless otherwise authorized. The SGP will undergo consultation under the ESA as it may affect federally listed threatened and endangered species as discussed in Section 4.4. USFWS has ESA responsibility for wildlife species. USFWS will issue a BO based on the baseline and potential impacts assessment completed in the USFS' Biological Assessment and will issue BOs for bull trout (Section 4.4) and terrestrial species potentially impacted by the Project. The wildlife management plan must incorporate the reasonable and prudent measures as well as conservation measures outlined in the USFWS BO for terrestrial wildlife.

MBTA (16 USC Sections 703–712). The MBTA prohibits pursuing, hunting, capturing, or killing migratory birds or removing nests occupied by migratory birds during the breeding season. The MBTA is authorized by the USFWS. The SGP must conduct pre-ground clearing nest surveys and monitor potential take during construction, operation, and reclamation activities as outlined in the Conditions of Approval in the Record of Decision (ROD).

Bald Eagle and Golden Eagle Protection Act (16 USC Sections 668–668d). The Bald Eagle and Golden Eagle Protection Act, as authorized by USFWS, prohibits the take of bald and golden eagles, including their nests and eggs. In accordance with the act, the SGP must conduct pre-ground clearing nest surveys and monitor potential take during construction, operation, and reclamation activities as outlined in the Conditions of Approval in the ROD. If any bald or golden eagle nest or perches are identified, Midas Gold is to coordinate with USFWS for appropriate mitigation and monitoring measures.

Executive Order 13443, Facilitation of Hunting Heritage and Wildlife Conservation. Executive Order 13443 directs agencies within the U.S. Department of the Interior and U.S. Department of Agriculture to facilitate the expansion and enhancement of hunting opportunities and the management of game species and their habitat.

National Forest Management Act (16 USC Section 1601–1614). The National Forest Management Act governs the administration of national forests by the USFS and requires national forests to plan for multiple uses while protecting fish and wildlife habitat.

4.5.4.2 State Regulations

Idaho state regulations applicable to wildlife habitat at the SGP include the following:

Idaho Code Title 36, Chapter 11 Protection of Animals and Birds. Idaho State Code prohibits the take of wildlife species except as authorized by the code for game and nuisance species.

Idaho Code Title 36 Chapter 24 Species Conservation. State efforts are coordinated with the Services to use the best scientific and commercial data available in conservation and recovery plans to prevent listing and obtain delisting species covered under the ESA.

Protection of Animals and Plants. IDFG recognizes special status plant and animal species based on the Natural Heritage Program Database. The database ranks species on a scale of 1 (the most critically imperiled) to 5 (demonstrably widespread and abundant).

4.6 Vegetation

Vegetation at the SGP is described in this section along with objectives of a wildlife habitat mitigation plan, regulatory context for mitigating impacts to vegetation, and components of the Vegetation Monitoring Plan (Appendix O).

4.6.1 General Description

Vegetation communities in the SGP consist of upland mixed forest (Ponderosa Pine, Douglas fir, lodgepole pine, subalpine fir, high-elevation subalpine fir, and whitebark pine), grassland (disturbed from mining and native), wetland (PFO, PSS, and PEM) and riparian communities. As discussed in Section 4.5, the vegetation communities surrounding the SGP have been altered by past mining activities in the historic Stibnite Mining District and by frequent wildfires. The understory of the burned areas are generally early seral species and consist of grasses, some shrubs, and lodgepole pine (HDR 2017e). Sparsely vegetated areas occur on rocky slopes and areas disturbed by past mining activities (HDR 2017e).

Upland communities not affected by wildfire or mining activities are most commonly mixed coniferous forest. These communities have a canopy of coniferous species mentioned above, with an understory of various shrubs, forbs, and grasses (HDR 2017e). Wetland and riparian communities occur in drainages and valley bottoms and are described in Section 4.3.

One plant species protected under the ESA is known to occur near the SGP. Whitebark pine occurs in higher elevations on the ridges east of the SGP. Whitebark pine stands were recorded during 2012 and 2013 field surveys and discussed in the vegetation baseline study (HDR 2017e).

4.6.2 Objectives

The goal of the vegetation monitoring plan is to develop a program to protect and enhance wildlife habitat based on the protective and mitigation requirements outlined by the USFS as well as revegetation during mine operations and restoration (and other resource agencies such as IDL). Objectives of the Vegetation Monitoring Plan (Appendix O) include the following:

- Protect and enhance wildlife habitat associated with the mine operations and post-closure restoration activities.
- Comply with land and resource management objectives and reclamation for other productive uses consistent with forest land and resources management plans (USFS 2010; USFS 2003).
- Provide upland and wildlife habitat restoration and rehabilitation based on the measures outlined in the environmental impact statement for mineral mine reclamation and improve long-term habitat conditions for wildlife species of management importance.
- Assure the success of reclamation revegetation areas to comply with USFS and IDL conditions of approval and permanent closure of the mine.

4.6.3 Plan Development

Restoration and reclamation activities for vegetation will start during construction and continue through mine closure and are included in the Vegetation Monitoring Plan (Appendix O). The monitoring plan will include the following:

- Monitoring schedules
- Compliance goals for ground cover of living plants in revegetated areas
- Performance standards and success criteria
- Noxious weed monitoring and management

4.6.4 Regulatory Context

Both federal and state regulations apply to vegetation mitigation.

4.6.4.1 Federal Regulations

Federal regulations applicable to vegetation mitigation at the SGP include the following:

ESA (USFWS). As discussed in previous sections, a BO will be completed for species protected by the ESA, including whitebark pine. The wildlife habitat mitigation plan will incorporate the reasonable and prudent measures as well as conservation measures outlined in the USFWS's BO for whitebark pine.

National Forest Management Act (16 USC Section 1601–1614). The National Forest Management Act governs the administration of national forests by USFS and requires national forests to plan for multiple uses while protecting fish and wildlife habitat, which includes vegetation. The SGP must comply with the PNF and BNF LRMPs.

4.6.4.2 State Regulations

Idaho state regulations applicable to vegetation mitigation at the SGP include the following:

IDAPA 20.03.02—Rules Governing Exploration/Surface Mining/Closure of Cyanidation Facilities. Revegetation activities are regulated under IDAPA 20.03.02 for surface mining activities. The state rules provide guidelines and requirements to encourage site stabilization and a return to native or pre-mining vegetation cover and standards for release of bonding held by state or federal agencies.

Idaho Code Title 36, Chapter 24 Species Conservation. The state is required to coordinate with the Services to use best scientific and commercial data available in conservation and recovery plans to prevent listing and obtain delisting species covered under the ESA.

Protection of Animals and Plants. IDFG recognizes special status plant and animal species based on the Natural Heritage Program Database. The database ranks species on a scale of 1 (the most critically imperiled) to 5 (demonstrably widespread and abundant).

4.7 Air

The SGP will generate air emissions requiring regulation. This section describes the air permitting process, objectives of air management, descriptions of air regulations and standards, and a summary of the air permit to construct.

4.7.1 General Description

The proposed SGP will result in air emissions from mining activities (drilling, blasting, material extraction, and crushing and conveying, etc.), ore processing (including refining), and ancillary sources (generators, process and building heaters, autoclave, smelting furnace, etc.). Emissions from stockpiles and the haul road will also occur.

The SGP emissions will be estimated for the air permit application that will be submitted to IDEQ. Emission calculations will be based on Project-specific activity rates (e.g., production rates, materials hauled, blasting agent consumption), operation methods (e.g., open-pit mining, refining methods), design criteria (e.g., equipment type and size, hauling distances), emission abatement techniques (e.g., watering, baghouse, carbon filter), material characteristics (e.g., moisture content, silt content, density), and site characteristics (e.g., winds, precipitation).

Emissions will be estimated for the following pollutants:

- Criteria air pollutants: CO, NO_x, PM_{2.5}, PM₁₀, SO₂, and VOC (precursor for O₃)
- Hazardous air pollutants (HAPs), including mercury and hydrogen cyanide
- Other non-criteria pollutants: total particulate matter, sulfuric acid gas, and hydrogen sulfide
- Greenhouse gases

4.7.2 Objectives

The objectives of air monitoring will be to manage point and non-point source air emissions to protect human health and the environment during construction, operation, closure, and reclamation. Monitoring techniques will be established during permitting to evaluate the success of the mitigation measures and will include the following:

- SGP facilities, designed, constructed, and operated in compliance with appropriate air pollution controls to comply with applicable regulations and any air quality permits issued by IDEQ
- BMPs used to control fugitive dust generation

- Use of busing and/or vanpooling for employees to minimize traffic, dust emissions, sediment runoff, and greenhouse emissions from vehicles

4.7.3 Air Permit to Construct

The air permit to construct is included in Appendix A and lists all sources of emissions, emission limits that must be met, and conditions of operations required to meet the emission limits. Conditions of operations could include specifics with respect to controlling fugitive dust from ore processing, stockpiles, and unpaved roads. Some of these dust control measures were listed above and will be included as a part of the design. Any required monitoring and reporting requirements are listed in the air permit to construct.

4.7.4 Regulatory Context

Air emissions are regulated by both federal and state agencies. Specific regulations and standards are described below.

4.7.4.1 Federal Regulations

Federal regulations applicable to air emissions at the SGP include the following:

The Clean Air Act (CAA) is the comprehensive federal law that regulates air emissions from stationary and mobile sources. Under the CAA, the regulations have been promulgated and will be reviewed for applicability to the SGP during the permitting process.

National Ambient Air Quality Standards (NAAQS) are set by the CAA to protect public health and welfare and to regulate emissions of hazardous air pollutants. Geographical regions are classified as attainment, maintenance, or nonattainment based on prevailing air quality in the region and compliance with the NAAQS. In addition, potential haze and visibility impacts to Class I areas must be addressed if a new facility is planned. There are 10 Federal Mandatory Class I Areas within a 300-kilometer radius of the SGP; the closest is the Sawtooth Wilderness Area (77.5 kilometers away).

New Source Performance Standards (NSPS) are also set by the CAA and are technology-based standards that apply to specific categories of stationary sources. The NSPS were developed and implemented by the EPA and enforcement is delegated to the states. Sources subject to NSPS are required to perform an initial performance test to demonstrate compliance.

National Emission Standards for Hazardous Air Pollutants are stationary source standards for HAPs. HAPs are those pollutants that are known or suspected to cause cancer or other serious health effects, such as reproductive effects or birth defects, or adverse environmental effects. These standards require the maximum degree of reduction of HAPs at the time the standard is established, commonly referred to as maximum achievable control technology. Sources subject to National Emission Standards for Hazardous Air Pollutants are required to perform an initial performance test to demonstrate compliance.

New Source Review requires new sources that increase regulated air pollutants by designated thresholds to meet specific permitting requirements and install best available control technology (BACT) or Lowest Achievable Emission Rate (LAER) technology. Affected sources must also demonstrate that operation will not cause or contribute to a violation of NAAQS. These controls are “technology-forcing” in that the best controls keep improving, so what represents BACT/LAER today may not be BACT/LAER in the future.

Federal Operating Permits (Title V permits) are required for facilities with the potential to emit more than 100 tons per year of a criteria pollutant, 10 tons per year of any single hazardous air pollutant, or 25 tons per year of any combination of hazardous air pollutants.

4.7.4.2 State Regulations

Idaho state regulations applicable to air emissions at the SGP include the following:

IDAPA 58.01.01—Rules for the Control of Air Pollution in Idaho. Any business or industry (source) in Idaho that emits, or has the potential to emit, pollutants into the air is required to have an air pollution control permit. IDEQ is delegated by the federal government to issue air quality permits in Idaho. Permits are required by the CAA and set the conditions under which facilities generating air pollution may operate. The purpose of the permit is to ensure compliance with all state and federal air pollution control rules, which are designed to protect public health and the environment. Permits are issued when new sources begin operating and when existing sources modify their facilities. Requirements for air permit applications are outlined in the Rules for the Control of Air Pollution in Idaho.

4.8 Cultural Resources

Cultural resources at the SGP, objectives of the cultural resources monitoring program, regulations that apply to cultural resources, and components of a monitoring plan are described below.

4.8.1 General Description

As part of this project, the Nez Perce, Shoshone-Paiute and Shoshone-Bannock Native American tribes have been consulted between the USFS and Midas Gold. Although historical Native American community or burial sites have not been recognized at the SGP by Native American tribes, Native American artifacts could be in the area and previously unrecognized burial grounds may be present. Midas Gold will continue to work with these tribes if such Native American artifacts are identified during mining operations and post-closure restoration activities.

The SGP is located within the historic Stibnite Mining District where there is a long history of mining activity. Activities date back to the late 1890s and have periodically continued through the late 1900s (Bertram 1986). In July 1987, the historic Stibnite Mining District was formally listed on the National Register of Historic Places (NRHP) as number 87001186. Following the listing, 23 specific historical mining sites were identified and recommended for listing on the NRHP (Lahren and HDR 2017). However, the Associate State Archaeologist of the Idaho State Historic Preservation Office (SHPO) determined that these sites were not eligible for listing due to “no integrity.” Additional sites, consisting primarily of prospect pits, have since been identified but considered non-eligible due to rapid deterioration and low potential to contribute to the regional history database, but SHPO has not yet made a formal determination. Details of each identified site are provided in the cultural baseline studies (Lahren and HDR 2017).

4.8.2 Objectives

The main objective of the Cultural Resource Management Plan (CRMP) (Appendix P) is to provide policies and procedures regarding the identification, protection, and recovery of archaeological, historic and cultural resources. The CRMP would be in effect during the construction, restoration, operation, and reclamation phases of the Project and meet the following:

- Process for properly notification and handling resources identified that were not previously known
- Routine protective and management measures for avoidance and/or mitigation for potential impacts to these resources
- Mitigation measures for known resources for activities associated with mining operations and post-closure restoration efforts

4.8.3 Plan Development

The CRMP (Appendix P) describes procedures to be implemented by Midas Gold staff with respect to cultural resources including the following:

- Worker training regarding cultural resource issues and responsibilities
- Measures to avoid or minimize impacts to cultural resources (e.g., flagging, monitoring)
- Standard protocols for any cultural resources that may be exposed during Project construction, operation, and reclamation
- Prescribed actions to be taken in the event that unanticipated and previously unrecognized cultural resources are discovered, or known resources are impacted in an unanticipated manner
- Protocols for treatment of any discovered human remains and/or Native American artifacts

4.8.4 Regulatory Context

Cultural resources are regulated by both federal and state agencies. The applicable laws and guidance are described below.

4.8.4.1 Federal Regulations

Federal regulations applicable to cultural resources at the SGP include the following:

NHPA §106. Section 106 of the NHPA (Public Law 89-665; 80 Stat. 915; 16 USC 470) requires federal agencies to consider the effect of permitted undertakings on historic properties (i.e., cultural resources eligible for or listed in the NRHP) and to afford the Advisory Council on Historic Preservation a reasonable opportunity to comment on potential impacts to such resources. Programmatic Agreements are executed pursuant to NHPA Section 106 (specifically at CFR 800.14) and are compliance agreements setting forth how the federal agencies and Project proponents will avoid, minimize, or mitigate adverse effects to historic properties. A Programmatic Agreement is one of a variety of methods available to federal agencies to meet their Section 106 obligations.

Archaeological Resource Protection Act (ARPA). The ARPA was enacted to protect archaeological sites, artifacts, and human remains on federal lands from looting by providing effective law enforcement and penalties for convicted violators. ARPA makes it illegal to excavate or damage archaeological resources located on public or native lands without a permit, and to sell, purchase, exchange, transport, or receive archaeological resources that were excavated illegally under federal, state, or local law.

Native American Graves Protection and Repatriation Act of 1990 (NAGPRA). NAGPRA provides for consultation with Native American groups when Native American burials may be, or are accidentally, disturbed by an action and for inventorying and repatriating collections already held by federal museums and institutions. Native American human remains, funerary objects, sacred objects, and objects of cultural patrimony, as defined in NAGPRA (25 USC §3001), encountered on federal land in connection with the undertaking shall not be intentionally excavated or removed without a permit under 16 USC §470cc of ARPA and consultation with the appropriate tribes. NAGPRA regulations apply only to federally-owned lands.

4.8.4.2 State Regulations

Idaho state regulations applicable to cultural resources at the SGP include the following:

Idaho SHPO. Under Section 101(b) of NHPA, SHPO is appointed by the state to administer the state historic preservation program, which is approved and overseen by the National Park Service. SHPO should be consulted regarding all federal undertakings under Section 106 that take place in Idaho.

Tribal Historic Preservation Officer (THPO) and Tribes. Under Section 101(d) of NHPA, each tribal government can designate a THPO and establish a tribal historic preservation program. The Nez Perce Tribe is local to the SGP and has a National Park Service-approved THPO. If a project is on both tribal and non-tribal lands, both the THPO and SHPO must be consulted regarding cultural and historic resources.

4.9 Environmental Legacy Management

With the long history of mining at the Project site, impacted soil and miscellaneous debris may be encountered during excavation activities. This section describes potential conditions, objectives of the management plan, regulations that may apply, and components of a management plan.

4.9.1 General Description

The Stibnite Mining District has a long history of mining activities starting in the late 1800s. In 1943 during World War II, the larger Stibnite area supported a community of approximately 1,500 people. Residents were housed in bunkhouses, house tents, and more than 100 simple frame houses in six different residential support communities (Bertram 1986). The post office and store were located at Stibnite-Meadow Creek, which was located just downstream of the confluence of Meadow Creek and East Fork Meadow Creek (Bertram 1986) near the former mill and smelter.

The main support center, referred to as Forest Grove (Bertram 1986), was located at the confluence of the EFSFSR and Meadow Creek (where the current Midas Gold support facilities are located, and the Midas Gold mill and processing plant will be constructed). Forest Grove facilities included a school, hospital, service station, and recreation hall. Few buildings remain from the old mining days and although many of the wood buildings are gone (Bertram 1986), many of the old building foundations remain. It is possible that some old construction debris or other evidence of the long history of mining could be uncovered during site restoration activities and/or mine infrastructure construction that will need special handling.

4.9.2 Objectives

The objectives of the Environmental Legacy Management Plan (Appendix Q) are to provide procedures and guidance for Midas Gold to identify, characterize, and manage previously unidentified materials that may require excavation and removal. Special handling of materials encountered when rehandling old tailings or development rock piles may be necessary, and excavating shallow soils for infrastructure construction may uncover unexpected conditions. The management plan will be used to assist personnel with the proper handling of any uncovered historical debris, hazardous materials, and/or impacted soils encountered at the Project site.

4.9.3 Plan Development

The Environmental Legacy Management Plan (Appendix Q) describes procedures to be implemented by Midas Gold staff when encountering a variety of materials and impacted media (soil and/or groundwater), historical containers, and other historical debris during mine construction and operation. The plan will include the following:

- Health and safety training requirements and documentation
- Worker training regarding potential hazards and regulatory requirements
- Prescribed actions to be taken when unexpected and/or potentially hazardous conditions are encountered
- Standard protocols for handling waste materials and best management practices

- Disposal/transportation options and requirements
- Record keeping and reporting procedures

4.9.4 Regulatory Context

Federal and/or state regulations may apply to impacted soil, hazardous materials, and debris identified at the Project site. The pertinent regulations are described below.

4.9.4.1 Federal Regulations

Federal regulations applicable to legacy materials and historic disturbances at the SGP include the following:

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). CERCLA is designed to remedy threats to human health and the environment where there has been a historical release of a hazardous substance to the environment. Petroleum is exempt from CERCLA.

Resource Conservation and Recovery Act (RCRA). RCRA is a program that regulates how wastes should be managed to avoid threats to the environment; it covers hazardous waste management (Subtitle C), solid waste management (Subtitle D), and underground storage tank regulations (Subtitle I). Mining and mineral processing waste are exempt from RCRA as is petroleum-contaminated media from cleanup of underground storage tanks.

Toxic Substances Control Act (TSCA). TSCA is a program that was developed to regulate the manufacture and sale of chemicals. It focusses primarily on the regulation of polychlorinated biphenyls (PCBs; which are associated with old electrical transformers), asbestos in building materials, lead-content in commercial products, and radon.

4.9.4.2 State Regulations

Idaho state regulations applicable to legacy materials and historic disturbance at the SGP include the following:

IDAPA 58.01.06 Solid Waste Management Rules. IDEQ is designated as the responsible agency for regulating solid waste facilities in Idaho. The Solid Waste Management Rules establish requirements for solid waste and solid waste management facilities in Idaho including landfills, transfer stations, incinerators, and processing facilities. The rules do not regulate disposal of hazardous and radioactive waste, petroleum contaminated soil, agriculture, and certain other wastes. The rule describes facility classifications, application requirements, operating requirements, and closure requirements. Rules do not apply to solid waste considered inert (i.e., construction debris).

IDAPA 58.01.05 Rules & Standards for Hazardous Waste. The Rules & Standards for Hazardous Waste outlines regulations that businesses and other facilities must comply with regarding hazardous waste. The rule provides requirements for hazardous waste identification, generators, transporters, owners and operators, disposal, permits, decision making, and inspection frequencies. Idaho has state primacy over hazardous waste and, with only a few exceptions, incorporates RCRA by reference.

IDAPA 58.01.18 Land Remediation Rules. The Land Remediation Rules instituted the Voluntary Cleanup Program to encourage cooperation between the state, local communities, and private parties for the remediation of properties with hazardous waste or petroleum contamination. The Land Remediation Rules outline the application and implementation process for the Voluntary Cleanup Program including the remediation agreement, work plan, remedial standards, and institutional controls.

IDAPA 58.01.24 Standards and Procedures for Application of Risk Based Corrective Action at Petroleum Release Sites. The Standards and Procedures for Application of Risk Based Corrective Action at Petroleum Release Sites was developed to address petroleum contamination at sites to assist in determining whether the contamination presents a human health risk and/or requires corrective action. The rule outlines the risk evaluation process, chemicals of interest, toxicity values, and remediation standards. In addition, IDEQ has developed a Risk Evaluation Manual for Petroleum Releases (2012) to assist with implementing the rule.

IDAPA 58.01.02 Water Quality Standards. IDEQ is responsible for establishing water quality standards for the state and, under Section 303(e) of the CWA, is required to develop the process and planning for Idaho's Water Quality Management Plan. In addition to establishing water quality standards, an antidegradation policy, beneficial use criteria, and total daily maximum loads, the rule outlines the requirements for releases of petroleum and hazardous material spills. Requirements include reporting and investigation, abatement measures, site characterization, free product removal, and corrective action.

Section 5

Limitations

This document was prepared solely for Midas Gold in accordance with professional standards at the time the services were performed and in accordance with the contract between Midas Gold and Brown and Caldwell dated January 1, 2018. This document is governed by the specific scope of work authorized by Midas Gold; it is not intended to be relied upon by any other party except for regulatory authorities contemplated by the scope of work. We have relied on information or instructions provided by Midas Gold and other parties and, unless otherwise expressly indicated, have made no independent investigation as to the validity, completeness, or accuracy of such information.

Further, Brown and Caldwell makes no warranties, express or implied, with respect to this document, except for those, if any, contained in the agreement pursuant to which the document was prepared. All data, drawings, documents, or information contained in this report have been prepared exclusively for the person or entity to whom it was addressed and may not be relied upon by any other person or entity without the prior written consent of Brown and Caldwell unless otherwise provided by the Agreement pursuant to which these services were provided.

Section 6

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Appendix A: Authorizations and Approvals



Appendix B: Water Management Plan

Appendix C: Cyanide Operation and Permanent Closure Plan

Appendix D: Reclamation and Closure Plan

Appendix E: Spill Prevention, Control, and Countermeasure Plan

Appendix F: Ground Control Plan



Appendix G: Dam Design Approval



Appendix H: Transportation Risk Management Plan

Appendix I: Stormwater Pollution Prevention Plan



Appendix J: Surface Water Quality Monitoring Plan



Appendix K: Groundwater Quality Monitoring Plan



Appendix L: Wetlands Monitoring Plan



Appendix M: Fisheries and Aquatic Habitat Monitoring Plan

Appendix N: Wildlife Management Plan

Appendix O: Vegetation Monitoring Plan



Appendix P: Cultural Resource Management Plan

Appendix Q: Environmental Legacy Management Plan

