HARDROCK PROJECT
CONCEPTUAL EMERGENCY RESPONSE PLAN

April 2017

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1.0 INTRODUCTION AND ENVIRONMENTAL MANAGEMENT AND MONITORING PLAN OVERVIEW

Greenstone Gold Mines (GGM) is committed to minimizing environmental effects through the implementation of mitigation measures, monitoring and adaptive management for the Hardrock Project (the Project) within Environment Management and Monitoring Plans (EMMPs) for construction and operation. Through the EMMPs, the Project's environmental risks and opportunities are addressed in a comprehensive, systematic, planned and documented manner to meet the following objectives:

- The Project is carried out in compliance with existing legislation, consistent with Federal and Provincial guidelines, best practices and GGM corporate policies;
- Measures to mitigate environmental effects are documented;
- Benefits from the Project are enhanced; and
- Reporting is structured to inform adaptive management and continual improvement.

The EMMPs guide environmental management for the Project and are progressively developed as the Project moves through the EIS/EA, permitting, and construction, and updated based on continual improvement during operations through adaptive management.

EMMP development begins during the EIS/EA stage with the preparation of Conceptual Environmental Management Plans. These EMMPs are broad in their level of detail, commitment-based and focused on the construction and operation phases of the Project. They include input received from consultation during the Draft EIS/EA stage. The closure phase is addressed in the Conceptual Closure Plan. The level of detail in the EMMPs advance as the Project moves through more detailed engineering and planning and as permit/regulatory requirements are available.

1.1 Environmental Management and Monitoring Plans

The Project's Environmental Management System, includes a comprehensive set of management and monitoring plans collectively referred to as Environmental Management and Monitoring Plans (EMMPs). The EMMPs outline environmental protection measures to mitigate potential environmental effects.

The EMMPs include:

- Water Management and Monitoring Plan;
- Conceptual Waste Rock Management Plan;
- Conceptual Emergency Response Plan;
- Conceptual Waste Management Plan;
- Conceptual Erosion and Sediment Control Plan;
- Conceptual Greenhouse Gas Management and Monitoring Plan;

- Conceptual Air Quality Management and Monitoring Plan;
- Conceptual Spill Prevention and Response Plan;
- Conceptual Soil Management Plan;
- Conceptual Noise and Vibration Management and Monitoring Plan;
- Conceptual Explosives and Blasting Management Plan;
- Conceptual Aquatic Management and Monitoring Plan;
- Conceptual Biodiversity Management and Monitoring Plan; and
- Conceptual Archaeology and Heritage Resource Management Plan.

These Plans are considered “living” documents and will be updated as needed in support of environmental management activities during future permitting, development and operation phases.

2.0 PROJECT SUMMARY

Mining of the Hardrock deposit has been designed as an open pit. The process plant will operate 365 days per year with a Life of Mine (LOM) of approximately 15 years. The mill throughput ranges from 24,000 tonnes per day (tpd) for approximately the first two years of operation (i.e., Mill Phase 1), increasing to 30,000 tpd for the balance of operation (i.e. Mill Phase 2). The overall Project development schedule will consist of the following main phases, during which various Project activities will be completed:

- Construction: Years -3 to -1 with early ore stockpiling commencing after the first year of construction.
- Operation: Years 1 to 15, with the first year representing a partial year as the Project transitions from construction to operation.
- Closure:
  - Active Closure: Years 16 to 20, corresponding to the period when primary decommissioning and rehabilitation activities are carried out.
  - Post-Closure: Years 21 to 36, corresponding to a semi-passive period when the Project is monitored and the open pit is allowed to fill with water creating a pit lake.

The key components of the Project are as follows:

- open pit
- waste rock storage areas (WRSAs) (designated as WRSA A, WRSA B, WRSA C and WRSA D)
- topsoil and overburden storage areas
- ore stockpile
- crushing plants and mill feed ore storage area
- process plant
- tailings management facility (TMF)

- water management facilities for contact water including collection ditches and ponds
- power plant and associated infrastructure
- liquefied natural gas plant
- explosives facility
- buildings and supporting infrastructure
- water supply and associated infrastructure
- sewage treatment plant
- effluent treatment plant
- lighting and security
- site roads and parking areas
- watercourse crossings and habitat compensation/offsets
- Goldfield Creek diversion
- onsite pipelines
- fuel and hazardous materials
- aggregate sources
- temporary camp

Project activities include the relocation of existing infrastructure currently located within the PDA, including a portion of Highway 11, a Ministry of Transportation (MTO) Patrol Yard, and Hydro One Networks Inc. (Hydro One) facilities.

3.0 MANAGEMENT AND MONITORING PLAN PURPOSE

3.1 Purpose

The purpose of the Conceptual Emergency Response Plan (ERP) is to:

- facilitate prompt, efficient and safe response actions for addressing emergencies or compliance issues
- identify the organization, responsibilities and reporting procedures of the emergency response team
- define appropriate communications protocols, including procedures to contact relevant regulatory agencies and Aboriginal communities related to an accident or malfunction events and follow up actions that will be taken
- provide site information on the facilities and contingencies in place should an emergency or compliance issue occur
- provide support and information on available resources, facilities and trained personnel in the event that an emergency occurs.

The ERP focuses on response measures for accident or malfunction scenarios for unplanned emergency situations, but also includes mechanisms for corrective or maintenance actions for

less severe events. The priorities of the ERP are 1) the protection of life, 2) the protection of the environment, 3) the protection of property.

An emergency is any unforeseen event which has the potential to:

- Cause death or injury to employees, contractors, or members of the general public;
- Shut down business operations for a period of time;
- Physically damage equipment and/or the environment;
- Jeopardize a company's financial viability; or
- Threaten a company's public image or reputation.

3.2 Performance Objectives

Objectives and targets are established to drive continuous improvement in environmental performance and are consistent with the overall strategic goals of the Project. Objectives are measurable (where possible), monitored, communicated, and updated as appropriate.

In support of GGM's overarching environmental objective (to work to prevent or mitigate any environmental impacts, meet or exceed regulatory requirements and strive to continually improve our environmental practices and performance), GGM has established the following performance objectives for the Conceptual Emergency Response Plan that considers key Project interactions and compliance obligations:

- Clearly communicate the nature of the emergency through established appropriate channels;
- Organize appropriate response to emergencies in an efficient manner;
- Preserve safety of workers and the environment;
- Protect Project equipment and infrastructure; and
- Report emergencies to appropriate bodies (senior management, board of directors, regulators, local authorities) in a timely and appropriate manner.

4.0 SCOPE

The scope of the Conceptual ERP applies to the area of the Project that will undergo changes through construction and/or operation to accommodate the advancement of Project and associated monitoring. The Conceptual ERP applies to the construction and operation phases of the Project with closure phase included in the Conceptual Closure Plan.

The Conceptual ERP applies to individuals working for or on behalf of GGM, including employees and contractors, which have a role and/or accountability for the development, implementation and maintenance of this EMMP.

GGM will make reasonable efforts that suitably qualified (licenced where applicable) contractors are used for the transport of materials, supplies and waste materials, and that contractors have appropriate controls and management plans in place to reduce the likelihood of incidents during transport. Similarly, Project components under the management and maintenance by third parties are outside the scope of this EMMP. The scope of the Conceptual ERP applies to Project infrastructure and management under the care and maintenance of GGM.

5.0 PLANNING

5.1 Organizational Roles and Responsibilities

All persons working for or on behalf of GGM, including employees and contractors, have a role in the successful implementation and maintenance of the Conceptual ERP. This section describes the various roles and responsibilities for GGM personnel in the event of an emergency at the site.

5.1.1 General Emergency Response Roles

The following lists the terms used in this Conceptual Emergency Response Plan for the various roles to be performed by GGM site personnel, along with a brief description of those. Some or all of these roles may be required, depending on the severity and level of urgency of an incident.

- **Incident Commander**: senior employee at the scene of the emergency responsible for providing direction to others present in order to secure the area.
- **Emergency Site Manager (ESM)**: Typically refers to the most senior employee at the scene of the emergency.
- **Mine Manager**: The Mine Manager has overall responsibility for responding to emergencies.
- **Emergency Management Team:** An Emergency Management Team will be established to deal with more complex and significant emergencies that may arise, The Mine manager, who would act as the Emergency Management Team Leader.
- **Security Dispatch Officer**: Refers to the on-duty security personnel at the site. In most situations, this is the first person to be contacted in the case of an emergency.
- **Health and Safety (H&S) Coordinator**: The H&S Coordinator for the site is identified by their responsibilities and title, and informed of incidents that arise.
- **Emergency Response Teams (ERTs)**: Refers to a pre-determined groups of site personnel that are appropriately trained for immediate and effective response to emergency situations. The ERT Captain refers to the leader(s) of the ERTs. This person will lead the ERT personnel, and follow the directions of the ESM, Health and Safety Coordinator, or Designate.
- **First Responder**: Refers to the first GGM personnel to encounter an accident or malfunction. GGM site personnel have a responsibility to respond to an emergency they encounter.
- **Personnel**: Refers to GGM personnel and contractors to the Project.

5.1.1.1 Incident Commander

The most senior supervisor, manager or employee available at the emergency scene will assume the role of Incident Commander. The Incident Commander is responsible until relieved by an Emergency Site Manager. The responsibilities of the Incident Commander are as follows:

- Stop all work immediately and instruct appropriate staff to shut down equipment;
- Stay calm, assess the situation, and take control;
- Ensure that first responder has provided Security provided with details of the emergency and necessary ERTs have been dispatched and Management has been notified
- Designate a person to go to a highly visible area and guide emergency vehicles to the emergency area;
- Make the area safe to eliminate further losses, injury, and damages by sectioning off the area and/or evacuating unnecessary personnel;
- Make sure that shutdown procedures for the entire area are completed;
- If there is anyone injured:
  - Assess the incident scene;
  - Contact Security to apprise them of the situation, notify them of what additional resources may be required, and update the information whenever the situation changes or additional information becomes available;
  - Assign a Log Keeper to record information, action and times;
  - Preserve evidence; and
  - Get the names of eyewitnesses and others who may have relevant information.
- Ensure that employees are accounted for at the assembly point, and if not, follow the missing person procedures described in Section 7.4; and
- Manage the employees at the assembly point until further instructions are given by the Emergency Site Manager.

5.1.1.2 Emergency Site Manager

The Emergency Site Manager (ESM) is the person(s) in charge at the scene of an incident. The ESM is contacted by Security, and is dispatched immediately to the scene to assess the situation and determine appropriate response actions. The ESM is responsible for coordinating the Emergency Response Teams (ERT), and prioritizing additional ERTs should they be necessary. The ESM will coordinate the ERT activities and provide on-scene leadership.

The ESM requires a general knowledge of the capabilities of each of the response teams. They must have a reasonable understanding of the potential emergency scenarios and the implications with regard to health and safety issues, fire potential, and environmental impacts. The primary

ESMs would be the area managers for the appropriate location where the incident occurs, or designates in their absence.

In extended response situations, other personnel (at the discretion of the Mine manager) may replace the Emergency Site Manager. For example, Engineering or Mine Operations personnel may take on the role of the ESM for incidents involving dam/containment failures, or ground instability issues.

5.1.1.3 Mine Manager

The Mine Manager, or designate, has overall responsibility for responding to emergencies. The Mine Manager would act as the Emergency Team Leader, and would ultimately be responsible for key decisions related to response activities at the site (e.g., closing site access during severe weather). Additionally, the Mine manager is responsible for directing communications with outside agencies (e.g., local law enforcement) and communication to corporate management.

5.1.1.4 Emergency Management Team

The Mine Manager will establish an Emergency Management Team to provide direction to the ESM and manage efforts to bring the emergency response to a prompt and successful conclusion.

The Emergency Management Team Leader (EMTL) is the most senior management person on site at the time of the incident until relieved by the Mine Manager. The EMTL will consult with the ESM early in a developing emergency and will call together the Emergency Management Team should it appear that the ERTs require additional support or should it appear that the emergency may have an impact on human health, the environment, surrounding communities, business reputation, or ongoing operations.

The Emergency Management Team will consist of the following:

- Mine Manager (as EMTL);
- Admin Manager
- Mine Manager;
- Process Plant Manager; and/or
- Designates in their absence.

5.1.1.5 Security Dispatch Officer

The Security Dispatch Officer provides assistance to the ESM during an emergency and functions as the primary contact for personnel. The Security Dispatch Officer receives incoming emergency calls and instructions from the Emergency Site Manager, and responds by calling the emergency response group/s into action.

The Security Dispatch maintains a list of personnel and their assigned responsibilities. This list includes those currently serving as: ESM, the contact for each response team, as well as contact numbers for Senior Management. In addition, a list of Department Heads and support personnel

is maintained. Security dispatch is the primary contact and communication centre in an emergency.

The responsibilities of the Security Dispatch Officer include:

- Being the contact person for communication and relaying information internally and externally.
- Arrange for Medical Evacuation Transportation as needed.
- Notify the Department Head(s) whose personnel are involved in the accident or emergency response.
- Notify the appropriate ERT as instructed by the ESM.

5.1.1.6 Health and Safety (H&S) Coordinator

In the event an incident occurs, the H&S Coordinator (or Designate) must be contactable during and outside of office hours. During office hours, the Health & Safety Coordinator must be in close proximity to a radio, page phone or telephone.

The H&S Coordinator will liaise with the Mine Manager, ESM, EMT, responding ERTs and other relevant personnel to coordinate assistance from outside organizations if required and disseminate warnings and information as required.

5.1.1.7 Emergency Response Teams

Emergency Response Teams (ERTs) is made up of personnel from various departments who have been trained to respond to accidents that may occur. Response teams become involved at the request of Security, the Incident Commander, or Emergency Site Manager. Each team requires a leader (ERT Captain) who will assemble their response team and equipment and report to the scene of the incident. A site wide emergency response team will be created for the project.

5.1.1.8 First Responders

The first responder is the first person to encounter the emergency and has the following responsibilities:

- Quickly assess the situation determining the number of injured persons, the severity of injuries and what resources may be required to deal with the emergency situation;
- Notify Security of the incident so they can notify the appropriate personnel, and dispatch necessary ERT(s);
- Provide Security with the following information:
  - name, area and company;
  - the location of the emergency;
  - a description of the emergency;
  - the number of injured persons (if any) and the nature of the injuries;

- the route to be used to approach the incident location (if the normal route is blocked); and
- the telephone number or radio channel calling from.

- Stop all operations in the area until it is safe to resume;
- If necessary and qualified to do so, provide first aid care – if unable to, find someone who can;
- do not move the victims except to prevent further injury but be sure to assess the state of the injured person(s);
- ask injured person, “Are you OK”?
- evaluate mental status using alertness to voice and response to a tap on the shoulder;
- obtain a chief complaint, if possible and
- Stop passing vehicles / people, secure area to limit further incidents, and request assistance where required.
- Ensure the safety of personnel at the scene, until a supervisor or the Emergency Response Team arrives to take control of the situation; and
- Notify the ERT Captain, or the Incident Commander of anyone in need of rescue.

5.1.1.9 Personnel and Contractors

An individual’s specific roles and responsibilities may differ depending on the type of emergency. The general responsibilities for employees and, contractors to follow in the event of an emergency are as follows:

- Stop all work immediately and shut down equipment if safe to do so;
- Stay calm and follow the directions of the Incident Commander or Emergency Site Manager;
- Keep away from danger, especially during fires or chemical emergencies;
- If responsible to perform shutdown procedures, perform them accordingly at the request of the Incident Commander;
- If responders are already at the scene of an emergency, do not go to the scene to watch or offer assistance unless called to the scene by the Emergency Site Manager or ERT Captain;
- In the event that an evacuation is necessary (as indicated by an alarm sounding or verbal communications):
  - Calmly go to the designated Assembly Point and remain there until the Emergency Site Manager informs everyone it is safe to return to the area;
  - Ensure that personnel, and visitors, report to the supervisor to be accounted for.

5.2 Compliance Obligations

The Conceptual ERP is developed and implemented to comply with applicable legislative, regulatory, permit and other relevant obligations, outlined in the following sections.

The ERP will be developed in consideration of the United Nations Environment Programme (UNEP) report titled Awareness and Preparedness for Emergencies on a Local Level for Mining: Guidance for the Mining Industry in Raising Awareness and Preparedness for Emergencies at Local Level (UNEP, 2001), which provides guidance for preventing accidents or minimizing their effects, including through increasing community awareness and preparing coordinated response plans with industry, government and local communities. GGM will work with government agencies and local communities to apply the objectives where applicable of the 10-step process identified in the report.

5.2.1 Environmental Assessment Process Requirements

5.2.1.1 Provincial Terms of Reference

As described in the Approved Terms of Reference, the EA includes a variety of environmental protection and management measures to guide the planning, design, construction, operation and closure of the Project (section 4.1.4) and identification of a monitoring framework related to compliance and effects monitoring (section 8.2).

5.2.1.2 Federal Environmental Impact Statement Guidelines

The EIS Guidelines for the Hardrock Project include development and implementation of follow-up and monitoring programs (section 8.0). The follow-up program verifies the accuracy of the effects assessment and the effectiveness of the measures implemented to mitigate the adverse effects of the Project. The goal of a monitoring program is to ensure that proper measures and controls are in place in order to decrease the potential for environmental degradation during all phases of the Project and to provide clearly defined action plans and emergency response procedures to account for human and environmental health and safety.

5.2.1.3 Draft EIS/EA Report

Section 24 of the Draft EIS/EA includes a listing of proposed Follow-up Monitoring and Environmental Management Plans, which included a commitment to produce a Conceptual ERP. This Plan is intended to establish emergency response procedures that protect human health, the environment, and the Project. The site-specific ERP will be developed to reduce, contain, and control potential releases of hazardous material. The ERP will be developed in accordance with permitting or other regulatory instruments for the Project.

Subsequent to the draft EIS/EA submission, comments were provided by several parties requesting additional clarification on the preparedness, response measures and communications in the event of an emergency. Available information has been incorporated to develop this Conceptual Emergency Response Plan. This conceptual plan will be updated based on detailed Project designs prior to construction and operation.

5.2.2 Regulatory Requirements

5.2.2.1 Federal Regulatory Requirements

Federal regulatory requirements related to this plan are outlined under the following:

- Environment Canada 2009. Environmental Code of Practice for Metal Mines.
- CAN/CSA-Z731-M91 Emergency Planning for Industry (Canadian Standards Association 2002);
- Workplace Hazardous Materials Information System 2015 (WHMIS) (Health Canada 2015); and
- Implementation Guidelines for Part 8 of the Canadian Environmental Protection Act, 1999 – Environmental Emergency Plans (Environment Canada 2004).

The Federal *Transportation of Dangerous Goods Act, 1992* set out requirements for emergency response plans related to the transportation of dangerous goods in Canada.

5.2.2.2 Provincial Regulatory Requirements

In Ontario, the primary legislative instrument related to emergencies and emergency response is the *Emergency Management and Civil Protection Act, 1990* (as amended 2009). Under this act, the provincial ministries and municipalities within the province are required to develop and maintain emergency management programs. The requirements for this are set out in the *Emergency Management Program Standards O.Reg. 380/04*. The government also established Emergency Management Ontario as a branch of the Ministry of Community Safety and Correctional Services with responsibility for monitoring, coordinating and assisting in the development and implementation of emergency management programs in Ontario. Although the Act and associated regulations apply to provincial ministries and municipalities, emergency response plans adopted by private entities should follow similar guiding principles, and be able to be coordinated with these larger scale emergency response efforts.

Also applicable is the *Occupational Health and Safety Act (R.S.O. 1990)*, and associated Ontario Regulation 854: Mines and Mining Plants, administered by the Ministry of Labour

5.2.2.1 Municipal Regulatory Requirements

There are currently no municipal requirements related to emergencies, however, the Municipality of Greenstone has an Emergency Response Plan (Municipality of Greenstone, 2013) and as the GGM moves forward they will work with local and regional levels of government to establish clear lines of communications with respect to emergencies involving GGM.

5.2.3 Other Agreements, Commitments, Requirements

There is an established GGM Health and Safety Policy that establish the overarching principals of GGM. This plan will comply with the Health and Safety Policy, as well as plans and procedures established under the policy.

6.0 SUPPORT

6.1 Competence, Training and Awareness

GGM requires that persons working under its management, including employees and contractors, have the knowledge, understanding, skills and abilities to complete work in a manner that protects the environment. The following actions will be established to provide worker competency, training and awareness:

- Site orientation for new hires, contractors and visitors;
- Specialized training in various emergency response measures including, but not limited to: mine rescue, spill response, fire suppression, first aid, communications procedures; and
- General employee training in reporting responsibilities and follow-up reporting / documentation.
- Periodic simulations to test emergency response readiness and communications protocols.

GGM will offer its employees an Employee Assistance Program, and require pre-employment physicals. Workforce education to encourage healthy lifestyle choices, sensitivity training and strict enforcement of GGM's health and safety policies will also help mitigate adverse social effects. For example, sensitivity training will raise the level of awareness about the potential effects that workers can have on the community and their families through drug and alcohol use or other social concerns.

Safety orientations will be mandatory and provided for new employees, and employees will be trained in fuel handling, equipment maintenance, and fire prevention and response measures. Fire prevention and suppression systems will be maintained on site, including water supplies, sprinklers, fire extinguishers and other firefighting equipment.

6.2 Communication

All communication with the public, government, media and Project personnel must be made through the General Manager (or designate). In the event of an emergency requiring the public be notified (see Section 6.2.1.4) the Mine manager would instruct Security to coordinate with the OPP and appropriate government agencies. The Mine manager, will have access to a current list of government officials to be contacted including the following:

- Ontario Provincial Police (OPP);
- Ministry of Transportation (MTO);
- Ministry of the Environment (MOE);
- Ministry of Natural Resources (MNR);
- Environment and Climate Change Canada (ECCC); and
- other applicable federal or provincial ministries or agencies.

6.2.1 Emergency Contact Point

Security Dispatch personnel serve as the contact point in an on-site emergency situation. Security Dispatch is to provide a single point of contact that is common to personnel and emergency situations. In the event of off-site emergencies, the initial contact in an emergency is the Mine manager (see Section 6.2.1.3).

6.2.2 Communications Responsibilities

To ensure communications are effective and available in the event of an emergency, the following procedures have been put in place:

- Security Repeater (Radio) and phone numbers will be monitored 24-hours per day, 7 days per week, and log communication to ensure information from the scene is accurately recorded and passed on to the intended recipient. If for some reason there is no answer at security dispatch, the telephone will automatically transfer the call to the process plant control room.
- Radio communication between the accident site, ERTs, Mine manager and other personnel that may be involved in an emergency response will be conducted through the Security Dispatch.

6.2.3 Offsite Emergencies

If an accident occurs along the transit route to the Project from one of the nearby communities, the initial contact in an emergency is the Mine Manager. Depending on the location and severity of the incident, Mine Manager may elect to send the Project ERT immediately. Once this decision is made, the Mine Manager will contact Security Dispatch and ensure that an ESM, and other relevant management and supervisory personnel are immediately notified of the incident and response measures activated.

6.2.4 Public Warning and Evacuation

In the event of an incident that could threaten the health or safety of nearby communities or individuals, warning or notice of evacuation may be carried out. The Community Relations department will maintain a contact list for communities, including local Aboriginal communities. In addition, contact information for commercial and residential properties, forestry and mining concession holders will be maintained. This information will be provided to Security Dispatch to be available for external communication.

For non-emergency public warnings, Community and Public Relations would coordinate these with appropriate government agencies.

For emergency warnings and evacuations, the Mine Manager would instruct Security to coordinate these with the OPP and appropriate government agencies, who would take the lead.

6.2.5 Reporting

Emergency or incident reporting to corporate officers is to be done by the Mine Manager.

7.0 Implementation of Mitigation Measures

7.1 General Approach

Project planning and management strategies, including in-design mitigation measures and environmental protection measures will reduce the likelihood of accidents and emergency situations to as low a level as is reasonably practical. This includes

- engineering design that complies with codes and standards that incorporate factors of safety to protect Project infrastructure and personnel. For example:
  - The TMF perimeter dams will be designed to accommodate a one-in-10,000-year seismic event
  - Inclusion of an emergency spillway in the TMF dam design to accommodate high operating water levels to reduce flood potential
  - Inclusion of an emergency pond at the process plant
  - proposed mitigation measures for the historical MacLeod tailings adhere to a design earthquake of 1: 6,250 year annual exceedance probability, assumed to be a magnitude 6.0.
  - application of the National Building Code of Canada and other applicable guidelines to reduce effects of the environment on the Project and reduce the level of urgency for emergency events.
  - Fire prevention and suppression systems will be maintained onsite, including water supplies, sprinklers, fire extinguishers and other firefighting equipment. Flammable material (such as fuels and explosives) will be carefully managed at the Project.
- using adaptive strategies (e.g., modified Project scheduling to account for weather events, progressive rehabilitation to stabilize slopes and exposed ground surfaces)); and
- environmental protection and emergency response planning.

The potential for emergency situations has been considered in the planning and design of the Project and is based on the following approaches to manage.

7.2 Level of Urgency

While accidents and malfunctions will be treated seriously, and responded to as soon as they are encountered, not all events require the same level of response or resources. Accidents and malfunctions can be generally ranked as one of the following:

- **low urgency (accident or incident)**: describes those on-site or off-site emergencies that can be handled effectively by the personnel present;
- **medium urgency (emergency)**: describes those on-site or off-site emergencies that require the intervention of an Emergency Response Team (ERT), and generally cannot be handled by personnel alone;
- **high urgency (crisis)**: describes those on-site or off-site emergencies that exceed the capacity of personnel, Emergency Response teams and/or resources available at the

scene, and requires outside help from corporate, specialized services or government agencies.

These levels will assist in establishing the appropriate response measures to employ as well as for incident reporting.

7.3 Project First Aid Services

During construction most workers will continue to receive general health care in their home communities. Any minor injuries or health problems will be addressed through the provision of first-aid at the worksite. Emergency response services will also be provided at the site with mine rescue vehicles and trained First Responders at the Project.

The Project includes first aid equipment (including ambulatory services), facilities and trained personnel with a first aid station located at the Processing Plant facilities. Additional first aid supplies will be located at the security gate and administration offices. During construction, a dedicated temporary trailer will provide first aid services for onsite and temporary camp. In addition, first aid kits and fire extinguishers are supplied in onsite trucks and off-road vehicles.

7.4 Medical Emergencies Resulting in Injuries or Fatalities

Injuries and medical emergencies may arise from a variety of situations, many of which are covered in this Plan. In many situations the injuries can be dealt with through timely intervention an on-site first aid. At the highest level of urgency, the incident could result in fatalities. The levels of urgency for medical incidents are as follows:

- **Low Urgency** — Minor injury (first aid level) during routine operations with safety policies and practices implemented.
- **Medium Urgency** — Single seriously injured person or multiple minors occurring outside of routine operations with safety policies and practices implemented.
- **High Urgency** — Multiple seriously injured people or at least one fatality (as determined by qualified medical personnel).

7.4.1 Injury or Medical Emergency

Injuries require immediate response. For injuries and medical emergencies that can arise from a variety of situations, it is important that on-site first aid kits are well stocked and personnel with first aid and CPR training are available to provide care for victims until response teams arrive.

Any worker who sustains an injury or illness that is, or may be, work related will report for treatment as soon as possible.

Typical first aid scenarios that an individual might encounter includes:

- Bleeding from cuts and abrasions;
- Slips, Trips, and Falls – Injuries such strains, sprains and broken bones (fractures) or concussions;

- Burns; and
- Allergic Reactions.

7.4.1.1 Procedures for Handling Medical Emergencies

The following will be followed during medical emergency whether it is minor or life threatening:

- If MEDICAL ASSISTANCE IS REQUIRED CALL FOR HELP ON THE EMERGENCY CHANNEL:
- Provide immediate First Aid / send someone to make the call. Stop work in the area.
- Give dispatcher the following information:
- My name is _____; I am located at _____; near Muster Point _____
- Post spotter to ensure that the response team is met and directed to the emergency location.
- Stay at the Scene
- Maintain contact with dispatcher if possible
- Render first aid
- Once relieved by advanced First Aid provider continue to assist if required and pass on information gathered during assessment of patient.

If the injury requires offsite medical aid, it will be the responsibility of the Project advanced First Aid provider on duty to do Medical Aid Referrals, by making the decision to transport, the choice of methods and the decision to accompany the patient, if necessary. The Mine Manager (or designate) is responsible to arrange for the required transportation for the injured worker. If the transport is by helicopter or ambulance than Security Dispatch will contact air and ambulatory support services.

It is the responsibility of the advanced First Aid provider to complete the proper forms and submit to proper authorities as well to distribute a copy to the Mine Manager, HR, and, if necessary, provide a copy for corporate head office. A record of each injury or illness that requires first aid treatment is kept in the Accident Record Book maintained by the Health and Safety Coordinator. Each record must be signed and dated by the person providing treatment. The first aid statistics will be reviewed on a regular basis at a safety meeting to determine trends and recommend corrective action(s).

7.4.2 Fatalities

Personal injuries that result in fatalities require special action due to local law and conditions. If the injured party is determined to be deceased by qualified medical personnel, the remains are not to be moved until authorization is received from the OPP (this is a crime scene), or the Medical Examiner.

Due to the nature of fatalities, special emphasis will be placed on internally investigating the incident, determining the causes and taking the necessary steps to prevent reoccurrence.

Fatalities at the site will also require an additional set of specific responsibilities for the Security Dispatch Officer, Emergency Site Manager, Mine Manager and Health and Safety Coordinator as outlined below.

7.4.2.1 Security Dispatch Officer Responsibilities

- Prevent bystanders from approaching the incident scene;
- Secure the incident scene and keep a log of persons entering and leaving;
- Maintain the security of the incident scene until told to release it back to operations.

7.4.2.2 Emergency Site Manager Responsibilities

- Order the barricading of the area surrounding the incident scene to preserve evidence;
- Ensure that the Health & Safety personnel and the victim's immediate supervisor are notified immediately;
- Confine the information to the facts of the incident, having made positive identification of the deceased. Radio discussions of the incident will be minimized and names will not be broadcast;
- Preserve the incident scene and physical information until relieved of this responsibility by the Health & Safety Coordinator or Designate;
- Limit incident site visits to necessary Emergency Response personnel, Security and Managers, as required; and
- Complete a preliminary report of the incident to assist the Special Investigation Team with the completion and distribution, as appropriate, of a final report.

7.4.2.3 Mine Manager Responsibilities

- Notify the family of the deceased, as appropriate, as promptly as circumstances allow; and
- Visit the incident scene to assist in the investigation.

7.4.2.4 Health & Safety Coordinator Responsibilities

- Ensure that the scene is properly preserved, documented and evidence is collected;
- Initiate legal reporting, to agencies that have authorization in the case;
- Follow up with key Emergency Response personnel to ensure that appropriate notifications have taken place.

7.5 Missing Persons

In the case of an emergency incident, it is the primary responsibility of the Incident Commander to ensure that employees are accounted for at the assembly point. However, it is also be the

responsibility of employees to immediately report to the Incident Commander persons who cannot be accounted for at the assembly point. Even outside of emergency situations, if a person is suspected to be missing, Security will be notified and the following steps taken depending on for the Level of Urgency (described in Section 7.2).

7.5.1 Low Urgency

The low level of urgency applies under the following conditions:

- Individual(s) missed pre-assigned radio / satellite phone or check-in with supervisor or designate;
- Communication has been lost with the individual(s) and they cannot be raised via radio or satellite phone by supervisor or designate; and/or
- Personnel cannot be located readily.

The following “First Notice” actions will be taken to address a missing person at this level of urgency:

- Supervisor will continue to try to raise personnel on the radio or satellite phone;
- Security / Management will conduct investigations, in the immediate offices, shops and probable areas, to determine the whereabouts of the potential missing person(s);
- Notification will be sent to all departments to check their immediate areas for the potential missing person(s); and
- Supervisor will try to establish the personnel’s last known position(s).

7.5.2 Medium Urgency

If the incident is not resolved at the lowest level of urgency, it would progress to the next level. The conditions associated with a medium urgency incident are:

- First Notice actions have been unsuccessful in establishing communications with suspected missing person(s); and
- First Notice actions to locate the suspected missing person(s) in their routine areas have been unsuccessful.

The following “Second Notice” actions will be taken to address a missing person at this level of urgency:

- Security, Management and Supervisor Continue to investigate and attempt to locate the potential missing person(s);
- Security, under the direction of the Mine manager, contact local law enforcement to determine whether the staff may have returned home without notifying appropriate personnel on site.

7.5.3 High Urgency

If the missing person is still not resolved after the first two levels of action, the incident would be considered as being at a high level of urgency. The conditions associated with a high urgency incident are:

- First and Second Notice actions have been unsuccessful in establishing communications with suspected missing person(s);
- First and Second Notice Actions to locate suspected missing person(s) in their routine areas have been unsuccessful; and
- Personnel are confirmed to be missing or unaccounted for.

The following “Third Notice” actions will be taken to address a missing person at this level of urgency:

- Mine Manager assesses the situation;
- Security, under the direction of the Mine Manager, will notify local law enforcement of the missing person; and
- Emergency Services initiate search and rescue activities.

7.6 Evacuations

Evacuations from the Project or from specific areas or components may be required for various reasons under emergency scenarios, including natural hazards, fire and structural failures, such as an open pit slope collapse. An evacuation route (potentially north of the Project toward Geraldton) and alternate will be determined as the Conceptual Emergency Response Plan is advanced to support Project planning.

7.6.1 Incident Commander Responsibilities

In the event that an evacuation is necessary (as indicated by an alarm sounding or verbal communications), the Incident Commander, or most senior staff:

- Provide first aid and direct workers to the pre-arranged assembly point to perform a headcount and get personnel to sign in;
- Personnel to be accounted for include employees, contractors, delivery personnel, temporary workers, and visitors under their supervision;
- The senior employee(s) at each Assembly Point must communicate with one another to determine the location of missing personnel; and
- If missing personnel are believed to be inside the evacuated facility/area, contact the ERT Captain immediately so an ERT can conduct a search and rescue operation.

7.6.2 Personnel Responsibilities

In the event that an evacuation is necessary (as indicated by an alarm sounding or verbal communications), personnel will be expected to:

- Obeying alarms and instructions.

- Immediately stop work and leave, in an orderly manner to a designated assembly point and being mindful of possible traffic and other dangers. Under no circumstance will employees attempt to re-enter or traverse a building / area that is being evacuated.
- Smoke-filled environments should be avoided. If the only exit route is full of smoke, personnel should escape through a window if possible.
- The most senior manager or employee in an emergency area must assume the role of Incident Commander and must record the presence/absence of personnel in an appropriate log. Absent personnel that work in other areas will be identified, including their current location, and notification must be given to the Area Supervisor/ESM and Security about the evacuation status;
- if personnel are working outside of their customary work area, they will report to the Area Supervisor where they are and the name of their regular supervisor;
- personnel that work in complex areas, such as the ore processing plant, must carry out established emergency shutdown procedures, if applicable. Good judgment to determine whether there is enough time to disconnect equipment, without endangering personnel, must be considered. Personal safety comes first if in doubt;
- the Incident Commander will confirm that work areas have been evacuated, provided it is safe to do so;
- after reaching a designated Assembly Point, personnel must stay there until provided with further instructions. Personnel must establish contact with their Area Supervisor or Incident Commander as soon as possible;
- known lost/missing personnel will be immediately reported;
- work groups whose supervisor is not present at the Assembly Point must report to the most senior employee available; and
- evacuated areas will not be entered to look for or offer aid, unless the Incident Commander specifically requests it.

7.7 Fires

Fires at the Project can result from various accidents or malfunctions or through forest fires in the vicinity of the Project. The Project structures will be constructed primarily of concrete and steel and equipped with appropriate fire suppression and alarm systems. The buildings and majority of materials handled (e.g., ore, waste rock, tailings) are not flammable. Where feasible, a cleared buffer will be maintained around Project infrastructure, which would reduce the potential for a fire to affect the structures. The buffer zone will further decrease the likelihood of a fire spreading and causing substantive damage to the Project.

The historical underground workings will provide fire water to be stored in a dedicated tank on site. Automated fire detection and protection systems will be installed for critical process areas, such as the crushing, grinding and processing plant buildings and interconnecting conveyor galleries and tunnels, and certain critical infrastructures such as the power plant, warehouses and fuel storage areas. A fire hydrant network will be installed around the perimeter of the Project

infrastructures and process plant site, with fire hose cabinets installed in administrative buildings and the truck maintenance facility.

The Emergency Site Manager (ESM) takes direct charge of rescue and firefighting operations. All orders given at such a time of emergency will be issued through the ESM. It is also left to the discretion of the ESM to modify the various operations if necessary.

The ESM will have to coordinate with the municipality fire chief when the municipality fire department is solicited.

It is the responsibility of Department Heads to ensure that their personnel are acquainted with, and kept informed regarding those parts of the procedures that affect them, and that they understand their proper course of action in the event of a fire warning. Supervisors must read and explain the fire procedures to their personnel on a regular basis and they ensure themselves that new person(s) on their shift understand what to do in case of fire. Personnel must be informed without delay of change in the fire procedure. A report of these talks must be made to the Safety Department. Supervisors are responsible to ensure the areas under their supervision are inspected monthly for fire hazards and that firefighting equipment is in good condition. A report of these inspections must be filed with the safety department. Contractors, vendors and suppliers on the property must comply with this procedure.

7.7.1 Designated Assembly Areas

Personnel, including contractors, will assemble at the posted Assembly Points. The most senior personnel at an assembly point will assume the role of Incident Commander, and will follow the evacuation responsibilities described in Section 7.5.1. Personnel will follow the evacuation responsibilities described in Section 7.5.2.

7.8 Unscheduled or Accidental Blasting / Explosions

Explosives will be manufactured, stored, handled and used as per the Conceptual Explosives and Blasting Management Plan. The main goal of the Conceptual Explosives and Blasting Management Plan is to provide direction for the safe storage, handling and use of explosives and explosive components at the Project, in order to ensure the safety of the public and site personnel, and protection of both the environment and Project infrastructure. In the event of an unscheduled or accidental explosion this Conceptual Emergency Response Plan applies.

In the event of an accidental blast or explosion, the appropriate manager for that area of the project will notify the ESM who will inform and dispatch the necessary ERTs. The following steps would be expected to be followed:

- cease operations in the area;
- nearby personnel will make their way to a designated Assembly Point and remain there until authorized to leave the area;
- anyone injured will follow the appropriate medical emergency procedures (Section 7.3); and
- secondary explosions, structural collapses or other potential hazards considered before entering the area to assist injured persons.

7.9 Spills / Leaks

The Conceptual Spill Prevention and Contingency Plan has been developed that provides specific procedures to follow in the event of a spill or leak.

7.10 Infrastructure Failures

The following scenarios have a potential effect on the environment and conceptual response measures are provided:

- TMF Dam Failure or Overtopping — Failure or overtopping of the TMF dam would result in the release of tailings solids and effluent.
- Tailings Pipeline Failure — Failure of the TMF pipeline would result in the release of tailings slurry.
- Water Collection System Failure — Failure of the seepage, drainage and water collection system would result in the release (within the site) of mine contact water or other effluent controlled by the system.
- Waste Rock Storage Area Slope Failure — Failure of the storage area releasing waste rock outside the storage areas.
- Loss of Stability of Historical Tailings — Loss of stability of the historical tailings may result in damage to a portion of the relocated Highway 11 or waste rock/overbruden storage areas.
- Goldfield Creek Diversion Failure — Failure of the Goldfield Creek diversion would result in erosion and the release of sediment to downstream watercourses and lakes.

Mitigation and management measures to reduce the risk of these events are outlined in the following plans:

- Conceptual Water Management Plan;
- Conceptual Waste Rock Management Plan;
- Conceptual Soil Management Plan;
- Conceptual Erosion and Sediment Control Plan; and
- Conceptual Spill Prevention and Contingency Plan.

In the event of an on-site failure or collapse, the Conceptual ERP applies as per the following section.

7.10.1 TMF Dam Failure or Overtopping

In the event of a failure of the Tailings Management Facility (TMF) dam or other containment dams or structures, tailings, waste materials or water could be released to the environment or areas of the Project.

To respond to a failure of the TMF dams (e.g., due to a seismic event or overtopping), GGM will:

- notify regulatory authorities;

- cease pumping of tailings to the TMF (ore processing plant shutdown) and if needed lower the reclaim pond by pumping to the open pit, and ETP as needed;
- use earth-moving equipment to construct temporary berms across drainage channels to capture tailings or waste materials where possible;
- to the extent practical, use on-site earth-moving equipment and local materials to reduce/eliminate further loss/spread of tailings or waste materials;
- deploy silt fencing and silt curtains if material has entered watercourses
- notify, in conjunction with the regulatory authorities and downstream users of the affected areas;
- If water quality at MacLeod Park is compromised as a result of the incident, provide water supply for Park users until Park water supply is restored;
- assess monitoring and remedial requirements and submit plan to regulatory authorities
- investigate the root causes of the failure, and develop and implement measures to eliminate a future occurrence;
- notify the public that there has been a major spill and they are advised not to enter or use affected areas (e.g., forest, lakeshore) until further notice.

7.10.2 Tailings Pipeline, Tailings Reclaim Pipeline

In the event of a failure of the tailings discharge pipeline and reclaim pipeline waste water with elevated metal and chemical concentrations could be released to the environment or areas of the Project.

To respond to a pipeline failure, GGM will:

- Direct leakage either to the TMF, or to other containment facilities designed to accommodate and contain contaminated water. The pipe will be equipped with a wireless leak detection system; should issues with the pipe be detected, pumping would stop and, if required, the pipe can be drained to the safety pond. The safety pond will be lined with geomembrane and located at the low point of the tailings pipeline;
- Equip the tailings pipeline with flow/pressure sensors that trigger an alarm if unexpected conditions occur (ie a change in pressure outside normal operating conditions).
- Implement remediation and monitoring of impacted areas including the safety pond;
- Remediation of the safety pond may include mechanical pumping, dredging and excavation to make the safety pond available again in case of an emergency. This material will be directed to the TMF. The lining of the safety pond will be protected during this remediation work and repaired as needed; and
- Investigate the root causes of the failure, and develop and implement measures to minimize the possibility of recurrence.

7.10.3 Water Collection System Failure

The Conceptual Spill Prevention and Response Plan has been developed that provides specific procedures to follow in the event of a spill or leak due water collection facilities.

In the event of a failure of the water collection network contact water with elevated metal and chemical concentrations could be released to the environment or areas of the Project.

To respond to a failure of the water collection system and contact water could be released to the environment or areas of the Project, GGM will:

- Implement measures outlined in Conceptual Spill Prevention and Response Plan.
- In the event that the spill triggers an emergency response, GGM will:
  - notify regulatory authorities;
  - use earth-moving equipment to construct temporary berms across drainage channels to capture contact water or waste materials where possible;
  - to the extent practical, use on-site earth-moving equipment and local materials to reduce/eliminate further loss/spread of contact water or waste materials;
  - deploy silt fencing and silt curtains if material has entered watercourses;
  - notify, in conjunction with the regulatory authorities and downstream users of the affected areas;
  - If water quality at MacLeod Park is compromised as a result of the incident, provide water supply for Park users until Park water supply is restored;
  - assess monitoring and remedial requirements and submit plan to regulatory authorities
  - investigate the root causes of the failure, and develop and implement measures to eliminate a future occurrence;
  - notify the public that there has been a spill and they are advised not to enter or use affected areas (e.g., forest, lakeshore) until further notice.

7.10.4 Open Pit Slope Failure

In the event of a failure of the Open Pit slopes rock and water could be released into the working area of the Open Pit. This failure would not cause a release to the environment, however, it may affect surface infrastructure that may result in a release to the environment.

To respond to a failure of the Open Pit slope, GGM will:

- Implement measures in response to medical emergencies resulting in injuries and fatalities (section 7.3);
- Evacuate the open pit (section 7.6) and cease operations in affected area;
- Notify regulators; and

- investigate root causes of the failure, and develop and implement measures to minimize the possibility of recurrence.

7.10.5 Waste Rock Storage Area Slope Failure

In the event of a failure of the WRSA slopes, rock and water could be released to the environment.

To respond to a failure of the surface stockpile, waste rock and overburden slopes, GGM will:

- Implement measures in response to medical emergencies resulting in injuries and fatalities (section 7.3);
- Cease operations in affected area;
- Notify regulators; and
- investigate root causes of the failure, and develop and implement measures to minimize the possibility of recurrence.

7.10.6 Loss of Stability of Historical Tailings

In the event of a loss of stability of the historic tailings, rock and water could be released to the environment (in particular to Kenogamasis Lake). Emergency response procedures for an incident of this nature would involve similar responses to those for a failure of the TMF dam failure or overtopping (Section 7.9.1), a failure of open pit slopes (Section 7.9.4) and stockpile failure (Section 7.9.5)

To respond to a failure of the surface slopes, GGM will:

- Stop work in the area to ensure the safety of workers;
- Notify the public that there has been a major spill and they are advised not to enter or use affected areas (e.g., highway, forest, lakeshore) until further notice;
- Notify regulatory authorities;
- Use earth-moving equipment to construct temporary berms across drainage channels to capture tailings or waste materials as possible;
- To the extent practical, use on-site earth-moving equipment and local materials to reduce/eliminate further loss/spread of tailings or waste materials;
- Once the emergency has been resolved, notify, in conjunction with the regulatory authorities and downstream users of the affected areas;
- Implement remediation and monitoring of tailing-impacted areas; and
- Investigate basic causes of the failure, and develop and implement measures to minimize the possibility of recurrence.

7.10.7 Goldfield Creek Diversion Failure

In the event of a failure of the Goldfield Creek Diversion system (as a result of extreme rainfall events or during ice breakup), increased erosion and sediment could be released to the environment and there is the potential of erosion affecting the stability of surface stockpiles, storage areas and dams. The Conceptual Erosion and Sediment Control Plan outlines measures to manage and reduce erosion and control sediment to the local environment. Response measures in response to a dam failure is outlined in section 7.9.1 and in response to stockpile/WRSA failure is outlined in section 7.9.5.

7.11 Natural Hazards

Natural hazards include a range of events that are unusual and can result in accidents, malfunctions or other emergencies. Natural events include extreme or severe weather, earthquakes and wildlife incidents.

7.11.1 Severe Weather Events

Severe weather events at or in the vicinity of the Project can include extreme precipitation events such as heavy snow or rainfall and high winds (tornados), or extreme temperatures (extreme cold). These events can endanger personnel at the Project, due to whiteouts, low visibility conditions and extreme cold and can lead to blocked or washed out roads or power outages, which could impede emergency evacuations and response to other emergencies and require accommodation of personnel onsite. During severe weather events, work may reduce to essential site services during these events.

In the event of a severe weather event, GGM will:

- If notified that road access to the Project has been curtailed due to a winter storm, the person receiving such notice will immediately notify Security, who will advise the Mine Manager of the situation;
- The Mine Manager, or designate, will confirm the road closure and attempt to determine the extent of the closure, and contact the OPP if necessary;
- If road closures are anticipated to extend through a shift change, workers at the site must be notified, and the Mine Manager, or designate, will determine if the oncoming shift should be cancelled; and
- If the severe weather persists, the Mine Manager, or designate, will evaluate the operability of non-essential services.

7.11.2 Earthquakes

The Project is within an area of low seismic activity, however, in the event of a seismic event, GGM will implement measures comparable to unscheduled blasting/explosion. There would be an increased potential for a physical failure of surface infrastructure and the response measures for these resultant failures are described in Section 7.7.

7.11.3 Wildlife Incidents

A variety of wildlife species occur in the area in which the Project is located, and some are potentially dangerous, including bears and moose. Mitigation and management measures to reduce the risk of wildlife incidents are outlined in the Conceptual Biodiversity Management and Monitoring Plan. Unexpected wildlife encounters could result in accidents, including vehicular accidents.

In the event of a wildlife incident, GGM will:

- Provide alarm methods and other communication, such as radio communication and use of air horns, of imminent threats or incidents involving wildlife to personnel
- Following the alarm a general wildlife report will be broadcast indicated above;
- Personnel near the encounter are to stop work and monitor the animal's movements non-invasively;
- Follow-up notifications are to be issued if the sighting changes;
- Stop work and proceed to safety at a nearby Assembly Point, or prepare for field evacuation as needed;
- If avoidance or distancing measure cannot be taken then preparation for deterrence measures must be taken. In this situation, the Ministry of Natural Resources must be contacted and personnel and trained wildlife responders will follow their directions; and
- The appropriate wildlife sighting/incident documentation as per the Biodiversity Management Plan will be completed.

7.12 Off-Site Emergencies

Off-site activities associated with the Project that could result in an emergency include:

- Injuries Resulting from Vehicle Collisions — Vehicle collisions involving personnel transports or transport trucks may result in injuries to site personnel or members of the public.
- Spills from Vehicle Collisions — Vehicle collisions involving transport trucks may result in the release of hazardous materials such as mill reagents and fuel, or other non-hazardous materials such as construction material.

GGM will work with external responders as needed/requested to provide assistance (personnel and equipment as required) with off-site emergencies.

8.0 MONITORING, EVALUATION AND REPORTING

8.1 Monitoring, Measurement, Analysis and Evaluation

The purpose of the emergency response monitoring program is to evaluate and document if the Conceptual Emergency Response Plan successfully achieves its performance objectives of clearly providing communication and action procedures to be followed in the event of an

emergency related to the Project. Follow-up analysis and monitoring and will be developed and implemented based on the implementation of this plan in the event of an emergency or arising from observations/assessments as a result of training simulations.

8.2 Reporting

The form and frequency of follow-up reporting will be determined as the Project progresses through EA and permitting, however, it is anticipated that those elements relevant to the Conceptual Emergency Response Plan will be assembled into a formal summary report and provided to interested parties on an annual basis during construction and operation and during closure in years when monitoring is carried out. The reporting will be used to inform adaptive management reviews. Receiving, documenting and responding to communication from external interested parties, including complaints, will also form part of reporting under this Plan.

8.3 Continual Improvement

Adaptive management is a planned and systematic process for continuously improving environmental management practices by learning from their outcomes. Adaptive management provides the flexibility to address/accommodate new circumstances, to adjust monitoring, implement new mitigation measures or modify existing measures.

GGM will identify and correct incidents with appropriate and lasting measures aimed to prevent reoccurrence and/or similar occurrences. The Adaptive Management Framework (Figure 8-1), provides a formalized approach to:

- formally track and monitor activities;
- report and as needed investigate incidents, including non-conformance and non-compliance events;
- develop and implement corrective and preventive actions; and
- continue monitoring and update relevant EMMPs.

Corrective actions will be assigned as appropriate, including actions to prevent their reoccurrence. Corrective actions will vary according to the results of incident investigation and in consideration of other incidents related to emergency response.

GGM is committed to the continual improvement of its environmental management and performance. As part of the GGM Adaptive Management Framework, the Conceptual ERP will be assessed annually to verify implementation and the continued suitability, adequacy and effectiveness of the Plan. The review will identify elements of this EMMP in need of revision, and evaluate performance against established performance objectives.

Figure 8-2 presents the overall approach to developing and advancing the EMMPs from the final EIS/EA to the construction Phase of the Project. The first stage of EMMP development begins with preparation of Conceptual Environmental Management Plans as part of the final EA/EIS. These Conceptual EMMPs are commitment-based and broad in their level of detail. The EMMPs guide environmental management for the Project and are progressively developed as the Project

moves through the EA/EIS, permitting, and construction, and updated based on continual improvement during operations through adaptive management.

9.0 REFERENCES

Stantec Consulting. 2016. Hardrock Project Draft Environmental Impact Statement / Environmental Assessment. January 2016.

Canadian Standards Association 2002. CAN/CSA-Z731-M91 Emergency Planning for Industry

Environment Canada 2004. Implementation Guidelines for Part 8 of the Canadian Environmental Protection Act, 1999 – Environmental Emergency Plans.

Environment Canada 2009. Environmental Code of Practice for Metal Mines.

Health Canada 2015. Workplace Hazardous Materials Information System.

Ministry of Community Safety and Correctional Services 2009. Emergency Management and Civil Protection Act, 1990 (as amended 2009) and Emergency Management Program Standards O.Reg. 380/04.

Ministry of Environment and Climate Change *Environmental Protection Act*

Ministry of Labour. 1990. *Occupational Health and Safety Act (R.S.O. 1990)*

Municipality of Greenstone 2013. Emergency Plan, Schedule A to By-law Number 13-77, November 2013.

Transport Canada 1992. *Transportation of Dangerous Goods Act, 1992.*

UNEP 2001. APELL for Mining Guidance for the Mining Industry in Raising Awareness and Preparedness for Emergencies at Local Level. Technical Report No. 41.

10.0 FIGURES

Figure 8-1: Hardrock Project Adaptive Management Framework

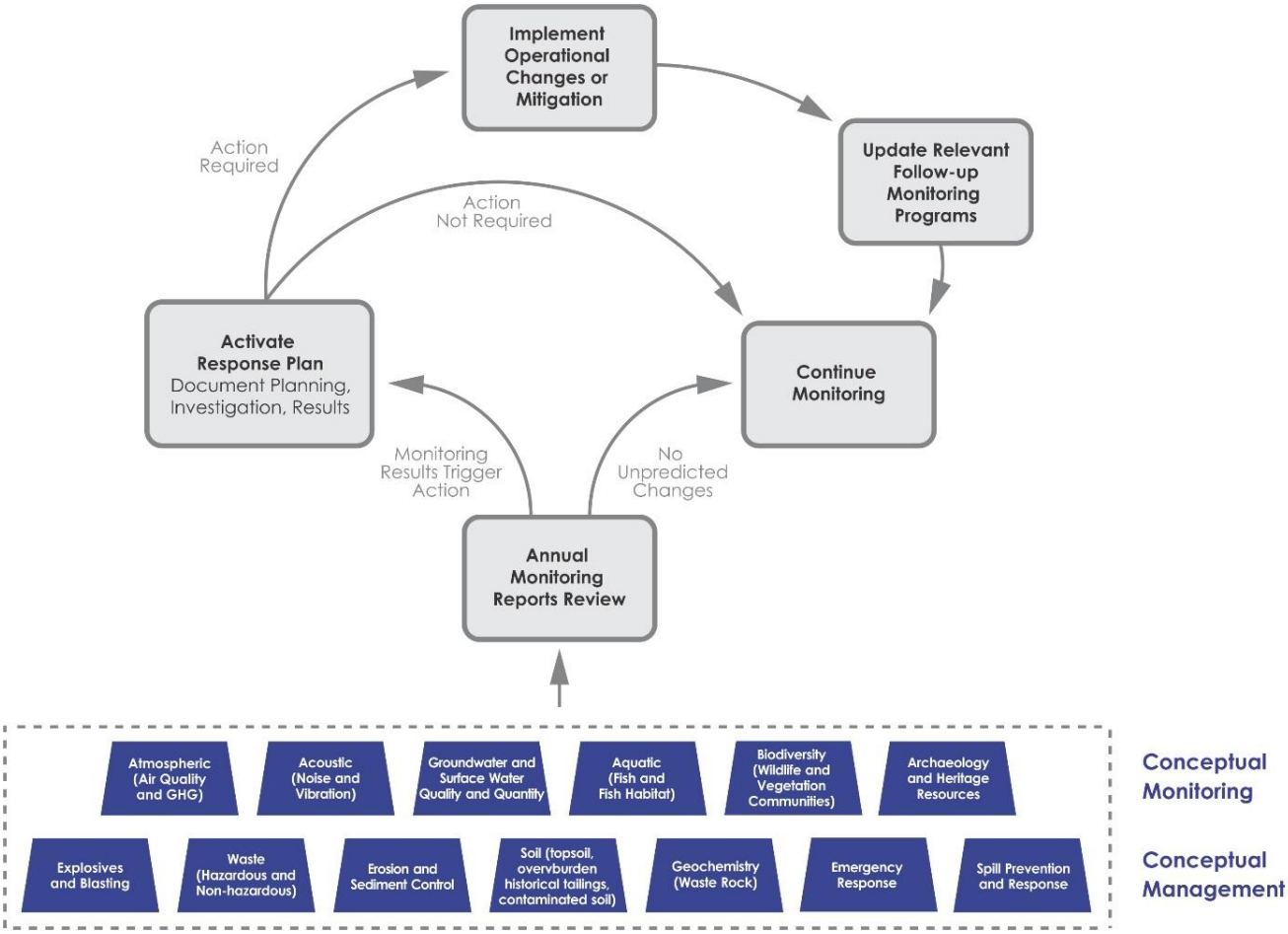

Figure 8-2: Environmental Management and Monitoring Plan Development EA to Construction