



Queensway Gold Project

Environmental Preview Report

November 2026

NEWFOUNDGOLD

Queensway Gold Project

Environmental Preview Report

November 2026

Prepared for:
New Found Gold Corp.

Prepared by
Stantec Consulting Ltd.

File Number:
121418830

Executive Summary

New Found Gold Corp. (New Found Gold) is proposing the Queensway Gold Project (the Project), a new open pit gold mine east of the Town of Appleton, Newfoundland and Labrador (NL). The Project is subject to an environmental assessment (EA) pursuant to the *Newfoundland and Labrador Environmental Protection Act*. An Environmental Registration was submitted to the Province on April 30, 2026. On July 3, 2026, New Found Gold was notified that the Project will require an Environmental Preview Report (EPR), and on September 2, 2026, the provincial government issued EPR Guidelines for the Project. This EPR has been prepared in response to the information requirements outlined in the EPR Guidelines issued by the Province and in consideration of public comments received on the Environmental Registration. This document is intended to function as a stand-alone submission that provides the information necessary to address those requirements while building upon the EA completed to date. Where appropriate, references are made to the previously submitted Environmental Registration, which remains a supporting document to this EPR.

The Project is a proposed open pit gold mining operation involving the development of four open pits and associated mine infrastructure, including waste rock and overburden storage facilities, ore stockpiles, a crushing and ore-sorting plant, access and haul roads, water management infrastructure, and support buildings. The Project is expected to produce approximately 700 tonnes per day of pre-concentrated product feed. Ore mined at the Project site will be crushed and sorted on-site and then transported for processing at the existing, permitted Pine Cove facility on the Baie Verte Peninsula. Project construction is expected to begin in early 2027, following EA release and receipt of required permits and authorizations. Operations are planned for approximately seven years, year-round. The site will be progressively rehabilitated throughout operation, with final rehabilitation, closure, and post-closure monitoring after operations end.

The Project has been designed to avoid or limit potential environmental and social effects where practicable. Major infrastructure has been concentrated within the Hermans Pond sub-watershed, avoiding the Joe Batt's Pond watershed and watersheds that flow towards Gander Lake, limiting interactions with fish habitat, and reducing potential effects on nearby communities, recreational activities, and other sensitive receptors. Project design reflects the results of environmental baseline studies, engineering considerations, and input received during the EA process. Updates since the Environmental Registration submission include modifications to the noise berm and addition of a site road to reduce Project-related traffic on the provincial road network, and shifting the location of the crushing and sorting activities on the industrial terrace and removing the associated sedimentation pond supports a more consolidated approach to site drainage, water collection, and water management and reduce overlap with the Gander Lake watershed. As detailed design for the Project progresses, further refinements may be identified depending on engineering requirements, regulatory input, Indigenous engagement, stakeholder feedback, and the results of ongoing environmental studies.

Public feedback received on the Project to date, through engagement activities including public information sessions, the Land and Resource Use (LRU) survey, and comments submitted during the EA process, has identified both potential benefits and areas of interest or concern related to the Project. People shared support for potential employment, training, workforce development, and economic opportunities associated with the Project, while also providing feedback on environmental, social, and land use considerations. This feedback has informed Project planning, assessment, and mitigation development and has helped shape measures that will be implemented during construction, operation, and closure.

Key themes raised through public engagement include:

- **Employment, Training, and Economic Opportunities:** People shared support for the employment, training, skills development, and business opportunities that could be created by the Project, including opportunities for local workers, contractors, tradespeople, and businesses. The Project is expected to create approximately 207 full-time equivalent positions during construction and between 117 and 239 positions during operations. New Found Gold has committed to communicating employment opportunities to local communities, providing opportunities for apprenticeships and on-the-job training, and considering local and regional businesses in procurement activities. Project expenditures on goods and services are also expected to create opportunities for local contractors, suppliers, transportation companies, accommodation providers, and other service providers.
- **Regional Development and Future Opportunities:** People shared that the Project could contribute to a positive future for central Newfoundland by supporting long-term development, encouraging people to remain in the region, and creating opportunities for future generations.
- **Communities and Quality of Life:** People shared concerns about traffic, increased activity in the area, effects on tourism and recreation, and potential changes to community character. To help understand existing community, recreational, and land use activities, New Found Gold completed a LRU survey and a creel survey. A traffic assessment completed as part of Project planning determined that the main roads and intersections in the area are expected to operate within acceptable limits, and Project design refinements, including a dedicated site access road from the Trans-Canada Highway, were incorporated to reduce Project-related traffic. Additional mitigation measures, including an Outfitter Environmental Effects Monitoring Program, traffic management measures, communication and engagement commitments, and monitoring programs, will be implemented throughout the life of the Project to reduce impacts on community infrastructure, recreation, tourism, and land use activities. Ongoing engagement, monitoring, and a grievance management process will also be maintained throughout the life of the Project.
- **Water Quality and Water Resources:** Many comments focused on protecting local lakes, streams, groundwater, and the Gander River. Multi-year baseline monitoring was conducted and detailed quantitative modelling was completed and presented in the Environmental Registration to allow a full understanding of potential Project impacts on surface water and ground water. These studies allowed for the design of appropriate water management and treatment infrastructure to protect water resources throughout the life of the Project.

- **Air Quality, Dust, Vibration, and Noise:** Community members wanted to understand how Project activities could affect nearby residents, wildlife, and land users. Measures such as dust suppression, equipment maintenance, traffic management, and monitoring programs have been incorporated into Project planning to reduce potential effects to acceptable levels, including compliance with regulatory standards, as applicable. A noise berm has also been incorporated into the Project design to reduce noise effects to the Town of Appleton. Air quality dispersion modelling, noise modelling, and blasting assessments were completed to evaluate potential effects at nearby residences, recreational areas, and other receptors and inform Project mitigation and monitoring programs.
- **Wildlife, Wetlands, and Natural Habitat:** Concerns were raised about potential effects on wildlife and sensitive habitats. The Project has been designed to avoid or limit effects where practical and will include environmental protection, monitoring, and progressive reclamation measures. Baseline studies were completed for vegetation, wetlands, birds, bats, wildlife, and species at risk to characterize existing conditions and identify sensitive habitats. These studies informed Project siting and the development of mitigation, monitoring, and rehabilitation measures to reduce potential effects on wildlife, wetlands, and natural habitat.
- **Fish and Fish Habitat:** People emphasized the importance of protecting fish populations, spawning areas, and aquatic ecosystems, such as Gander River and its tributaries. Fish habitat assessments were completed to identify areas of potential interaction with fish and fish habitat and to inform Project design and mitigation measures. Mine contact water will be collected, managed, and treated prior to discharge, with final effluent discharged to the Gander River watershed downstream of Gander Lake. Effluent discharges will be required to meet applicable regulatory requirements, including the federal *Metal and Diamond Mining Effluent Regulations* and provincial requirements, prior to discharge. Additional measures, including fish habitat offsetting, fish rescue and relocation, fish passage provisions at watercourse crossings, and environmental effects monitoring, will be implemented throughout the life of the Project to reduce potential effects on fish and fish habitat.

New Found Gold remains committed to ongoing engagement with communities, Indigenous groups, stakeholders, land users, and other interested parties throughout the life of the Project. Opportunities for information sharing and feedback will continue during future phases of development, construction, operation, and closure. A grievance (complaints) management process will be maintained to allow concerns to be raised, documented, reviewed, and addressed in a timely manner. This process will provide clear mechanisms for communication and follow-up, helping community concerns to be identified, documented, reviewed, and appropriately managed as the Project progresses.

The concerns and interests identified through engagement were considered alongside the results of baseline studies, technical assessments, and engineering design in evaluating potential Project effects and developing mitigation measures. In the Environmental Registration, eight Valued Components (VCs) were identified, including atmospheric environment, groundwater resources, surface water resources, fish and fish habitat, the terrestrial environment, communities, land and resource use, and historic resources. Based on the assessment of potential effects, and with New Found Gold's commitment to implementing appropriate design measures, mitigation strategies, policies, management and monitoring programs, and response plans, Project activities are not anticipated to cause significant adverse effects on these VCs.

Environmental management is guided by the company's Health, Safety and Environment Integrated Management System (HSE IMS). The HSE IMS outlines the responsibilities of site personnel and contractors, provides measures for managing environmental effects, and includes a system of recording performance, monitoring, checking and auditing, implementation of actions to provide continual improvement, and the application of corrective action when necessary. The HSE IMS also supports ongoing engagement with regulators, Indigenous groups, stakeholders, and local resource users throughout the life of the Project.

The HSE IMS is supported by Project-specific management and monitoring plans, including the Environmental Protection Plan (including erosion and sediment control plan, air quality monitoring plan, and environmental contingency plans), Water Management Plan, Waste Management Plan, Emergency Response Plan, Traffic Management Plan, Gender, Equity, and Diversity Plan, Blast Management Plan, Metal Leaching/Acid Rock Drainage Management Plan, Outfitters Environmental Effects Monitoring Program, Rehabilitation and Closure Plan, and various effects monitoring plans (e.g., groundwater, surface water, wildlife). Together, these plans establish the framework for implementing mitigation measures, environmental monitoring, adaptive management, and regulatory compliance throughout construction, operation, closure, and post-closure monitoring. The measures and commitments described in these plans are intended to avoid, reduce, and manage potential Project effects on environmental, social, and land and resource use values.

New Found Gold is committed to the sustainable and responsible development of the Project, as reflected in the Company's core values, commitment to environmental stewardship, and approach to community engagement. The Project is expected to generate meaningful socio-economic benefits for central Newfoundland through direct and indirect employment, opportunities for local businesses and service providers, and investment in regional infrastructure. By supporting continued growth in NL's mining sector, the Project will contribute to regional economic development while advancing the responsible development of Canada's mineral resources. Throughout the life of the Project, New Found Gold will continue working with communities, Indigenous groups, government agencies, and other stakeholders to identify concerns, share information, and adapt management approaches where needed.

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Acronyms / Abbreviations

µg/L	microgram per litre
ABA	acid-base accounting
AEP	annual exceedance probability
ATV	all-terrain vehicle
BACT	best available control technologies
BSGI	black siltstone and greywacke
BSIL	black siltstone
CCME	Canadian Council of Ministers of the Environment
CDA	Canadian Dam Association
CO_2e	carbon dioxide equivalent
COSEWIC	Committee on the Status of Endangered Wildlife in Canada
CWQG-FAL	Canadian Water Quality Guidelines for the Protection of Freshwater Aquatic Life
dBA	a-weighted decibel(s)
DFO	Fisheries and Oceans Canada
DOC	dissolved organic carbon
EA	environmental assessment
ECCC	Environment and Climate Change Canada
EEMP	Environmental Effects Management Plan
EPP	Environmental Protection Plan
EPR	Environmental Preview Report
ERP	Emergency Response Plan
FDP	final discharge point
FMD	Forest Management District
FTE	full-time equivalent
GHG	greenhouse gas
GHG Act	*Management of Greenhouse Gas Act*
GHG Regulations	*Management of Greenhouse Gas Reporting Regulations*
GHGRP	Greenhouse Gas Reporting Program
ha	hectare
HSE IMS	Health, Safety and Environment Integrated Management System
km	kilometre

km²	square kilometre
L	litre
LAA	Local Assessment Area
Ldn	Day-Night Sound Pressure Level
LRU	land and resource use
m	metre
m²	square metre
MAF	mean annual flow
MDMER	*Metal and Diamond Mining Effluent Regulations*
mg/L	milligram per litre
ML/ARD	metal leaching / acid rock drainage
mm	millimetre
mm³	cubic millimetre
mm³/s	cubic millimetre per second
Mt	million tonnes
N	nitrogen
New Found Gold	New Found Gold Corporation
ng/L	nanogram per litre
NL	Newfoundland and Labrador
NLDECCC	Newfoundland and Labrador Department of Environment, Conservation and Climate Change
NLDFAL	Newfoundland and Labrador Department of Forestry, Agriculture and Lands (
NLDEM	Newfoundland and Labrador Department of Energy and Mines
NLDTCAR	Newfoundland and Labrador Department of Tourism, Culture, Arts and Recreation
NLDTI	Newfoundland and Labrador Department of Transportation and Infrastructure
NL ECWSR	Newfoundland and Labrador *Environmental Control Water and Sewage Regulations*
NO_2	nitrogen dioxide
NPR	neutralization potential ratio
PAANL	Protected Areas Association of Newfoundland and Labrador
PAG	potentially acid generating
PM_{10}	particulate matter with a diameter less than 10 microns

$PM_{2.5}$	particulate matter with a diameter of less than 2.5 microns
PoPC	parameters of potential concern
POR	point of reception
PPWSA	Protected Public Water Supply Area
RAA	Regional Assessment Area
RCP	Rehabilitation and Closure Plan
RDL	reportable detection limit
RoM	run-of-mine
RoW	right-of-way
SAR	species at risk
SFE	shake flask extraction
SO_2	sulphur dioxide
SOCC	species of conservation concern
t	tonne
TCH	Trans-Canada Highway
TCU	total colour units
The Project	Queensway Gold Project
TOC	total organic carbon
tpd	tonnes per day
TPM	total particulate matter
T'Railway	T'Railway Provincial Park
TSP	total suspended particulate matter
TSS	total suspended solids
UNECE	United Nations Economic Commission for Europe
VC	Valued Component
WaMP	Water Management Plan
WHO	World Health Organization
WMP	Waste Management Plan
WRSF	waste rock storage facility
WTP	water treatment plant

1 Name of Undertaking

New Found Gold Corporation (New Found Gold) is proposing the Queensway Gold Project (the Project). An Environmental Registration (New Found Gold 2026) was prepared and submitted to the Newfoundland and Labrador (NL) Department of Environment, Conservation and Climate Change (NLDECCC) Environmental Assessment (EA) Division on May 7, 2026. On July 3, 2026, New Found Gold was notified that the Project will require an Environmental Preview Report (EPR). This supplemental document has been prepared in response to EPR Guidelines issued September 2, 2026, and provides additional information requested by NLDECCC. A Table of Concordance with the EPR Guidelines is provided in Appendix A.

2 Proponent

New Found Gold Corp. (New Found Gold) is a publicly traded Canadian gold exploration and development company that owns 100% of the Queensway Gold Project. The company has a strong focus on environmental stewardship, health and safety, regulatory compliance, and community investment, while prioritizing local employment, training, and business opportunities. New Found Gold has undertaken extensive engagement with communities, Indigenous groups, regulators, and stakeholders, and is committed to ongoing consultation throughout the regulatory approval process and the life of the Project.

The address and contact information for the proponent is:

Name of Corporate Body	New Found Gold Corporation
Corporate Address	300 Garrett Drive Gander, NL A1V 1W8
Chief Executive Officer	Keith Boyle, B.Sc., MBA
Principal Contact Person for the Purpose of the Environmental Assessment	Dr. Jared Saunders, Ph.D., CRSP, EP VP Sustainability Email: comments@newfoundgold.ca

3 The Undertaking

New Found Gold is proposing the Queensway Gold Project, a new open pit gold mine at the Queensway North Property. The Project location is shown in Figure 3.1 and further described in Section 4.1.2. The Project will involve the extraction of gold-rich mineralized ore from four open pits, a waste rock and overburden storage facility, a run-of-mine (RoM) pad containing multiple ore stockpiles, a modular crushing and sorting plant, and associated operational facilities including water management facilities, office, and maintenance shops. The on-site crushing and sorting plant will be designed to produce 700 tonnes per day (tpd) of pre-concentrated product feed. Ore will be transported and processed at the existing, permitted Pine Cove processing facility on the Baie Verte Peninsula. New Found Gold will obtain required permit amendments for this facility prior to initiation of processing activities.





Legend

★ Project Location

0 10 20 30 km

(At original document size of 8.5x11)
1:1,500,000

N

Notes

1. Coordinate System: NAD 1983 CSRS MTM 2
2. Data Sources: Stantec
3. Background: Government of Newfoundland and Labrador; NRCan CanVec; Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community, Esri, USGS, Esri, CGIAR, USGS

Stantec

Project Location
Appleton,
Newfoundland and Labrador

Prepared by NW on 2025-07-28
TR by EW on 2025-07-28

Client/Project
New Found Gold Corp.
Queensway Gold Project

121418830_003

Figure No.
3.1

Title
Location of Queensway Gold Project

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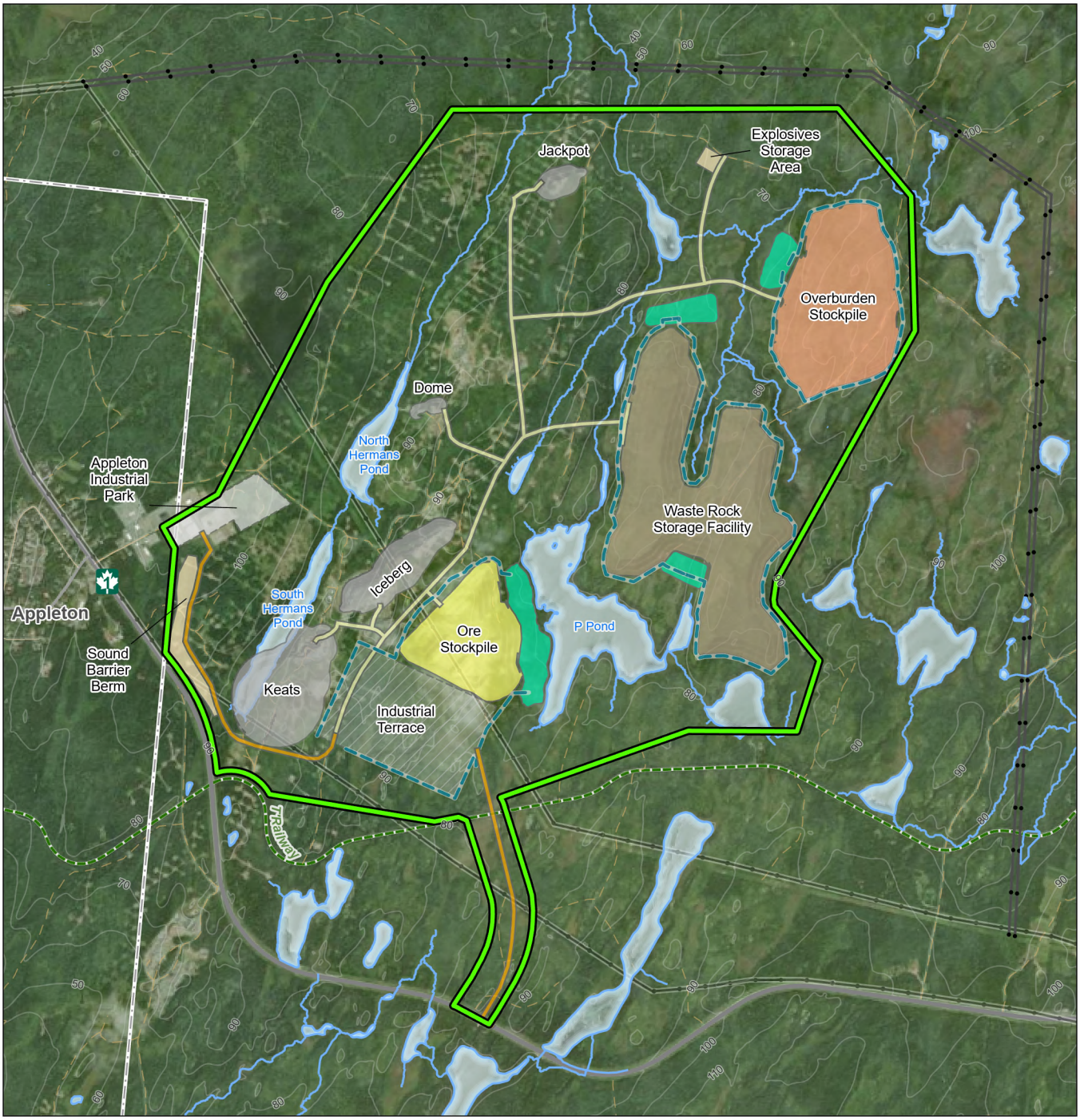
The Project represents New Found Gold's strategic transition from exploration to full-scale mining operations and building on several years of exploration work at the Queensway North Property. The Project is economically and operationally viable and will generate revenue to support ongoing exploration and potential future development. The Project is designed to be self-sustaining, with ore processed off-site at an existing, permitted facility, for approximately seven years.

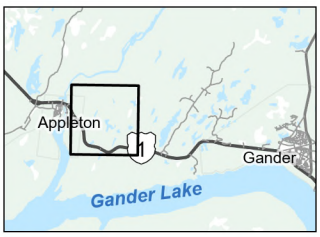
The purpose of the Project is to contribute to New Found Gold's broader development strategy. By initiating production on a manageable scale, the company can begin generating income while continuing exploration and assessing the feasibility of future expansion. This approach allows New Found Gold to optimize its investment, reduce initial environmental and operational risks, and maintain flexibility in response to real-time geological data and market conditions. The development of the Project is driven by the need to unlock valuable mineral resources, support regional economic growth, and strengthen Canada's and NL's position in the global mining sector. This initiative aligns with national and provincial priorities for mineral development and contributes to bridging the gap between supply and demand for gold.

In addition to supporting industry needs, the Project will bring meaningful socio-economic benefits to rural communities through job creation, infrastructure investment, and long-term opportunities for local businesses and workers. The Project is expected to generate substantial economic benefits, including an estimated 207 full-time equivalent (FTE) positions during construction and an estimated peak of 239 FTE positions during operation. New Found Gold will prioritize local hiring, training, and service procurement, and will work collaboratively with the Towns of Appleton, Glenwood, and Gander to support community interests. The company will also update its Gender, Equity, and Diversity Plan to promote inclusive workforce participation. Additional economic activity will be supported through use of the Pine Cove processing facility on the Baie Verte Peninsula, which will support further employment and investment in the mining industry.

4 Description of the Undertaking

The Project includes the development of four open pits (Keats, Iceberg, Jackpot, and Dome) and associated mine infrastructure, including waste rock and overburden storage facilities, ore stockpiles, a crushing and ore-sorting plant, access and haul roads, water management infrastructure, and support buildings (Figure 4.1). The Project layout has been designed to concentrate major infrastructure within the Hermans Pond sub-watershed, avoid the Joe Batt's Pond watershed, limit interactions with fish habitat, and reduce potential effects on nearby communities, recreational users of the T'Railway Provincial Park (T'Railway), and other sensitive receptors. This approach reflects the results of environmental baseline studies, engineering considerations, and input received during the EA process.





Notes

1. Coordinate System: NAD 1983 UTM Zone 21N
2. Data Sources: Newfound Gold Corp.; Stantec; GovNL Department of Forestry, Agriculture and Lands; CanVec NRCan
3. Background: Vantor; Government of Newfoundland and Labrador; NRCan CanVec

Legend

- Project Area

Proposed Project Layout

- Access Road
- Haul Road
- Perimeter Ditch
- Sedimentation Pond
- Open Pit
- Ore Stockpile
- Overburden Stockpile
- Waste Rock Storage Facility
- Other Mine Features
- Industrial Terrace
- Appleton Industrial Park

Existing Infrastructure

- Transmission Line
- Proposed Transmission Line (Re-routing)
- Highway
- Collector Road
- Local Road
- Resource Road / Trail
- NL T'Railway Provincial Park

Other Features

- Contour (10 m)
- Watercourse
- Waterbody
- Municipal Boundary

0 250 500 750 metres
(At original document size of 8.5x11)
1:30,000

N

Stantec

Project Location
Appleton,
Newfoundland and Labrador

Prepared by NW on 2026-10-05
QR by PM on 2026-10-16
TR by EW on 2026-10-05

Client/Project
New Found Gold Corp.
Queensway Gold Project

121418830_030

Figure No.
4.1

Title
Queensway Gold Project
Proposed Site Layout

\\ca0151-PPFSS01\work_group\1214\active\121417598\03_data\gis_cad\mapping\ArcGIS Pro\121418830_NewFoundGold\121418830_NewFoundGold.aprx Revised: 2026-10-16 By: niwhite

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Construction is expected to begin following release from the EA process and receipt of required permits and authorizations (Figure 4.2). Operations are planned for approximately seven years. The current mine plan would extract approximately 1.9 million tonnes (Mt) of ore containing an estimated 555,000 ounces of gold, while managing approximately 64 Mt of waste rock and 4.4 Mt of overburden. The Project would operate year-round and is expected to support regional economic benefits through direct employment, local procurement, and investment in goods and services.

Phase	2025		2026				2027				2028			
	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Public, Stakeholder and Regulatory Engagement	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Assessment and Permitting	■	■	■	■	■	■	■							
Detail Design	■	■	■	■	■	■	■							
Early Works							■	■						
Construction								■	■					
Operation*										■	■	■	■	■
*Operation will extend for 7 years														

Figure 4.2 Updated Project Schedule

Project design has continued to evolve through the EA process. As detailed design proceeds, refinements may be made to reflect engineering requirements, regulatory input, Indigenous engagement, stakeholder feedback, and the results of ongoing environmental studies. As shown on Figure 4.3, modifications to the Project layout include:

- Modifying the noise berm alignment to allow for an internal access connection between the industrial terrace and the Appleton Industrial Park. This design refinement supports movement of Project-related vehicles between these areas without requiring repeated use of the Trans-Canada Highway (TCH), thereby reducing Project-related traffic interactions on the provincial road network
- Refining the industrial terrace sedimentation pond to reduce overlap with the Gander Lake watershed. Shifting the location of the crushing and sorting activities on the industrial terrace and removing the associated sedimentation pond supports a more consolidated approach to site drainage, water collection, and water management, and reduces the potential for Project components to interact with multiple receiving environments

A full description of the Project, including the overall mine plan, proposed infrastructure, construction approach, operation and maintenance activities, and anticipated decommissioning and rehabilitation activities, is provided in Chapter 4 of the Environmental Registration. The following sections build on that information by providing additional detail where requested through the EPR Guidelines and through public comments received during review of the Environmental Registration. The sections that follow provide supplemental information on the Project location, physical components, existing environment, construction activities, operation and maintenance activities, and the proposed decommissioning and rehabilitation approach.

Figure No.
4.3

Title
Queensway Gold Project
Updated Project Site Layout

Client/Project
New Found Gold Corp.
Queensway Gold Project

121418830_030

Project Location
North Gander Lake
Newfoundland and Labrador

Prepared by NW on 2026-09-14
QR by PM on 2026-10-16
TR by KF on 2026-09-14

N

0 250 500 1,000 m

(At original document size of 11x17)
1:24,000

Legend

- Project Area

Proposed Project Layout
- Access Road
- Haul Road
- Perimeter Ditch
- Sedimentation Pond
- Open Pit
- Ore Stockpile
- Overburden Stockpile
- Waste Rock Storage Facility
- Other Mine Features
- Industrial Terrace
- Appleton Industrial Park

Existing Infrastructure
- Transmission Line
- Proposed Transmission Line (Re-routing)
- Highway
- Collector Road
- Local Road
- Resource Road / Trail
- NL T'Railway Provincial Park

Other Features
- Contour (10 m)
- Watercourse
- Waterbody
- Municipal Boundary



Notes
1. Coordinate System: NAD 1983 UTM Zone 21N
2. Data Sources: New Found Gold Corp.; Stantec; Government of Newfoundland and Labrador, Department of Environment, Conservation and Climate Change, Department of Forestry, Agriculture and Lands - Land Use Atlas Mapping Service, Department of Municipal and Community Affairs; National Road Network, Statistics Canada.
3. Background: Government of Newfoundland and Labrador, Department of Forestry, Agriculture and Lands - Land Use Atlas Mapping. Topographic Mapping - Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community, Esri, USGS, Esri, NASA, NGA, USGS

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4.1 Geographical Location/Physical Components/Existing Environment

In the Environmental Registration, the geographical location for the Project was described in Section 4.1, including land tenure and environmental setting, site history was described in Section 4.2, the Project schedule was presented in Section 4.3 and planned Project components were outlined in Section 4.4. Section 4.1.1 of this document provides an overview of the information presented in the Environmental Registration on these topics to provide context for reviewers of this EPR. Also, additional information has been provided for the specific topics outlined in the EPR Guidelines as identified in Table 4.1, which summarizes the applicable EPR requirements and identifies where each is addressed.

Table 4.1 EPR Guidelines Requirements Related to Geographical Location/Physical Components/Existing Environment

Guideline Requirement	EPR Section
Provide a complete overview of the Project, including information about the preferred choice of location and design of Project components and the construction, operation and maintenance standards and procedures, and proposed decommissioning, closure and rehabilitation plans.	Section 4.1.1, 4.2.1, 4.3.1, 6.1
Further to the description of Project components found in section 4 of the registration document, the EPR shall include a description and mapping/aerial imagery of concrete batch plants (if applicable) and work camps and infrastructure associated with the Project. The EPR shall update information provided in the registration document and include in the EPR a description of the existing environment that may be affected by Project components, including, but not limited to, the following:	Section 4.1.1 to 4.1.5. Note that no concrete batch plants or work camps are planned for this Project.
Information regarding ownership/zoning of the land upon which Project components are to be located, and any restrictions imposed by that ownership (e.g., private or Crown or land within a municipal boundary and associated zoning)	Section 4.1.2
Proximity of Project components to key boundaries and receptors, including: • municipal boundaries • dwellings, cabins, institutions • tourist and commercial establishments, including farms, hotel and outfitter operators • Gander River and its tributaries • Gander River Watershed • trails, the T'Railway Provincial Park, and roads • recreational areas, including fishing, hunting, trapping, plant and berry harvesting areas • protected areas, ecologically sensitive areas, and sensitive wildlife habitat	Section 4.1.2
Site-specific noise modelling for nearby residences, farms and other sensitive receptors	Section 4.1.3
Mapping of scheduled salmon rivers, freshwater streams, waterbodies and wetlands located within and adjacent to the Project footprint	Section 4.1.4
Further details regarding location and design of ditching and water control infrastructure around the industrial terrace and site access road	Section 4.1.4.1
Details of any potential alterations to natural and stormwater drainage patterns and runoff within and adjacent to the project boundary	Section 4.1.4.2
Delineation of groundwater flow directions and hydrogeology in the southern area of the project boundary and role of the Appleton Fault Zone and related structures in groundwater movement	Section 4.1.4

Table 4.1 EPR Guidelines Requirements Related to Geographical Location/Physical Components/Existing Environment

Guideline Requirement	EPR Section
Historical sampling results for Sampling Site SW-8	Section 4.1.4
Water quality sampling of surface water bodies in the Gander Lake Tributary 1 Watershed	Section 4.1.4
Additional information on flora and fauna, as follows: • digital geospatial data to support the assessment, including but not limited to survey sites, survey tracks, dates, observational records for all species surveyed for the Project (e.g., raptors, lichen, bats, marten, muskrat, avifauna insects, and plants) • field verification (e.g. diagnostic photos) to support the assessment of plant species of conservation concern such as Black Chokeberry, Cyperus-like Sedge, Woodland Strawberry, Old-field Cinquefoil, Smooth Blackberry, and Starved Sedge • updated information, including mapping and geospatial data on rare plants, lichens, species at risk (SAR), species of conservation concern (SOCC), and their habitats within the Project area and area of influence • characterization of fish and fish habitat, including fish species and habitat types, spawning and rearing areas, and migration corridors	Section 4.1.5

4.1.1 Summary of Geographical Location/Existing Environment/Physical Components from Environmental Registration

4.1.1.1 Geographical Location

The Project Area is situated on the Queensway North claim area, east of the Town of Appleton, NL, and north of Gander Lake, and encompasses an area of approximately 983.73 hectares (ha). While most of the Project Area is adjacent to the Town of Appleton, approximately 4,980 square metres (m²) overlaps its municipal boundary in the Appleton Industrial Park area. The Project is located approximately 1.5 km east of the Town of Glenwood's municipal boundary and 6.3 km west of the Town of Gander's municipal boundary. A complete description of the geographical location is provided in Section 4.1 of the Environmental Registration.

4.1.1.2 Existing Environment

As detailed in Section 4.1.2 of the Environmental Registration, the Project is located in the north-central sub-region of the Central Newfoundland Forest Ecoregion (Meades 1990), which extends from the Town of Clarenville in the east to the Town of Deer Lake in the west. It is characterized by boreal forest and the Island of Newfoundland's highest summer temperatures, lowest winter temperatures, and least amount of fog and wind (Protected Areas Association of NL [PAANL] 2008).

With warm summers, low rainfall, and occasional prolonged dry spells, the north-central subregion has the Island's greatest number of forest fires, which has resulted in extensive fire stands of black spruce (*Picea mariana*), trembling aspen (*Populus tremuloides*), and white birch (*Betula papyrifera*) (PAANL 2008). Dome bogs are common and in areas where fires have repeatedly occurred, and a dwarf-shrub heath provides the dominant vegetation cover. Balsam fir (*Abies balsamea*) with a feathermoss floor covering occurs in areas not prone to fires. There are numerous rivers, ponds, and wetlands in the area,

including Gander Lake and its watershed (PAANL 2008). Within the area studied, several natural ecosystems have been identified including forests, wetlands, scrubland, and waterbodies, with forest communities occupying most of the area (GEMTEC 2023; Stantec 2024a). The area studied is a partly disturbed landscape, with mineral exploration on the western side and areas of recent forest harvesting on the eastern side.

The Project Area is located near the communities of Gander, Appleton, and Glenwood, with the Town of Appleton's municipal boundary overlapping a small portion of the Project footprint. Gander serves as a key regional service centre, providing government, healthcare, educational, transportation, and commercial services. The surrounding area supports a high level of recreational and traditional land use activities, including hunting, fishing, berry picking, hiking, and cottage use, facilitated by extensive road and trail access such as the T'Railway. The Project Area is also subject to several land use and zoning constraints, including protected roads, provincial park lands, public water supply areas, agricultural activities, Crown land interests, and existing utility rights-of-way (RoWs).

4.1.1.3 Physical Components

An assessment of Project alternatives was considered in Section 4.10 of the Environmental Registration. This included different locations for infrastructure, various routes for Project components, processing and mining options, and potential mitigation measures. Based on a review of alternatives, the following Project components (shown in Figure 4.1) were selected as the preferred options:

- **Open pits and associated infrastructure:** four open pits encompassing approximately 10 ha (total), developed in a phased approach to prioritize the highest-grade material.
- **Organics and overburden storage facility:** a 45-ha facility, 45 metres (m) in height, designed to hold up to 2.7 cubic megametres of material.
- **Waste rock storage facility (WRSF):** an approximately 81-ha permanent engineered structure, which will reach a final height of approximately 85 m, designed for a capacity of 27.2 cubic megametres of material.
- **Ore stockpile:** an approximately 25.4-ha RoM pad, which will house five distinct ore stockpiles based on material grade. The RoM pad will be constructed using non-potentially acid generating (non-PAG) waste rock and designed to provide structural stability and facilitate drainage.
- **Crushing and sorting plant:** Ore will be crushed on-site and possibly sorted/pre-concentrated prior to being trucked off site for processing at Maritime Resources' existing processing facility at Pine Cove, NL; Maritime Resources is a wholly owned subsidiary of New Found Gold.
- **Road development,** including:
  - A new **site access point from the TCH**, designed in coordination with the NL Department of Transportation and Infrastructure (NLDTI), to provide primary access for light vehicles (including employee transportation), supply deliveries, and highway truck ore haulage to the Pine Cove processing facility.
  - The **site access road** (1,345 m x 15 m), designed to reduce interaction between light vehicles and mine haulage trucks, consistent with safe mine operations best practices. The road will intersect the T'Railway, and safety features will be incorporated in accordance with applicable authorities. As well a new access road along the base of the noise berm from the Appleton Industrial Park to the industrial terrace (1,700 m x 15 m) is proposed.

  - A network of new **haul roads** (total 6,380 m x 30 m) within the Project Area to connect key infrastructure components.
- **Electrical and communications infrastructure:** to accommodate the anticipated electrical demand (estimated 2,275 kilovolt-amperes summer peak and 2,325 kilovolt-amperes winter peak), a new substation will be bult at the industrial terrace and connected to an existing transmission line that approaches the Project Area from the east. Communications infrastructure includes a telecommunications system, site-wide security network, and information technology system. Note that existing transmission lines that intersect the Project Area will be relocated by NL Hydro and Newfoundland Power at New Found Gold's expense.
- **Buildings and supporting infrastructure**, including laydown areas, weigh scale, warehouse(s), administrative complex, parking areas and mobile equipment workshop, substation, fuel storage / island, and fencing. Where feasible, modular buildings will be used to reduce adverse environmental impacts and facilitate straightforward removal during decommissioning and closure.
- **Explosives storage area:** developed in accordance with federally-required separation distances from key infrastructure and exposed sites.
- **Water intake and distribution:** raw water for processing, dust suppression, and non-potable domestic use (e.g., flushing toilets) will be sourced from the Project's settling pond system and pumped to water storage tanks. A well may be installed for drinking water, showers, and handwashing; if not, bottled potable water will be supplied to the Project site by local vendors for consumption.
- **Water management infrastructure**, including drainage ditches, sumps, a pumping station, settling ponds (designed to accommodate a 100-year precipitation event) and associated conveyance systems, a septic system, and a water treatment system to treat water from the settling ponds prior to its discharge into the environment.

4.1.2 Project Location

As outlined in the EPR Guidelines (Table 4.1), the following section provides requested information on the Project location. Table 4.2 identifies key receptors and environmental features in relation to Project components and provides their approximate proximity to the Project footprint and associated infrastructure. Table 4.2 includes municipal boundaries; residences, cabins, and institutions; commercial and tourism-related establishments (including outfitter operations); the Gander River, its tributaries, and the broader Gander River watershed; transportation and recreational infrastructure such as roads, trails (including the T'Railway); and recreational land use areas used for fishing, hunting, trapping, and plant and berry harvesting; and protected areas, ecologically sensitive areas and sensitive wildlife habitat. Figure 4.4 illustrates scheduled rivers and tributaries in the vicinity of the Project as confirmed by DFO (T. Warren, pers. comm., October 14, 2026).

Most of the Project Area is provincial Crown land, and there are several issued Crown land grants and Crown land leases. Crown land grants within the Project Area are owned by the Town of Appleton, located within the Industrial Park Zone. Crown land leases within the Project Area have been issued to New Found Gold, Newfoundland Power, and NL Hydro. There is a cabin located within the Project Area without an associated grant or lease in the land use atlas, and two cabins with associated land grants located immediately adjacent to the Project Area. As the Project overlaps with the Town of Appleton's municipal boundary and Land Use Planning Area, specifically the Industrial Park Zone and Resource

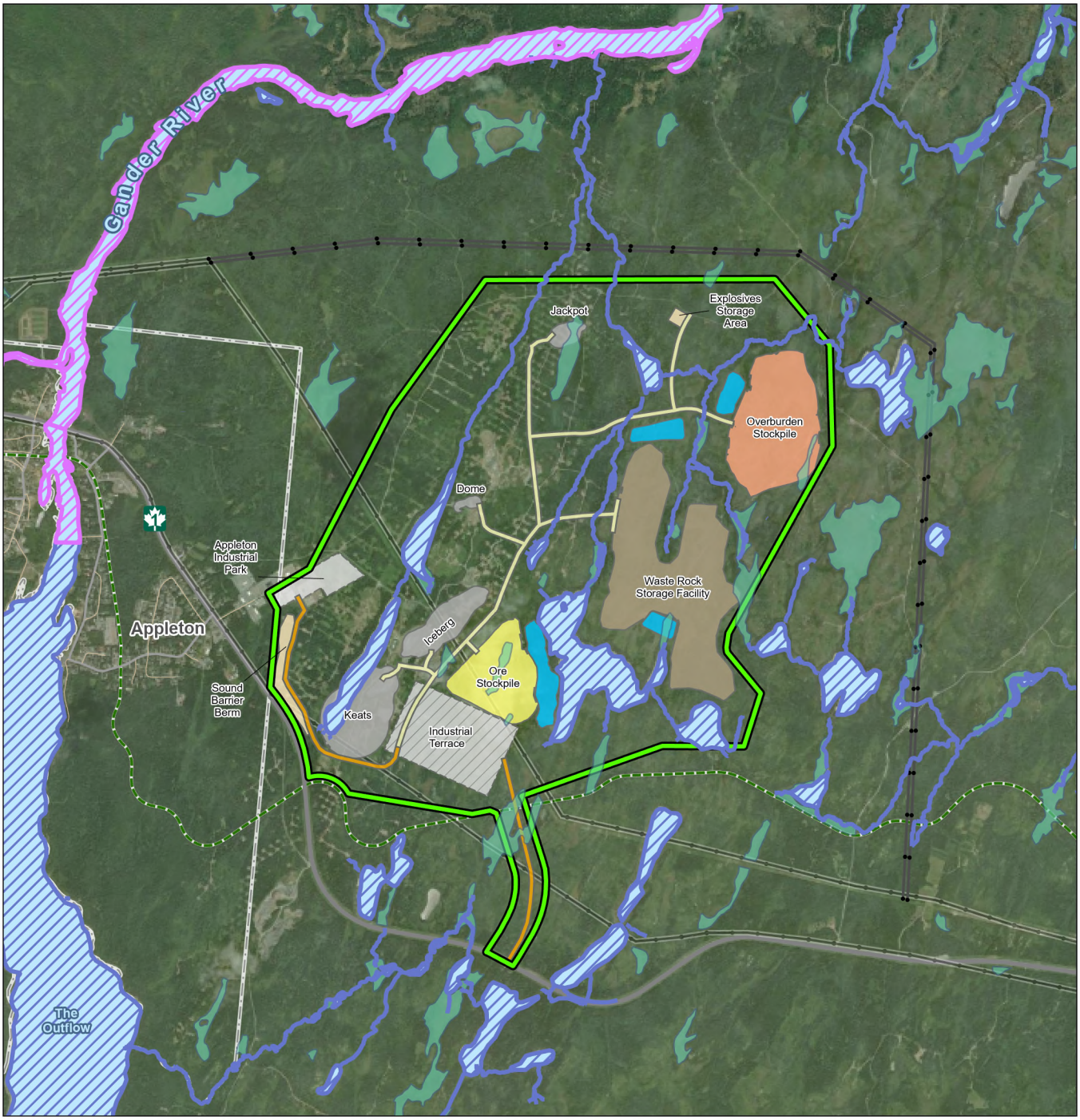
Zone outlined in the 2017-2027 Municipal Plan and associated Development Regulations, the requirement for municipal permits is anticipated. Development of land carried out within the Planning Area must have a permit issued by Town of Appleton Council in accordance with these Regulations.

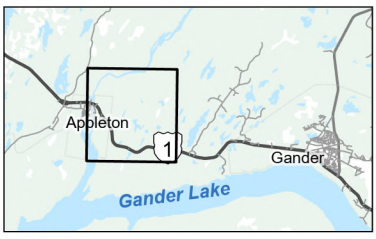
Table 4.2 Distance of Project Components to Key Boundaries and Receptors

Receptor/Feature	Proximity to Project Area and Project Components
Municipal Boundaries	
Town of Appleton Municipal Boundary	The Project Area is adjacent to and slightly overlaps (4,980 m²) the Town of Appleton municipal boundary and overlaps the Town of Appleton Land Use Planning Area (Figure 4.2 of the Environmental Registration). Exploration and Project support infrastructure is located within the Appleton industrial park.
Town of Glenwood Municipal Boundary	The Project Area is located approximately 1.5 km east of the Town of Glenwood municipal boundary (Figure 4.2 of the Environmental Registration). The noise berm is the closest Project component (1.58 km).
Town of Gander Municipal Boundary	The Project Area is located approximately 6.4 km west of the Town of Gander municipal boundary (Figure 4.2 of the Environmental Registration). The overburden stockpile is the closest Project component (6.53 km).
Dwellings, Cabins, Institutions	
Nearest Cabin / Dwelling Site with associated Crown land lease or grant	The nearest cabin/dwelling site with an associated Crown land lease or grant is located approximately 55 m from the Project Area (Figure 13.3 of the Environmental Registration). The WRSF is the closest Project component (370 m). New Found Gold is currently working with cabin owners in close proximity to the Project regarding purchase or relocation.
Closest Residence in the Town of Appleton	The closest residence in the Town of Appleton is located on the TCH and approximately 239 m from the Project Area. The noise berm is the closest Project component (246 m).
Lakewood Academy	Lakewood Academy in Glenwood is approximately 2.2 km from the Project Area and nearest Project component (exploration and Project support infrastructure).
Saint Anne Roman Catholic Church	Saint Anne Roman Catholic Church in Glenwood is approximately 1.8 km from the Project Area and nearest Project component (exploration and Project support infrastructure).
First United Church	First United Church in Glenwood is approximately 2.3 km from Project Area and nearest Project component (exploration and Project support infrastructure).
St. Andrew Anglican Church	St. Andrew Anglican Church in Glenwood is approximately 2.2 km from Project Area and nearest Project component (exploration and Project support infrastructure).
Appleton Town Hall	Appleton Town Hall is approximately 1.0 km from the Project Area. The noise berm is the closest Project component (1.1 km).
Glenwood Town Hall	Glenwood Town Hall is approximately 1.7 km from the Project Area and nearest Project component (exploration and Project support infrastructure).
Gander River	
Gander River and its Tributaries	Numerous tributaries to the Gander River are located within the Project Area (Figure 4.4; Section 5.4.3). The Project Area is located approximately 1.26 km from the mainstem of the Gander River. The closest Project components to tributaries of the Gander River are the Keats pit, watercourse crossings and effluent diffusers, which are located in South Hermans Pond, streams 11, 16, 25, and 30, North Hermans Pond, and Pond P9, respectively. The closest Project component to the mainstem of the Gander River is the explosives storage area (1.69 km).
Gander River Watershed	The Project is within the Gander River watershed (Figure 9.1 of the Environmental Registration).

Table 4.2 Distance of Project Components to Key Boundaries and Receptors

Receptor/Feature	Proximity to Project Area and Project Components
Tourist and Commercial Establishments, including Farms, Hotel and Outfitter Operators	
Bear Cliff Lodge	The Bear Cliff Lodge is located on one of the fishing pools along the Gander River, approximately 1.7 km north of the Project Area (Figure 13.4 of the Environmental Registration). The explosives storage area is the closest Project component (2.0 km).
Petroleum and Environmental Services Inc.	Petroleum and Environmental Services Inc. (10 Simms Road) is approximately 154 m from the Project Area. Exploration and Project support infrastructure is located within the Appleton industrial park. are the closest Project components (154 m).
Derm Flynn Peace Park	Derm Flynn Peace Park is approximately 1.35 km from the Project Area. The noise berm is the closest Project component (1.37 km).
Farm in Monchy, NL	The nearest farm is approximately 1.41 km from the Project Area. The WRSF is the closest Project component (1.68 km).
Trails, the T'Railway Provincial Park, and roads	
Trails	There are numerous resource roads/trails within the Project Area (Figure 4.2 of the Environmental Registration).
T'Railway Provincial Park	The T'Railway intersects the proposed site access road within the Project Area (Figure 4.6 of the Environmental Registration).
Trans-Canada Highway	The TCH is located adjacent to the Project Area and will be connected to the Project via the proposed site access road (Figure 4.6 of the Environmental Registration).
Recreational Areas, including Fishing, Hunting, Trapping, Plant and Berry Harvesting Areas	
Recreational Areas	As indicated through the LRU Survey (Appendix 13.A of the Environmental Registration), the natural areas throughout the Project region support a wide range of recreational activities, popular for outdoor pursuits, with hunting, trapping, and fishing among the most common. Hunting includes regulated harvests of big game such as moose and black bear, as well as small game, migratory birds, and furbearers managed through provincial and federal licensing systems and designated management areas. Recreational angling is also a notable activity in the region, particularly within the Gander River watershed, which supports Atlantic salmon and trout fisheries and is recognized as a destination for resident and non-resident anglers (Figure 4.4 illustrates scheduled rivers and tributaries in the vicinity of the Project). The area also supports outfitting operations that provide guided hunting and fishing experiences. Wild berry picking and plant harvesting occur throughout the region, with commonly harvested resources including blueberries, partridgeberries, raspberries, mushrooms, Labrador tea, and other edible or traditionally used plants.
Protected Areas, Ecologically Sensitive Areas, and Sensitive Wildlife Habitat	
Protected Areas	The T'Railway is the only protected area identified within 5 km of the Project Area and is covered under the Trails, T'Railway Provincial Park, and Roads section of Table 4.2.
Ecologically Sensitive Areas and Sensitive Wildlife Habitat	There are no formally designated protected areas associated with ecological sensitivity within the Project Area. Sensitive habitat, including habitat supporting species at risk and other ecologically important features, has been identified within the Project Area and is discussed in Sections 5.5.1 to 5.5.5 of this EPR.





Legend

- Project Area
- Unscheduled River
- Unscheduled Pond
- Scheduled River / Tributary
- Waterbody
- Wetland

Proposed Project Layout

- Access Road
- Proposed Haul Road
- Sedimentation Pond
- Open Pit
- Ore Stockpile
- Overburden Stockpile
- Waste Rock Storage Facility
- Other Mine Features
- Industrial Terrace
- Appleton Industrial Park

Existing Infrastructure

- Transmission Line
- Proposed Transmission Line (Re-routing)
- Highway
- Collector
- Local / Street
- NL T'Railway Provincial Park

Other Features

- Municipal Boundaries

0 250 500 750 1,000 metres

(At original document size of 8.5x11)
1:40,000

N

Stantec

Project Location
Appleton,
Newfoundland and Labrador

Prepared by NW on 2026-10-05
QR by PM on 2026-10-16
TR by JR on 2026-10-05

Client/Project
New Found Gold Corp.
Queensway Gold Project

121418830_027

Figure No.
4.4

Title
Scheduled and Unscheduled Waters Near the Queensway Gold Project

Notes

1. Coordinate System: NAD 1983 CSRS UTM Zone 21N
2. Data Sources: Stantec; Fisheries and Oceans Canada (T.Warren, Oct. 2, 2026); Salmon Rivers Geodatabase https://open.canada.ca/data/en/dataset/943d2048-4e75-4a6a-ad43-6ff1d1c56e2d; GovNL Department of Forestry, Agriculture and Lands; CanVec NRCan; Newfound Gold Corp. Contains information licensed under the Open Government Licence - Government of Canada and Government of Newfoundland and Labrador.
3. Background: Government of Newfoundland and Labrador; NRCan CanVec; Vantor

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4.1.3 Noise Modelling

4.1.3.1 Existing Conditions

The EPR Guidelines request information on existing environment in relation to site-specific noise modelling that has been completed for nearby residences, farms and other sensitive receptors. An understanding of the existing acoustic environment within the Project Area and at the nearest noise sensitive receptor locations is required to assess the potential effects of noise resulting from the Project. Baseline sound quality monitoring was completed to support the assessment as described in Section 7.1.2.3 of the Environmental Registration.

To support the Environmental Registration, existing conditions were initially characterized by baseline sound level monitoring at two locations near Joe Batt's Pond, and another location within the Town of Appleton (Stantec 2024b). Based on public feedback, additional baseline monitoring was completed in 2026 at two additional locations near the Project (Stantec 2026e). A summary of baseline sound levels measured at nearby receptor locations is shown in Table 4.3. Locations for sound level monitoring are shown in Figure 4.5. Sound pressure levels were found to be higher for locations close to major roadways or nearer to more urbanized areas.

Table 4.3 Baseline Daytime and Nighttime Sound Levels

Parameter	Joe Batts Pond 1 [A]	Joe Batt's Pond 2 [A]	Appleton Town Centre [A]	Residence Along TCH [B]	Appleton Industrial Park [B]
Daytime Sound level (Ld) (dBA)	37	42	44	46	60
Nighttime Sound Level (Ln) (dBA)	30	39	35	41	56

Notes:
dBA = a-weighted decibel(s)
[A] Source: Stantec 2024b
[B] Source: Stantec 2026e

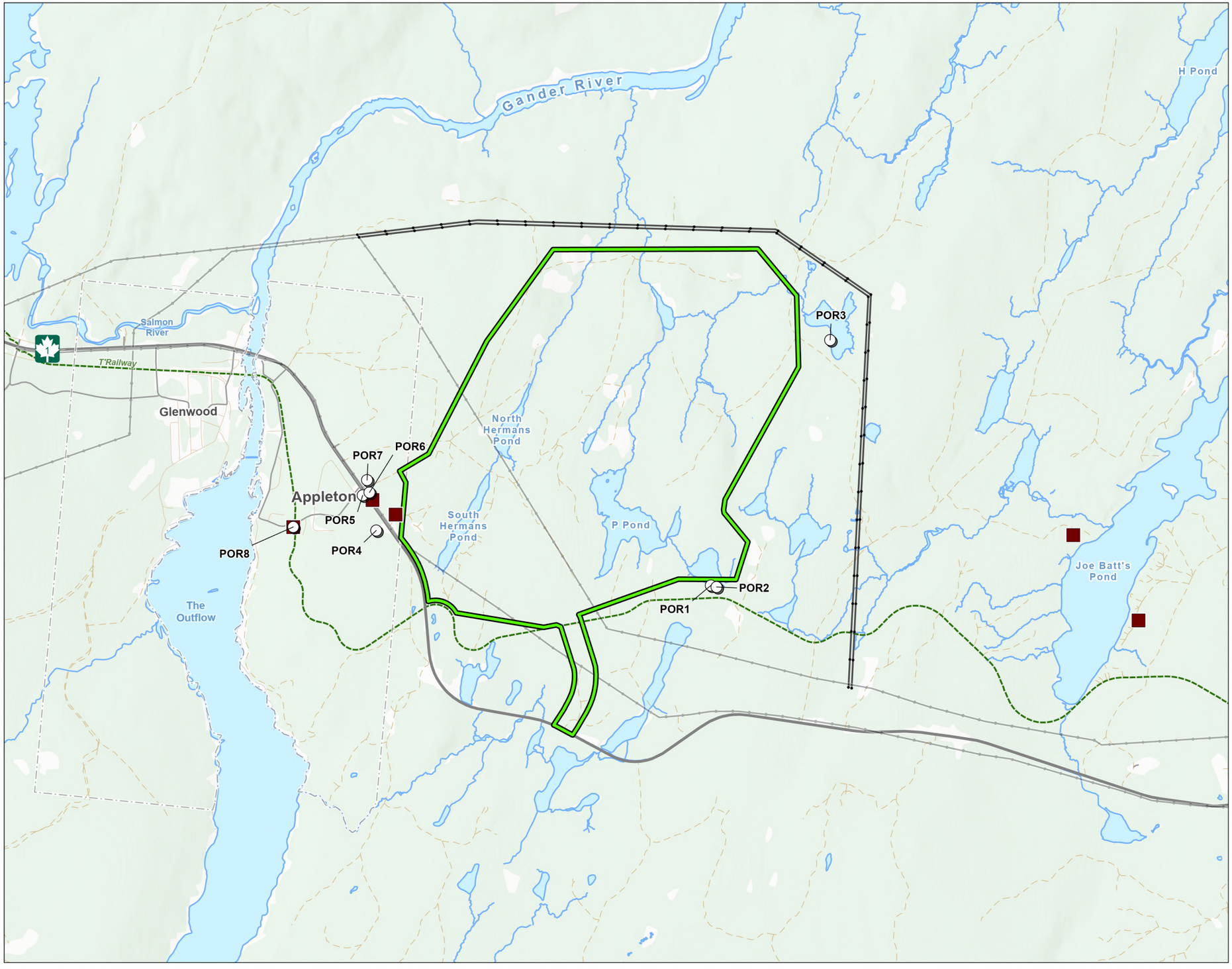


Figure No.
4.5

Title
Sound Level Monitoring and Receptor Locations

Client/Project 121418830_737
New Found Gold Corp.
Queensway Gold Project

Project Location
North Gander Lake
Newfoundland and Labrador

Prepared by NW on 2026-10-09
QR by PM on 2026-10-16
TR by BB on 2026-10-09

N

0 250 500 1,000 m
(At original document size of 11x17)
1:37,000

- Project Area
- Potential Receptor
- Noise Monitoring Location

Existing Infrastructure
- Transmission Line
- Highway
- Collector
- Local / Street

Waterways
- Watercourse
- Waterbody

Other Features
- Municipal Boundary



Notes
1. Coordinate System: NAD 1983 CSRS UTM Zone 21N
2. Data Sources: New Found Gold Corp.; Stantec; Government of Newfoundland and Labrador, Department of Environment, Conservation and Climate Change, Department of Forestry, Agriculture and Lands - Land Use Atlas Mapping Service, Department of Municipal and Community Affairs; National Road Network, Statistics Canada.
3. Background: Government of Newfoundland and Labrador, Department of Forestry, Agriculture and Lands - Land Use Atlas Mapping. Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community, Esri, USGS, Esri, NASA, NGA, USGS

Stantec

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\\cat\151-PFFSS01\work_group\12\14\active\121417598103_datagis_cad\mapping\ArcGIS Pro\121418830_NewFoundGold\121418830_NewFoundGold.aprx Revised: 2026-10-16 By: niwhite

4.1.3.2 Noise Modelling

Detailed noise modelling has been completed to evaluate the change to sound quality at nearby receptor locations (Figure 4.5) and was presented in Section 7.1.3.2 of the Environmental Registration. Noise is assessed by adding Project-related sound to existing noise levels to assess their respective changes. Further assessment on the perceived changes from the Project on nearby receptors in provided in Section 5.1.2 of this EPR.

Noise during construction and operation of the Project is expected from the operation of vehicles, heavy machinery, construction and clearing equipment, and the use of explosives in the development of the Project. Sound emissions during Project operation will result from activities like those expected during construction. Material handling, earth moving, and blasting will continue throughout operation, and heavy truck traffic will increase relative to an increase in production levels in the initial few years of operation. Rock breaking and crushing will also occur during operation.

Noise levels occurring at nearby receptor locations due to Project activities during operation were predicted using Cadna/A acoustic modeling software (DataKustik 2025). Cadna/A uses internationally accepted sound propagation algorithms and includes conservative assumptions about terrain, land cover, and meteorological conditions that can contribute to sound propagation in the environment (ISO 9613-1: 1993, ISO 9613-2: 2024). The location of the key noise sources in the model is shown in Figure 7.15 of the Environmental Registration, along with the closest points of reception (PORs) to the Project (which includes some cabins), which is shown in Figure 4.5 of this EPR. New Found Gold has and will continue to engage these cabin owners in terms of their occupancy, future use of the cabins, and possible mitigation steps, such as relocation or purchasing of the properties.

Noise modelling was conducted and is based on activities related to mining at the Keats pit since that is the closest pit to the Town of Appleton and so it is likely to lead to the biggest changes to noise at PORs close to the Project. To mitigate the effects of noise from the Project, New Found Gold is proposing to construct a 10 m-high noise berm as shown in Figure 4.1 of this EPR and described in Section 5.1.2 of this EPR. The updated noise berm alignment was accounted for in the model results presented below.

The predicted change in noise levels from Project activities is shown in Table 4.4. Project-related noise levels were assessed using criteria recommended by Health Canada based on a change in potential annoyance from noise (referred to as percent highly annoyed, %HA). Health Canada recommends that the change in %HA from a Project (as compared to baseline) should not be greater than 6.5%. These criteria are described in more detail in Section 7.1.1.2 of the Environmental Registration. The change in annoyance is also shown in Table 4.4. Based on the results from noise modelling, the change in noise levels from Project operation is predicted to comply with Health Canada Guidelines.

New Found Gold will have a grievance management process in place as described in Section 5.1.6 of the Environmental Registration. If community members identify concerns with respect to noise from operation of the Project, New Found Gold will implement adaptive management procedures in consultation with regulators and the community, which could include noise monitoring, mitigation review and implementation of additional noise mitigation if required.

Table 4.4 Day-Night Sound Pressure Level (L_{dn}), and Change in Percent Highly Annoyed (%HA) at Points of Reception near the Project (Figure 4.5)

Receptor	Measured Baseline L_{dn} (dBA)	Penalty for Quiet Rural Area (dB)	Total Baseline L_{dn} (dBA)	Project L_{dn} (dBA)	Total Project L_{dn} (dBA)	Baseline plus Project, Cumulative L_{dn} (dBA)	Total Baseline %HA	Cumulative %HA	Change in %HA
Receptor 1	44	10	54	50	60	61	3.7	9.0	5.3
Receptor 2	44	10	54	50	60	61	3.7	8.7	5.0
Receptor 3	44	10	54	49	59	60	3.7	8.1	4.5
POR4	52	0	52	56	56	57	2.8	5.6	2.8
POR5	52	0	52	53	53	56	2.8	4.5	1.7
POR6	60	0	60	54	54	61	7.7	8.8	1.0
POR7	52	0	52	53	53	56	2.8	4.6	1.7
POR8	44	10	54	46	56	58	3.7	6.1	2.5

Note:
Receptor 1, Receptor 2, Receptor 3, and POR8 were considered to be in a quiet rural area and so the %HA Calculation included an additional 10 dB penalty

Points of reception and other potential receptors include structures, a park, a remote building, and cabins/homes and are described in more detail in Section 7.4.2 of the Environmental Registration. Receptors 1, 2, 3, and 8 are located far from the TCH, and so, are in a quiet rural area. Health Canada recommends adding an additional 10 dB penalty to the day-night sound pressure level (Ldn) for quiet rural areas for both baseline and project sound levels for the purposes of calculating the %HA.

4.1.4 Existing Environment Related to Water Resources

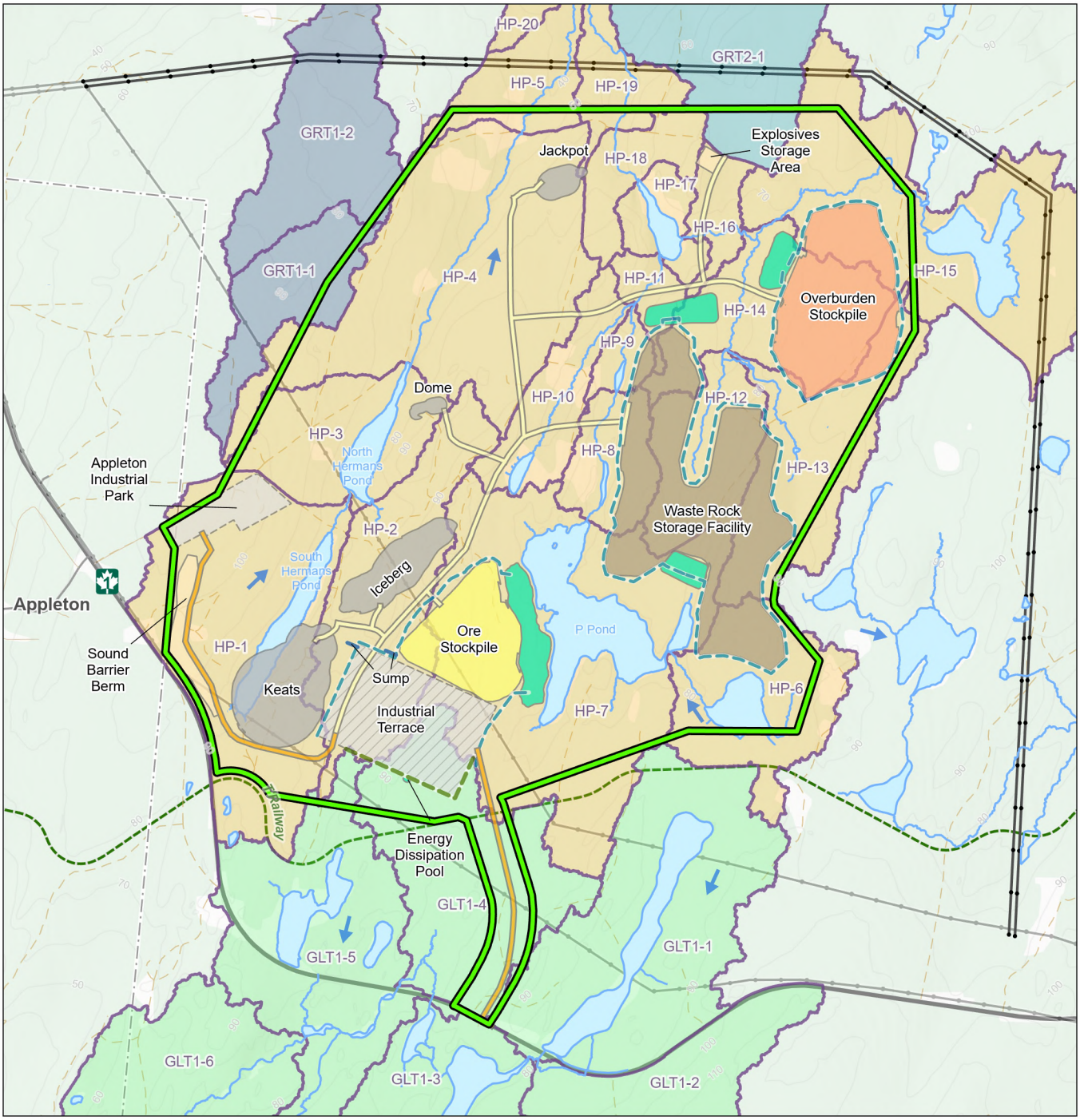
The EPR Guidelines (Table 4.1) request additional information for the existing environment of water resource that may be affected by the Project including:

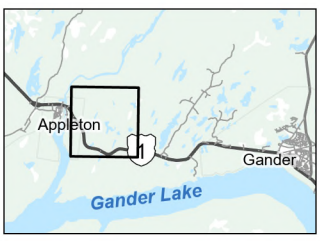
- Mapping of scheduled salmon rivers, freshwater streams, waterbodies and wetlands located within and adjacent to the Project footprint
- Further details regarding location and design of ditching and water control infrastructure around the industrial terrace and site access road
- Details of any potential alterations to natural and stormwater drainage patterns and runoff within and adjacent to the project boundary
- Delineation of groundwater flow directions and hydrogeology in the southern area of the Project boundary and role of the Appleton Fault Zone and related structures in groundwater movement
- Historical sampling results for sampling site SW-8
- Water quality sampling of surface water bodies in the Gander Lake Tributary 1 watershed

This information is found in the following sections while detailed discussions of existing conditions for groundwater and surface water resources within the Project Area are found in Sections 8.1 and 9.1 of the Environmental Registration, respectively. Figure 4.4 provides mapping of scheduled salmon rivers, freshwater streams, waterbodies, and wetlands located within and adjacent to the Project footprint.

4.1.4.1 Ditching and Water Control Infrastructure Around Industrial Terrace and Site Access Road

There are two components of the Project that overlap with the Gander Lake watershed: the industrial terrace and the new site access road. Figure 4.6 presents the locations of the terrace and access road and their associated water management infrastructure. As indicated in the introduction to Chapter 4 and to reduce overlap with the Gander Lake watershed, the location of the crushing and sorting activities on the industrial terrace have been shifted and the associated sedimentation pond has been removed from the Project design. The industrial terrace is now designed to have ore crushing and pre-concentration equipment located on the north side of the terrace within the watershed catchment of the Hermans Ponds watercourses with drainage directed via ditches to the ore stockpile pond. The southern area of the industrial terrace which still overlaps the Gander Lake watershed will not have mine equipment, chemical or fuel storage, or ore crushing facilities and will be used for general material laydown and employee parking. Surface water runoff from the mine activity side of the industrial terrace will be directed to the ore stockpile pond via perimeter ditches that are connected to ditching around the ore stockpile with sumps that will be pumped to adjacent ditching. Drainage in the material laydown and employee parking area will be collected via perimeter riprap lined ditches.





Notes
1. Coordinate System: NAD 1983 CSRS UTM Zone 21N
2. Data Sources: Stantec; GovNL Department of Forestry, Agriculture and Lands; CanVec NRCan; Newfound Gold Corp.
3. Background: Government of Newfoundland and Labrador; NRCan CanVec; Esri, NASA, NGA, USGS

Legend

- Project Area

Proposed Project Layout

- Access Road
- Haul Road
- Perimeter Ditch
- Perimeter Ditch (GL Watershed)
- Sump
- Sedimentation Pond
- Open Pit
- Ore Stockpile
- Overburden Stockpile
- Waste Rock Storage Facility
- Other Mine Features
- Industrial Terrace
- Appleton Industrial Park

Waterways

- Watercourse
- Flow Direction
- Waterbody

Watershed Delineation (Stantec 2025)

- GLT1 (Gander Lake Tributary 1)
- GRT1 (Gander River Tributary 1)
- GRT2 (Gander River Tributary 2)
- HP (Hermans Pond)
- Subwatershed (Stantec 2025)

Existing Infrastructure

- Transmission Line
- Proposed Transmission Line (Re-routing)
- Highway
- Collector Road
- Local Road
- Resource Road / Trail
- NL T'Railway Provincial Park

Other Features

- Contour (10 m)
- Municipal Boundary

0 250 500 750 metres
(At original document size of 8.5x11)
1:30,000

N

Stantec

Project Location
Appleton,
Newfoundland and Labrador

Prepared by NW on 2026-10-06
QR by PM on 2026-10-16
TR by AS on 2026-10-06

Client/Project
121418830_031
New Found Gold Corp.
Queensway Gold Project

Figure No.
4.6

Title
Preliminary Pond and Ditching Plan of Industrial Terrace

\\ca0151-PPFSS01\work_group\1214\active\121417598\03_data\gis_cad\mapping\ArcGIS Pro\121418830_NewFoundGold\121418830_NewFoundGold.aprx Revised: 2026-10-16 By: niwhite

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The ditches will drain to an energy dissipation pool that will reduce flow velocities prior to discharge into a wooded area within the Gander Lake watershed as overland flow. These changes support a more consolidated approach to site drainage, water collection, and water management, and reduces the potential for Project components to interact with multiple receiving environments. General ditch and water control infrastructure design criteria are discussed as part of the Water Management Plan (WaMP; Appendix 4.A of the Environmental Registration). The WaMP is a living document that will be reviewed and updated on a regular basis to reflect the latest in Project design. Therefore, the WaMP will be updated prior to Project construction to reflect the changes noted above and within the following sub-sections.

4.1.4.1.1 Industrial Terrace

The industrial terrace is designed to have ore crushing and pre-concentration equipment located on the north side of the terrace within the watershed catchment of the Hermans Ponds watercourses with drainage directed via ditches to the ore stockpile pond. The industrial terrace will be constructed with non-potentially acid generating (non-PAG) and non-metal leaching aggregate materials, including water management infrastructure.

The Project ditches, including the industrial terrace, (Figure 4.7) will be designed by applying the following criteria:

- Convey runoff for the 24-hour duration, 100-year annual exceedance probability (AEP) design event to the ore stockpile pond without overtopping.
- Incorporate a standard trapezoidal geometry with a maximum 2 horizontal (H):1 vertical (V) side slope tied into existing grade to reduce cost of construction and will maintain a minimum of 20 cm of freeboard.
- Riprap line ditches with appropriately sized material to provide erosion protection. In areas with ditch gradients steeper than 8%, sediment traps (i.e., check dams) will be installed.
- Construct ditches to drain by gravity to the water management ponds, where practicable. In low areas where gravity flow to the water management ponds is not practical, sumps will be constructed to collect water and pump it to the water management ponds.

Energy dissipation pools installed at the change in ditch gradient from slopes of 10% or higher to shallower slopes.

The ore stockpile pond will now be the main treatment pond for the Project and will also receive pit dewatering and WRSF pond discharges. Water from the ore stockpile pond will be treated in a water treatment plant prior to discharge to final discharge points (FDPs) in P Pond and North Hermans Pond, which both drain into tributaries of the same unnamed watercourse that eventually empties into the Gander River (downstream of the Gander Lake watershed). A detailed description of the water treatment process is included in Section 5.3.5 of this EPR.

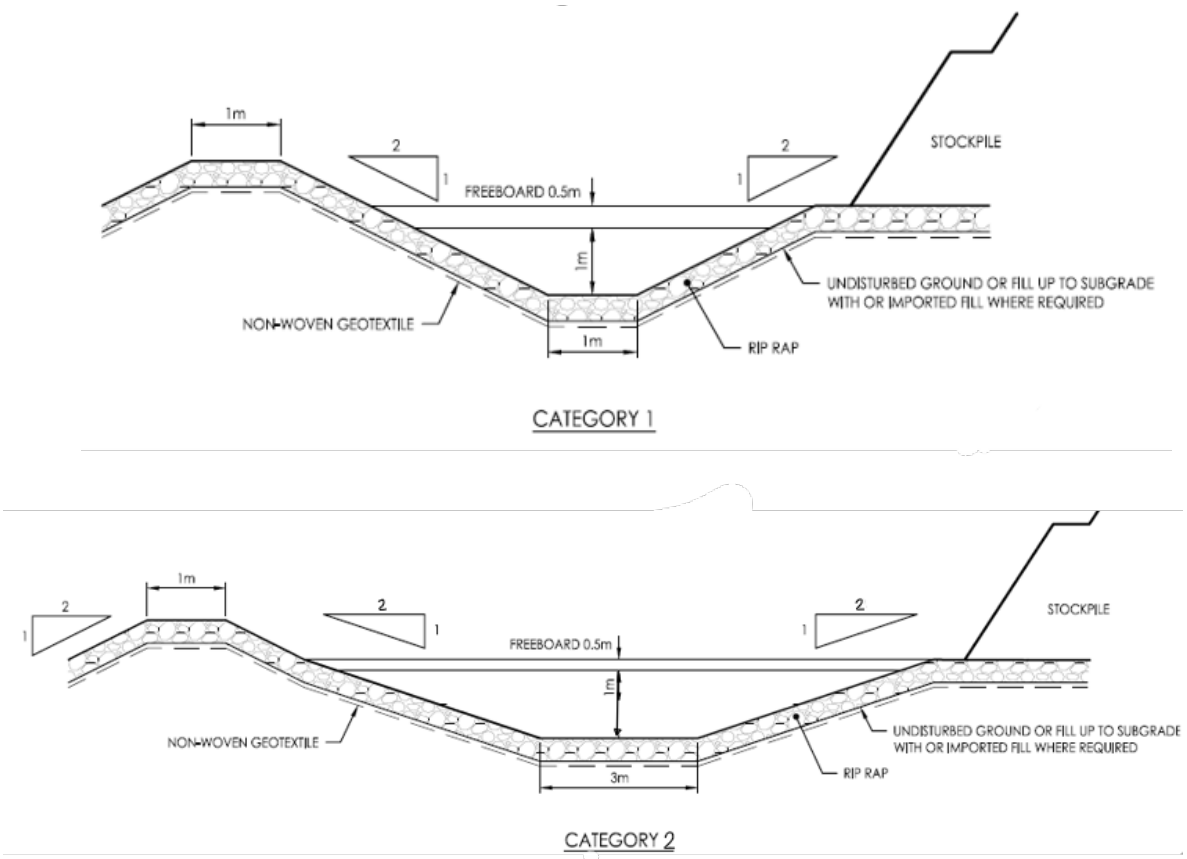


Figure 4.7 Contact Ditch Typicals (Category 1 – greater than 1% ditch slope; Category 2 – 1% or lower ditch slope)

The ore stockpile water management pond (Figure 4.6) will include the following water control criteria:

- Contact water collection from the mine activity area of the industrial terrace for storm events up to 1:10 Annual Exceedance Probability to allow settlement of sediments to meet *Metal and Diamond Mining Effluent Regulations* (MDMER).
- Designed to treat a silt sized particle of 5 x 10^{-3} mm in diameter (British Columbia Ministry of Environment, Lands and Parks 1996), which is the target particle size in design of IT-TP-01, until particle size analysis has been undertaken for the various stockpiles. Trapping efficiency target will be 80%.
- Contact water from water quality design storm event (24-hour duration, 10-year AEP) detained in ore stockpile pond for a minimum of 24 hours.
- A minimum length to width ratio of ore stockpile pond of 2:1 to reduce potential for short circuiting.

The southeastern area of the industrial terrace which overlaps the Gander Lake watershed will not have mine equipment, chemical or fuel storage, or ore crushing facilities and will be used for general material laydown and employee parking. The activities within this section of the industrial terrace area will be similar to other commercial parking and construction laydown area uses within the Gander Lake watershed. Drainage in the material laydown and employee parking area will be collected via perimeter riprap lined ditches. The ditches will drain to an energy dissipation pool that will reduce flow velocities

prior to discharge into a wooded area within the Gander Lake watershed as overland flow (Figure 4.6). The discharge location of the pool is over 470 m away from the nearest watercourse/waterbody. To reduce the mine water inventory, non-contact runoff is proposed to be diverted using perimeter berms around mine components to allow runoff to drain offsite.

The industrial terrace water management infrastructure is summarized in Tables 4.5 and 4.6, ditch typicals are presented in Figure 4.7 and the ditch and water management infrastructure general arrangement is presented in Figure 4.6.

Table 4.5 Industrial Terrace Ditch and Water Management Design Details

Mine Facility [Facility Area]	Ditch Run	Ditch Length (m)	Average Slope (%)
Industrial Terrace [22.3 ha] Ore Stockpile [25.6 ha]	OS-DR-01	488.5	1.3
	OS-DR-02	859	1.1
	IT-DR-01	680	0.7

Table 4.6 Pond Storage

Pond ID	Permanent Pond / Inactive Storage (m^3)	Active Storage (m^3)	Total Pond Containment Storage (m^3)	Maximum Discharge Pumping Rates* (m^3/s)
Ore Stockpile Pond (OS-SP-01)	28,669	69,653	98,322	0.110

Note:

*Maximum discharge pumping rates are for a seven-day distribution for localized water management ponds. The ore stockpile pond discharge rate is equal to the sum of peak runoff inflows in addition to the direct catchment volume dewatered over a seven-day period.

4.1.4.1.2 Site Access Road

Design details of ditching and water control infrastructure around the site access road were discussed as part of the Project Description (Chapter 4 of the Environmental Registration).

The site access road from the TCH will be designed in coordination with NLDTI. This road will serve as the primary access for light vehicles (including employee transportation), supply deliveries, and highway truck haulage of ore to the Pine Cove processing facility. This road has been strategically located to reduce interaction between light vehicles and mine haulage trucks, consistent with best practices for safe mine operations. The road will intersect the T'Railway, and safety features will be incorporated in consultation with relevant authorities. The site access road is designed to be 15 m in width and approximately 1,345 m in length.

Water management infrastructure associated with road construction will include cross drainage culverts, drainage ditches, and erosion control features. There are no watercourse crossings or alterations required for the site access road. Water management components will be designed to maintain natural hydrology, and reduce sedimentation into adjacent aquatic environments.

4.1.4.2 Alterations to Natural and Stormwater Drainage Patterns

A detailed assessment of changes to both surface water quantity and quality are found within Section 9.4 of the Environmental Registration and the Water Balance and Water Quality Model Report (Appendix 9.A of the Environmental Registration). The changes to flow within local watercourses within the Project Area were assessed at the sub-watershed scale by applying the following steps:

- A daily hydrologic watershed model was developed to simulate flow in watercourses within the Project area, including mean annual flow (MAF) rates for sub-watersheds.
- The water management design concept for contact water was developed, as follows: contact water within the Project site is captured via ditching and drains to open pit sumps and/or sedimentation ponds that if treatment is adequate is sent to two final discharge points (FDPs): 1. P Pond (P9); and 2. North Hermans Pond (P1). If additional treatment is required contact water is sent to the ore stockpile pond and then into a water treatment plant and then the FDPs (Section 5.3.5 of this EPR).
- A site-wide water balance was developed in GoldSim™ to estimate discharges at the FDPs from the site water management infrastructure during different life of mine phases (construction, operation, active and passive closure).
- Watershed changes for Project works draining to the sedimentation ponds and then the FDPs, and the GoldSim™ model outputs were input into the hydrologic model to estimate changes in sub-watershed mean annual flow (MAF) for the different life of mine phases.
- If the expected changes in MAF were greater than 10% they were carried forward to subsequent assessment steps. The +/-10% threshold is selected based on case studies presented by Richter et. al (2011), which indicate that a high level of ecological protection is provided when flow alterations are within 10% of the natural flow, and guidance provided by Fisheries and Oceans Canada (2013).
- Additional assessment for those MAF changes greater than 10% included comparing to baseline environmental flows and if the MAF was lower than the environmental flow, a locally significant surface water flow change was expected within the LAA.

During construction, erosion and sediment control measures will be implemented to protect sensitive receptors (i.e., watercourses, waterbodies, wetlands) from sediment-laden runoff by directing untreated runoff away from these drainage areas, treating it, and then discharging the treated effluent into the Hermans Pond system. Mine infrastructure (i.e., stockpiles, pits) and associated water management infrastructure will be constructed outside the Gander Lake PPSWA. Prior to development of the WSRF and other piles, perimeter ditches and water collection ponds will be constructed to collect and store surface runoff.

During operation, each facility will have a localized water management pond that will receive contact water runoff via gravity, where possible. The water management system is designed to divert non-contact water from the mine facilities natural water drainage areas that flow to the north, where possible. Diversion of surface flows using berms will be constructed around the crest of open pits or up-gradient of mine rock piles and other developed areas to reduce the contact water inventory to the extent feasible. A buffer of approximately 15 m will be maintained from fish-bearing watercourses for the water management design. The flow from the FDPs to North Hermans Pond and P-Pond will be managed to

have the discharge volumes distributed between the two watersheds to align with the relative reductions in watershed drainage area flows (i.e., 53% for North Hermans Pond, 47% for P-Pond). This redistribution of flow reduces contributing drainage areas within some upstream sub-watersheds and results in decreases in mean annual flow (MAF) within some upstream sub-watersheds, while sub-watersheds receiving discharges from the FDPs experience localized increases in flow. Eight sub-watersheds are projected to experience a decrease in MAF of more than 10% of pre-development MAF values, while six sub-watersheds are expected to have increases in MAF of greater than 10% due to the Project. Within the eight watersheds with a decrease in MAF of more than 10%, the effects to fish habitat were predicted to be greatest during the summer low flow period when stream discharges are typically below 30% of MAF, which may result in harmful alteration, disruption or destruction (HADD) of the habitat. The potential loss in habitat will be offset as required under the *Fisheries Act* with development of a Fish Habitat Offsetting Plan that accounts for uncertainty in predicting loss of fish habitat and aims for a net gain in habitat. Nine sub-watersheds are expected to experience MAF changes of less than ±10% of pre-development MAF values and no residual effects to surface water are expected in these sub-watersheds. These changes are primarily associated with the collection of runoff and contact water from pits, stockpiles, and other mine infrastructure within the site-wide water management system and the subsequent release of managed flows to downstream receiving watersheds through the FDPs. One of the sub-watersheds with an increased MAF reflects a post-development change as a result of the pit altering the watershed delineation, which increases its contributing drainage area relative to baseline conditions.

Water quality treatment in water management ponds will continue during rehabilitation and closure until water quality monitoring demonstrates that water quality is acceptable to release to the environment and that chemical stability has been achieved. At that time, water management pond impoundment structures will be breached to allow drainage to local receivers. Other water management infrastructure will be removed and restored to pre-development drainage conditions (to the extent practical) and the water treatment plant decommissioned. Perimeter ditches will be backfilled with overburden and covered with a vegetated soil cover as part of the drainage restoration activities. The soil cover will be the same as that used on the rehabilitated piles themselves allowing non-contact runoff to drain down the pile slopes and benches or beaches, over the perimeter ditch footprints and overland to local receivers following natural drainage patterns.

During closure (prior to Keats and Iceberg Pits being full of water), Keats and Iceberg pits will still be filling and will not be discharging to receiving environments. As a result, a portion of runoff that contributed in pre-development to downstream surface water will be retained within the pits. This shift in flow routing is expected to contribute to reduced flows within portions of the North Hermans watershed relative to pre-development conditions. During post-closure prior to pit overflow, five sub-watersheds part of North Hermans watershed are expected to have a decrease in MAF greater than 10%. Seventeen sub-watersheds are expected to have no residual effects due to the project with MAF changes of less than ±10% of pre-development MAF values. One sub-watershed is expected to have a MAF greater than 10% of pre-development MAF which is due to increase in drainage area due to the pit altering the watershed delineation. Post-mine year 31 is when Keats and Iceberg are both anticipated to be discharging to the environment, these overflows will provide additional long-term surface water inputs to downstream sub-watersheds. Three sub-watersheds are projected to have MAF of greater than 10% of pre-development MAF. Of the three, two sub-watersheds are directly downstream of the Keats and Iceberg, resulting in the increase. The third sub-watershed increase is due to the increase in drainage area similar to previous phases. Twenty sub-watersheds are expected to have no residual effects due to the project with MAF changes of less than ±10% of pre-development MAF values.

Overall, the Project will alter natural and stormwater drainage patterns within the Project footprint through the diversion, collection, treatment, and controlled release of runoff and contact water. While localized changes in flow are predicted in some sub-watersheds, most sub-watersheds are expected to remain within ±10% of pre-development flow conditions. Therefore, drainage and runoff changes are expected to be concentrated within the Project Area and immediately downstream of managed discharge locations, with broader watershed-scale drainage patterns expected to remain largely unchanged.

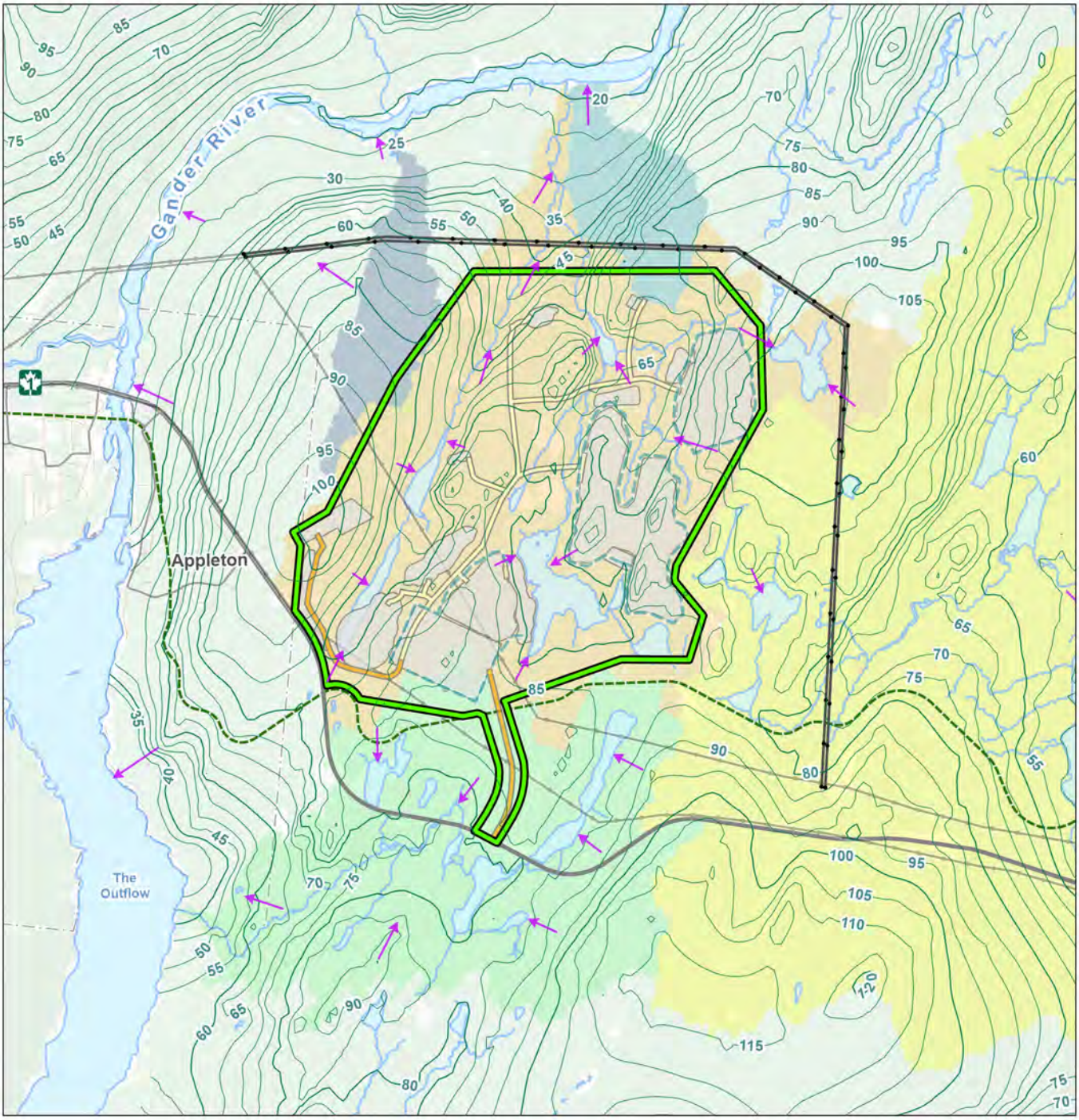
4.1.4.3 Groundwater Flow Directions

The groundwater contours (as presented in Chapter 8 of the Environmental Registration) were limited by the number and spatial distribution of the available monitoring wells in the area south of the Project Area. To provide a more detailed representation of groundwater flow direction in this area (i.e., the Hermans Pond watershed), groundwater elevation contours and groundwater flow lines generated from the calibrated baseline groundwater flow model are presented in Figure 4.8.

The southern portion of the model was calibrated using dummy wells, for which groundwater elevations were estimated by subtracting the average depth to groundwater measured at the monitoring wells from the ground surface elevation at the corresponding dummy well location.

Groundwater in the Hermans Pond watershed discharges to the Gander River, with local discharge to the surface water features within the watershed. Groundwater within the Gander Lake Tributary 1 watershed, located south of the Hermans Pond watershed discharges both locally to surface water features located in the central portion of the watershed and regionally towards the outflow of Gander Lake along the southwestern boundary of the watershed. The watershed divide between the Gander Lake Tributary 1 watershed and the Hermans Pond watershed are assumed to form a groundwater divide, with shallow groundwater south of the divide generally flowing toward Gander Lake. Therefore, groundwater originating within the Hermans Pond watershed is not likely to flow directly toward Gander Lake (Figure 4.8).

As discussed in the Groundwater Resources VC assessment (Chapter 8 of the Environmental Registration), a groundwater monitoring plan will be implemented to confirm potential changes in groundwater associated with Project activities. Long-term monitoring will include additional groundwater monitoring wells located south of the site, as well as west of the site, where groundwater flow is expected to discharge to the Gander River outflow. In addition to groundwater monitoring, surface water quality samples were collected from the ponds located in the Gander Lake Tributary 1 watershed to, in part, monitor potential effects to groundwater receptors in this watershed (Section 4.1.4.5).





Notes
1. Coordinate System: NAD 1983 CSRS UTM Zone 21N
2. Data Sources: Stantec; New Found Gold Corp.
3. Background: Government of Newfoundland and Labrador, Department of Environment, Conservation, and Climate Change; Department of Forestry, Agriculture and Lands - Land Use Atlas Mapping Service; Department of Municipal and Community Affairs; Additional topographic basemapping from Esri, NASA, NGA, USGS

Legend

- Project Area
- Groundwater Contour
- Groundwater Flow Direction

Waterways

- Watercourse
- Waterbody

Watershed Delineation (Stantec 2025)

- GLT1 (Gander Lake Tributary 1)
- GRT1 (Gander River Tributary 1)
- GRT2 (Gander River Tributary 2)
- HP (Hermans Pond)
- JBB (Joe Batt's Brook)

Proposed Project Layout

- Access Road
- Perimeter Ditch
- Haul Road
- Proposed Site Features

Existing Infrastructure

- Transmission Line
- Proposed Transmission Line (Re-routing)
- Highway
- Collector
- Local / Street
- NL T'Railway Provincial Park

Other Features

- Municipal Boundaries

0 250 500 750 1,000 metres

(At original document size of 8.5x11)
1:48,000

N

Stantec

Project Location
Appleton,
Newfoundland and Labrador

Prepared by NW on 2026-10-14
QR by PM on 2026-10-16
TR by SS on 2026-10-14

Client/Project
New Found Gold Corp.
Queensway Gold Project

121418830_036

Figure No.
4.8

Title
Groundwater Flow Directions

\\ca0151-PPFSS01\work_group\1214\active\121417598\03_data\gis_cad\mapping\ArcGIS Pro\121418830_NewFoundGold\121418830_NewFoundGold.aprx Revised: 2026-10-17 By: niwhite

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4.1.4.4 SW-8 Water Quality

New Found Gold has contracted consultants to collect surface water samples from SW-8 (Figure 4.9) since 2021. SW-8 is located on an unnamed tributary watercourse draining into Gander Lake. From 2021 to 2023, SW-8 was sampled on a quarterly basis by GEMTEC. Starting in 2024, SW-8 was sampled by Stantec. Sampling was conducted monthly from July to November in 2024; in May and July in 2025; and in May, July, and August in 2026. A total of 18 monitoring events were conducted at SW-8 between 2021 and 2026, resulting in the collection of 20 samples, including two field duplicate samples. Results from the monitoring events are summarized below.

For each monitoring event, water samples were submitted to AGAT Laboratories in St. John's, NL. For the GEMTEC monitoring programs, samples were analyzed for general chemistry, total metals, and petroleum hydrocarbons. For the Stantec monitoring programs, samples were analyzed for general chemistry, and metals (dissolved and total). Cyanide (total and weak acid dissociable) and radium-226 were sampled once during the 2024 monitoring program since these parameters can be associated with mining activities. Analysis of petroleum hydrocarbons was removed from the Stantec monitoring programs in 2025 onward because no exceedances were reported at SW-8 since March 2021 and the source of the exceedances at other monitoring locations in 2021 was likely biogenic and not from a petroleum hydrocarbon product.

In addition, *in situ* surface water quality was conducted for each monitoring event using a hand-held digital water quality meter for water temperature, pH, electrical conductivity, dissolved oxygen, and oxidation reduction potential.

Analysis of the results included summary statistics calculated for each parameter (i.e., minimum, maximum, mean, standard deviation, 25th percentile, 75th percentile), where applicable. Prior to calculating summary statistics for each parameter, results below the reportable detection limit (RDL) were represented as 50% of the RDL value. Results were compared to the Canadian Council of Ministers of the Environment (CCME) Canadian Water Quality Guidelines for the Protection of Freshwater Aquatic Life (CWQG-FAL) to identify parameters of potential concern (PoPCs). PoPCs were identified when the 75th percentile value (and/or 25th percentile value for pH and dissolved oxygen) exceeded the CWQG-FAL guideline values. Tables 4.7 to 4.10 present the summary statistics for general chemistry, nutrients, dissolved metals, and total metals, respectively, for SW-8.

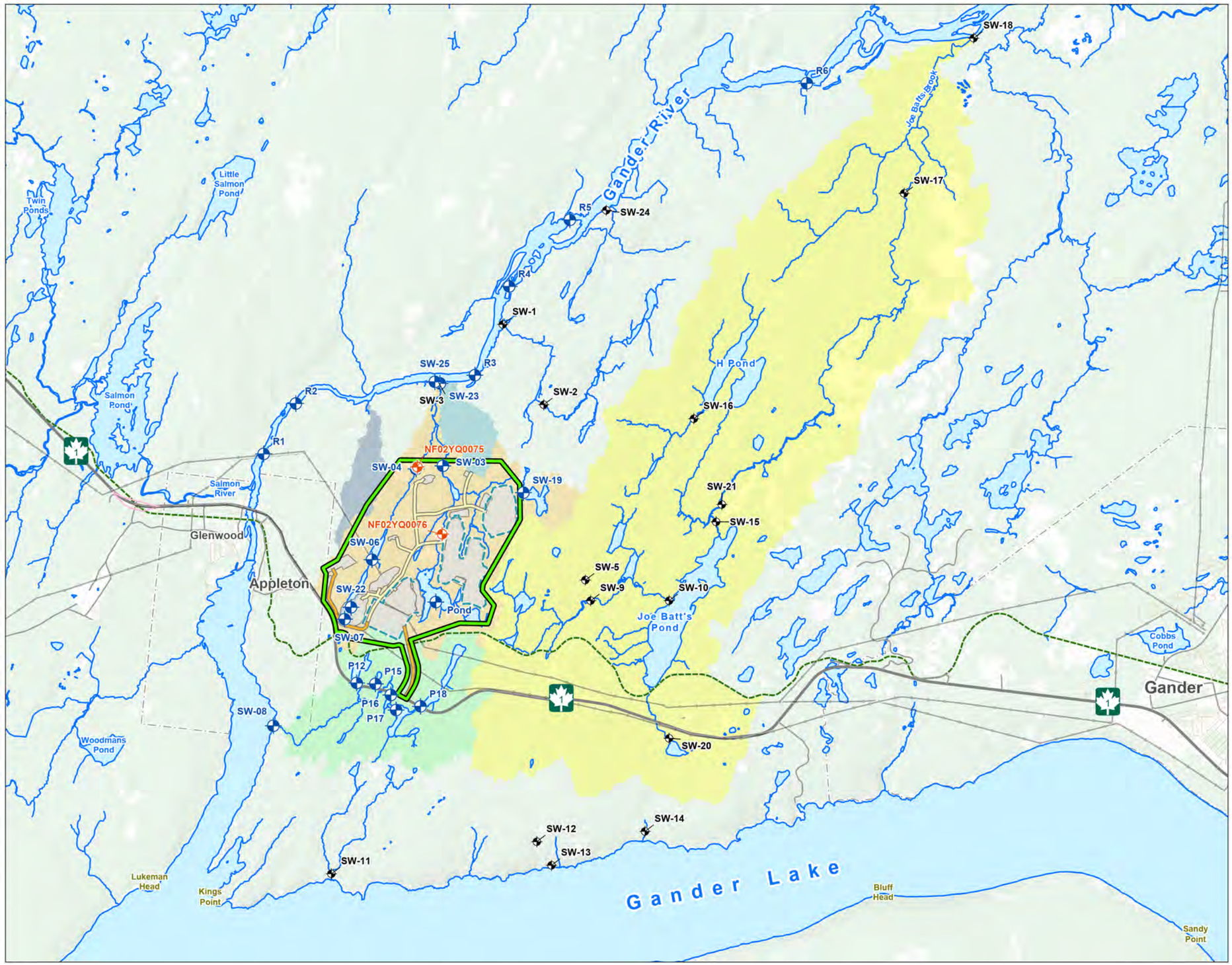


Figure No.
4.9

Title
Surface Water Quality Monitoring Locations

Client/Project
New Found Gold Corp.
Queensway Gold Project
121418830_901

Project Location
North Gander Lake
Newfoundland and Labrador

Prepared by NW on 2026-10-07
QR by PM on 2026-10-16
TR by AS on 2026-10-07

N

0 0.5 1 2 km
(At original document size of 11x17)
1:75,000

Legend

Project Area

Surface Water Monitoring Locations
- Stantec
- NL WRMD Real Time
- Gemtec (2023)

Watershed Delineation (Stantec 2025)
- GLT1 (Gander Lake Tributary 1)
- GRT1 (Gander River Tributary 1)
- GRT2 (Gander River Tributary 2)
- HP (Hermans Pond)
- JBB (Joe Batt's Brook)

Proposed Project Layout
- Access Road
- Haul Road
- Perimeter Ditch
- Proposed Site Features

Existing Infrastructure
- Transmission Line
- Highway
- Collector
- Local / Street
- Ramp
- NL T'Railway Provincial Park

Waterways
- Watercourse
- Waterbody

Administrative Boundaries
- Municipal Boundary



Notes
1. Coordinate System: NAD 1983 CSRS MTM 2
2. Data Sources: New Found Gold Corp.; Stantec; GEMTEC; Government of Newfoundland and Labrador, Department of Environment and Climate Change
3. Background: Government of Newfoundland and Labrador, Department of Environment and Climate Change, Department of Fisheries, Forestry, and Agriculture Land Use Atlas Mapping Service, Department of Municipal and Provincial Affairs; National Road Network, Statistics Canada; Additional topographic basemapping from Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community, Esri, USGS, Esri, NASA, NGA, USGS

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Table 4.7 Summary of General Chemistry in SW-8

Parameter	Units	RDL	CWQG-FAL		Minimum	Maximum	Mean	25th Percentile	75th Percentile	Std. Dev.	No. of Samples	No. of Non-detects	No. of Exceedances
			Short-Term	Long-Term									
DO, Field	mg/L	n/a	n/a	Variable[1]	7.41	22.2	11.5	9.1	12.7	4.16	8	0	0
pH, Field	-	n/a	n/a	6.5–9.0	**6.14**	8.86	7.0	6.56	7.34	0.60	20	0	5
SPC, Field	µS/cm	n/a	n/a	n/a	0.118	373	153.3	106.3	171.5	94.4	9	0	0
Conductivity, Field	µS/cm	n/a	n/a	n/a	48.2	218.4	122.3	92.3	158.0	48.9	16	0	0
Temperature, Field	deg C	n/a	n/a	n/a	0.1	20.5	10.5	3.28	17.2	7.03	21	0	0
TDS, Field	mg/L	n/a	n/a	n/a	0.061	241.5	93.7	68.9	102.3	60.7	9	0	0
OPR, Field	mV	n/a	n/a	n/a	-0.1	592.8	216.3	133.2	249.5	149.2	17	0	0
Alkalinity, Total	mg/L	5	n/a	n/a	5	33	16	8	23	9	23	0	0
Chloride	mg/L	1	640	120	6	53	30	24	35	11	23	0	0
Colour, True	TCU	5	n/a	n/a	11.8	53.2	30.4	20.5	40.9	12.4	23	0	0
Fluoride	mg/L	0.12	n/a	0.12	<0.12	<0.12	-	-	-	-	23	23	0
Hardness	mh/L	n/a	n/a	n/a	9.9	28.6	17.4	12.4	23.4	5.69	23	0	0
Ion Balance	%	n/a	n/a	n/a	0.2	47.7	10.2	3.05	8.9	13.2	23	0	0
Orthophosphate (as P)	mg/L	0.01	n/a	n/a	<0.01	0.05	-	-	-	-	23	21	0
Reactive Silica	mg/L	0.5	n/a	n/a	<0.5	3.8	2.1	1.3	2.8	0.9	23	1	0
Sulphate	mg/L	2	n/a	n/a	<2	4	2	1	3	1	23	11	0
TDS (Calculated)	mg/L	1	n/a	n/a	34	107	69	57	82	19	23	0	0
TSS	mg/L	2	n/a	n/a	<1	5	-	-	-	-	23	18	0
Turbidity	NTU	0.5	n/a	Narrative[2]	<0.5	6.3	1.6	0.7	2.1	1.4	23	2	0

Notes:

Values in boldface and shaded exceed the CWQG-FAL guidelines.

[1] CWQG-FAL long-term lowest acceptable concentration for warm water biota (early life stages) = 6 mg/L; warm water biota (other life stages) = 5.5 mg/L; cold water biota (early life stages) = 9.5 mg/L; cold water biota (other life stages) = 6.5 mg/L.

[2] Clear flow = Maximum increase of 8 NTU from background levels for a short-term exposure (e.g., 24-hour period); maximum average increase of 2 NTU from background levels for a long-term exposure (e.g., 30-day period). High flow or turbid water = Maximum increase of 8 NTU from background levels at any one time when background levels are between 8–80 NTU; should not increase more than 10% of background levels when background is >80 NTU.

DO – dissolved oxygen

OPR – oxidation reduction potential

RDL – reporting detection limit

SPC – specific conductance

TDS – total dissolved solids

TSS – total suspended solids

n/a – not applicable

"-" – value not calculated

Table 4.8 Summary of Nutrients in SW-8

Parameter	Units	RDL	CWQG-FAL		Minimum	Maximum	Mean	25th Percentile	75th Percentile	Std. Dev.	No. of Samples	No. of Non-detects	No. of Exceedances
			Short-Term	Long-Term									
DOC	mg/L	0.5	n/a	n/a	5.5	11	7.5	6.6	8.2	1.6	12	0	0
Ammonia (as N)	mg/L	0.03	12.6	1.27	<0.03	**14.6**	-	-	-	-	23	15	1
Nitrate (as N)	mg/L	0.05	124	3	<0.05	0.47	0.12	0.043	0.17	0.101	23	6	0
Nitrite (as N)	mg/L	0.05	n/a	0.06	<0.05	**0.23**	-	-	-	-	23	17	5
TP	mg/L	0.006	n/a	Framework[1]	<0.002	0.069	0.013	0.0025	0.013	0.018	12	5	0
TOC	mg/L	0.5	n/a	n/a	2.2	17.3	8.0	6.2	9.7	3.0	23	0	0

Notes:

[1] CWQG-FAL long-term framework for total phosphorus provides the following trigger ranges: ultra-oligotrophic <0.004 mg/L; oligotrophic 0.004-0.01 mg/L; mesotrophic 0.01-0.02 mg/L; meso-eutrophic 0.02-0.035 mg/L; eutrophic 0.035-0.1 mg/L; hyper-eutrophic >0.1 mg/L.

DOC – dissolved organic carbon

RDL – reporting detection limit

TOC – total organic carbon

TP – total phosphorus

n/a – not applicable

"-" – value not calculated

Table 4.9 Summary of Dissolved Metals in SW-8

Parameter	Units	RDL	CWQG-FAL		Minimum	Maximum	Mean	25th Percentile	75th Percentile	Std. Dev.	No. of Samples	No. of Non-detects	No. of Exceedances
			Short-Term	Long-Term									
Aluminum	µg/L	5	n/a	n/a	8	69	27	14	32	18	12	0	0
Antimony	µg/L	2	n/a	n/a	<1	<2	-	-	-	-	12	12	0
Arsenic	µg/L	2	n/a	n/a	<1	<2	-	-	-	-	12	12	0
Barium	µg/L	5	n/a	n/a	<5	<50	-	-	-	-	12	12	0
Beryllium	µg/L	2	n/a	n/a	<0.5	<2	-	-	-	-	12	12	0
Bismuth	µg/L	2	n/a	n/a	<1	<2	-	-	-	-	12	12	0
Boron	µg/L	50	n/a	n/a	<5	<50	-	-	-	-	12	12	0
Cadmium	µg/L	0.09	n/a	n/a	<0.016	<0.09	-	-	-	-	12	12	0
Calcium	µg/L	70	n/a	n/a	6,150	6,180	-	-	-	-	2	0	0
Chromium	µg/L	1	n/a	n/a	<0.5	<1	-	-	-	-	12	12	0
Chromium (Hexavalent)	µg/L	0.001	n/a	1	<1	<7	-	-	-	-	12	12	0
Cobalt	µg/L	1	n/a	n/a	<0.06	<1	-	-	-	-	12	12	0
Copper	µg/L	2	n/a	n/a	<0.8	<2	-	-	-	-	12	12	0
Iron	µg/L	50	n/a	n/a	<50	491	151	94	168	113	12	1	0
Lead	µg/L	0.5	n/a	n/a	<0.1	<0.5	-	-	-	-	12	12	0
Lithium	µg/L	1	n/a	n/a	<1	<1	-	-	-	-	2	2	0
Magnesium	µg/L	50	n/a	n/a	1,420	1,610	-	-	-	-	2	0	0
Manganese	µg/L	2	Equation[1]	Variable[1]	4	**365**	40	7	14	98	12	0	1
Molybdenum	µg/L	2	n/a	n/a	<1	<2	-	-	-	-	12	12	0
Nickel	µg/L	2	n/a	n/a	<2	<3	-	-	-	-	12	12	0
Phosphorus	µg/L	50	n/a	Framework[2]	<50	<50	-	-	-	-	2	2	0
Potassium	µg/L	50	n/a	n/a	210	240	-	-	-	-	2	0	0
Selenium	µg/L	1	n/a	n/a	<0.05	<1	-	-	-	-	12	12	0
Silicon	µg/L	10	n/a	n/a	1,180	1,440	-	-	-	-	2	0	0
Silver	µg/L	0.1	n/a	n/a	<0.05	<0.1	-	-	-	-	12	12	0
Sodium	µg/L	50	n/a	n/a	21,900	25,300	-	-	-	-	2	0	0
Strontium	µg/L	5	n/a	n/a	18	53	33	22	41	11	12	0	0
Sulphur	µg/L	500	n/a	n/a	1,000	1,200	-	-	-	-	2	0	0
Thallium	µg/L	0.1	n/a	n/a	<0.1	<0.1	-	-	-	-	12	12	0
Tin	µg/L	2	n/a	n/a	<0.5	<2	-	-	-	-	12	12	0
Titanium	µg/L	2	n/a	n/a	<1	<2	-	-	-	-	12	12	0
Uranium	µg/L	0.1	n/a	n/a	<0.1	<1	-	-	-	-	12	12	0

Table 4.9 Summary of Dissolved Metals in SW-8

Parameter	Units	RDL	CWQG-FAL		Minimum	Maximum	Mean	25th Percentile	75th Percentile	Std. Dev.	No. of Samples	No. of Non-detects	No. of Exceedances
			Short-Term	Long-Term									
Vanadium	µg/L	2	n/a	n/a	<1	<2	-	-	-	-	12	12	0
Zinc	µg/L	5	Equation[3]	Equation[3]	<4	5	-	-	-	-	12	10	1
Zirconium	µg/L	0.05	n/a	n/a	<0.05	0.07	-	-	-	-	2	1	0

Notes:

[1] The CWQG-FAL for dissolved manganese can be determined using the look-up table found in Scientific Criteria Document for the Development of the Canadian Water Quality Guidelines for the Protection of Aquatic Life: Manganese (CCME 2019).

[2] CWQG-FAL long-term framework for total phosphorus provides the following trigger ranges: ultra-oligotrophic <0.004 mg/L; oligotrophic 0.004-0.01 mg/L; mesotrophic 0.01-0.02 mg/L; meso-eutrophic 0.02-0.035 mg/L; eutrophic 0.035-0.1 mg/L; hyper-eutrophic >0.1 mg/L.

[3] The short-term CWQG-FAL for dissolved zinc is calculated based on hardness and DOC. Short-Term Guideline = exp(0.833[ln(hardness)]+0.240[ln(DOC)]+0.526. The long-term CWQG-FAL for dissolved zinc is calculated based on hardness, DOC, and pH. Long-Term Guideline = exp(0.947[ln(hardness)]-0.815[pH]+0.398[ln(DOC)]+4.625.

RDL – reporting detection limit

n/a – not applicable

"-" – value not calculated

Table 4.10 Summary of Total Metals in SW-8

Parameter	Units	RDL	CWQG-FAL		Minimum	Maximum	Mean	25th Percentile	75th Percentile	Std. Dev.	No. of Samples	No. of Non-detects	No. of Exceedances
			Short-Term	Long-Term									
Aluminum	µg/L	5	n/a	Variable[1]	16	**159**	67	37	99	37	23	0	9
Antimony	µg/L	2	n/a	n/a	<1	<3	-	-	-	-	23	23	0
Arsenic	µg/L	2	n/a	5	<2	<3	-	-	-	-	23	20	0
Barium	µg/L	5	n/a	n/a	<2	<50	-	-	-	-	23	21	0
Beryllium	µg/L	2	n/a	n/a	<0.5	<2	-	-	-	-	23	23	0
Bismuth	µg/L	2	n/a	n/a	<1	<2	-	-	-	-	23	23	0
Boron	µg/L	50	29,000	1,500	<5	<50	-	-	-	-	23	23	0
Cadmium	µg/L	0.09	Equation[2]	Equation[2]	<0.016	<0.10	-	-	-	-	23	22	0
Calcium	mg/L	0.1	n/a	n/a	2.8	8	4.7	3.2	6.5	1.7	23	0	0
Chromium	µg/L	1	n/a	n/a	<0.5	<3	-	-	-	-	23	23	0
Cobalt	µg/L	1	n/a	n/a	<0.5	<1	-	-	-	-	23	21	0
Copper	µg/L	1	n/a	Equation[3]	<0.8	<2	-	-	-	-	23	23	0
Iron	µg/L	50	n/a	300	91	**792**	266	161	**309**	177	23	0	6
Lead	µg/L	0.5	n/a	Equation[4]	0.1	<1	-	-	-	-	23	21	0
Lithium	µg/L	1	n/a	n/a	<1	<1	-	-	-	-	2	2	0
Magnesium	mg/L	0.1	n/a	n/a	0.7	2.1	1.4	1	1.8	0.4	23	0	0
Manganese	µg/L	2	n/a	n/a	17	496	96	2	69	127	23	0	0
Mercury	ng/L	0.5	n/a	26	<26	**638**	-	-	-	-	11	10	1
Mercury, LL	ng/L	0.5	n/a	26	1	4.2	2.1	1.5	2	0.9	12	0	0
Molybdenum	µg/L	2	n/a	73	<1	<2	-	-	-	-	23	23	0
Nickel	µg/L	2	n/a	Equation[5]	<2	6	-	-	-	-	23	22	0
Phosphorus, LL	mg/L	0.006	n/a	Framework[6]	<0.002	0.069	0.013	0.0025	0.013	0.018	12	5	0
Potassium	mg/L	0.1	n/a	n/a	<0.1	0.6	0.3	0.2	0.3	0.1	23	3	0
Selenium	µg/L	1	n/a	1	<0.1	<1	-	-	-	-	23	23	0
Silicon	µg/L	10	n/a	n/a	1,520	1,540	-	-	-	-	2	0	0
Silver	µg/L	0.1	n/a	0.25	<0.05	<0.1	-	-	-	-	23	23	0
Sodium	mg/L	0.1	n/a	n/a	12	28.5	19.8	16.1	24.8	5.1	23	0	0
Strontium	µg/L	5	n/a	n/a	17	52	30	20	39	11	23	0	0
Sulphur	µg/L	500	n/a	n/a	1,300	1,300	-	-	-	-	2	0	0
Thallium	µg/L	0.1	n/a	0.8	<0.1	<0.3	-	-	-	-	23	23	0
Tin	µg/L	2	n/a	n/a	<0.5	<2	-	-	-	-	23	23	0
Titanium	µg/L	2	n/a	n/a	<1	<10	-	-	-	-	23	21	0
Uranium	µg/L	0.2	33	15	<0.2	<1	-	-	-	-	23	23	0

Table 4.10 Summary of Total Metals in SW-8

Parameter	Units	RDL	CWQG-FAL		Minimum	Maximum	Mean	25th Percentile	75th Percentile	Std. Dev.	No. of Samples	No. of Non-detects	No. of Exceedances
			Short-Term	Long-Term									
Vanadium	µg/L	2	n/a	n/a	<1	<2	-	-	-	-	23	23	0
Zinc	µg/L	5	n/a	n/a	<5	<20	-	-	-	-	23	16	0
Zirconium	µg/L	0.05	n/a	n/a	<10	<10	-	-	-	-	2	2	0

Notes:

Values in boldface and shaded exceed the CWQG-FAL guidelines.

[1] The CWQG-FAL for total aluminum is dependent on pH. If pH < 6.5, the guideline is 5 µg/L; if pH ≥ 6.5, the guideline is 100 µg/L.

[2] The CWQG-FAL for total cadmium is calculated based on hardness. Short-Term Guideline = $10^{\{1.016[\log(\text{hardness})]-1.71\}}$. Long-Term Guideline = $10^{\{0.836(\log[\text{hardness}])-2.46\}}$.

[3] The CWQG-FAL for total copper is calculated based on hardness. Long-Term Guideline = $0.2*e^{\{0.8545[\ln(\text{hardness})]-1.465\}}$.

[4] The CWQG-FAL for total lead is calculated based on hardness. Long-Term Guideline = $e^{\{1.273[\ln(\text{hardness})]-4.705\}}$.

[5] The CWQG-FAL for total nickel is calculated based on hardness. Long-Term Guideline = $e^{\{0.76[\ln(\text{hardness})]+1.06\}}$.

[6] CWQG-FAL long-term framework for total phosphorus provides the following trigger ranges: ultra-oligotrophic <0.004 mg/L; oligotrophic 0.004-0.01 mg/L; mesotrophic 0.01-0.02 mg/L; meso-eutrophic 0.02-0.035 mg/L; eutrophic 0.035-0.1 mg/L; hyper-eutrophic >0.1 mg/L.

LL – low level parameter

RDL – reporting detection limit

n/a – not applicable

"-" – value not calculated

4.1.4.4.1 General Chemistry

Table 4.7 presents summary water quality statistics for the *in situ* and laboratory analytical general chemistry parameters for SW-8.

In situ dissolved oxygen ranged from 7.41 milligrams per litre (mg/L) to 22.2 mg/L, with a mean of 11.5 mg/L, a 25th percentile of 9.1 mg/L, and a 75th percentile of 12.7 mg/L. The 25th percentile value is below the early life stage acceptable CWQG-FAL concentration for cold water biota and acceptable for other life stages (early life stages: 9.5 mg/L, other life stages: 6.5 mg/L) and warm water biota (early life stages: 6 mg/L, other life stages: 5.5 mg/L).

In situ pH ranged from 6.14 to 8.86, with a mean of 7.0, a 25th percentile of 6.56, and a 75th percentile of 7.34. These results indicate circumneutral conditions at SW-8, with both the 25th and 75th percentile values falling with the range of 6.5 to 7.5. Five of the *in situ* pH measurements at SW-8 were below the CWQG-FAL lower limit of 6.5.

Total alkalinity (as calcium carbonate) ranged from 5 to 33 mg/L, with a mean of 16 mg/L and a 75th percentile of 23 mg/L. The relatively low total alkalinity values indicate limited acid buffering potential.

Hardness (as calcium carbonate) ranged from 9.9 to 28.6 mg/L, with a mean of 17.4 mg/L and a 75th percentile of 23.4 mg/L. The 75th percentile value falls within the “soft” classification of hardness in drinking water (Health Canada 2025). Concentrations for copper, cadmium, lead, and nickel have hardness dependent CWQG-FAL guidelines, with lower hardness values resulting in lower CWQG-FAL thresholds.

Sulphate ranged from less than the laboratory reporting detection limit (RDL; 2 mg/L) to 4 mg/L, with a mean of 2 mg/L and a 75th percentile of 3 mg/L. Based on the British Columbia Approved Water Quality Guidelines: Aquatic Life, Wildlife, and Agriculture (British Columbia Ministry of Water, Land, and Resource Stewardship 2025), the freshwater long-term chronic water quality guideline for sulphate is 128 mg/L (based on the 75th percentile value of SW-8). The 75th percentile sulphate value for SW-8 is below the VC WQG guideline. For SW-8, 11 of the 23 (or 48%) sulphate samples analyzed reported results below the RDL.

Chloride ranged from 6 to 53 mg/L, with a mean of 30 mg/L and a 75th percentile of 35 mg/L. Colour ranged from 11.8 total colour units (TCU) to 53.2 TCU, with a mean of 30.4 TCU and a 75th percentile of 40.9 TCU. Total suspended solids (TSS) had a maximum value of 5 mg/L in SW-8. Mean and 75th percentile values were not calculated since >50% of TSS results were less than the RDL. For SW-8, 18 of the 23 (or 78%) TSS samples analyzed reported non-detect results.

4.1.4.4.2 Nutrients

Table 4.8 presents summary water quality statistics for laboratory analytical nutrients parameters for SW-8.

Ammonia (as N) had a maximum value of 14.6 mg/L, which is an exceedance of CWQG-FAL. Mean and 75th percentile values were not calculated since >50% of ammonia (as N) results were less than the RDL. For SW-8, 15 of the 23 (or 65%) ammonia (as N) samples analyzed reported non-detect results.

Nitrate (as nitrogen [N)] ranged from less than the RDL (0.05 mg/L) to 0.47 mg/L, with a mean of 0.12 mg/L and a 75th percentile of 0.17 mg/L. No exceedances of CWQG-FAL were reported in the 23 samples collected.

Nitrite (as N) had a maximum value of 0.23 mg/L, which is an exceedance of CWQG-FAL. Mean and 75th percentile values were not calculated because >50% of the nitrite (as N) results were less than the RDL. For SW-8, 17 of the 23 (or 74%) nitrite (as N) samples analyzed reported non-detect results.

Total phosphorus ranged from less than the RDL (0.002 mg/L) to 0.069 mg/L, with a mean of 0.013 mg/L and a 75th percentile of 0.013 mg/L. Based on the CWQG-FAL framework, and the 75th percentile value, the SW-8 samples are within the mesotrophic (0.01 to 0.02 mg/L) trigger range.

Total organic carbon (TOC) ranged from 2.2 o 17.3 mg/L, with a mean of 8 mg/L and a 75th percentile of 9.7 mg/L. Dissolved organic carbon (DOC) ranged from 5.5 mg/L to 11 mg/L, with a mean of 7.5 mg/L and a 75th percentile of 8.2 mg/L. CWQG-FAL does not report a guideline value for TOC or DOC.

4.1.4.4.3 Metals and Metalloids

Tables 4.9 and 4.10 present summary water quality statistics for laboratory analytical dissolved metals and total metals parameters, respectively, for SW-8.

Total aluminum ranged from 16 micrograms per litre (µg/L) to 159 µg/L, with a mean of 67 µg/L and a 75th percentile of 99 µg/L. The 75th percentile value was below the CWQG-FAL guideline of 100 µg/L; however, nine of the 23 total aluminum samples collected from SW-8 reported an exceedance of CWQG-FAL.

Total arsenic reported 87% (or 20 or the 23 samples analyzed) non-detect results from SW-8. Due to variance in RDLs reported, total arsenic concentrations ranged from <2 to <3 µg/L.

Total cadmium reported 96% (or 22 of the 23 samples analyzed) non-detect results from SW-8. Due to variance in RDLs reported, total cadmium concentrations ranged from <0.016 to <0.10 µg/L.

Total cobalt reported 91% (or 21 of the 23 samples analyzed) non-detect results from SW-8. Due to variance in RDLs reported, total cobalt concentrations ranged from <0.5 to <1 µg/L. Detected total cobalt concentrations ranged from 0.29 to 0.32 µg/L.

Total iron ranged from 91 to 792 µg/L, with a mean of 266 µg/L and a 75th percentile of 309 µg/L. The 75th percentile value was above the CWQG-FAL guideline of 300 µg/L and 6 of the 23 total iron samples collected from SW-8 reported an exceedance of CWQG-FAL.

Total lead reported 91% (or 21 of the 23 samples analyzed) non-detect results from SW-8. Due to variance in RDLs reported, total lead concentrations ranged from 0.1 to <1 µg/L.

Total mercury had a maximum value of 638 nanograms per litre (ng/L). Mean and 75th percentile values could not be calculated because >50% of the total mercury results were less than the RDL. The maximum concentration is above the CWQG-FAL guideline of 26 ng/L. Total mercury concentrations, during the GEMTEC monitoring program, were below the laboratory detection limit (26 ng/L) for all monitoring events from 2021 to 2023 except for May 2021 (638 ng/L). Sampling of total mercury following the May 2021 event (including low-level mercury analysis for the Stantec programs) did not report exceedances of the CWQG-FAL guideline. Based on this, the May 2021 total mercury exceedance is considered an outlier.

Low-level total mercury ranged from 1 to 4.2 ng/L, with a mean of 2.1 ng/L and a 75th percentile of 2 ng/L. The 75th percentile value is below the CWQG-FAL guideline of 26 ng/L, and no exceedances of low-level total mercury were reported from samples collected from SW-8.

Total nickel had a maximum value of 6 µg/L. Mean and 75th percentile values could not be calculated because >50% of the total nickel results were less than the RDL. The maximum concentration is below the CWQG-FAL guideline value.

Dissolved manganese ranged from 4 to 365 µg/L, with a mean of 40 µg/L and a 75th percentile of 98 µg/L. The 75th percentile value was below the CWQG-FAL guideline; however, one of the 12 dissolved manganese samples collected from SW-8 reported an exceedance of CWQG-FAL.

Dissolved zinc had a maximum value of 5 µg/L. Mean and 75th percentile values were not calculated for SW-8 because >50% of the dissolved zinc results were less than the RDL.

No statistics are available for total boron, total copper, total molybdenum, total selenium, total silver, total thallium, and total uranium because all results were less than the RDL.

4.1.4.4.4 Parameters of Potential Concern

The only PoPC identified at SW-8 with a 75th percentile value exceeding the CWQG-FAL value was total iron.

4.1.4.5 Water Quality of the Gander Lake Tributary 1 Watershed

Five ponds within the Gander Lake Tributary 1 watershed (P12, P15, P16, P17, and P18; Figure 4.9) were sampled for surface water quality analysis in August 2026, for a total of five samples. The headwater ponds are upstream of the SW-8 watercourse monitoring site. Each sample was submitted to AGAT Laboratories in St. John's, NL for analysis of general chemistry, total and dissolved metals, ultra low-level mercury, dissolved organic carbon, low-level total suspended solids, total phosphorus, and hexavalent chromium. In addition, *in situ* surface water quality was monitored using a hand-held digital water quality meter for water temperature, pH, electrical conductivity, dissolved oxygen, and oxidation reduction potential.

Analysis of the results included summary statistics, calculated for each parameter (i.e., minimum, maximum, mean, standard deviation, 25th percentile, and 75th percentile), where applicable. Prior to calculating summary statistics for each parameter, results below the RDL were represented as 50% of the RDL value. Results were compared to the CWQG-FAL to identify PoPCs. PoPCs were identified when the 75th percentile value (and/or 25th percentile value for pH and dissolved oxygen) exceeded the CWQG-FAL guidelines. Tables 4.11 to 4.14 present the summary statistics for general chemistry, nutrients, dissolved metals, and total metals, respectively, for the Gander Lake Tributary 1 Watershed.

Table 4.11 Summary of General Chemistry within the Gander Lake Tributary 1 Watershed Ponds

Parameter	Units	RDL	CWQG-FAL		Minimum	Maximum	Mean	25th Percentile	75th Percentile	Std. Dev.	No. of Samples	No. of Non-detects	No. of Exceedances
			Short-Term	Long-Term									
DO, Field	mg/L	n/a	n/a	Variable[1]	4.81	9.08	7.48	7.47	8.36	1.62	5	0	1
pH, Field	n/a	n/a	n/a	6.5–9.0	5.93	6.67	6.37	**6.26**	6.51	0.29	5	0	3
SPC, Field	µS/cm	n/a	n/a	n/a	0.018	0.284	0.106	0.072	0.08	0.10	5	0	0
Temperature, Field	deg C	n/a	n/a	n/a	19.3	20.6	19.9	19.6	20.3	0.53	5	0	0
TDS, Field	mg/L	n/a	n/a	n/a	11.7	52	35.4	18.6	48.1	18.8	5	0	0
Alkalinity, Total	mg/L	5	n/a	n/a	<5	31	15.7	14	16	10.1	5	1	0
Chloride	mg/L	1	640	120	2	86	27.8	16	18	33.2	5	0	0
Colour, True	TCU	5	n/a	n/a	20	50	35.4	33	39	10.8	5	0	0
Conductivity, Lab	µmhos/cm	1	n/a	n/a	21	326	121.8	85	92	117.7	5	0	0
Fluoride	mg/L	0.12	n/a	0.12	<0.12	<0.12	-	-	-	-	5	5	0
Hardness	mg/L	n/a	n/a	n/a	6.9	31.7	15.08	11.4	13.7	9.62	5	0	0
Ion Balance	%	n/a	n/a	n/a	3.2	62.9	17	3.5	9.7	25.8	5	0	0
Orthophosphate (as P)	mg/L	0.01	n/a	n/a	0.03	0.04	0.032	0.03	0.03	0.0045	5	0	0
Reactive Silica	mg/L	0.5	n/a	n/a	<0.5	0.8	0.52	0.25	0.7	0.26	5	2	0
Sulphate	mg/L	2	n/a	n/a	<2	5	-	-	-	-	5	4	0
TDS (Calculated)	mg/L	1	n/a	n/a	8	186	66	44	47	69.0	5	0	0
TSS	mg/L	2	n/a	n/a	<2	11	5.8	3	10	4.44	5	1	0
Turbidity	NTU	0.5	n/a	Narrative[2]	1.4	3.6	2.64	1.7	3.6	1.04	5	0	0

Notes:

Values in boldface and shaded exceed the CWQG-FAL guidelines.

[1] CWQG-FAL long-term lowest acceptable concentration for warm water biota (early life stages) = 6 mg/L; warm water biota (other life stages) = 5.5 mg/L; cold water biota (early life stages) = 9.5 mg/L; cold water biota (other life stages) = 6.5 mg/L.

[2] Clear flow = Maximum increase of 8 NTU from background levels for a short-term exposure (e.g., 24-hour period); maximum average increase of 2 NTU from background levels for a long-term exposure (e.g., 30-day period). High flow or turbid water = Maximum increase of 8 NTU from background levels at any one time when background levels are between 8–80 NTU; should not increase more than 10% of background levels when background is >80 NTU.

DO – dissolved oxygen

RDL – reporting detection limit

SPC – specific conductance

TDS – total dissolved solids

TSS – total suspended solids

n/a – not applicable

"-" – value not calculated

Table 4.12 Summary of Nutrients within the Gander Lake Tributary 1 Watershed

Parameter	Units	RDL	CWQG-FAL		Minimum	Maximum	Mean	25th Percentile	75th Percentile	Std. Dev.	No. of Samples	No. of Non-detects	No. of Exceedances
			Short-Term	Long-Term									
DOC	mg/L	0.5	n/a	n/a	8.3	11.7	10.1	9.1	11.3	1.44	5	0	0
Ammonia (as N)	mg/L	0.03	12.6	1.27	0.12	0.33	0.204	0.12	0.31	0.11	5	0	0
Nitrate (as N)	mg/L	0.05	124	3	0.05	0.22	0.106	0.07	0.11	0.067	5	0	0
Nitrite (as N)	mg/L	0.05	n/a	0.06	<0.05	<0.05	-	-	-	-	5	5	0
TP	mg/L	0.006	n/a	Framework[1]	<0.006	<0.006	-	-	-	-	5	5	0
TOC	mg/L	0.5	n/a	n/a	7.9	11.3	9.84	8.6	10.9	1.50	5	0	0

Notes:

[1] CWQG-FAL long-term framework for total phosphorus provides the following trigger ranges: ultra-oligotrophic <0.004 mg/L; oligotrophic 0.004-0.01 mg/L; mesotrophic 0.01-0.02 mg/L; meso-eutrophic 0.02-0.035 mg/L; eutrophic 0.035-0.1 mg/L; hyper-eutrophic >0.1 mg/L.

DOC – dissolved organic carbon

RDL – reporting detection limit

TOC – total organic carbon

TP – total phosphorus

n/a – not applicable

"-" – value not calculated

Table 4.13 Summary of Dissolved Metals within the Gander Lake Tributary 1 Watershed

Parameter	Units	RDL	CWQG-FAL		Minimum	Maximum	Mean	25th Percentile	75th Percentile	Std. Dev.	No. of Samples	No. of Non-detects	No. of Exceedances
			Short-Term	Long-Term									
Aluminum	µg/L	5	n/a	n/a	14	32	23.6	20	31	7.70	5	0	0
Antimony	µg/L	2	n/a	n/a	<2	<2	-	-	-	-	5	5	0
Arsenic	µg/L	2	n/a	n/a	<2	2	-	-	-	-	5	4	0
Barium	µg/L	5	n/a	n/a	<5	6	3.2	2.5	2.5	1.57	5	4	0
Beryllium	µg/L	2	n/a	n/a	<2	<2	-	-	-	-	5	5	0
Bismuth	µg/L	2	n/a	n/a	<2	<2	-	-	-	-	5	5	0
Boron	µg/L	50	n/a	n/a	<50	<50	-	-	-	-	5	5	0
Cadmium	µg/L	0.09	n/a	n/a	<0.09	<0.09	-	-	-	-	5	5	0
Chromium	µg/L	1	n/a	n/a	<1	<1	-	-	-	-	5	5	0
Chromium (Hexavalent)	µg/L	0.001	n/a	0.001	<0.001	0.001	-	-	-	-	5	5	0
Cobalt	µg/L	1	n/a	n/a	<1	<1	-	-	-	-	5	5	0
Copper	µg/L	2	n/a	n/a	<2	<2	-	-	-	-	5	5	0
Iron	µg/L	50	n/a	n/a	59	461	236.4	74	357	175.3	5	0	2
Lead	µg/L	0.5	n/a	n/a	<0.5	<0.5	-	-	-	-	5	5	0
Manganese	µg/L	2	Equation[1]	Variable[1]	6	72	39	21	58	27	5	0	0
Molybdenum	µg/L	2	n/a	n/a	<2	<2	-	-	-	-	5	5	0
Nickel	µg/L	2	n/a	n/a	<2	<2	-	-	-	-	5	5	0
Selenium	µg/L	1	n/a	n/a	<1	<1	-	-	-	-	5	5	0
Silver	µg/L	0.1	n/a	n/a	<0.1	<0.1	-	-	-	-	5	5	0
Strontium	µg/L	5	n/a	n/a	13	61	26.4	17	23	19.7	5	0	0
Thallium	µg/L	0.1	n/a	n/a	<0.1	<0.1	-	-	-	-	5	5	0
Tin	µg/L	2	n/a	n/a	<2	<2	-	-	-	-	5	5	0
Titanium	µg/L	2	n/a	n/a	<2	<2	-	-	-	-	5	5	0
Uranium	µg/L	0.1	n/a	n/a	<0.1	<0.1	-	-	-	-	5	5	0
Vanadium	µg/L	2	n/a	n/a	<2	<2	-	-	-	-	5	5	0
Zinc	µg/L	5	Equation[2]	Equation[2]	<5	19	-	-	-	-	5	4	1

Notes:

[1] The CWQG-FAL for dissolved manganese can be determined using the look-up table found in Scientific Criteria Document for the Development of the Canadian Water Quality Guidelines for the Protection of Aquatic Life: Manganese (CCME 2019).

[2] The short-term CWQG-FAL for dissolved zinc is calculated based on hardness and DOC. Short-Term Guideline = exp(0.833[ln(hardness)]+0.240[ln(DOC)]+0.526. The long-term CWQG-FAL for dissolved zinc is calculated based on hardness, DOC, and pH. Long-Term Guideline = exp(0.947[ln(hardness)]-0.815[pH]+0.398[ln(DOC)]+4.625.

RDL – reporting detection limit

n/a – not applicable

"-" – value not calculated

Table 4.14 Summary of Total Metals within the Gander Lake Tributary 1 Watershed

Parameter	Units	RDL	CWQG-FAL		Minimum	Maximum	Mean	25th Percentile	75th Percentile	Std. Dev.	No. of Samples	No. of Non-detects	No. of Exceedances
			Short-Term	Long-Term									
Aluminum	µg/L	5	n/a	Variable[1]	23	40	33.4	29	39	7.2	5	0	3
Antimony	µg/L	2	n/a	n/a	<2	<2	-	-	-	-	5	5	0
Arsenic	µg/L	2	n/a	5	<2	2	-	-	-	-	5	4	0
Barium	µg/L	5	n/a	n/a	<5	7	-	-	-	-	5	4	0
Beryllium	µg/L	2	n/a	n/a	<2	<2	-	-	-	-	5	5	0
Bismuth	µg/L	2	n/a	n/a	<2	<2	-	-	-	-	5	5	0
Boron	µg/L	50	29,000	1,500	<50	<50	-	-	-	-	5	5	0
Cadmium	µg/L	0.09	Equation[2]	Equation[2]	<0.09	<0.09	-	-	-	-	5	5	0
Calcium	mg/L	0.1	n/a	n/a	1.6	10.7	4.4	3.1	3.5	3.6	5	0	0
Chromium	µg/L	1	n/a	n/a	<1	<1	-	-	-	-	5	5	0
Cobalt	µg/L	1	n/a	n/a	<1	<1	-	-	-	-	5	5	0
Copper	µg/L	1	n/a	Equation[3]	<1	**3**	-	-	-	-	5	4	1
Iron	µg/L	50	n/a	300	132	**768**	**378**	132	**507**	270	5	0	3
Lead	µg/L	0.5	n/a	Equation[4]	<0.5	<0.5	-	-	-	-	5	5	0
Magnesium	mg/L	0.1	n/a	n/a	0.7	1.2	1.0	0.9	1.2	0.2	5	0	0
Manganese	µg/L	2	n/a	n/a	34	89	57	36	66	22.8	5	0	0
Mercury	ng/L	0.5	n/a	26	1.5	3.9	2.4	1.7	2.9	0.9	5	0	0
Molybdenum	µg/L	2	n/a	73	<2	<2	-	-	-	-	5	5	0
Nickel	µg/L	2	n/a	Equation[5]	<2	<2	-	-	-	-	5	5	0
Phosphorus	mg/L	0.02	n/a	Framework[6]	0.03	0.22	0.15	0.13	0.2	0.076	5	0	0
Potassium	mg/L	0.1	n/a	n/a	0.2	0.4	0.3	0.3	0.3	0.07	5	0	0
Selenium	µg/L	1	n/a	1	<1	<1	-	-	-	-	5	5	0
Silver	µg/L	0.1	n/a	0.25	<0.1	<0.1	-	-	-	-	5	5	0
Sodium	mg/L	0.1	n/a	n/a	2.2	62.6	21.2	13.4	14.2	23.7	5	0	0
Strontium	µg/L	5	n/a	n/a	14	64	28	18	23	21	5	0	0
Thallium	µg/L	0.1	n/a	0.8	<0.1	<0.1	-	-	-	-	5	5	0
Tin	µg/L	2	n/a	n/a	<2	<2	-	-	-	-	5	5	0
Titanium	µg/L	2	n/a	n/a	<2	2	-	-	-	-	5	5	0

Table 4.14 Summary of Total Metals within the Gander Lake Tributary 1 Watershed

Parameter	Units	RDL	CWQG-FAL		Minimum	Maximum	Mean	25th Percentile	75th Percentile	Std. Dev.	No. of Samples	No. of Non-detects	No. of Exceedances
			Short-Term	Long-Term									
Uranium	µg/L	0.2	33	15	<0.2	<0.2	-	-	-	-	5	5	0
Vanadium	µg/L	2	n/a	n/a	<2	<2	-	-	-	-	5	5	0
Zinc	µg/L	5	n/a	n/a	<5	5	-	-	-	-	5	5	0

Notes:

Values in boldface and shaded exceed the CWQG-FAL guidelines.

[1] The CWQG-FAL for total aluminum is dependent on pH. If pH < 6.5, the guideline is 5 µg/L; if pH ≥ 6.5, the guideline is 100 µg/L.

[2] The CWQG-FAL for total cadmium is calculated based on hardness. Short-Term Guideline = $10^{\{1.016[\log(\text{hardness})]-1.71\}}$. Long-Term Guideline = $10^{\{0.836(\log[\text{hardness}])-2.46\}}$.

[3] The CWQG-FAL for total copper is calculated based on hardness. Long-Term Guideline = $0.2*e^{\{0.8545[\ln(\text{hardness})]-1.465\}}$.

[4] The CWQG-FAL for total lead is calculated based on hardness. Long-Term Guideline = $e^{\{1.273[\ln(\text{hardness})]-4.705\}}$.

[5] The CWQG-FAL for total nickel is calculated based on hardness. Long-Term Guideline = $e^{\{0.76[\ln(\text{hardness})]+1.06\}}$.

[6] CWQG-FAL long-term framework for total phosphorus provides the following trigger ranges: ultra-oligotrophic <0.004 mg/L; oligotrophic 0.004-0.01 mg/L; mesotrophic 0.01-0.02 mg/L; meso-eutrophic 0.02-0.035 mg/L; eutrophic 0.035-0.1 mg/L; hyper-eutrophic >0.1 mg/L.

n/a – not applicable

"-" – value not calculated

4.1.4.5.1 General Chemistry

Table 4.11 presents summary water quality statistics for the *in situ* and laboratory analytical general chemistry parameters for ponds within the Gander Lake Tributary 1 watershed.

In situ dissolved oxygen ranged from 4.81 to 9.08 mg/L, with a mean of 7.48 mg/L, a 25th percentile of 7.47 mg/L, and a 75th percentile of 8.36 mg/L. The 25th percentile value is above the lowest acceptable CWQG-FAL concentrations for cold water biota, other life stages (6.5 mg/L) or warm water biota (early life stages: 6 mg/L, other life stages: 5.5 mg/L), but is below the lowest acceptable CWQG-FAL concentration for cold water biota, early life stages (9.5 mg/L).

In situ pH ranged from 5.93 to 6.67, with a mean of 6.37, a 25th percentile of 6.26, and a 75th percentile of 6.51. These results indicate acidic conditions at SW-8, with the 25th percentile value falling below the CWQG-FAL lower limit of 6.5.

Total alkalinity (as calcium carbonate) ranged from less than the RDL (5 mg/L) to 31 mg/L, with a mean of 15.7 mg/L and a 75th percentile of 16 mg/L. The relatively low total alkalinity values indicate limited acid buffering potential.

Hardness (as calcium carbonate) ranged from 6.9 to 31.7 mg/L, with a mean of 15.1 mg/L and a 75th percentile of 13.7 mg/L. The 75th percentile value falls within the “soft” classification of hardness in drinking water (Health Canada 2025). Concentrations for copper, cadmium, lead, and nickel have hardness dependent CWQG-FAL guidelines, with lower hardness values resulting in lower CWQG-FAL thresholds.

Chloride ranged from 2 to 86 mg/L, with a mean of 27.8 mg/L and a 75th percentile of 18 mg/L. Colour ranged from 20 to 50 TCU, with a mean of 35.4 TCU and a 75th percentile of 39 TCU. TSS ranged from less than the RDL (2 mg/L) to 11 mg/L, with a mean of 5.8 mg/L and a 75th percentile of 10 mg/L.

Sulphate had a maximum value of 5 mg/L in SW-8. Mean and 75th percentile values were not calculated since >50% of TSS results were less than the RDL. For SW-8, four of the five (or 80%) of the sulphate samples analyzed reported non-detect results.

4.1.4.5.2 Nutrients

Table 4.12 presents summary water quality statistics for laboratory analytical nutrients parameters for ponds within the Gander Lake Tributary 1 watershed.

Ammonia (as N) ranged from 0.12 to 0.33 mg/L, with a mean of 0.20 mg/L and a 75th percentile of 0.31 mg/L. The 75th percentile value was below the CWQG-FAL short-term and long-term guidelines.

Nitrate (as N) ranged from 0.05 to 0.22 mg/L, with a mean of 0.11 mg/L and a 75th percentile of 0.11 mg/L. The 75th percentile value was below the CWQG-FAL short-term and long-term guidelines.

Total organic carbon (TOC) ranged from 7.9 to 11.3 mg/L, with a mean of 9.8 mg/L and a 75th percentile of 10.9 mg/L. Dissolved organic carbon (DOC) ranged from 8.3 to 11.7 mg/L, with a mean of 10.1 mg/L and a 75th percentile of 11.3 mg/L. CWQG-FAL does not report a guideline value for TOC or DOC.

No statistics are available for nitrite (as N) and total phosphorus because the results were less than the RDL.

4.1.4.5.3 Metals and Metalloids

Tables 4.13 and 4.14 present summary water quality statistics for laboratory analytical dissolved metals and total metals parameters, respectively, for ponds within the Gander Lake Tributary 1 watershed.

Total aluminum ranged from 23 to 40 µg/L, with a mean of 33.4 µg/L and a 75th percentile of 39 µg/L. The 75th percentile value was below the CWQG-FAL guideline of 100 µg/L; however, three of the five total aluminum samples reported an exceedance of CWQG-FAL.

Total arsenic had a maximum value of 2 µg/L. Mean and 75th percentile values were not calculated because >50% of the total arsenic results were less than the RDL.

Total copper had a maximum value of 3 µg/L. Mean and 75th percentile values were not calculated because >50% of the total copper results were less than the RDL.

Total iron ranged from 132 to 768 µg/L, with a mean of 378 µg/L and a 75th percentile of 507 µg/L. The maximum, mean, and 75th percentile values were above the CWQG-FAL guideline of 300 µg/L. In total, three exceedances were reported for total iron our of five samples analyzed in August 2026.

Hexavalent chromium had a maximum value of 0.001 µg/L. Mean and 75th percentile values were not calculated because >50% of the hexavalent chromium results were less than the RDL.

Dissolved manganese ranged from 6 to 72 µg/L, with a mean of 39 µg/L and a 75th percentile of 27 µg/L. The 75th percentile value was below the CWQG-FAL guideline

Dissolved zinc had a maximum value of 19 µg/L. Mean and 75th percentile values were not calculated because >50% of the dissolved zinc results were less than the RDL.

No statistics are available for total boron, total cadmium, total lead, total nickel, total selenium, total silver, total thallium, and total uranium because all results were less than the RDL.

4.1.4.5.4 Parameters of Potential Concern

The following PoPCs were identified in at least one of the ponds sampled in August 2026: pH (*in situ*) and total iron.

4.1.5 Existing Environment Related to Terrestrial Environment and Fish and Fish Habitat

The Environmental Registration includes descriptions of existing conditions for both Fish and Fish Habitat and for the Terrestrial Environment in Sections 10.1 and 11.1, respectively. The EPR Guidelines (Table 4.1) specially request additional information on the following:

- digital geospatial data to support the assessment, including but not limited to survey sites, survey tracks, dates, observational records for all species surveyed for the Project (e.g., raptors, lichen, bats, marten, muskrat, avifauna insects, and plants)
- field verification (e.g. diagnostic photos) to support the assessment of plant species of conservation concern such as Black Chokeberry, Cyperus-like Sedge, Woodland Strawberry, Old-field Cinquefoil, Smooth Blackberry, and Starved Sedge

- updated information, including mapping and geospatial data on rare plants, lichens, species at risk (SAR), species of conservation concern (SOCC), and their habitats within the Project area and area of influence
- characterization of fish and fish habitat, including fish species and habitat types, spawning and rearing areas, and migration corridors

The Project Area represents the anticipated area of direct physical disturbance associated with the construction, operation, decommissioning, rehabilitation and closure of the Project (Figure 4.1). The broader area of influence considered in the flora and fauna studies and assessments varies by environmental component and is defined by the applicable Local Assessment Area (LAA) and Regional Assessment Area (RAA), as presented in Chapters 10 to 12 of the Environmental Registration. These spatial boundaries provide the context for the additional flora and fauna information summarized below. Table 4.15 summarizes the additional flora and fauna information requested above by species or survey group and identifies the type of data or supporting material provided, where the information can be found, and the current status of each submission. Note that the referenced reports and geospatial data have been provided directly to applicable regulators under separate cover, except as noted in the table (i.e., reports that are currently in preparation). As referenced in Table 4.15, Table 4.16 additionally provides the proportion of brook trout spawning, rearing and migration corridors for streams within the Project Area experiencing habitat loss. Spawning and rearing habitats, and migration corridors for brook trout are presented since these small order streams and ponds within the Project Area are not known to provide habitat for Atlantic salmon.

Table 4.15 Additional Flora and Fauna Information Requested, Materials Provided, and Document Location

Species / Survey Group[1]	Digital Data / Material Provided	Location of Data / Material[2]	Comments
Plants / Rare Plants	SAR Photos (field verification) Digital geospatial data	The findings for the 2026 red pine surveys have been presented to Wildlife Division and the report (Stantec 2026d, in preparation) will also be provided to Wildlife Division when compete and as required by permit conditions. Geospatial locations have been provided to appropriate regulators under separate cover. Terrestrial Ecology Baseline Report (GEMTEC 2024b)	No field photos for non-SAR observations were collected. Field photos of red pine will be presented in a subsequent report under separate cover. Terrestrial Ecology Baseline Report (GEMTEC 2024b) includes locations of planted red pine stands.
Lichen	List of species encountered	Terrestrial Ecology Baseline Report (GEMTEC 2023a) – Lichen list in Appendix A of the report	No field photos or spatial locations were collected.

Table 4.15 Additional Flora and Fauna Information Requested, Materials Provided, and Document Location

Species / Survey Group[1]	Digital Data / Material Provided	Location of Data / Material[2]	Comments
Marten	Hair snag survey locations, dates, observational records	2026 Marten Survey (Stantec 2026a)	Coordinates of survey locations are included in the report. Results from the genetic analyses of collected hair samples are provided in Appendix B of the report.
Muskrat	Habitat data summary and evidence of muskrat	Muskrat Study (GEMTEC 2024a)	Results are presented in the baseline report, including survey locations and muskrat evidence.
Bats	Survey sites, recorded echolocation calls (raw data files), and species summary	Terrestrial Ecology Baseline Reports (GEMTEC 2023a, 2024b) Queensway North Property – Bat Baseline Data Re-Analysis (Stantec 2025a)	Results are outlined in the baseline reports, including survey locations and species summary.
Avifauna (including migratory birds & raptors)	Survey sites & list of species encountered	Terrestrial Ecology Baseline Reports (GEMTEC 2023a, 2024b)	Results are outlined in the baseline reports, including point count survey locations, habitat information, and a summary of species observed.
Insects / bumble bees	Survey sites & tracks, dates, observational records	Queensway Gold Project: 2026 Insect SAR Survey (Stantec 2026b)	Report and digital data has been submitted under separate cover to applicable regulators to satisfy permit requirements.
Fish and fish habitat	Characterization of fish / fish habitat; Species, habitat types, spawning / rearing areas, migration corridors	New Found Gold - Environmental Technical Data Report - 2025 Aquatic Baseline Study (Stantec 2026c) New Found Gold - Environmental Technical Data Report - 2024 Aquatic Baseline Study (Stantec 2025b) New Found Gold - Environmental Technical Data Report - 2023 Aquatic Baseline Study (Stantec 2024c) Aquatic Baseline Report New Found Gold Corporation Queensway North Gold Project (GEMTEC 2023b)	Reports drafted and will be submitted directly to Wildlife Division. Raw data including fish habitat characterization, habitat types, fish species and pond habitat maps are provided in the main body and appendices of each report. Spawning, rearing and migration corridors for streams are provided in Table 4.16 of this EPR.

Notes:

1. Terrestrial Baseline Studies for the Project are summarized in Table 11.1 of the Environmental Registration
2. References: GEMTEC (GEMTEC Consulting Engineers and Scientists Limited). 2023a, 2023b, 2024a, 2024b; Stantec. 2024c, 2025a, 2025b, 2026a, 2026b, 2026c, 2026d, in preparation.

Table 4.16 Proportion of Spawning, Juvenile and Migratory Habitats in Streams with Predicted Habitat Loss (Figure 10.4 of the Environmental Registration)

Location	Brook Trout						
	Spawning			Juvenile			Migratory
	Low	Moderate	High	Low	Moderate	High	
Stream 2	15%	35%	49%	15%	0%	85%	Moderate
Stream 4	33%	67%	0%	32%	0%	68%	Moderate
Stream 11	77%	21%	2%	67%	19%	14%	Low
Stream 16	9%	53%	38%	9%	5%	87%	Moderate
Stream 20	0%	100%	0%	0%	0%	100%	Low
Stream 21	0%	100%	0%	0%	0%	100%	Low
Stream 28	0%	100%	0%	0%	0%	100%	Moderate
Stream 41	6%	93%	1%	4%	0%	96%	Low
Stream 42	0%	100%	0%	0%	0%	100%	Low
Stream 43	0%	100%	0%	0%	0%	100%	Low
Stream 44	20%	80%	0%	20%	0%	80%	Low
Stream 70	0%	100%	0%	0%	0%	100%	Low
Stream 33	0%	100%	0%	0%	0%	100%	Low
Stream 34	0%	100%	0%	0%	0%	100%	Low
Stream 35	57%	43%	0%	57%	0%	43%	Low

Notes:

Habitat Suitability Rank less than 0.5 = low quality, between 0.5 and 0.75 = moderate quality and above 0.75 = high quality

Migratory Habitat Characterization: Low quality = stream provides access to small headwater tributaries only, moderate= stream provides access to pond habitats, high = stream provides access to lake or river habitats

4.2 Construction

Section 4.5.2 of the Environmental Registration described the main activities required to prepare and develop the Project site. Early works and construction will include mobilization; vegetation clearing and site preparation; earthworks, excavation, drilling, and blasting; and construction or upgrading of roads, watercourse crossings, drainage, and installation of buildings, equipment, and utilities. Section 4.2.1 provides an overview of the information presented in the Environmental Registration on these topics to provide context for reviewers of this EPR. Also, additional information has been provided for the specific topics outlined in the EPR Guidelines as identified in Table 4.17, which summarizes the applicable EPR requirements and identifies where each is addressed.

Table 4.17 EPR Guidelines Requirements Related to Construction

Guideline Requirement	EPR Section
This section of the EPR shall describe the Project construction period (if staged, list each stage and its estimated duration), and proposed date of first physical construction-related activity. Clearly indicate pre-construction related activities and provide details on materials, methods, and timing windows proposed for construction, including, but not limited to:	Sections 4.2.1 to 4.2.7
Source water supporting facilities and infrastructure that will be used, including, but not limited to: • location and description of all temporary or permanent water intakes for the Project including end-of-pipe screening size and design, water withdrawal rates, and water drawdown levels • water quality and quantity monitoring locations • a description and mapping of the protected public water supply area in relation to construction activities	Section 4.2.2
Design, construction and upgrades (if planned) of all existing and proposed dams, water management ponds, and associated water control infrastructure	Section 4.2.3
Design and construction details for proposed new and modified waterbody crossings, including bridges, culverts, and associated infrastructure to support DFO review requirements under the *Fisheries Act*	Section 4.2.4
Infilling, blasting, piling, and other in-water construction works planned in the freshwater aquatic environment (if applicable)	Section 4.2.5
All access, crossings, and construction activities proposed within and adjacent to the T'Railway Provincial Park, in consultation with the Provincial Parks Division	Section 4.2.6
Verification as to whether air emissions during Project construction will be compliant with the Air Pollution Control Regulations	Section 4.2.7

4.2.1 Summary of Construction Activities from the Environmental Registration

4.2.1.1 Construction Schedule

Subject to receipt of the required regulatory approvals and permits, New Found Gold plans to initiate early works activities in early 2027 following release of the Project from the EA process. Early works include activities such as site preparation and other preliminary construction-related activities required to facilitate Project development.

Full construction activities are anticipated to commence as early as the second quarter (Q2) of 2027. Construction of the Project is expected to occur over an approximately four-to-six-month period. The first physical construction-related activity is anticipated to occur in Q2 2027. Project planning and scheduling will consider applicable environmentally sensitive timing windows identified for wildlife, fish, and SAR. Key timing considerations include:

- Avifauna (Migration): March 15-June 7 and July 15-November 31 (ECCC 2025)
- Newfoundland Marten natal and maternal dens: April 1 to June 30 (Government of Canada 2026)
- Myotis (Bat) Species: clearing restricted May 1 to Sept 1 (NLDECCC 2026)
- Avifauna (Breeding Migratory Birds; Waterfowl): April 15 to August 15 (ECCC 2025)

- Bald Eagle and Osprey nesting season (March 15 to July 31) (NLDECCC 2026)
- Freshwater Fish: October 1 to May 31 (for tributaries and headwaters of scheduled salmon rivers on the island of Newfoundland; Fisheries and Oceans Canada [DFO] 2026a)
- Insect SAR: the active bee and beetle seasons (e.g., May to August for yellow-banded bumble bee; ECCC 2023)

4.2.1.2 Early Works and Construction Activities

Construction activities will be conducted in compliance with applicable regulations and in accordance with environmental protection measures as described in the Project-specific Environmental Protection Plan (EPP; Appendix B). The anticipated total footprint of the developed area is approximately 270 ha (Figure 4.1). Construction is expected to begin following EA release and receipt of required permits and authorizations.

Project development will commence with early works activities, which are limited-scope activities undertaken ahead of full construction to support site readiness, reduce schedule risk, and enable critical path infrastructure. Early works activities include clearing and grubbing of vegetation and topsoil within the designated development areas; overburden stripping and stockpiling for future progressive rehabilitation; sourcing aggregate materials from areas within the open pits required for construction of the roads, industrial terrace, WRSF, and ore storage pad, and road construction/upgrades.

Some early works activities described above may extend into the construction phase, particularly related to site preparation and earthworks within designated development areas, and road development. Earthworks to support infrastructure development will include excavation, placement of structural fill, and grading to facilitate construction and installation activities. Earthworks will predominantly occur in key areas such as the industrial terrace and the RoM pad locations. Overburden stripped during site preparation will be used for construction of the noise berm, where suitable, with remaining material placed in the overburden stockpile. The noise berm will be 10 m tall with an 8 m crest width to allow 3 horizontal: 1 vertical side slopes and a crest width of 8 m. The noise berm will be constructed in lifts that will be dozer compacted.

A phased approach will be used to develop and upgrade roads, as construction material becomes available during site development. Road construction involves clearing, grading, and surfacing, installing safety features, and incorporating watercourse crossings (e.g., culverts, drainage ditches) in accordance with applicable regulatory approvals.

Electrical and communications infrastructure installation will be undertaken to support operational requirements across the Project site. A new substation will be constructed to receive power from the existing NL Hydro transmission line. This substation will transform the incoming 25 kilovolt supply to lower voltages suitable for distribution to mining equipment, processing facilities, administrative buildings, and other site infrastructure. Electrical distribution lines will be installed to connect the substation to key components of the Project.

Communications infrastructure will also be installed to support operational coordination, safety systems, and administrative functions. Fibre optic and/or wireless systems will be deployed to establish connectivity between field operations, control rooms, and site offices, with integration to external networks for data transmission and emergency communications. Installation activities will be carried out in accordance with applicable codes, standards, and permitting requirements, and will be sequenced to align with broader site development and infrastructure construction timelines.

The dewatering of South Hermans Pond will be required to facilitate mining activities in the Keats pit area. Dewatering will be conducted in accordance with applicable provincial and federal regulations and will follow Best Management Practices to protect downstream aquatic environments. Dewatering will be carried out using temporary pumping infrastructure, with water directed to a sediment control system (e.g., settling pond) prior to discharge. Discharge locations will be selected to maintain natural hydraulic conditions in the receiving environment and avoid erosion or sedimentation. Mitigation measures (refer to Section 10 of this EPR for a complete list of mitigation measures) will be in place to manage suspended solids and potential contaminants. Initial dewatering activities will be scheduled to avoid sensitive periods for aquatic life, to the extent practically feasible, and a fish rescue program will be completed prior to dewatering.

Following site preparation and earthworks, infrastructure and equipment installation will be undertaken in accordance with applicable permit conditions and regulatory requirements. The crushing and sorting plant will be installed, as will temporary modular structures including office and dry facilities, a gatehouse, weigh scale, explosives magazine, site entrance gate, and fencing where required. Fencing will be strategically placed based on operational and safety considerations, rather than enclosing the entire site perimeter.

Construction will require the movement of personnel, equipment, and materials to and from the site. Traffic volumes will vary depending on the phase of construction, with peak activity anticipated during site preparation and installation of major infrastructure components. It is estimated that approximately 80 passenger vehicles will be coming to site for dayshift throughout the week and roughly approximately 40 passenger vehicles for night shift. Traffic sources during construction will include delivery of construction materials (e.g., structural steel, concrete, fuel); mobilization of heavy equipment (e.g., excavators, haul trucks, cranes); transport of modular buildings and pre-fabricated components; and daily commuting of construction personnel and contractors. The primary access route will be via existing provincial highways and local roads, and then along the designated site access road. Oversized loads will be scheduled in coordination with NLDTI and local authorities to reduce disruption.

4.2.2 Source Water Supply and Supporting Infrastructure

In relation to source water supporting facilities and infrastructure that will be used, the EPR Guidelines (Table 4.17) require additional information on the following:

- location and description of all temporary or permanent water intakes for the Project including end-of-pipe screening size and design, water withdrawal rates, and water drawdown levels
- water quality and quantity monitoring locations
- description and mapping of the protected public water supply area in relation to construction activities

This information is provided in the following sub-sections.

4.2.2.1 Temporary and Permanent Water Intakes

During the construction and operation phases, water will be required for dust suppression on roads and stockpiles associated with the Project. The Project proposes to use a temporary pump setup in P-Pond (P9) to fill water trucks as required to apply water to roads and stockpiles. The proposed water withdrawal location would be near the outlet of P-Pond on the west shore using a diesel-powered pump with the intake placed in the pond. Water would then be transferred to a bulk water carrier truck for spreading on roads and stockpiles. Water withdrawal for dust suppression would be potentially for up to 123 days per year with up to three applications per day on haul and access roads, and one application per day on the overburden and ore stockpile pad piles (e.g., RoM, low-grade ore). Dust suppression activities would use approximately 1 litre (L) of water per m² applied. This equates to approximately for 1,289,299 litres per day or 0.015 cubic metres per second (m³/s). If additional water is required for dust suppression activities, it will be taken from the overburden stockpile sedimentation pond, which is predicted to have arsenic concentrations below MDMER criteria.

The P-Pond watershed (referred to as HP-7 (Table 9.21 of the Environmental Registration) has an area of 2.46 square kilometres (km²), with an estimated mean annual flow (MAF) of 0.057 m³/s. The P-Pond, based on the 2025 bathymetry mapping, has a storage capacity of approximately 3,800,000 m³, with a maximum depth of 16.2 m and approximate outlet elevation of 77.4 m above sea level. Within P-Pond one of the Project FDPs will be located. During the construction and operations phases of the Project with the project discharge located within P-Pond, the MAF from P-Pond outflow is estimated to increase to 0.069 m³/s. With the proposed water withdrawal for dust suppression, the MAF at the P-Pond outlet would be reduced to 0.054 m³/s. The 0.003 m³/s reduction in the P-Pond MAF outflow represents a 5% reduction from the pre-development MAF value, which is below 10% or greater threshold representing a potential adverse effect to fish habitat. Based on the average downstream channel width of P Pond of 2.2 m, it would be expected that the 0.003 m³/s flow reduction would reduce the pond water level by 0.01 m.

The “A Guide to Storage – Yield Analysis at Ungauged River Sites” (Beersing 1997) spreadsheet calculator was used to estimate for P-Pond the maximum allowable water withdrawal rate. Using the P-Pond drainage area of 2.46 km², selecting Water Survey of Canada stations adjacent to the Project (02YQO008; 02YQ001; 02YQ004; 02YQ005; 02YR001) and a climate normal precipitation of 1,247 mm, the calculated MAF was 0.10 m³/s, with a live storage requirement of 10,000 m³, for a water withdrawal of 0.003 m³/s (as the balance of the rest of the water withdrawal is off-set by the average daily treated effluent discharge to P-Pond). The yield analysis spreadsheet rounds the storage requirement to the nearest 10,000 m³ and it would not be expected that 10,000 m³ of storage is required to supply the planned water withdrawal, with an average annual reduction in pond water level of 0.01 m. Therefore, the proposed water withdrawal is within the sustainable yield threshold.

The intake screen size will be for brook trout (Section 10 of the Environmental Registration) with a maximum intake flow rate of 0.015 m³/s. The intake will be designed to meet the DFO interim standard for water intake end-of-pipe fish screens (2026). The screen size was calculated using the end-of-pipe screen size tool (Katapodis and Gervais 2016; Di Rocco and Gervais 2025), which estimated an effective screen area of 0.15 m² and the approach velocity of intake water should not exceed 0.098 m/s.

4.2.2.2 Water Quality and Quantity Monitoring Locations

In accordance with the MDMER, potential provincial Certificate of Approval requirements, and support of potential *Fisheries Act Authorization* requirements, New Found Gold proposes to monitor the following locations with respect to surface water quality and quantity within and downstream of the Project Area, and in nearby reference areas outside potential influence from Project activities during the construction and operation phases:

- Surface water quality and quantity sent via pipeline to the two FDPs, with one in P-Pond (P9) and the other in North Heman's Pond (P1) (Table 4.18)
- Project Area surface water quantity (ponds – water level; watercourse – velocities and water level) at three locations (Table 4.19)
- Reference surface water quantity at three locations within an unnamed tributary in the Gander Lake watershed (Table 4.19)
- Project Area downstream surface water quality at six locations (Table 4.19)
- Reference surface water quality at five locations, including within an unnamed tributary the Gander Lake watershed (Table 4.19)
- Near real-time monitoring for surface water quality and water levels at two existing stations maintained by NLDECCC (Table 4.20). The near real-time stations will monitor continuously using an *in situ* water quality meter turbidity, water temperature, dissolved oxygen, conductivity and pH.

The locations of the surface water quality and quantity monitoring stations are presented in Figure 4.10.

The FDPs will be monitored by collecting grab samples based on the monitoring parameter packages and sampling frequencies presented in Table 4.21. The MDMER specifies monitoring frequency and parameters with respect to monitoring at FDPs, downstream receiver stations, and reference stations, which is the basis of the monitoring program. Additional parameter packages to be monitored at the stations include PoPCs identified in Section 9.1.2.3.3 of the Environmental Registration and additional monitoring parameters required by a NL Certificate of Approval. Table 4.22 presents the proposed monitoring parameters that will be monitored by the program at the monitoring sites. New Found Gold plans to develop and submit a surface water quantity and quality monitoring program to NLDECC for review and approval prior to the start of the construction phase.

Table 4.18 Final Discharge Points (FDPs) and Locations (NAD 1983 UTM Zone 21N)

Final Discharge Point	Easting	Northing	Discharge Locations
FDP-01 and FDP-02 (monitored after the pipeline split to the two discharge points)	659062.80	5427987.50	P-9 Pond and North Hermans Pond

Table 4.19 Proposed Surface Water Monitoring Locations (NAD 1983 UTM Zone 21N)

Station ID	Easting	Northing	Water System	Watercourse	Waterbody	Surface Water Quality	Surface Water Quantity
SW-03	659630.76	5430118.01	Stream 12	✓		✓	✓
SW-04	659218.31	5430106.16	Stream 2	✓		✓	✓
SW-06	658359.34	5428318.13	P29 Pond		✓	✓	
SW-23	659608.35	5431688.16	Stream 17	✓		✓	
NF02YQ0076	659687.47	5428815.94	Stream 25	✓		✓	
Pond	659584.53	54277527.74	P9 Pond		✓	✓	✓
R3	660268.10	5431848.69	Gander River	✓		✓	
Reference Monitoring Stations							
R7			Gander River	✓		✓	
SW-08	656525.30	5425134.10	Stream 18	✓		✓	✓
SW-19	661222.32	5429629.14	Stream 16	✓		✓	
P12	658098.00	5425969.00	P12 Pond		✓	✓	✓
P18	659318.00	5425540.00	P18 Pond		✓	✓	✓

Table 4.20 Existing Provincial Real-Time Water Quality Points, Water Systems and Locations (NAD 1983 UTM Zone 21N)

Provincial Real-Time Water Quality and Quantity Points	Easting	Northing	Water System
Hermans Pond Brook (NF02YN0075)	659200.36	5430086.50	HP-4
Pond 226 Brook (NF02YN0076)	659687.47	5428815.94	HP-8

Figure No.

4.10

Title

Surface Water Quality and Quantity Monitoring Stations

Client/Project

New Found Gold Corp.
Queensway Gold Project

121418830_417

Project Location

North Gander Lake,
Newfoundland and Labrador

Prepared by NW on 2026-10-08
QR to PM on 2026-10-16
TR by AS on 2026-10-08

N

0 500 1,000 1,500 m

(At original document size of 11x17)
1:35,000

Legend

- Project Area

Surface Water Monitoring Locations

- Surface Water Quality and Quantity
- Surface Water Quality
- NL WRMD Real Time
- Final Discharge Point
- Discharge Diffuser

Watershed Delineation (Stantec 2025)

- GLT1 (Gander Lake Tributary 1)
- GRT1 (Gander River Tributary 1)
- GRT2 (Gander River Tributary 2)
- HP (Hermans Pond)
- JBB (Joe Batt's Brook)
- Subwatershed

Proposed Project Layout

- Access Road
- Haul Road
- Perimeter Ditch
- Proposed Site Features

Existing Infrastructure

- Transmission Line
- Proposed Transmission Line (Re-routing)
- Highway
- Collector
- Local / Street
- Ramp
- NL T'Railway Provincial Park

Wetlands and Waterways

- Watercourse
- Waterbody

Administrative Boundaries

- Municipal Boundary



Notes

1. Coordinate System: NAD 1983 CSRS UTM Zone 21N
2. Data Sources: New Found Gold Corp.; Stantec.
3. Background: Government of Newfoundland and Labrador, Department of Environment, Conservation, and Climate Change; Department of Forestry, Agriculture and Lands - Land Use Atlas Mapping Service; Department of Municipal and Community Affairs; Additional topographic basemapping from Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community, Esri, USGS, Esri, NASA, NGA, USGS

Stantec

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Revised: 2026-10-17 By: nwhite
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Table 4.21 Monitoring Station Types and Monitoring Frequency

Station Type	Parameter Package [1]	Sampling Frequency	Frequency Limitation	Notes
FDPs	MDMER, Schedule 4, Table 1	Weekly	≥24 hours apart between samples	The analysis shall comply with analytical requirements set out in MDMER Schedule 4, Table 1
	MDMER Acute Lethality Test 2	Monthly	Sampling date selected and recorded ≥30 days in advance; if sample cannot be conducted on that date, must be done as soon as practicable; ≥15 days apart between samples	Collect sufficient sample volume that an aliquot can be submitted for laboratory analysis for MDMER effluent characterization and MDMER, Schedule 4, Table 1 (if analysis not done on same initial grab sample)
	MDMER Effluent Characterization [3]	Four times per calendar year	≥1 month apart between samples	The analysis shall comply with analytical requirements set out in MDMER Schedule 3, Table 2
	Potential NL Certificate of Approval	Four times per calendar year	≥1 month apart between samples	
	Parameters of Potential Concern	Four times per calendar year	≥1 month apart between samples	
	MDMER Sublethal Toxicity Test [4]	Semi-Annual (Operation Year 3 and onward – Quarterly; Tests with lowest geometric mean values producing a 25% effect or effective concentration of 25%)		
Downstream receiver water quality stations	MDMER, Schedule 4, Table 1	Four times per calendar year	≥1 month apart between samples	The analysis shall comply with analytical requirements set out in MDMER Schedule 3, Table 1
	MDMER Effluent Characterization [3] (select stations – SW-04; NE	Four times per calendar year	≥1 month apart between samples	The analysis shall comply with analytical requirements set out in MDMER Schedule 3, Table 2
	Potential NL Certificate of Approval	Four times per calendar year	≥1 month apart between samples	
	Parameters of Potential Concern	Four times per calendar year	≥1 month apart between samples	
Reference water quality stations	MDMER, Schedule 4, Table 1	Four times per calendar year	≥1 month apart between samples	The analysis shall comply with analytical requirements set out in MDMER Schedule 3, Table 1
	MDMER Effluent Characterization [3]	Four times per calendar year	≥1 month apart between samples	The analysis shall comply with analytical requirements set out in MDMER Schedule 3, Table 2
	Potential NL Certificate of Approval	Four times per calendar year	≥1 month apart between samples	
	Parameters of Potential Concern	Four times per calendar year	≥1 month apart between samples	

Notes:

[1] Table 4.22 lists the specific parameters, detection limits and threshold criteria for each parameter package

[2] MDMER, 14(1) & (2)

[3] MDMER, 4(1), (2) & (3)

[4] MDMER, 5(1) & 5(3), 6(1);

Table 4.22 Monitoring Parameters, Guideline Values and Regulatory Criteria

Parameters	Units	Reportable Detection Limit (RDL)	CWQG-FAL Guidelines		MDMER Effluent Criteria at Final Discharge Points		
			Short-term	Long-term	Maximum Authorized Monthly Mean Concentration	Maximum Authorized Concentration in a Composite Sample	Maximum Authorized Concentration in a Grab Sample
Total Arsenic (As) [3]	mg/L	0.001	ND	0.005	0.1	0.15	0.2
Total Copper (Cu) [3]	mg/L	0.001	ND	Equation [o]	0.1	0.15	0.2
Total Cyanide (CN- Total)	mg/L	0.01	ND	ND	0.5	0.75	1
Total Lead (Pb)	mg/L	0.0005	ND	Equation [p]	0.08	0.12	0.16
Total Nickel (Ni) [3]	mg/L	2	ND	Equation a	0.25	0.38	0.5
Total Zinc (Zn) [3]	mg/L	0.005	Narrative b	Narrative b	0.4	0.6	0.8
Total Suspended Solids (TSS)	mg/L	1	ND	Narrative c	15	22.5	30
Radium 226	Bq/L	0.005	ND	ND	0.37	0.74	1.11
Un-ionized Ammonia (as N) [1] (NH_3 UN as N)	mg/L	NA	ND	0.016	0.5	NA	1
Total Ammonia (as N) (NH_3 Tot as N)	mg/L	0.05	ND	Table d	-	-	-
Field pH [2]	-	NA	ND	6.5 – 9	6.5 – 9.5		
Field Temperature	°C	±0.5	-	-	-	-	-
Total Aluminum (Al) [2]	µg/L	5	ND	Narrative e			
Total Cadmium (Cd)	µg/L	0.017	Equation f	Equation g			
Chloride (Cl)	mg/L	60	640	120			
Total Chromium (Cr)	µg/L	1	ND	(III) – 8.9; (VI) - 1 h			
Total Cobalt (Co)	µg/L	1.25	ND	ND			
Total Iron (Fe) [2]	µg/L	50	ND	300			
Total Manganese (Mn)	µg/L	2	Equation i	Variable j			
Total Mercury (Hg)	µg/L	0.013	ND	0.026			
Total Molybdenum (Mo)	µg/L	36.5	ND	73			
Nitrate (as N) (NO_3-N)	µg/L	50	124,000	3,000			
Total Phosphorus (as P) (TP)	µg/L	4	ND	Guidance Framework k			
Total Selenium (Se)	µg/L	0.5	ND	1			
Total Thallium (Tl)	µg/L	0.4	ND	0.8			
Total Uranium (Ur)	µg/L	0.1	33	15			
Dissolved Oxygen (DO)	mg/L	0.05	-	Narrative [l]			
Alkalinity	mg/L	2	-	-			
Hardness	mg/L	1	-	-			
Field Conductivity	µS/cm	1	-	-			
Nitrate + Nitrite as Nitrogen (NO_3 + NO_2 as N)	mg/L	0.05	-	-			
Colour	TCU	5	-	Narrative [o]			
Sodium (Na)	mg/L	0.1	-	-			
Potassium (K)	mg/L	0.1	-	-			
Calcium (Ca)	mg/L	0.1	-	-			

Table 4.22 Monitoring Parameters, Guideline Values and Regulatory Criteria

Parameters	Units	Reportable Detection Limit (RDL)	CWQG-FAL Guidelines		MDMER Effluent Criteria at Final Discharge Points		
			Short-term	Long-term	Maximum Authorized Monthly Mean Concentration	Maximum Authorized Concentration in a Composite Sample	Maximum Authorized Concentration in a Grab Sample
Total Sulphide (S_2^-)	mg/L	0.0018	-	-			
Magnesium (Mg)	mg/L	0.1	-	-			
Orthophosphate as P (PO_4^{3-} as P)	mg/L	0.01	-	-			
Dissolved Organic Carbon (DOC)	mg/L	1	-	-			
Total Dissolved Solids (calculated)	mg/L	1	-	-			
Phenolics	mg/L	0.0015	-	-			
Carbonate alkalinity	mg/L	1	-	-			
Bicarbonate alkalinity	mg/L	1	-	-			
Reactive Silica (SiO_2)	mg/L	0.5	-	-			
Total Antimony (Sb)	µg/L	1	ND	ND			
Total Barium (Ba)	µg/L	1	ND	ND			
Total Beryllium (Be)	µg/L	1	ND	ND			
Total Bismuth (Bi)	µg/L	2	-	-			
Total Boron (B)	µg/L	50	29,000	1,500			
Total Silver (Ag)	µg/L	0.1	No Reportable Guideline	0.25			
Total Strontium (Sr)	µg/L	2	ND	ND			
Tin (Sn)	µg/L	2	ND	ND			
Titanium (Ti)	µg/L	2	-	-			
Vanadium (V)	µg/L	2	ND	ND			
Weak Acid Dissociable Cyanide (CN- WAD)	µg/L	1	ND	5 (as Free CN-)			
Total Fluoride (FI)	µg/L	60	ND	120			
Nitrite (as N) (NO2—N)	µg/L	10	ND	60			
Sulphate (SO4)	µg/L	600	ND	Table m			

Table 4.22 Monitoring Parameters, Guideline Values and Regulatory Criteria

Parameters	Units	Reportable Detection Limit (RDL)	CWQG-FAL Guidelines		MDMER Effluent Criteria at Final Discharge Points		
			Short-term	Long-term	Maximum Authorized Monthly Mean Concentration	Maximum Authorized Concentration in a Composite Sample	Maximum Authorized Concentration in a Grab Sample
Maximum Grab Sample Result							
Rainbow Trout (EPS 1/RM/13 Section 5 or 6)	-	-	-	-	Acutely Lethal		
Daphnia magna (EPS 1/RM/13 Section 5 or 6)	-	-	-	-	Acutely Lethal		
Field pH	-	NA	ND	6.5 – 9	6.5 – 9.5		
Field Temperature	°C	±0.5	-	-	-		
Water Temperature	ºC	-	-	-	-		
pH	-	-	-	6.5-9	-		
Specific Conductance	µS/cm	-	-	-	-		
Dissolved Oxygen	mg/L	-		Narrative [l]	-		
Percent Saturation	%	-			-		
Turbidity	NTU	-			-		
Total Dissolved Solids	g/L	-	-	-	-		

Notes:
- no value
NA not applicable
ND no data
[1] Un-ionized ammonia is calculated using the following equation: A (1/(1 + 10^{pKa-pH})) where A is the concentration of total ammonia — which is the sum of un-ionized ammonia (NH_3) and ionized ammonia (NH_4+) — expressed in mg/L as nitrogen (N); pH is the pH of the effluent sample; and pKa is a dissociation constant calculated in accordance with the following formula: 0.09018 + 2729.92/T where T is the temperature of the effluent sample in kelvin. (MDMER 12(4))
[2] Environmental Registration Section 9.1.2.3.3
[3] Environmental Registration Section 9.4.2.1.2
[a] Ni equation: Hardness ≤60 mg calcium carbonate ($CaCO_3$)·L^{-1}, CWQG-FAL is 0.025 mg/L, Hardness >60 to ≤180 mg $CaCO_3$·L-1 use equation $e^{\{0.76[ln(hardness)]+1.06\}}$, Hardness >180 mg CaCO3·L-1, CWQG-FAL is 0.15 mg/L
[b] Zn (dissolved) equation: short-term = exp(0.833[ln(hardness mg·L^{-1})] + 0.240[ln(DOC mg·L-1)] + 0.526 for hardness 13.8 and 250.5 mg CaCO3·L−1 & DOC 0.3 and 17.3 mg·L−1, long-term = exp(0.947[ln(hardness mg·L^{-1})] - 0.815[pH] + 0.398[ln(DOC mg·L^{-1})] + 4.625) for hardness 23.4 and 399 mg $CaCO_3$·L^{-1}, pH 6.5 and 8.13 and DOC 0.3 to 22.9 mg·L^{-1}
[c] TSS narrative "clear flow: Maximum increase of 25 mg/L from background levels for any short-term exposure (e.g., 24-h period). Maximum average increase of 5 mg/L from background levels for longer term exposures (e.g., inputs lasting between 24 h and 30 d)."
[d] Total Ammonia as N table is temperature and pH dependent. Measurements of total ammonia in the aquatic environment are often expressed as mg/L total ammonia-N. The present guideline values (mg/L NH3) can be converted to mg/L total ammonia-N by multiplying the corresponding guideline value by 0.8224. Consult the CWQG-FAL factsheet for specific table.
[e] Al CWQG = 5 µg/L if pH <6.5, 100 µg/L if pH ≥6.5
[f] Cd short-term: 0.11 µg/L if hardness 0 to <5.3 mg $CaCO_3$·L^{-1}, $10^{\{1.016(log[hardness]) - 1.71\}}$ if hardness ≥5.3 mg $CaCO_3$·L^{-1} to ≤360 mg $CaCO_3$·L^{-1}, 7.7 µg/L if hardness >360 mg $CaCO_3$·L^{-1}
[g] Cd long-term: 0.04 µg/L if hardness 0 to <17 mg $CaCO_3$·L^{-1}, $10^{\{0.83(log[hardness]) - 2.46\}}$ if hardness ≥17 to ≤280 mg $CaCO_3$·L^{-1}, 0.37 µg/L if hardness >280 mg $CaCO_3$·L^{-1}
[h] Chromium, trivalent (Cr(III)) = 8.9 µg/L; Chromium, hexavalent (Cr(VI)) = 1 ug/L; Chromium, total = no guideline
[i] Mn (dissolved) short-term: benchmark calculator in Appendix B of Scientific Criteria Document for the Development of the CWQG-FAL: Manganese
[j] Mn (dissolved) long-term: CWQG calculator in Appendix B of the Scientific Criteria Document for the Development of the CWQG-FAL; Manganese.
[k] TP narrative = Trigger Ranges for Total Phosphorus (mg/L) (see Guidance Framework for Phosphorus factsheet): ultra-oligotrophic <0.004, oligotrophic 0.004-0.01, mesotrophic 0.01-0.02, meso-eutrophic 0.02-0.035, eutrophic 0.035-0.1, hyper-eutrophic >0.1.
[l] DO Narrative = Lowest acceptable DO concentrations for the protection of freshwater organisms; 6 mg/L or greater for early life stages of warmwater species, 5.5 mg/L or greater for other life stages of warmwater species, 9.5 mg/L or greater for early life stages of cold water species, and 6.5 mg/L or greater for other life stages of cold water species
[m] Sulphate guideline value is from British Columbia Ministry of Environment and Climate Change Strategy for the protection of aquatic life (Guideline: 128 mg/L for hardness 0 to 30 mg CaCO3·L-1; 218 mg/L for hardness 31 to 75 mg CaCO3·L-1, 309 mg/L for hardness 76 to 180 mg CaCO3·L-1, 429 for hardness 181 to 250 mg CaCO3·L-1) (Meays and Nordin 2013)
[n] The mean absorbance of filtered water samples at 456 nm shall not be significantly higher than the seasonally adjusted expect value for the system under consideration.
[o] Cu long-term: 2 µg/L if hardness 0 to <82 mg $CaCO_3$·L^{-1}, 0.2*$e^{\{0.8545[ln(hardness)]-1.465\}}$ if hardness ≥82 to ≤180 mg $CaCO_3$·L^{-1}, 4 µg/L if hardness >180 mg $CaCO_3$·L^{-1}
[r] Pb long-term: 1 µg/L if hardness 0 to <60 mg $CaCO_3$·L^{-1}, $e^{\{1.273[ln(hardness)]-4.705\}}$ if hardness ≥60 to ≤180 mg $CaCO_3$·L^{-1}, 7 µg/L if hardness >180 mg $CaCO_3$·L^{-1}

4.2.2.3 Description and Mapping of the Protected Public Water Supply Area

Section 4.1.4.1 presents details on the industrial terrace area (employee parking lot and general laydown areas) and site access road that will be constructed and operated within the Gander Lake watershed. The Gander Lake protected public water supply area (PPWSA) extends beyond the delineated drainage boundary of the Gander Lake watershed. The intent of the PPWSA is to follow the Gander Lake watershed area and the following discussion and assessment focuses on the Project components within that watershed drainage area. The proposed infrastructure footprints within the Gander Lake watershed (Figure 4.10) do not overlay local waterbodies or watercourses and no in-water work will be required during construction, including watercourse alterations/crossings.

Both the industrial terrace and site access road will be constructed according to the following mitigation measures:

- Construction will use non-PAG and non-metal leaching materials
- The amount and timing of exposed soil left open at any one time will be limited to reduce the potential for erosion
- Runoff will be directed away from active work areas before construction commences, reducing the volume of sediment-laden water to be managed
- Erosion and sediment control measures will be installed as required to limit sediment runoff to local waterbodies, watercourses, and wetlands
- Proposed infrastructure footprints do not overlay local waterbodies or watercourses and no in-water work will be required
- Ditches and water management infrastructure for the terrace and road will be designed to convey the 24-hour, 100-year annual exceedance probability flow event and limit potential scour and erosion at discharge locations

4.2.3 Water Management Infrastructure

4.2.3.1 Design and Construction Activities for Dams, Water Management Ponds, and Associated Water Control Infrastructure

Designs and construction activities for dams, water management ponds, and associated water control infrastructure were described in the WaMP (Appendix 4.A in the Environmental Registration).

4.2.3.1.1 Materials

Only rock materials categorized as non-PAG, and non-metal leaching will be used for project works, including dams, water management ponds and associated water control infrastructure. Materials excavated from ditches will be sidecast, and berms will be constructed from the sidecast material on the outside bank of the ditches to reduce cost of construction. Where feasible, granular backfill material will be sourced from chemically stable or non-PAG and non-metal leaching waste rock produced during construction of the open pits.

4.2.3.1.2 Methods

Water management ponds provide on-site storage of runoff with controlled releases permitted after appropriate residence time for particulate settling for the 24-hour duration, 1:100 AEP 24-hour precipitation design event. Permanent pools depths will be excavated below grade to the extent feasible, reducing the total berm height required to achieve the storage while improving dam safety. Water management ponds will include outlet control through a pumped discharge above the permanent pool elevation and a spillway to attenuate flows up to climate change adjusted design event.

Pond embankments will be designed to meet Canada Dam Association (CDA) Guidelines (2013) and the NL *Mining Act*. Ponds will be excavated to competent till or bedrock surface, where practical, to reduce the ultimate dam heigh and reduce material fill requirements. Where required a geosynthetic liner will be incorporated into the upstream slope of pond embankments and keyed into the rest of the dam to provide water retention in areas with limited suitability of the local till materials to be incorporated as low permeability cores. The liner will be extended as required along the bottom of the pond to limit infiltration. Where required groundwater seepage will be directed beneath a pond liner through a rockfill drain and/or perforated pipes. Pond embankments will be constructed with crest widths of adequate width (e.g., 5 m) to provide temporary access for maintenance requirements.

Water management pond erosion protection will be provided through riprap lining of the berm and spillway and a scour pad at the toe of slope of spillways. A geotextile filter layer will be placed between materials to reduce the opportunity for fines migration and piping.

Ditches will be designed to convey gravity flow to reduce operational costs that would result from pumping, where possible. The ditches will follow a standard trapezoidal geometry with a maximum 2 horizontal (H):1 vertical (V) side slope tied into existing grade to reduce cost of construction and will maintain a minimum of 20 centimetres of freeboard. Ditches will be lined with riprap for erosion protection. In areas with ditch gradients greater than 8%, sediment traps (i.e., check dams) will be installed. Energy dissipation pools will be installed at the change in ditch gradient of 10% or higher to shallower slopes. Figure 4.7 presents the typical section views for the two ditch size categories.

Water management infrastructure is summarized in Tables 4.23 and 4.24 and presented in Figures 4.6 and 4.7. Water management infrastructure associated with the industrial terrace were summarized and previously described in Section 4.1.4.1.

Table 4.23 Ditch and Water Management Design Management Infrastructure

Mine Facility [Facility Area]	Ditch Run	Ditch Length (m)	Water Management Pond	Final Discharge Point
Overburden Storage Facility [48.2 ha]	OB-DR-01	1,160	OB-SP-01	P-Pond and North Herman Pond diffusors
	OB-DR-02	1,375		
Waste Rock Storage Facility [90.0 ha]	WR-DR-01	995	WR-SP-01	OS-SP-01 (Discharging to P-Pond and North Herman Pond)
	WR-DR-02	2,684		
	WR-DR-03	650	WR-SP-02	
	WR-DR-04	1,200		
Ore Stockpile [25.6 ha]; Industrial Terrace [22.3 ha]	OS-DR-01	488.5	OS-SP-01	
	OS-DR-02	859		
	IT-DR-01	680		

Table 4.24 Ditch and Water Management Design Management Infrastructure

Pond ID	Permanent Pond / Inactive Storage (m^3)	Active Storage (m^3)	Total Pond Containment Storage (m^3)	Maximum Discharge Pumping Rates* (m^3/s)
OB-SP-01	21,238	40,549	61,787	0.037
WR-SP-01	25,163	48,258	73,420	0.045
WR-SP-02	16,342	21,787	38,129	0.020
OS-SP-01	28,669	69,653	98,322	0.11

Note:
*Maximum discharge pumping rates are for a seven-day distribution for localized water management ponds. The ore stockpile discharge rate is equal to the sum of peak runoff inflows in addition to the direct catchment volume dewatered over a seven-day period. The overburden stockpile outflow will be pumped to the pipeline going to the two Project final discharge points.

4.2.3.1.3 Timing

The construction phase of the Project is anticipated to take between four to six months to complete.

4.2.4 Water Crossings

New road infrastructure will be required to support safe and efficient access and internal connectivity across the mine site. This includes a new site access road from the TCH, and a network of new haul roads to connect key infrastructure components, including the open pits, WRSF, overburden storage facility, crushing and sorting plant, and other operational areas. There are five fish-bearing stream crossings associated with the haul roads for the Project. There is no stream crossing associated with the site access road, as it was designed to avoid fish-bearing waters.

The haul roads will include new stream crossings (e.g., culverts), drainage ditches, and erosion control features. These components will be sized appropriately and designed to maintain natural hydrology, provide fish passage at stream crossings and reduce sedimentation into adjacent aquatic environments.

The construction methods are specific to each stream crossing location and dependent on the type and size of crossing structure to be installed. In general, the installations at each crossing will use heavy construction equipment, such as excavators, dump trucks, cranes, earth movers and graders. The general construction sequence is as follows:

- Site preparation activities such as surveying, clearing, and grubbing
- Installation of erosion and sediment controls
- Installation of stream crossing structures, including activities such as excavation, construction of abutments, headwalls, installation of culverts and energy dissipation (plunge) pools (as required)
- Preparing the roadbed at the approaches to the structures to base elevation
- Finishing activities, such as installation of signs and guide rails, as required
- Site clean-up activities, such as stabilization of exposed soils and removal of sediment and erosion controls

The type of culvert installed at each location will be crossing specific and determined during detailed design. It is anticipated that culverts will be approximately 2,000 millimetres (mm) round high-density polyethylene pipe culverts, although alternate types of culverts may be considered (i.e., corrugated steel pipe, arch, box or round concrete). Inlet and outlet aprons are anticipated to be installed at both ends of the culvert to prevent scour and erosion and improve hydraulic flow. Culverts will be embedded to reduce effects to fish habitat and facilitate fish passage. Other construction materials will include coarse aggregates, gravel, culvert bedding and common fill. Coarse aggregates are expected to be crushed from clean rock sourced from the mine or third-party sources.

Construction of watercourse crossings are expected to occur during the early works and construction phases of the Project, which are anticipated to begin following receipt of required permits and approvals. Timing of in-water works will consider applicable fisheries timing windows (Fisheries and Oceans Canada [DFO] 2026a), regulatory requirements, and DFO guidance including Best Management Practices for the Protection of Freshwater Fish Habitat in Newfoundland and Labrador (DFO 2022). Before work commences, erosion and sediment controls measures will be installed as required, to prevent erosion and sediment deposition in the watercourses. The stream crossing locations will be isolated from flow using dam and pump methods, allowing work to be conducted under dry conditions. To avoid completing the work during a high flow event, work will not be conducted during heavy rain events. The work area will be isolated using cofferdams installed upstream and downstream of the work area. The cofferdam will be constructed from sheet pile, sandbags, plastic-lined earthen structure, or other approved material. Water will be pumped around the isolated area using screened pumps, sized for the anticipated flow requirement of each stream. Appropriately sized fish screens will be installed on pump intakes and maintained to prevent fish from entering.

The crossing locations will be excavated to prepare the culvert bedding, and the culvert will be installed to the specifications in the engineering drawings, and backfilled. Appropriately sized, clean stone riprap will be placed around the culvert to cover disturbed material. The cofferdams will be removed, and water will be allowed to flow through the culvert. Concrete may be required for stream crossing abutments or culvert haunches, or alternately precast concrete beddings may be used. No concrete will be poured at these crossing sites.

4.2.5 In-Water Construction Activities

Early works for in-water construction activities include environmental protection measures, including installation of erosion and sediment control measures around in-water work areas.

Construction activities associated with the freshwater aquatic environment are anticipated to occur during the construction phases of the Project (Q2 and Q3 2027), which are expected to begin following receipt of required approvals and permits. Timing of in-water works will consider applicable fisheries timing windows (DFO 2026b), regulatory requirements, and DFO guidance including *Best Management Practices for the Protection of Freshwater Fish Habitat in Newfoundland and Labrador* (DFO 2022).

Project activities in-water will include dewatering of South Hermans Pond for the Keats open pit, installation of stream crossings associated with haul roads, and effluent diffusers. Blasting will occur as part of open pit mine development and operations; however, blasting in water is not planned. A description of the dewatering of South Hermans Pond, installation of stream crossings associated with haul roads, and construction of effluent outfalls are described below.

4.2.5.1 Dewatering of South Hermans Pond

The development and operation of Keats pit will require dewatering of South Hermans Pond. Prior to dewatering, the fish within Streams 33, 34, 35, and South Herman' Pond will be relocated. Fish barriers and/or sediment mitigation measures will be used to prevent fish from re-entering the South Hermans Pond. Dewatering will be conducted by pumping the water within the deepest areas of the pond towards the outlet of the pond. Mitigation measures will be used to reduce potential sediment entrainment into the pump intakes, and portions of the pond will be isolated to reduce the volume of ponded drainage water adjacent to the pit during the construction and operations phases. Sediment loading reduction measures will potentially include turbidity curtains installations at the isolated pump locations to reduce total suspended solids. If additional sediment removal is required, water will be pumped to filter bags. Cofferdams may be constructed within South Hermans Pond to isolate in-water work areas and manage pond drainage during dewatering. After South Hermans Pond is lowered, a sump pit will be constructed in the deepest part of the former pond to facilitate dewatering. Trenches will be installed, as required, to gravity drain stranded areas in the remaining pond bottom to the sump. The land will be graded to facilitate long-term gravity drainage away from the open pit and perimeter berms will be installed around the pit footprint to divert natural drainage. The disturbed ground (outside the pit footprint) will be stabilized with vegetation. Blasting associated with construction of the Keats pit is not anticipated to affect fish or fish habitat as the fish habitat in P2 will be lost during de-watering.

It should be noted that the dewatering pump setup and mitigation measures may vary as the dewatering plan is developed with issued-for-construction engineered drawings. The construction sequence described above will be refined and additional details will be determined by the contractor.

4.2.5.2 Stream Water Crossings

Please refer to Section 4.2.4 of this EPR for a detailed description of stream crossing installation activities associated with the Project.

4.2.5.3 Effluent Outfalls

Discharge of final effluent from the water treatment plant and/or ore stockpile pond, and overburden pile sedimentation pond will be via two FDPs, one to P Pond (P9; FDP-01) and one to North Hermans Pond (P1; FDP-02). The ore stockpile pond and water treatment plant will be constructed during the construction phase. Treated mine effluent will be pumped though discharge pipes and discharged by diffuser into each of the pond receivers. A trench for the discharge pipe will be excavated below ground, the pipe installed and then covered with riprap at the shoreline between the ordinary high-water mark and the low-water mark. Below the low-water mark, the discharge pipe will be secured with concrete anchors attached to the substrate and spaced along the length of the exposed pipe. The discharge pipes are anticipated to be 250 mm in diameter and extend to at least 5 m water depth below the surface. It should be noted that the size of the diffuser structure and pipe length may vary as the design of the diffusers progresses to final design with issued-for-construction engineered drawings. Treated effluent from both diffusers will flow downstream in unnamed watercourses and converge in Watercourse 17, prior to emptying into the Gander River.

4.2.6 T'Railway Access and Construction Activities

The T'Railway crosses the Project Area at the location of the proposed new site access road (Figure 4.1). A 15-m referral buffer is required on either side of the T'Railway and permits and approvals are required from NL Department of Tourism, Culture, Arts and Recreation (NLDTCAR) Provincial Parks Division where crossings are required within the buffer.

The new site access road from the TCH will be designed in coordination with the NLDTI. The road will serve as the primary access for light vehicles (including employee transportation), supply deliveries, and highway truck haulage of ore to the Pine Cove processing facility. The site access road has been strategically located to reduce interaction between light vehicles and mine haulage trucks, consistent with best practices for safe mine operation. Safety features will be incorporated in consultation with relevant authorities.

Construction of the new site access road will be undertaken as part of site development. New Found Gold will initiate early works and construction activities upon receipt of required permits and although some early works may begin in early 2027, the majority of construction activities will begin as early in 2027 as possible. A phased approach may be taken whereby initial 18-m roads are expanded as construction material becomes available. Activities will include clearing, grading, surfacing, and installation of safety features at both the T'Railway crossing and the TCH intersection. Upgrades at the TCH intersection, where haul trucks will exit the site to transport ore to the Pine Cove processing facility, are also planned. New Found Gold has engaged with NLDTI regarding the engineering design and construction of the planned upgrades and will obtain the required approvals and permits prior to construction. New Found Gold will also consult with the relevant authorities, including NLDTI and NLDTCAR Provincial Parks Division, to support a public education program around the new mine access crossing on the T'Railway. The proposed mine access crossing will represent an additional roadway crossing along the T'Railway; however, the trail currently intersects with public roadways at multiple locations in the surrounding area (i.e., three road intersections/crossings in Appleton, two in Glenwood, three along TCH in the immediate vicinity, and seven in Gander), and local trail users are familiar with navigating these types of crossings. New Found Gold will implement safety measures at the T'Railway crossing including warning signage for trail users approaching the crossing, appropriate traffic control, public notification of construction activities

that may affect trail users, and educational materials promoting safe use of the crossing. Project personnel and contractors operating vehicles near the T'Railway crossing will receive site orientation regarding crossing protocols and will be required to reduce speed and exercise caution when approaching and traversing the crossing.

4.2.7 Construction Air Emissions

Construction activities will include mine site preparation and earthworks, including the clearing and cutting of vegetation and removal of organic materials, development of roads, excavation and preparation of areas within the mine site, and grading for infrastructure construction, as well as construction along the access road and the construction / installation of infrastructure and equipment. Air contaminants will be released during construction activities in the form of combustion gases (sulphur dioxide, nitrogen oxides, and carbon monoxide) and particulate matter (total, particulate matter [PM] with a diameter less than 10 microns [PM_{10}], particulate matter with a diameter of less than 2.5 microns [$PM_{2.5}$], and trace metals) from earth and material moving and handling activities, blasting and equipment movements.

The emissions inventory (in Appendix 4.B and Appendix 7.A of the Environmental Registration) presented the construction phase emissions, along with those expected for the seven years of operation. The inventory allows for comparison of the construction year emissions relative to the various years of operation. Generally, peak annual construction emissions are 1% to 50% lower than peak operation emissions. For instance, the stationary combustion emissions will be similar during both phases due to potential operation of the diesel generator for site power. These emissions account for a majority of the sulphur dioxide emitted, and therefore the change is small between the construction and operational phases of the project. Particulate and trace metals emissions are estimated to be 50% lower during construction than during peak operation. Specifically, unpaved roads are expected to be a major contributor to particulate emissions, with emissions during construction estimated to be approximately half of those during the peak operational year, primarily due to the lower number of haul truck trips during construction. In the Environmental Registration (Chapter 7), two modelling scenarios were presented for the peak operational year. The first represented full operations and predicted occasional exceedances of the NL Air Quality Standards (NL AQS) during dry and windy days. A reduced operation scenario was also assessed, which assumed that hauling, material transfer, and crushing would be fully suspended during these conditions. This second scenario demonstrated full-time compliance, but represented a temporary, but relatively substantial change in Project operations. Since submission of the Environmental Registration, New Found Gold has further optimized the mine plan to identify a scenario that maintains compliance with NL AQS during these dry and windy conditions, while allowing activities to continue with enhanced dust mitigation and smaller adjustments to mining activities. Enhanced dust mitigation measures include more frequent watering of roads and material during transfer, and watering of the crushing operations during dry and windy periods, along with the potential for optimized hauling frequencies (e.g., adjusting overall on-site truck traffic by temporarily limiting hauling of waste rock or overburden while maintaining hauling of ore). Modelling of this optimized operation scenario is presented in Section 5.2.3 and demonstrates that use of this scenario as needed during dry and dusty periods will allow the mine to operate in compliance with the NL AQS (as well as those air quality standards adopted from other jurisdictions).

In consideration of the results of revised modelling for operation and the limited and temporary nature of construction emissions, exceedances of the ambient air quality criteria due to Project emissions are not anticipated for construction.

To manage air quality during construction and operation, mitigation will include dust suppressants to be applied around the site during dry and windy periods, speed limits, and prompt revegetation of cleared areas when feasible. The Project will include development and implementation of an Air Quality Monitoring Plan, which will be appended to the EPP and will outline the adaptive management approach to be implemented when the optimized scenario is required. Trigger levels will be set below the provincial standards to provide early warning and an opportunity to implement the identified enhanced dust mitigation as needed to maintain compliance. The ambient air monitoring program will allow confirmation of compliance with air quality objectives or implementation of additional dust mitigation if trigger levels are approached. Although exceedances are not anticipated during construction, the mitigation and monitoring measures that will be implemented to manage emissions during the operational phase will also be in place and followed during construction, providing a conservative approach to managing construction-phase emissions. With implementation of these mitigation and monitoring programs compliance with the *Air Pollution Control Regulations* will be maintained.

4.3 Operation and Maintenance

Section 4.5.3 of the Environmental Registration provides a detailed discussion of planned operation and maintenance activities for the Project. Section 4.3.1 of this document provides an overview of the information presented in the Environmental Registration to give context for reviewers of this EPR. The EPR Guidelines required additional information on this phase of the Project. The specific topics outlined in the EPR Guidelines are identified in Table 4.25, which summarizes the applicable EPR requirements and identifies where each is addressed.

Table 4.25 EPR Guidelines Requirements Related to Operation and Maintenance

Guideline Requirement	EPR Section
The following aspects of the operation and maintenance phase of the Project shall be presented in detail, including scheduling details and timing of each phase, where applicable, for at least the following:	Sections 4.3.1-4.3.11
Source water supply and any supporting facilities and infrastructure, if the water supply for operations and maintenance is different from that of the construction phase, including but not limited to: • proximity of the source water supply, facility and supporting infrastructure to the protected public water supply area • location and description of all temporary or permanent water intakes and outfalls for the Project including water withdrawal rates and drawdown levels, available yield, and water balance assessment including drawdown levels for any surface water source • source water quality and quantity monitoring locations and details	Section 4.3.2
Activities that may interact with fish and fish habitat, including blasting, noise, water withdrawals, water discharges, habitat alteration, and watercourse crossings	Section 4.3.3
Activities that may interact with migratory birds, including species at risk, such as blasting, noise-generating activities, artificial lighting and habitat alteration	Section 4.3.3
Activities and infrastructure that may interact with roosting bat species at risk, including blasting, noise-generating activities, artificial lighting, and habitat alteration	Section 4.3.3
Operation and maintenance procedures for settling ponds, sediment ponds, diversion channels, and other water control infrastructure, including their purpose, design capacity, inspection procedures, and performance objectives	Section 4.3.4

Table 4.25 EPR Guidelines Requirements Related to Operation and Maintenance

Guideline Requirement	EPR Section
Clarification on the separation of PAG/non-PAG waste rock that will facilitate the removal and deposition of PAG sub-aqueously	Section 4.3.5
An outline of the footprint of all stockpiles and consideration that segregation of the material into a standalone stockpile may be required should the process and tracking be deemed insufficient	Section 4.3.5
Use of the provincial road network for the transportation of materials, equipment, supplies, and personnel, including transportation routes, anticipated traffic volumes, and any expected overweight or over-dimensional loads	Section 4.3.6
Clarification as to whether any new access roads constructed on Crown land for Project use will remain open for public access, including forestry, mineral exploration, agriculture, cottage owners, outfitters, and other approved land users, in consultation with Crown Lands and other applicable regulators	Section 4.3.6
Maintenance plans for upkeep of access roads, stream crossings, bridges, culverts, and other transportation infrastructure	Section 4.3.6
Identification of dust suppressants to be used throughout the Project site and acknowledgement that all chemical dust suppressants must be approved by the Water Resources Management Division of the Department of Environment, Conservation and Climate Change, and other authorities if applicable, prior to use	Section 4.3.7
Identification of all chemicals and hazardous materials to be used in Project operations	Section 4.3.8
Quantification of air emissions during Project operations and details as to whether the *Management of Greenhouse Gas Act* applies to the Project	Section 4.3.9
Verification as to whether air emissions during Project operations will be compliant with the Air Pollution Control Regulations	Section 4.3.9
Characterization, prior to discharge, of any effluent planned to be discharged into the environment and verification as to whether the effluent is compliant with the Environmental Control Water and Sewer Regulations. Environment and Climate Change Canada advises that the definition of effluent found in the *Metal and Diamond Mining Effluent Regulations* includes any seepage containing any deleterious substance that flows over, through or out of the site of a mine	Section 4.3.10
Project activities that may affect existing land uses, recreational access, tourism activities, outfitting operations, use of the T'Railway Provincial Park, and other transportation corridors, including any proposed access and traffic management	Section 4.3.11
Procedures for sharing information regarding Project activities, road use, temporary access restrictions, and other operational matters with potentially affected stakeholders	Section 4.3.11

4.3.1 Summary of Operation and Maintenance Activities from the Environmental Registration

New Found Gold anticipates approximately seven years of mining operations in the Project Area, requiring between 117 and 239 FTE employees annually. Currently, 88% of employees working at New Found Gold sites are residents of NL, with 61% from central Newfoundland. New Found Gold anticipates that it will be able to maintain a similar percentage of employees from both the region and the province once it moves into construction and operation of the Project. The non-local workforce during operation is not likely to exceed 79 persons. The Project will operate 12 months per year, 24 hours per day, 7 days per week, on a 12-hour shift basis.

Mine operations will entail open pit mining methods followed by ore crushing and sorting, and waste rock management. Following site preparation activities at the designated open pit areas, the deposits will be mined, prioritizing the highest gold grades first. The open pit methods will include drilling using conventional production drills and blasting using bulk emulsion to fragment the rock. Blasting will typically occur at predesignated times during dayshift and will be communicated in advance to key stakeholders and residents. Blasting volumes will vary depending on the mine plan, typically ranging in sizes from 10,000 to 35,000 tonnes (t). Blast sequencing will be designed to reduce vibration and noise.

New Found Gold has developed a Blast Management Plan (Appendix C.2) which addresses potential adverse blasting effects related to vibration, noise, and dust emissions. The Blast Management Plan will guide safe and controlled blasting practices and address associated risks, including flyrock and potential for infrastructure damage. It will be a living document and may be revised in line with updated mine construction and operations plans.

After drilling and blasting, the broken material will be loaded and hauled via hydraulic shovel, frontend loader, and haul trucks to be crushed and/or sorted. Equipment supporting ore crushing and sorting will include bulldozers, graders, and water trucks. RoM ore will be placed in a stockpile and fed into a crusher using a frontend loader. RoM ore will be crushed to 80% passing 6 mm and placed in a feed stockpile adjacent to the crushing and sorting plant.

Waste rock will be transported to the WRSF. The WRSF will be a permanent engineered structure designed to safely contain waste rock generated during open pit mining. It is anticipated to be constructed in 15 m lifts, with each lift featuring a 35° face angle and 10 m-wide berms. This configuration results in an overall slope angle of approximately 25.5°, which has been selected to maintain long-term slope stability under both operational and closure conditions. The facility will reach a final height of approximately 85 m. Its design incorporates geotechnical considerations to support safe containment and reduce environmental risk.

Operational waste rock sampling and testing will be conducted to assess ML/ARD potential. Non-PAG waste rock with low ML potential will be stored in the WRSF or used for construction activities and eventually covered with overburden and organic soils and topsoil, followed by progressive revegetation using native species during site rehabilitation. PAG waste rock is currently planned to be placed underwater in the mined-out Iceberg pit as it is mined to limit acid generation; the Iceberg pit will naturally fill at closure for long-term containment as a pit lake feature.

During operation, ore will be transported from the Project site to the Pine Cove processing facility via 30 to 40 t haul trucks (legal gross weight limit of 54.3 t per tridem tractor and trailer combinations). During operation it is anticipated that 10 trucks will each complete two roundtrips per day to the Pine Cove processing facility.

It is estimated that 80 passenger vehicles will be coming to site for dayshift throughout the week and roughly 40 passenger vehicles for night shift. Most of the traffic will be workers traveling to and from the site at the start and end of their shifts, with some general freight and equipment transport vehicles accessing the site throughout the day. The shift changes will likely occur during early morning or late evening, outside the regular work or school day, so increases in traffic in local communities may not be apparent to the residents.

4.3.2 Source Water Supply and Supporting Infrastructure

In relation to source water supporting facilities and infrastructure that will be used, the EPR Guidelines (Table 4.25) require additional information on the following, if the water supply for operations and maintenance is different from that of the construction phase:

- proximity of the source water supply, facility and supporting infrastructure to the protected public water supply area
- location and description of all temporary or permanent water intakes and outfalls for the Project including water withdrawal rates and drawdown levels, available yield, and water balance assessment including drawdown levels for any surface water source
- source water quality and quantity monitoring locations and details

This information is provided in the following sub-sections.

Overflow water from ponds at the various facilities will be directed to the ore stockpile pond near the sorting plant and RoM pad. This primary pond will supply water to the crushing and sorting plant, if required, and captures drainage from these facilities as well.

Refer to Section 4.2.2.1 of this EPR for details on water withdrawal from P Pond for Project dust suppression activities (as required). The primary water source will be sedimentation ponds with water quality below MDMER criteria values (i.e., overburden stockpile). If additional water is required to what is available in the sedimentation ponds for dust suppression, then water will be withdrawn from P Pond. There is no planned change in water demand rates and supply location planned for the construction phase or operations and maintenance dust suppression activities.

4.3.2.1 Proximity to the Protected Public Water Supply Area

No water withdrawals are planned for the Project within the Gander Lake watershed. Water withdrawals to support dust suppression activities from P Pond are planned for the Project on an as required basis with the sedimentation ponds being the primary water source. P Pond is located approximately 400 m north of the Gander Lake watershed boundary.

4.3.2.2 Temporary or Permanent Water Intakes and Outfalls

Section 4.2.2.1 of this EPR details the proposed water withdrawal activities from P Pond to supply water for site dust suppression activities if additional water is required above what the sedimentation ponds can supply (as the primary source). The maximum water withdrawal rate is not planned to change from that discussed and assessed for the construction phase, including expected drawdown levels and available yield. The frequency of water withdrawal will be lower as the primary water source for dust suppression will be the sedimentation ponds with water quality below MDMER criteria values (i.e., overburden stockpile).

Figure 4.10 presents the locations of the FDPs for the Project, which are in North Hermans Pond and P Pond. Both North Hermans Pond and P Pond discharge into unnamed watercourses that eventually join and drain into the Gander River. Section 9 of the Environmental Registration presents the site wide water balance and its results for how water is managed at the site, including discharges to the FDPs during

various life of mine phases. The outputs of the site wide water balance were inserted into a hydrologic watershed model developed for the Project, including changes in local drainage areas to assess potential flow changes (i.e., percent reductions in mean annual flow from baseline conditions) in downstream receivers, including the watercourses downstream of North Hermans Pond and P Pond. The predicted flow reductions without FDP discharges by the hydrologic model were used to develop the flow rate split directed to each FDP (53% to North Hermans Pond; 47% to P Pond). Refer to Section 4.1.4.2 of this EPR for further information.

4.3.2.3 Source Water Quality and Quantity Monitoring

The surface water quantity and quality monitoring locations and their monitoring activities detailed in Section 4.2.2.2 for the construction phase will be maintained for the operations and maintenance phase of the Project.

4.3.3 Activities and Infrastructure with Potential Environmental Interactions

As requested in the EPR Guidelines, Table 4.26 presents the operation and maintenance activities associated with the Project that have the potential to interact with fish and fish habitat, migratory birds (including SAR), and bat SAR. Specifically, the table presents the relevant Project activities, the nature of the potential interactions, and the anticipated timing and frequency of the activities during the operation phase of the Project. Note that direct habitat loss and habitat alteration resulting from vegetation clearing, site preparation, and other construction activities are anticipated to occur primarily during the construction phase, however, will continue throughout the life of the Project. Additional information regarding potential interactions with fish and fish habitat is provided in Chapter 10 (Fish and Fish Habitat) of the Environmental Registration, while additional information regarding potential interactions with migratory birds (including SAR) and bat SAR is provided in Chapter 11 (Terrestrial Environment) of the Environmental Registration.

Table 4.26 Operation and Maintenance Activities with Potential to Interact with Fish and Fish Habitat, Migratory Birds, and Bats, including Species at Risk

Operation and Maintenance Activity	Timing / Frequency	Fish and Fish Habitat	Terrestrial Environment – Migratory Birds and SAR, Bats SAR
Open pit mining (drilling, blasting, loading, hauling)	• Continuous throughout operation. • Table 4.18 in the Environmental Registration summarizes blasting frequency and drilling requirements by year. • Table 4.19 in the Environmental Registration summarizes average daily haul truck trips on the haulage roads.	Blasting in or near water could result in injury or instantaneous death to fish or eggs. Mining activities could result in suspended sediments being carried by air into adjacent waterbodies or watercourses, thereby effecting fish habitat quality.	Sensory disturbance, including noise, vibration, lighting, dust, odours, and human presence, may affect habitat quality and alter behaviour. For birds, this may result in avoidance, displacement, attraction or disorientation, and changes in movement patterns. For bats, this may alter roosting, emergence, foraging, and movement patterns.

Table 4.26 Operation and Maintenance Activities with Potential to Interact with Fish and Fish Habitat, Migratory Birds, and Bats, including Species at Risk

Operation and Maintenance Activity	Timing / Frequency	Fish and Fish Habitat	Terrestrial Environment – Migratory Birds and SAR, Bats SAR
Ore crushing and sorting	Continuous throughout operation.	No direct interaction identified; dust emissions may contribute to sediment deposition pathways described for fish habitat.	Sensory disturbance may affect habitat quality and alter behaviour (as described above).
Waste rock management and operation of the WRSF	Continuous throughout operation.	Runoff or seepage from overburden and waste rock piles could affect water quality and thereby affect fish habitat quality.	Sensory disturbance may affect habitat quality and alter behaviour (as described above). Progressive expansion of the WRSF may result in incremental habitat alteration.
Site water management, settling ponds, dewatering, water distribution, and water withdrawals (if required)	Continuous throughout operation.	Changes in flow, water levels, water quality, fish habitat quantity, and fish habitat quality. Water withdrawals, if required, may result in fish entrainment or impingement.	Potential alteration of wetland and waterbody habitat used by migratory birds, or foraging habitat used by bats.
Treatment and discharge of mine contact water and effluent	Continuous throughout operation.	Discharges may affect fish habitat quality and fish health and survival through changes in water quality if suspended sediments or contaminants are released.	Accidental releases of toxic substances or waste may increase mortality risk.
Ore transportation and operation-related traffic	• Continuous throughout operation. • 80 passenger vehicles per day shift. • 40 passenger vehicles per night shift. • General freight and equipment transport vehicles throughout the day. • Approximately 10 trucks completing two round trips per day to the Pine Cove processing facility.	Potential indirect interaction through accidental releases, dust generation, and runoff entering fish habitat.	Sensory disturbance may affect habitat quality and alter behaviour (as described above). Vehicle traffic may increase mortality risk through vehicle collisions.
Maintenance of roads, culverts, watercourse crossings and drainage infrastructure	Periodic throughout operation.	Potential interaction with fish passage, fish habitat, and sedimentation if not properly maintained.	Temporary sensory disturbance from maintenance activities.

Consistent with the EPR Guidelines, the assessment of potential Project-related effects, proposed mitigation measures, and residual effects for the aquatic environment and wildlife, wetlands, and species at risk are further discussed in Section 5.4 and Section 5.5 of this EPR.

4.3.4 Water Management Infrastructure for Operation and Maintenance

Operation and maintenance procedures for water management infrastructure were described in the WaMP (Appendix 4.A of the Environmental Registration) and the Project Description (Chapter 4 of the Environmental Registration). As requested in the EPR Guidelines (Table 4.25), this section provides information on operation and maintenance procedures for settling ponds, sediment ponds, diversion channels, and other water control infrastructure, including their purpose, design capacity, inspection procedures, and performance objectives.

Surface runoff and runoff from infrastructure will be directed to settling ponds via drainage ditches, where feasible. Sumps located at the lowest elevation of the open pits will collect groundwater and surface water runoff and pump to the settling ponds as needed. Water collected from the RoM pad, ore stockpile. the WRSF, the overburden storage facility, and the open pits will be routed to the settling ponds prior to treatment and eventual discharge to the environment from the site. Water from the RoM pad, ore stockpile, open pits and WRSF will be collected in the central ore stockpile pond and sent to a treatment plant prior to discharge via two FDPs (P Pond [P9]; North Hermans Pond [P1]). The sedimentation ponds will serve as the primary water treatment facilities. Settling ponds at the site will be designed and sized to hold the 100-year design storm event precipitation flows for the designated catchment area. The ore stockpile pond will supply water to the crushing and sorting plant (if required).

The design inactive (permanent pool) and 1:100-year active pond storage below the spillway are summarized in Table 4.27 for each pond as represented in Figure 4.6. Pond storage for the ore stockpile pond is presented in Table 4.6 (Section 4.1.4.1). The ore stockpile pond has been sized to contain one day's worth of inflow from each of the localized water management ponds (WR-SP-01, WR-SP-02, OS-SP-01) are presented in Figure 4.6 and pits expected to be dewatered concurrently with the greatest combined dewatering volume (Keats, Iceberg, Dome, Jackpot).

Table 4.27 Pond Storage

Pond ID	Permanent Pond / Inactive Storage (m^3)	Active Storage (m^3)	Total Pond Containment Storage (m^3)	Maximum Discharge Pumping Rates* (m^3/s)
OB-SP-01	21,238	40,549	61,787	0.037
WR-SP-01	25,163	48,258	73,420	0.045
WR-SP-02	16,342	21,787	38,129	0.020
OS-SP-01	28,669	69,653	98,322	0.11

Note:

*Maximum discharge pumping rates are for a 7-day distribution for localized water management ponds. The ore stockpile discharge rate is equal to the sum of peak runoff inflows in addition to the direct catchment volume dewatered over a 7-day period.

Inspections of the water management infrastructure will include visual inspections of facility infrastructure including identification of potentially unstable areas, identification of changes in drainage patterns, and surface water flow, inspections of instruments and equipment to verify they are working properly.

In addition, the following inspection of water management infrastructure will be implemented:

1. Conveyance and Flood Control:
    a. Sidecast diversion berms will be inspected for efficient external drainage diversion and no overtopping
    b. Perimeter ditches and stockpile toes will be routinely inspected for excessive erosion, rilling and gullying
    c. Sediment in ditches will be visually monitored to confirm sediment entrainment and conveyance to sedimentation ponds
    d. Ditch armour will be checked for rock plucking and transport
    e. Ditches will be inspected to confirm that leakage or infiltration is not occurring through observing flow along ditch length and observing areas downgradient of the ditches
    f. Sedimentation ponds will be monitored to confirm leakage is not occurring by monitoring permanent pool water levels and checking for leakage on downstream pond dam toes
    g. Containment water levels will be observed under large rainfall/runoff events
    h. Pond water levels will be monitored to determine if the spillway was activated and calculate spillway release
    i. Pond effluent flows will be monitored using flow meter or water level transducer
2. Erosion Control and Water Quality:
    a. Pond forebays will be monitored for design function
    b. Internal berms/turbidity curtains will be monitored to confirm residence time and avoidance of short circuiting
    c. Pond water levels and flows will be monitored to confirm residence times and compare against water quality design
    d. TSS in effluent will be monitored against regulatory criteria – if exceedances of TSS guidelines are reported, inflow TSS and particle size distribution will be checked
    e. Metals and NH2 will be monitored for regulatory compliance
    f. Long term effluent quality will be checked for trends/anomalies

Performance of the water management infrastructure will be measured by confirming compliance with regulatory requirements, monitoring the predictions of effects of the Project on water quality, identifying changes in drainage patterns and surface flow, and determining if additional mitigation or emergency response measures are required.

In addition, performance of the water management infrastructure will be measured by confirming compliance with the following design objectives:

1. Conveyance and Flood Control:
    a. Ditch excavation sidecasting will be used to create external drainage diversion berms
    b. Perimeter collection ditches will be designed and maintained to convey the 24-hour duration, 100-year AEP event without ditch overtopping
    c. Sedimentation ponds will be designed to contain the 24 hour duration, 100 yr AEP event without accessing the spillway
    d. For storms exceeding the 24 hour duration, 100 yr AEP event, flooding pressure will be relieved through managed discharge from the pond over the emergency spillway
    e. Active storage within sedimentation pond will be used to attenuate large flood event discharge to local receivers
2. Erosion Control and Water Quality:
    a. Measures will be implemented to avoid excessive mudflow and heavily sediment laden water runoff to perimeter ditches
    b. Conveyance ditches will be designed with adequate slope to convey TSS to sedimentation pond, while avoiding scour in ditches
    c. Sedimentation ponds will be designed for 80-90% TSS removal (i.e., confirm pond inflow TSS is < 100 mg/L)
    d. Sediment forebays will be incorporated into pond design to focus sedimentation and improve opportunities for pond sediment clean out
    e. Pond length: width ratio will be increased to maximize retention time and avoid short circuiting
    f. A water quality design event (i.e., 10 year storm) will be used to develop the sedimentation design of the pond including a permanent pool and particle settling
    g. Inflow TSS particle size distribution will be identified to target particle size for sedimentation design to achieve regulatory TSS limits (i.e., MDMER Schedule 4 Table 1)
    h. Sedimentation pond outflows (i.e., overburden stockpile) and water treatment plant discharge will be monitored to meet MDMER effluent discharge measurement requirements (i.e., MDMER Schedule 4, Table 1)

4.3.5 Management of PAG and Non-PAG Waste Rock

This section responds to the request for clarification on how PAG and non-PAG waste rock will be distinguished during mining so that PAG material can be removed from the general waste stream and deposited sub-aqueously. Section 4.1.2.2 of the Environmental Registration describes the ML/ARD characteristics of Project materials, and Section 4.5.3.3 of the Environmental Registration describes the general waste rock management approach. Figure 4.1 of this EPR provides the outline of the footprint of proposed stockpiles.

The approach to management of PAG materials combines geochemical classification criteria, geological controls, operational sampling, selective excavation, material tracking, and planned placement of PAG waste rock in mined-out open pits below the predicted long-term pit-lake elevation.

Under the current mine plan, most PAG waste rock is expected to be generated from the Keats pit during later stages of mining, after mining in the Iceberg pit has been completed. PAG waste rock generated from Keats will therefore be directed to the mined-out Iceberg pit for placement below the predicted long-term pit-lake elevation. Non-PAG waste rock will be directed to the WRSF or considered for construction use where testing also indicates low metal-leaching potential.

4.3.5.1 Geochemical Basis for Separation

Waste rock will be classified using neutralization potential ratio (NPR), calculated as neutralization potential from total carbon divided by acid potential calculated from total sulphur. For operational material management, waste rock with NPR less than or equal to 2 will be classified as PAG, and waste rock with NPR greater than 2 will be classified as non-PAG. Alternative screening methods may be used if operational results demonstrate an alternative approach that is accepted by the ML/ARD Qualified Professional.

Based on the ongoing ML/ARD characterization program and site-specific NPR criteria, 20.5% of the waste rock expected to be mined is classified as PAG (NPR<2), while 79.5% is classified as non-PAG (NPR>2). Elevated acid-generation potential is primarily associated with black siltstone (BSIL), interbedded black siltstone and greywacke (BSGI), and mineralized material. The siltstone and greywacke units, which comprise most of the waste rock in the current mine plan, are predominantly non-PAG.

Metal-leaching potential will also be considered when assigning non-PAG waste rock for construction use. This additional screening is required because testing indicates that some non-PAG siltstone and greywacke may release arsenic under neutral drainage conditions. Only non-PAG waste rock with low metal-leaching potential will be considered suitable for construction purposes in areas that do not drain to contact water management infrastructure. Ongoing work is focused on identifying solid-phase arsenic thresholds and/or other material characteristics that can be used to distinguish between leaching and non-leaching materials.

For waste rock management planning, BSIL and BSGI units are conservatively assumed to be PAG unless operational testing and review support a different classification. These materials will be directed to the PAG material stream and placed within a mined-out open pit where they can be submerged following natural filling of the pit to form the pit lake.

4.3.5.2 Operational Sampling

Operational sampling and testing will be used to refine the predicted distribution of PAG and non-PAG waste rock and to confirm material destinations before and during excavation.

The mine geologist will use the geological block model, grade-control mapping, and blast design information to identify blocks interpreted as BSIL or BSGI before mining. These modelled units will be translated to bench plans and field control boundaries so that the expected limits of BSIL and BSGI material can be delineated in the pit using survey control, marked excavation limits, and ongoing

geological mapping during mining. Waste rock excavated from areas delineated as BSIL or BSGI will be treated as PAG unless subsequent operational testing and review by the ML/ARD Qualified Professional supports a different classification.

The sampling frequency of each material type is presented in Table 4.28. Waste rock placed in long-term surface storage (WRSF) represents the largest material volume and will initially be sampled at a frequency of approximately one sample per 50,000 t, consistent with the proposed operational ML/ARD sampling program. Construction rock will be sampled at a frequency of one sample per 10,000 t. Sampling frequency may be increased or reduced based on observed material variability and review by the ML/ARD Qualified Professional.

Table 4.28 Summary of Operational Sampling Program

Component	Estimated Tonnage	Sampling Rate	Estimated number of Samples (Life of Mine)
Overburden	4,446,992	1 per 50,000 t	89
Construction Rock	6,488,983	1 per 10,000 t	260
WRSF (non-PAG)	52,033,797	1 per 50,000 t	1,041
Backfilled Waste Rock (PAG)	324,995	1 per 25, 000 t	13
MMBCG	4,889,332	1 per 50,000 t	98
MGO	699,076	1 per 50,000 t	14
HGO	1,207,030	1 per 50,000 t	24

Notes:
[1] sampling rate may be reduced during operation following review of results from the confirmatory sampling program.
MMBCG = mineralized material below cut-off grade; MGO = mid-grade ore; HGO = high-grade ore

4.3.5.3 Laboratory Analysis and Classification Criteria

Operational samples will first be characterized using total carbon and total sulphur acid-base accounting (ABA) to support PAG/non-PAG classification. Solid-phase elemental analyses will be completed to identify materials with potential metal-leaching concerns, and selected samples will also be submitted for shake flask extraction (SFE) testing to evaluate short-term leachable constituent concentrations.

Geochemical screening will include sulphur and total carbon analysis for each operational sample. To support quality control and calibration of the field-based screening program, approximately one in 10 samples for each material type will be submitted as a split to an external laboratory for standard static geochemical testing, including ABA, SFE, and solid-phase metals analysis. The frequency of split-sample submission may be adjusted during operations based on reconciliation between results and external laboratory data. External laboratory testing will use methods consistent with Price (2009), including:

- ABA package including, modified Sobek NP, fizz rating, paste pH, total carbon, total inorganic carbon, total sulphur by LECO, sulphate sulphur by hydrochloric extraction.

- SFE testing method, involving continuous mixing of a crushed sample (85% passing 6.3 mm) with deionized water (1:3 rock to water ratio) for 24 hours, and leachate analysis by inductively coupled plasma mass spectrometry for trace elements. In addition, SFE leachates will be analyzed for pH, alkalinity and acidity by titration, and sulphate by colourimetry.
- Total metals by aqua regia digestion with inductively coupled plasma mass spectrometry detection.

The resulting field and laboratory data will be used to assign each material stream to its appropriate destination. Table 4.29 summarizes the procedures that will be used to identify, delineate, classify, selectively excavate, transport, place, and track PAG waste rock from pre-mining planning through long-term subaqueous containment in the mined-out Iceberg pit.

Table 4.29 Summary of PAG Waste Rock Identification and Handling

Stage	Identification or handling approach	Material destination or action	Verification and records
Pre-mining planning	Geological information, the block model, mine plan, and geochemical results will be used to forecast PAG and non-PAG waste rock. BSIL and BSGI units will be assumed to be PAG unless operational testing and review support reclassification.	Predicted PAG zones will be assigned to the PAG material stream for placement in the mined-out Iceberg pit. Predicted non-PAG material will be assigned to the WRSF or assessed for construction use based on metal-leaching potential.	Geological interpretations, block-model outputs, mine plans, and geochemical results will be retained in mine-planning and material-management records.
Operational sampling	Waste rock will initially be sampled at approximately one sample per 10,000 tonnes. Sampling frequency may be adjusted based on material variability and ML/ARD Qualified Professional review.	Samples will undergo staged geochemical testing to support classification before placement, where practicable.	Sampling locations, material types, analytical results, and quality assurance / quality control results will be maintained in the operational geochemical database.
Field delineation	The mine geologist will use the block model, grade-control mapping, and blast design information to identify BSIL and BSGI before mining. These units will be translated to bench plans and field boundaries using survey control, marked excavation limits, and geological mapping.	Waste rock from delineated BSIL or BSGI areas will be managed as PAG unless operational testing and ML/ARD Qualified Professional review support reclassification.	Bench plans, survey records, field mapping, production records, and material classifications will document delineated limits and destinations.
Geochemical classification	Waste rock with NPR ≤2 will be classified as PAG; material with NPR >2 will be classified as non-PAG. Carbon and sulphur screening may be used where results reconcile with Modified Sobek testing and are accepted by the ML/ARD Qualified Professional.	PAG material will be designated for subaqueous placement. Non-PAG material will be evaluated for WRSF placement or construction use.	Classification will be based on ABA results and supporting geochemical information, as applicable.

Table 4.29 Summary of PAG Waste Rock Identification and Handling

Stage	Identification or handling approach	Material destination or action	Verification and records
Metal-leaching screening	Non-PAG waste rock will be screened for metal-leaching potential.	Only non-PAG material with low metal-leaching potential will be considered for roads, pads, foundations, or other construction uses. Other non-PAG material will be directed to the WRSF or used in construction in areas that drain to water management infrastructure.	Solid-phase elemental and short-term leach results will support construction-material suitability decisions.
Selective excavation and loading	Mine geology and engineering teams will review blast areas and excavation limits. PAG and non-PAG limits and destinations will be communicated to operations before loading.	PAG and non-PAG waste rock will be excavated and loaded separately, where practicable. Unresolved material will be managed as PAG pending confirmatory testing.	Mine plans, field instructions, dispatch records, and production records will document classification, source area, and destination.
Haulage and dispatch	Material classification and destination will be incorporated into mine-production instructions and dispatch or load-tracking processes.	PAG waste rock will be hauled to the mined-out Iceberg pit where direct placement is available. Non-PAG material will be hauled to the WRSF or an approved construction location.	Records will include source pit, mining area or bench, classification, quantity, haulage date, and destination, as applicable.
Temporary PAG storage, if required	Temporary storage may be required if direct placement in Iceberg is unavailable because of operational, geotechnical, water-management, or safety constraints.	PAG material will remain in the active mining pit until direct placement is available. If controlled temporary storage is required, runoff and seepage will be managed through the site water-management system.	Temporary PAG material will remain identifiable and recoverable. Location, quantity, storage period, and relocation to Iceberg will be tracked.
Subaqueous placement	Most PAG waste rock is expected to be mined from Keats after mining in Iceberg is complete.	PAG waste rock will be placed in Iceberg below the predicted long-term pit-lake elevation. Placement planning will consider pit geometry, stability, access, backfill capacity, water management, and pit-lake elevation.	Survey and placement records will document PAG placement footprint, elevation, and quantity.
Long-term containment	Iceberg will fill naturally to form a pit lake. Saturation will limit oxygen exposure and reduce sulphide oxidation.	PAG waste rock will remain submerged within the Iceberg pit lake below the predicted long-term pit-lake elevation.	Pit-water levels and water quality will be monitored under the WaMP and Rehabilitation and Closure Plan.

Table 4.29 Summary of PAG Waste Rock Identification and Handling

Stage	Identification or handling approach	Material destination or action	Verification and records
Reconciliation and adaptive management	Predicted PAG distribution and quantities will be compared with sampling results, excavated quantities, haulage records, surveyed placement locations, and monitoring results.	If conditions differ from predictions, responses may include increased sampling, revised excavation limits, revised haulage sequencing, controlled temporary storage, material relocation where practicable, or another accepted PAG-management measure.	Reconciliation and monitoring results will be reviewed under the ML/ARD Management Plan and used to update procedures, where warranted.

4.3.5.4 Selective Excavation, Haulage and Tracking

Geochemical results will be integrated with geological information and short-term mine plans to delineate PAG and non-PAG mining areas before excavation, to the extent practicable. Blast areas and excavation limits will be reviewed by the mine geology and engineering teams, and the resulting classifications and material destinations will be communicated to equipment operators before loading and haulage. Where the classification of waste rock cannot be resolved before excavation, the material will be managed as PAG until confirmatory testing is completed.

Following blasting, PAG and non-PAG waste rock will be excavated and hauled as separate material streams, to the extent practicable. The destination for each material type will be incorporated into mine-production instructions and the dispatch or load-tracking process.

The Project will maintain records of the source and destination of PAG waste rock. Records will document, as applicable, the source pit, lithology, mining area or bench, material classification, quantity, haulage date, and placement location within the Iceberg pit. Survey and production records will be used to reconcile the quantities of PAG waste rock excavated from Keats with the quantities placed in Iceberg.

4.3.5.5 Placement in the Mined-Out Iceberg Pit

The sequencing of the open pits provides the principal mechanism for subaqueous management of PAG waste rock. The current mine plan anticipates that most PAG waste rock will be encountered in Keats during the later years of mining. Iceberg is expected to be mined earlier and will therefore be available to receive PAG waste rock from Keats.

PAG waste rock will be placed within the mined-out Iceberg pit below the predicted long-term pit-lake elevation. Placement areas will be incorporated into the detailed mine plan and will account for pit geometry, geotechnical stability, access, backfill capacity, water management, and the predicted pit-lake elevation. The location and elevation of placed PAG waste rock will be documented through mine survey and material-tracking records.

Material placed below the predicted final pit-lake elevation is expected to remain permanently inundated after closure. Iceberg will be allowed to fill naturally and form a pit lake, limiting long-term exposure of PAG waste rock to atmospheric oxygen and thereby reducing sulphide oxidation.

The current mine sequence is intended to allow PAG waste rock from Keats to be hauled directly to the mined-out Iceberg pit as it is generated. If direct placement is temporarily unavailable because of operational, geotechnical, water-management, or safety constraints, PAG waste rock will be properly managed until placement is available.

4.3.5.6 Verification and Adaptive Management

The effectiveness of PAG/non-PAG separation and subaqueous placement will be verified through operational reconciliation of:

- Predicted and observed PAG distribution
- Geochemical sampling and classification results
- Excavated PAG quantities
- Haulage and dispatch records
- Surveyed placement locations and elevations within Iceberg
- Contact-water monitoring results

The separation and placement approach will be reviewed if operational sampling indicates that PAG waste rock occurs outside predicted areas, the quantity of PAG material differs materially from current estimates, mine sequencing does not allow direct placement in Iceberg as planned, the predicted pit-lake elevation or flooding conditions change, monitoring of waste rock or WRSF drainage chemistry identifies inconsistent results with the geochemical assessment.

Potential adaptive responses include increased sampling, refinement of geological and geochemical interpretations, adjustment of blast or excavation limits, revised haulage sequencing, establishment of controlled temporary storage, relocation of misplaced material where practicable, or evaluation of another accepted PAG-management method. Section 4.5.4.2 of the Environmental Registration identifies composite base liners, encapsulation, layering, and drainage collection as potential management strategies that may be considered in the Rehabilitation and Closure Plan (RCP) where subaqueous placement alone is not practicable.

Detailed procedures, responsibilities, sampling and testing requirements, communication protocols, material-tracking methods, Iceberg placement limits, monitoring requirements, and contingency measures will be documented in the Project ML/ARD Management Plan. These procedures will be aligned with the detailed mine plan, WaMP, EPP, and RCP.

4.3.6 Transportation Infrastructure, Access Management, and Road Maintenance

The Project will use the provincial road network, including the TCH, for the transportation of personnel, supplies, equipment, and ore. During operation, traffic is expected to consist of approximately 80 passenger vehicles for day shift and 40 passenger vehicles for night shift, as well as general freight and equipment transport vehicles accessing the site throughout the day. Ore will be transported from the Project site to the Pine Cove processing facility via 30-to-40-tonne (t) haul trucks. It is anticipated that 10 trucks will complete two round trips per day between the Project and Pine Cove. The proposed transportation route will use the site access road, TCH, and Route 410 to the Pine Cove processing

facility. No overweight or over-dimensional loads on the provincial road network have been identified for the operation phase of the Project. Ore haulage is proposed using trucks operating within the legal gross vehicle weight limit of 54.3 t for tridem tractor-trailer combinations.

A traffic assessment was completed for the Project which indicates that the main roads and intersections in the area are expected to operate within acceptable limits, and the Project is not expected to materially affect operations on the TCH (WSP 2026). Details on traffic safety effects associated with mine access and transportation activities are discussed in Section 5.6.7.

As discussed in Section 4.2.6 of this EPR, a new site access road will be constructed as part of Project development to provide access to the mine site from the TCH. This site access road will cross the T'Railway and will serve as the primary access route for employee transportation, supply deliveries, and ore haulage during operations. Access to the Project site will be controlled through a site entrance gate and associated security infrastructure, located beyond the T'Railway crossing. Public access along the site access road will remain available up to the site entrance gate; however, access beyond the gate into the active mine site will be restricted to authorized personnel, contractors, and approved visitors. New Found Gold will continue to engage with Crown Lands and other applicable regulators regarding access management for land users.

Maintenance plans for the upkeep of access roads, stream crossings, culverts, and other transportation infrastructure will be implemented throughout the life of the Project. Relevant maintenance and inspection measures are incorporated into Project design and will be addressed through routine operations and the EPP (Appendix B). Site roads will be routinely inspected and maintained throughout the life of the Project. Maintenance activities will include grading; pothole repair; replacement of surfacing materials; dust suppression; snow and ice removal; inspection and maintenance of culverts, ditches, and drainage infrastructure; vegetation management to maintain sightlines; maintenance of signage and traffic control devices; and repair of erosion or drainage-related issues. Inspection and maintenance activities will be undertaken as required to maintain safe access, protect road infrastructure, and reduce environmental effects.

4.3.7 Dust Suppressants

An adaptive management approach will be implemented through the EPP to control and reduce dust throughout the life of the Project. Water or an approved chemical dust suppressant will be used to stabilize the surface of Project unpaved roads that may generate fugitive dust. Dust suppression will be applied on an as-needed basis during dry and high wind conditions or if measured ambient particulate matter concentrations are exceeding trigger levels to be established below the NL AQS as an early warning signal. Chemical dust suppressants that could be used include calcium chloride, lignosulfonates (lignin-based) natural binders derived from wood-pulp processing and sustainably managed trees, synthetic organic products, or plant derived emulsions. New Found Gold will review and further define the preferred dust suppressant(s) as part of detailed design in consideration of effectiveness per application, cost and environmental aspects. The application of chemical dust suppressants as an alternative option to watering will be considered in consultation with the Water Resources Management Division of NLDECCC prior to use. Further, these suppressants, if required, will be applied as per the manufacturer's recommendations and as described in the EPP (Appendix B).

4.3.8 Chemicals and Hazardous Materials

Chemicals and hazardous materials, as discussed in Section 4.7.6 of the Environmental Registration, that may be used during Project operations include, but are not limited to, fuels, hydraulic fluids, oils and greases, cleaning products, solvents, paints and coatings, aerosol products, propane, lithium and nickel-cadmium batteries, biomedical waste (e.g., bandages, gloves, needles, dressings), and waste oils. Safety Data Sheets will be maintained for hazardous products used onsite and materials will be stored, handles, transported, and disposed of in accordance with applicable regulatory requirements and manufacturer specifications.

New Found Gold has a Waste Management Plan (WMP) in place to provide information and protocols for disposal of hazardous waste and chemicals during exploration activities. This WMP will be reviewed and updated to reflect the scope of the Project and will be submitted to the Waste Management Section of Pollution Prevention Division for review prior to construction. Note that as ore processing will not occur at the Project site, reagents (including cyanide) typically required for gold processing will not be used onsite.

4.3.9 Operation Air Emissions

During operation, Project activities that will result in airborne dust, combustion gas, greenhouse gases (GHGs), and other emissions include blasting, extraction of ore, crushing, material handling, transportation, and use of diesel- and gas-powered equipment. Emissions inventories (in Appendix 4.B and Appendix 7.A of the Environmental Registration) were developed for the peak year of operation using available Project design details and recognized emission factors (i.e., Environment and Climate Change Canada [ECCC] and United States Environmental Protection Agency AP-42). As discussed in Section 4.2.7, since submission of the Environmental Registration New Found Gold has further optimized the mine plan to identify a scenario that maintains compliance with NL AQS while allowing activities to continue with enhanced dust mitigation and smaller adjustments to mining activities. These measures include more frequent watering of roads and material during transfer, and watering of the crushing operations during dry and windy periods, along with the potential for optimized hauling frequencies (e.g., adjusting overall on-site truck traffic by temporarily limiting hauling of waste rock or overburden while maintaining hauling of ore). Modelling of this optimized operation scenario is presented in Section 5.2.3 and demonstrates full-time compliance with the NL AQS (as well as those air quality standards adopted from other jurisdictions) can be met through scaling of dust control measures in response to ambient conditions.

The GHGs that are relevant for the Project are carbon dioxide, methane, and nitrous oxide. Other GHGs are not expected to be present or may be present in small quantities in contained systems but would not be in reportable amounts. GHG emissions will be released during the construction and operation phases of the Project. The main source of GHG emissions during construction is fuel combustion in stationary and mobile equipment. The fuel used in heavy construction equipment is primarily diesel, a fossil fuel which produces GHGs when combusted.

Operational GHG emissions were estimated for each year of operation based on anticipated on-site equipment fuel use, explosives use, and electricity consumption. As summarized in Table 4.30, direct annual GHG emissions during operation are estimated to range from 9,083 to 24,643 tonnes of carbon dioxide equivalent (t CO_2e), with peak direct emissions occurring in Year 5. The Project is therefore expected to exceed the 15,000 t CO_2e annual reporting threshold under the NL *Management of Greenhouse Gas Act* during Years 2 through 6 and will be required to quantify and report its operational GHG emissions. However, the estimated peak direct emissions of 24,643 t CO_2e are below the 25,000 t CO_2e threshold for application of the *Management of Greenhouse Gas Regulations*. Additional information on GHG reporting obligations and the implementation of best available control technology measures is provided in Section 5.2.5. Details on the calculation methods used to estimate operation emissions are provided in Appendix 4.B of the Environmental Registration.

Table 4.30 Annual GHG Emissions During Operation

Parameters	Unit	Year							
		1	2	3	4	5	6	7	Total
On-site Equipment	t CO_2e	9,278	21,530	21,789	21,874	24,028	19,938	8,992	127,430
Blasting	t CO_2e	273	546	511	599	615	405	91.0	3,040
Electricity Use	t CO_2e	117	129	113	111	107	105	103	784
Total Direct	**t CO_2e**	9,551	22,076	22,300	22,472	24,643	20,343	9,083	130,470
Total Direct and Indirect	**t CO_2e**	9,668	22,205	22,413	22,583	24,750	20,448	9,186	131,254

4.3.10 Effluent Characterization and Regulatory Compliance

The expected untreated mine water quality produced by the Project mine infrastructure (e.g., open pit, waste rock pile, overburden pile) was estimated using a water quality model, including quality of surface water runoff and seepage to groundwater systems and intercepted by seepage collection/perimeter ditches. The water quality model was developed in combination with the site-wide water balance model in GoldSim™ (Section 9.4.2.1 and Appendix 9.A of the Environmental Registration). The water quality model results for mine water collected by and discharged from the sedimentation ponds and ultimately sent to the FDPs (1. P Pond [P9] and 2. North Hermans Pond [P1]) was compared to regulatory guidelines to identify POPC) (Figure 4.10). The *Environmental Control Water and Sewage Regulations*, under the NL *Water Resources Act*, regulate the discharge of sewage and other effluent and specifies that the metal mining industry must comply with the MDMER. In addition, the baseline water quality monitoring program for the Project identified pH (in situ) and total aluminum with 25th and 75th percentile values, respectively, that exceeded the CCME CWQG-FAL in local watercourses and waterbodies. Watercourses were also observed to have total iron as a POPC.

The surface water runoff from intercepted groundwater surface water runoff and seepage from the WRSF and ore stockpile areas by perimeter ditches is predicted by the water quality model to have arsenic concentrations that exceed the MDMER value. Collected contact water from these WRSF and ore stockpile areas will be directed to a mine water treatment plant for arsenic treatment that will meet MDMER discharge criteria prior to discharge to the environment via the FDPs. A further description of the water treatment process is included in Section 5.3.5 of this EPR.

The predicted effluent quality during operation and active closure and pit overflow water for the post-closure periods with mine water treatment was then input into an assimilative capacity study to assess the mixing zone within the FDP receivers (Appendix 9.B of the Environmental Registration) and is summarized in Table 4.31.

With respect to seepage quality below the overburden, WRSF and ore stockpile areas, it is predicted to exceed the MDMER discharge criteria for arsenic (Appendix 8.A of the Environmental Registration, Section 8), with the seepage collection ditches around the perimeter of the piles to be designed to intercept and collect this seepage. As part of detailed design development, seepage collection systems will be developed as required, which may include interception wells or deep sumps to collect the seepage prior to it reaching local receivers. Interceptor wells and deep sumps are commonly used in management of contaminated seepage at mine sites to reduce POPC loads to local surface water receivers (NLDEC 2005). Hydrogeologic studies will be conducted with additional monitoring wells, and updates to the groundwater model will be developed to support design of the seepage collection systems. The results of the updated groundwater model will be used to develop a seepage-surface water mixing assessment within local surface water receivers to confirm the predicted surface water concentration from the assimilative capacity study (Section 9 of the Environmental Registration) and support construction and operations monitoring.

Seepage from the WRSF is also predicted during post-closure to exceed the MDMER discharge criteria for arsenic (Chapter 8 of the Environmental Registration). As the Project progresses, the groundwater model will be updated to assess potential groundwater seepage pathways and support design of passive treatment systems within the existing seepage collection ditches, or installation of additional measures, including permeable reactive barriers, and retrofitting deep sumps and seepage collection ditches as passive treatment systems.

To maintain regulatory compliance for the effluent discharge, a surface water monitoring program will be developed in support of the Project and the WaMP (Appendix 4.A of the Environmental Registration). The monitoring program will be developed prior to construction and submitted to NLDECCC for review and approval. The MDMER and NLDECCC Certificate of Approval have effluent monitoring requirements for the Project to confirm compliance with discharge criteria. The monitoring program will include sampling at the FDPs and at locations in the downstream receivers with regulatory reporting confirming compliance with MDMER discharge criteria. If discharge quality criteria are observed to be exceeded at the FDPs, discharge will stop and investigations will be conducted using adaptive management approaches to bring discharge quality into compliance. The surface water monitoring program will also compare to CCME CWQG-FAL guidelines and baseline water quality results to confirm the effectiveness of surface water management measures and that the Project is within the predicted changes outlined in the Environmental Registration and this EPR. This includes assessing downstream receiver water quality to confirm that seepage collection systems around the mine rock and overburden storage facilities are intercepting stockpile seepage as required. In addition, a groundwater monitoring program will be developed including groundwater monitoring wells around the mine infrastructure, including stockpiles to assess potential changes in groundwater quality, particularly within seepage plumes, to confirm that seepage collection systems are functioning as designed.

Table 4.31 Summary of PoPC Concentrations in Effluent, Pit Overflow, and Receiving Waterbodies

Parameter	Units	CWQG-FAL (Long term)	Maximum Average Monthly MDMER Limit	Initial Receiver Concentration		Gander River* Concentration		95th percentile for FDP Discharge (Year 1 – Year 10) ***	Average Water Quality for FDP in Year 6 (Average Scenario)	Monthly Average (Post-Closure; Mine Year 26 Month 04)
				75p	Average	75p	Average			Keats Overflow
Arsenic (As)	mg/L	0.005	0.1	0.004	0.0029	0.0005[3]	0.0005[3]	0.064	0.054[5]	0.093
Copper (Cu)	mg/L	0.002[1]	0.1	0.0005[3]	0.0005[3]	0.00025[3]	0.00025[3]	0.004	0.002	0.0010
Lead (Pb)	mg/L	0.001[1]	0.08	0.00025[3]	0.00025[3]	0.00025[3]	0.00025[3]	0.0006	0.0005	0.0003
Nickel (Ni)	mg/L	0.025[1]	0.25	0.001[3]	0.001[3]	0.0013[3]	0.0013[3]	0.003	0.002	0.001
Zinc (Zn)	mg/L	0.019[1]	0.4	0.0025[3]	0.0025[3]	0.0013[3]	0.0013[3]	0.015	0.010	0.006
Unionised Ammonia	mg/L as N	0.019	0.5	0.00005[4]	0.00005[4]	0.00005[3]	0.00005[3]	0.00008	0.00004	0.00001
Fluoride (F)	mg/L	0.12	-	0.06[3]	0.06[3]	0.003[3]	0.003[3]	0.31	0.20	0.10
Phosphorous (P)	mg/L	Framework[2]	-	0.014	0.018	0.005	0.004	0.114	0.093[5]	0.068
Aluminum (Al)	mg/L	0.1[1]	-	0.14	0.15	0.13	0.13	0.31	0.180	0.05
Cadmium (Cd)	µg/L	0.04[1]	-	0.0085[3]	0.0085[3]	0.02[3]	0.02[3]	0.06	0.03	0.01
Chromium (Cr) (VI)	mg/L	0.001	-	0.0005[3]	0.0005[3]	0.00025[3]	0.00025[3]	0.002	0.002[5]	0.001
Mercury (Hg)	µg/L	0.026	-	0.013[3]	0.013[3]	0.01[3]	0.01[3]	0.04	0.03	0.02
Selenium (Se)	mg/L	0.001	-	0.0005[3]	0.0005[3]	0.00025[3]	0.00025[3]	0.003	0.002	0.0009
Silver (Ag)**	mg/L	0.00025	-	0.00005[3]	0.00005[3]	0.00005	0.00005	0.0004	0.0002	0.00013

Notes:
75p – 75th percentile
* Gander Lake water quality is assumed to be representative of water quality in the Gander River
** Parameter was not sampled in Gander Lake. Concentrations were assumed to be consistent with those measured in other receiving waterbodies
*** Based on monthly average water quality model results
[1] CWQG-FAL calculated using a hardness value of 20.5 mg/L as calcium chloride, pH 6.72, and DOC of 7.4 mg/L
[2] CWQG-FAL long-term framework for total phosphorus provides the following trigger ranges: ultra-oligotrophic <0.004 mg/L; oligotrophic 0.004-0.01 mg/L; mesotrophic 0.01-0.02 mg/L; meso-eutrophic 0.02-0.035 mg/L; eutrophic 0.035-0.1 mg/L; hyper-eutrophic >0.1 mg/L
[3] More than 50% of samples were below the detection limit. A value equal to ½-detection limit was assumed.
[4] Unionized ammonia was calculated using pH (receiver 6.72; effluent 6), temperature (average 11.7°C; 75th percentile 19°C).
[5] Concentration calculated to match peak loading year during Year 1-10

4.3.11 Land Use, Access Management, and Stakeholder Communications

During operation, the Project may affect existing land uses, recreational access, tourism activities, outfitting operations, use of the T'Railway, and other transportation corridors through increased traffic associated with employee transportation, supply deliveries, and highway truck haulage of ore to the Pine Cove processing facility; restricted access to the Project Area; and Project-related noise, dust, visual disturbances, emissions, discharges, and wastes. Public access along the site access road will be maintained up to the mine site entrance; however, access beyond the site entrance gate will be restricted to authorized personnel. The Project will use the TCH and site access road for employee transportation, supply deliveries, and highway truck haulage of ore to the Pine Cove processing facility, resulting in increased traffic along these transportation corridors. The T'Railway will remain accessible during operation, with safety features incorporated where the site access road intersects the trail. Project-related noise, dust, and visual disturbances may affect the quality of hunting, trapping, fishing, outfitting, tourism, and other recreational activities in the vicinity of the Project and may displace wildlife species harvested by local resource users, potentially affecting harvesting success. Proposed access and traffic management measures include controlled access to the Project Area, signage, advance communication of activities that may affect use of the access road, and ongoing engagement with land users, resource users, and local outfitters throughout the life of the Project.

New Found Gold will communicate Project activities that may limit or affect use of the access road, including road use, temporary access restrictions, and other operational matters, in advance to affected land and resource users, environmental non-government organizations, the provincial government, and local authorities. Information may be communicated through local town councils, local radio stations, social media, and other engagement and communication mechanisms implemented by New Found Gold throughout the life of the Project.

During operation, New Found Gold will provide community updates and maintain Community Participation Committee meetings. If concerns or complaints related to Project activities are received, New Found Gold will work with affected land users to address their concerns through a grievance redress mechanism and the potential implementation of additional mitigation measures, as needed. Additional information regarding the grievance management procedure is provided in Section 5.1.6 of the Environmental Registration.

5 Potential Environmental Effects and Mitigation

The Environmental Registration previously submitted to government for this Project was prepared to meet the requirements under the NL *Environmental Protection Act.* The scope of the assessment encompassed the proposed Project components and activities, an understanding of the existing environmental conditions and sensitivities, relevant regulations, policies, and guidelines, insights gained from stakeholder engagement to date, as well as the professional experience and expertise of New Found Gold and its consultants. The method used a precautionary and conservative stance, with assumptions intentionally structured to overestimate potential adverse effects.

The assessment in the Environmental Registration considered both the geographic areas where Project-related environmental and socio-economic effects may occur and the time periods during which those effects could arise. Spatially, the assessment included the Project Area, where direct physical disturbance will occur; the Local Assessment Area (LAA), where Project-related effects can be measured or predicted; and the broader Regional Assessment Area (RAA), which provides context for baseline conditions and the assessment of residual effects. Temporal boundaries encompassed all Project phases, including construction and early works (anticipated from late early to mid-2027), operations beginning in Q3 2027 with an expected seven-year mine life, and rehabilitation and closure activities, which are anticipated to occur over approximately three years starting in 2034, with progressive rehabilitation occurring throughout the life of the Project.

The Environmental Registration provided an assessment of the following valued components (VCs):

- Atmospheric Environment (Chapter 7 of the Environmental Registration)
- Groundwater Resources (Chapter 8 of the Environmental Registration)
- Surface Water Resources (Chapter 9 of the Environmental Registration)
- Fish and Fish Habitat (Chapter 10 of the Environmental Registration)
- Terrestrial Environment, including SAR and species of conservation concern (SOCC) (Chapter 11 of the Environmental Registration)
- Communities (Chapter 12 of the Environmental Registration)
- Land and Resource Use (LRU) (Chapter 13 of the Environmental Registration)
- Historic Resources (Chapter 14 of the Environmental Registration)

The assessment identified potential Project interactions with each VC, developed technically and economically feasible mitigation measures to avoid, reduce, or manage adverse effects, and then evaluated the residual effects that remain after mitigation. Residual effects were assessed using available scientific information, monitoring data, community, stakeholder, and Indigenous input, and were characterized based on their magnitude, geographic extent, duration, frequency, reversibility, and likelihood, with significance determined using VC-specific criteria. Where appropriate, follow-up and monitoring programs were identified to verify assessment predictions, evaluate mitigation effectiveness, and confirm compliance with applicable regulatory requirements. Mitigation measures and contingency approaches identified in the Environmental Registration, along with management plans and policies that will be developed or updated for the Project, will be implemented to avoid or reduce potential residual effects on the VCs. Based on the assessment and application of these measures, routine Project activities are not expected to result in significant adverse environmental effects on the VCs.

The following sections provide an overview of the assessment for the selected VCs and present additional information requested in the EPR Guidelines. Where applicable, each section summarizes the relevant existing conditions, potential Project-environment interactions, proposed mitigation measures, and follow-up or monitoring commitments. Throughout the EA process, New Found Gold has consulted with applicable regulators on several key topics: design of field programs and associated permit applications; results of field programs and potential implications for Project design and mitigation; and findings of the Environmental Registration prior to submission of the document for government review. New Found Gold has and will continue to engage with regulators with respect to requirements in the EPR Guidelines, information presented in this EPR, post-EA conditions of release, permits and approval, and the development of monitoring and management plans.

5.1 Land Ownership, Land Use Planning, and Adjacent Receptors

In the Environmental Registration, land ownership in the Project Area was described in Section 4.1 (Geographical Location) and 4.1.1 (Land Tenure). Section 4.1.2 (Environmental Setting) provided an overview of the physical, biological, and socio-economic environments, including land use planning information and details about adjacent receptors (Section 4.1.2.7). The Project's predicted air contaminant, noise emissions, and light effects are described in Sections 4.7.1, 4.7.2, and 4.7.3 of the Environmental Registration, respectively. Section 5.1.1 of this document provides an overview of the information presented in the Environmental Registration on these topics to provide context for reviewers of this EPR. Additional information has been provided for the specific topics outlined in the EPR Guidelines as identified in Table 5.1, which summarizes the applicable EPR requirements and identifies where each is addressed.

Table 5.1 EPR Guidelines Requirements Related to Land Ownership, Land Use Planning and Adjacent Receptors

Guideline Requirement	EPR Section
Assess the potential effects of the Project on nearby residences, institutions, cabins, tourist and commercial establishments, farms and other land users, including the effects of noise, light, vibrations and mining vehicles and equipment, and identify measures to avoid or mitigate adverse effects and land-use conflicts.	Sections 5.1.1 and 5.1.2

5.1.1 Summary of Land Ownership, Land Use Planning, and Adjacent Receptors from the Environmental Registration

The Project Area is located primarily on provincial Crown land and is situated adjacent to the Town of Appleton, slightly overlapping (4,980 m²) the municipal boundary and its Land Use Planning Area. The Project specifically overlaps the Industrial Park Zone and Resource Zone outlined in the 2017-2027 Municipal Plan and associated Development Regulations; consequently, municipal permits for the Project are anticipated. Land tenure within and adjacent to the Project Area includes Crown land grants and leases associated with the Town of Appleton, New Found Gold, Newfoundland Power, NL Hydro, utility RoWs, and private cabin owners.

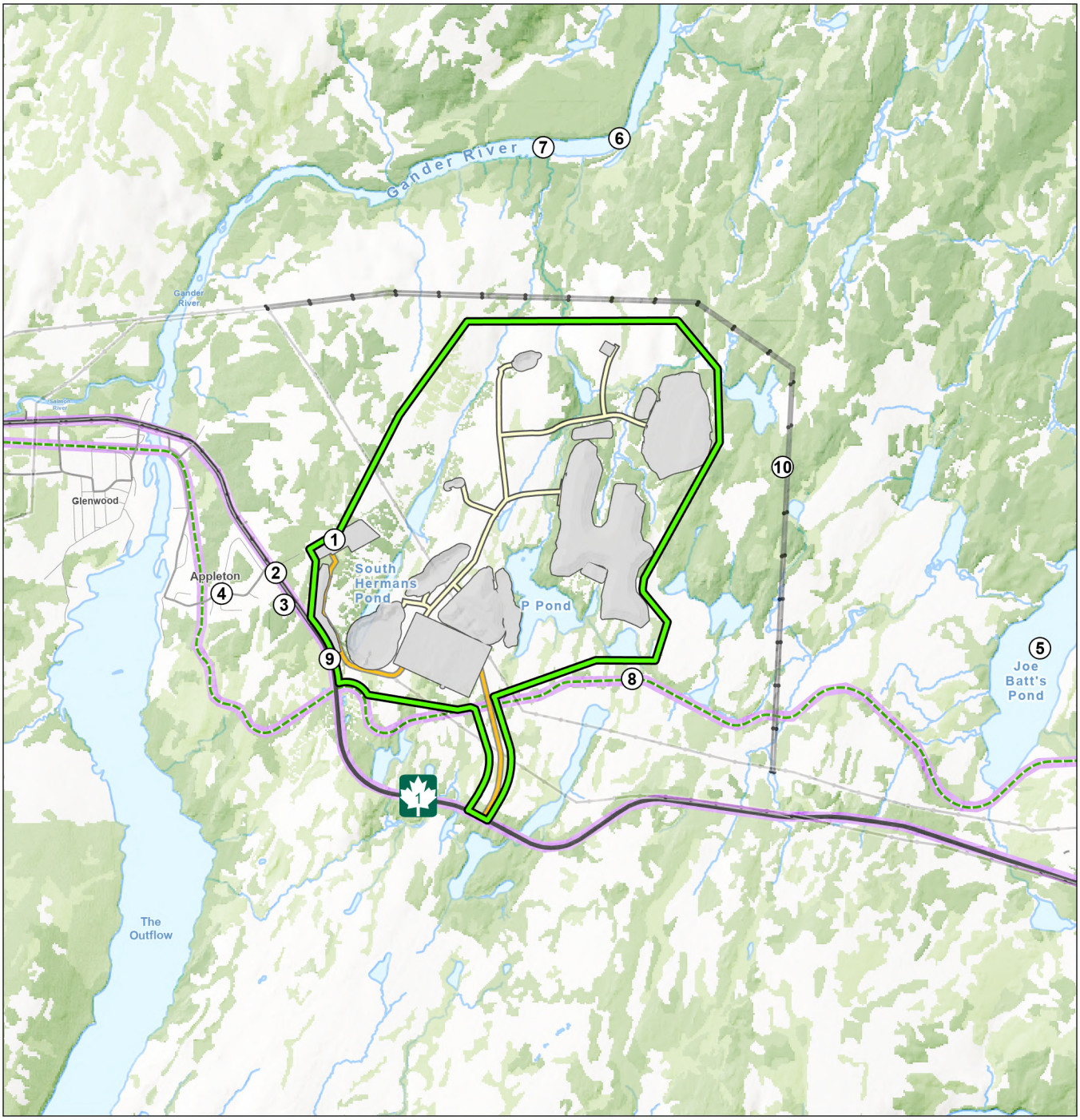
There is a cabin located within the Project Area without an associated grant or lease in the land use atlas, and two cabins with associated land grants located immediately adjacent to the Project Area. The closest of these latter two seasonal dwellings is located approximately 55 m from the Project Area and approximately 370 m from the closest Project component. Note that New Found Gold is currently working with cabin owners in close proximity to the Project regarding purchase or relocation prior to Project construction, and therefore these cabin locations were not selected as representative receptors. The closest residence in the Town of Appleton is located approximately 240 m from the Project Area and approximately 250 m from the noise berm and 610 m from the closest open pit (Keats).

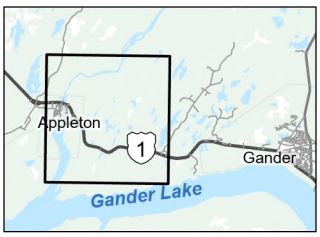
The Project Area is also located near the communities of Glenwood and Gander, and is accessible via the TCH and a network of existing resource roads and trails. Recreational land uses in the surrounding area include hunting, fishing, berry picking, hiking, and cabin use. Other land uses and receptors in the vicinity include the Gander Lake PPWSA, the T'Railway, agricultural leases, utility transmission and fibre corridors, and various Crown land interests. Existing transmission and fibre optic RoWs that overlap the Project Area are being considered through ongoing discussions with NL Hydro, Newfoundland Power, and Bell Aliant regarding potential corridor relocations to accommodate Project development.

5.1.2 Potential Effects on Adjacent Land Uses and Receptors

Potential effects on nearby residences, cabins and seasonal dwellings, tourist operations, commercial resource users, recreational users, travellers, and other land users were identified as key issues from the public and are reflected in the EPR Guidelines. These potential effects include noise, light, ground vibration, airblast, visual disturbance, restricted access, and increased movements of heavy equipment and vehicles. While these issues were assessed in the Environmental Registration, the results have been presented in this section using a focused set of representative receptors and locations selected to characterize areas most likely to experience Project-related effects, as well as valued locations identified through public feedback. Note that New Found Gold is currently working with cabin owners in close proximity to the Project regarding purchase or relocation prior to Project construction, and therefore these cabin locations were not selected as representative receptors. As shown on Figure 5.1, the selected receptors include nearby buildings / residences, the Town of Appleton, Appleton Industrial Park, recreational fishing locations on the Gander River, the T'Railway, the TCH, and a resource road. For the Gander River, TCH, and other linear features, assessment locations were intentionally selected where local topography and viewing conditions provided the greatest potential for interaction with the Project and therefore represented a conservative assessment approach.

Table 5.2 summarizes the overall pattern of what people may notice from Project-related sound, visibility, ground vibration, and airblast (Tables 5.3 to 5.5). Table 5.2 also identifies where Project infrastructure may be visible, with the detailed viewshed results shown on Figures 5.2 to 5.4. The analysis identified areas of the proposed development that may be theoretically visible from each receptor, considering topography, proposed site features, and vegetation screening.





Notes
1. Coordinate System: NAD 1983 CSRS UTM Zone 21N
2. Data Sources: Stantec; New Found Gold Corp.; GovNL Department of Forestry, Agriculture and Lands; CanVec NRCan. Contains information licensed under the Open Government License - Governments of Canada and Newfoundland and Labrador.
3. Tree canopy derived from GovNL Forestry Database and updated to reflect known and proposed tree clearing.
4. Background: Government of Newfoundland and Labrador; NRCan CanVec; Esri, NASA, NGA, USGS

Legend

- Potential Receptor
- Transportation Corridor
- Project Area

Proposed Project Layout

- Access Road
- Haul Road
- Proposed Site Features

Forest Canopy Height (m)[3]

18.6

0

Existing Infrastructure

- Transmission Line
- Proposed Transmission Line (Re-routing)
- Highway
- Collector
- Local Road
- NL T'Railway Provincial Park

Waterways

- Watercourse
- Waterbody

0 0.5 1 1.5 km

(At original document size of 8.5x11)
1:55,000

N

Stantec

Project Location
Appleton,
Newfoundland and Labrador

Prepared by NW on 2026-09-10
QR by GC on 2026-10-26

Client/Project
New Found Gold Corp.
Queensway Gold Project

121418830_026

Figure No.
5.1

Title
Land Use Receptors

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Table 5.2 What People May Notice at Nearby Locations

Location		What People May Notice				
	Latitude	Longitude	Sound (see Table 5.3)	Visibility	Ground vibration (see Table 5.4)	Airblast (see Table 5.5)
Appleton Industrial Park (Location 1)	48.98683	-54.84500	Noticeable Change	Small portion of noise berm visible (Figure 5.2)	Low	Moderate
Residence (Location 2)	48.98161	-54.85148	Noticeable Change	Small portion of noise berm visible (Figure 5.2)	Low	Low
Residence (Location 3)	48.98426	-54.85240	Some Perceived Change	Noise berm and associated road visible (Figure 5.2)	Very Low	Low
Town of Appleton (Location 4)	48.98267	-54.85922	Noticeable change	Not visible (Figure 5.2)	Very Low	Low
Joe Batt's Pond (Location 5)	48.97627	-54.75763	No perceived change	Small portion of the WRSF visible (Figure 5.3)	Very Low	Very Low
Fishing on Gander River (Location 6)	49.01902	-54.80810	Some perceived change	Small portion of the ore stockpile and haul roads visible (Figure 5.3)	Very Low	Low
Fishing on Gander River (Location 7)	49.01846	-54.81760	Some perceived change	Small portions of the WRSF, ore stockpile, and haul roads visible (Figure 5.3)	Very Low	Low
T'Railway (Location 8)	48.97474	-54.80846	Some perceived change	Portions of the WRSF, ore stockpile, industrial terrace, and haul roads visible (Figure 5.3)	Very Low	Low
TCH (Location 9)	48.97707	-54.84599	No perceived change	Open pits, ore stockpile, WRSF, industrial terrace, and haul roads visible (Figure 5.4)	Elevated	Elevated
Resource Road (Location 10)	48.99172	-54.78898	Some Perceived Change	Small portion of the overburden stockpile and WRSF visible (Figure 5.4)	Very Low	Low

Note: Symbols, words, and colours provide a general comparison with the examples in Tables 5.3 to 5.5. What people notice may vary with the activity, distance from the activity, local terrain, wind direction, and weather conditions.

Table 5.3 Qualitative Criteria for Changes in Noise Levels

Level	Change in Sound level	Description
No perceived change	Less than 3 dBA	• Noise from the project is either lower than or similar to existing noise levels during the day or night
Some Perceived Change	Between 3 and 6 dBA	• Noise from the project is higher than existing conditions but is still close to existing noises in the environment during the day or night
Noticeable Change	More than 6 dBA but less than Health Canada criteria for Nuisance	• Noise from the project is noticeably different from existing noise levels, however nuisance criteria established by Health Canada are not exceeded
Nuisance	Exceeds Health Canada Criteria for Nuisance	• Project exceeds Health Canada Criteria for nuisance levels of noise

Note:
A-weighted decibels (dBA) is a measure of sound adjusted to reflect how people generally hear it. The examples describe approximate changes in sound levels and do not represent predicted sound levels at the locations in Table 5.2.
Source: Health Canada 2023; Sound Decibel Meter Team 2026.

Table 5.4 Human Response to Blasting Ground Vibration (United States Bureau of Mines-based)

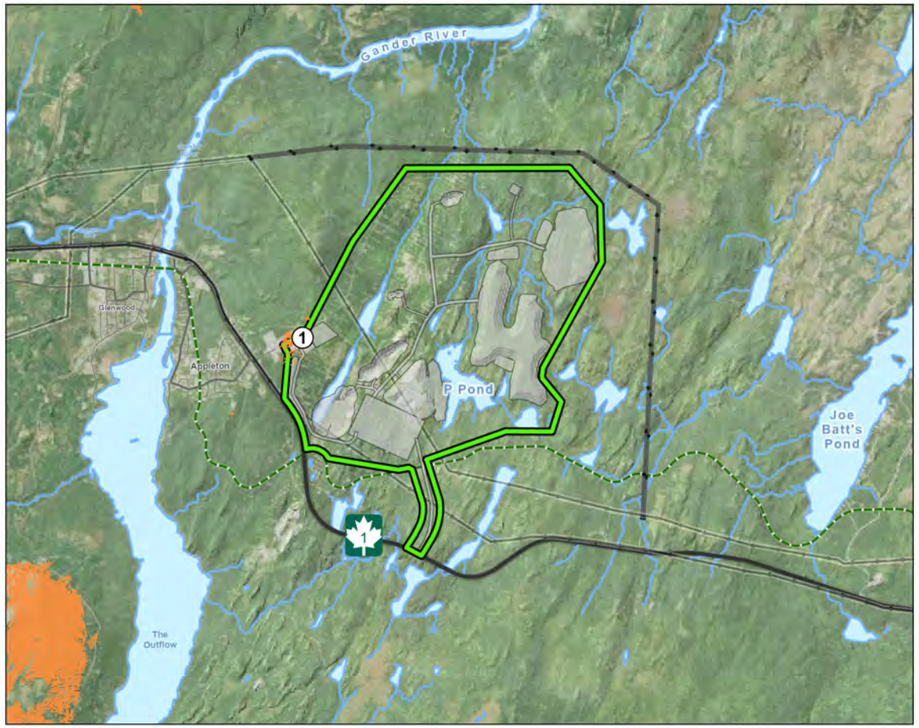
Level	What people may notice	PPV (mm/s)
Very Low	• Barely perceptible • Usually not noticed by most people • Well below levels typically associated with annoyance or complaints	<0.9
Low	• Perceptible to some occupants • Generally below annoyance levels • Complaints unlikely	0.9 to 2.5
Moderate	• Distinctly perceptible • Noticeable to many occupants indoors • May attract attention	2.5 to 6.1
Elevated	• Clearly felt by most people • Light rattling of loose objects possible	6.1 to 12.7
High	• Strongly perceptible to mildly unpleasant • Windows, dishes, or other objects may rattle	12.7 to 25.4
Very High	• Mildly to distinctly unpleasant • Strongly felt by occupants • Complaints become increasingly likely	25.4 to 50.8
Extreme	• Distinctly unpleasant to intolerable • Very disturbing to most people • High likelihood of complaints	>50.8

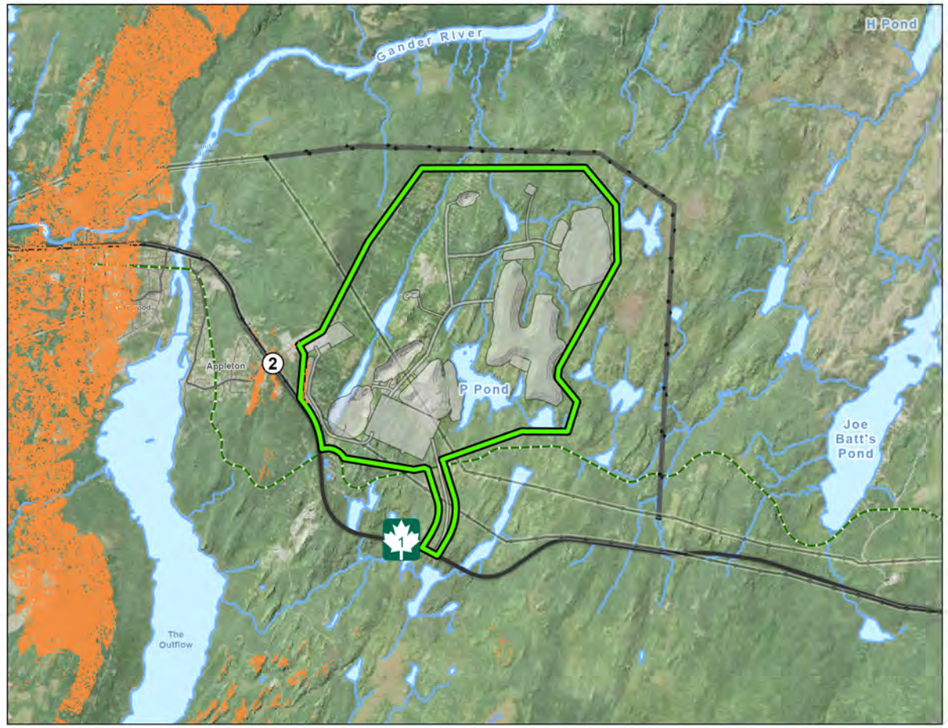
Notes:
PPV = peak particle velocity
mm/s = millimetre per second
Source: Adapted from Wiss (1974), as reproduced in RI 8507: Structure Response and Damage Produced by Ground Vibration from Surface Mine Blasting, and supplemented by Transportation and Construction Vibration Guidance Manual (2020).

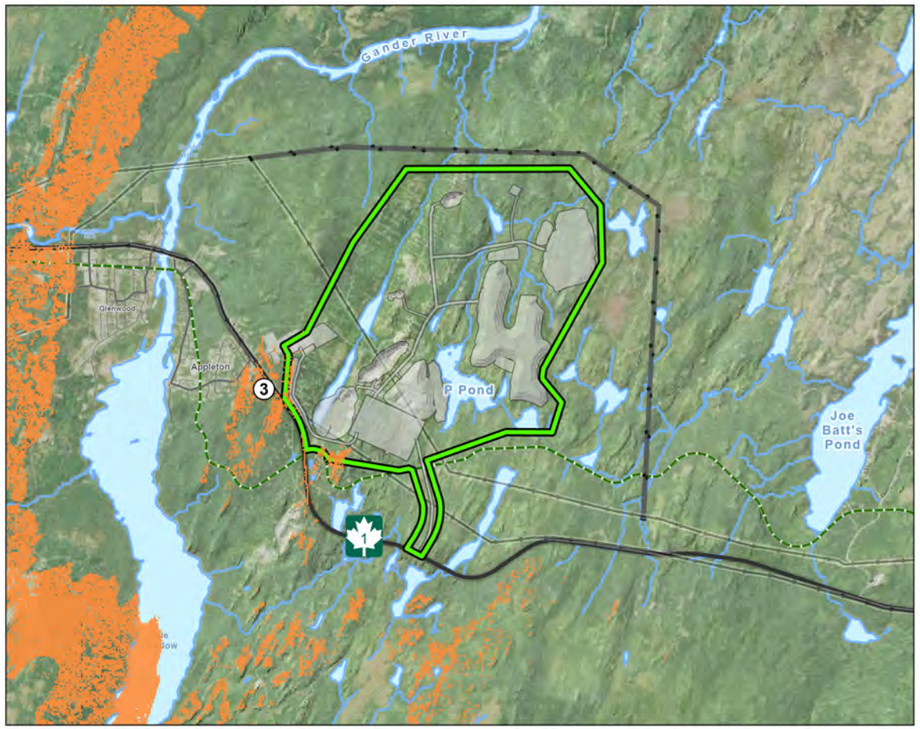
Table 5.5 Human Response to Blasting Air Overpressure (United States Bureau of Mines-based)

Level	What people may notice	Air Overpressure PPV (mm/s)
Very Low	• Barely audible • Generally unnoticed by most people • Complaints unlikely	<110
Low	• Barely audible • Generally unnoticed by most people during daily activities • Complaints unlikely	<110
Moderate	• Audible indoors and outdoors • Clearly noticeable to some residents • Generally acceptable	110 to 120
Elevated	• Readily noticeable by most people • May attract attention • Occasional light rattling of loose objects	120 to125
High	• Strongly noticeable • Light rattling of windows, dishes, or loose objects possible • Some residents may express concern	125 to 130
Very High	• Loud and potentially disturbing • Rattling commonly observed • Complaints increasingly likely	130 to 135
Extreme	• Very loud airblast • Significant nuisance potential • Strong public reaction and complaints likely	135 to 140

Notes:
PPV =
mm/s = millimetre per second
Source: Adapted from Siskind et al. 1980a, 1980b (United States Bureau of Mines RI 8485 and RI 8507); supported by Transportation and Construction Vibration Guidance Manual (California Department of Transportation 2020).







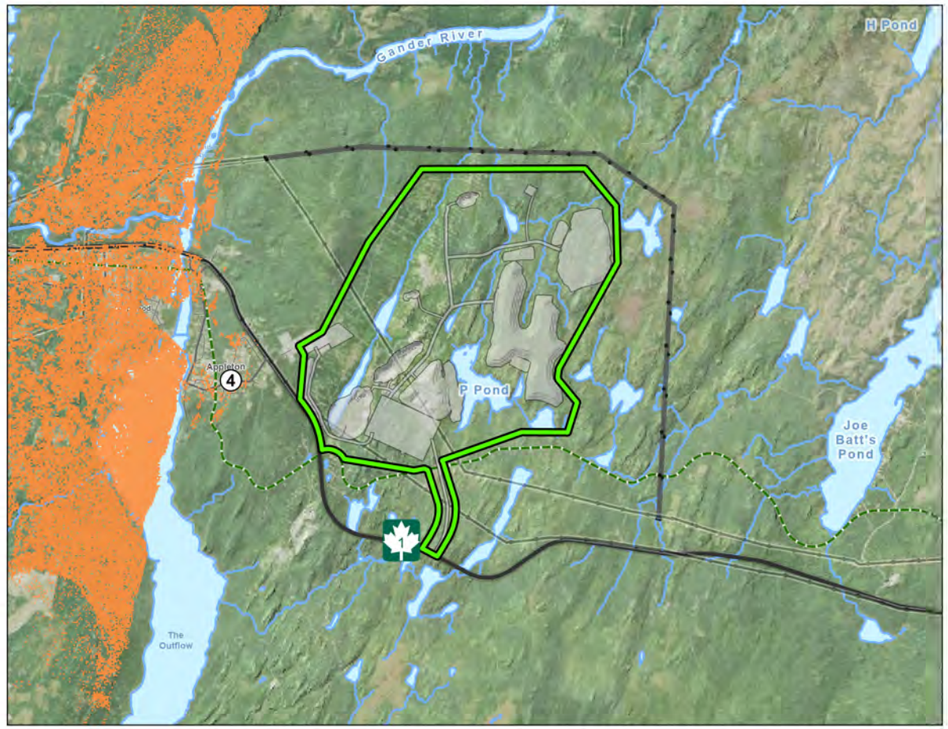


Figure No.
5.2

Title
Potential Visibility from Receptor Locations 1-4

Client/Project
New Found Gold Corp.
Queensway Gold Project

121418830_101a

Project Location
Appleton
Newfoundland and Labrador

Prepared by NW on 2026-09-24
QR by GC on 2026-09-26

N

0 0.5 1 1.5 2 km
(At original document size of 11x17)
1:70,000

Legend

- Potential Receptor
- Area Visible From Potential Receptor
- Project Area

Proposed Project Layout

- Access / Haul Road
- Proposed Site Features

Existing Infrastructure

- Transmission Line
- Proposed Transmission Line (Re-routing)
- Highway
- Collector
- Local Road
- NL T'Railway Provincial Park

Waterways

- Watercourse
- Waterbody

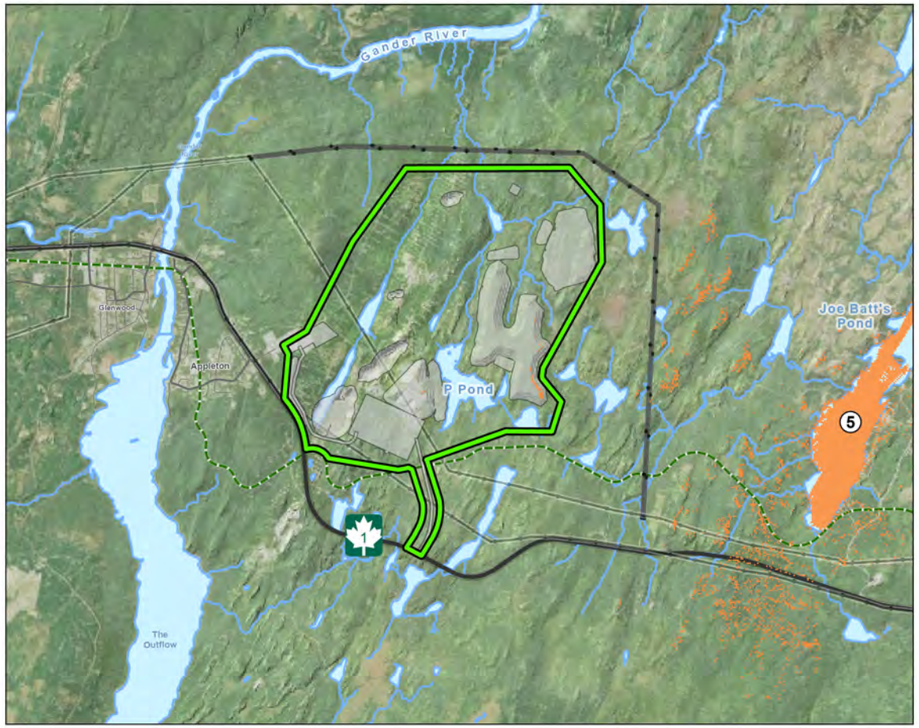


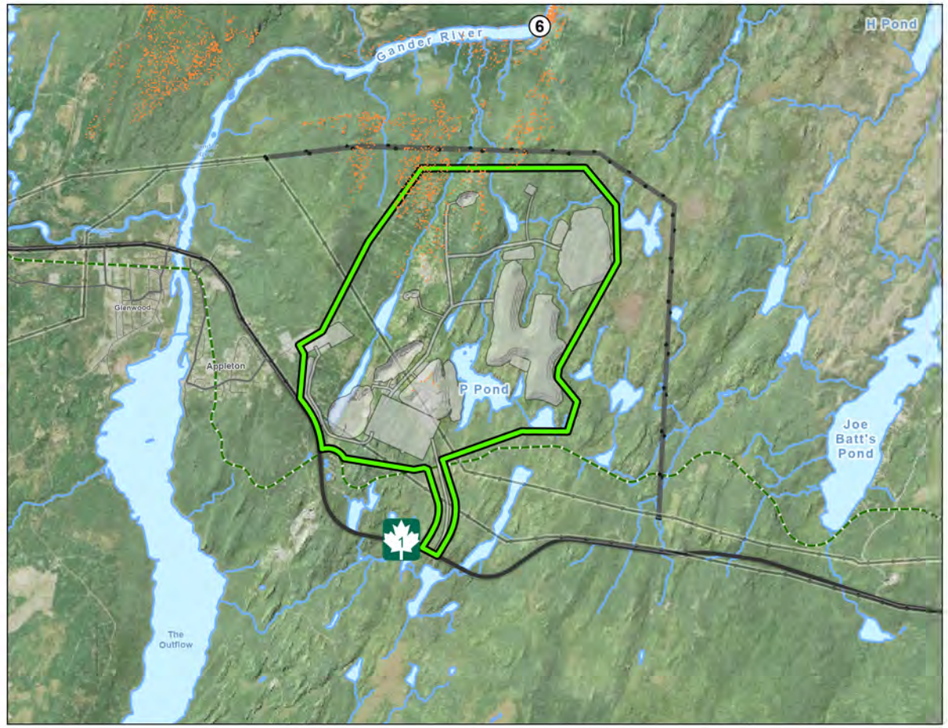
Notes
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2. Data Sources: Stantec; New Found Gold Corp.; GovNL Department of Forestry, Agriculture and Lands; CanVec NRCan. Contains information licensed under the Open Government License - Governments of Canada and Newfoundland and Labrador.
3. Background: Government of Newfoundland and Labrador; NRCan CanVec; Earthstar Geographics, Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community, Esri, NASA, NGA, USGS

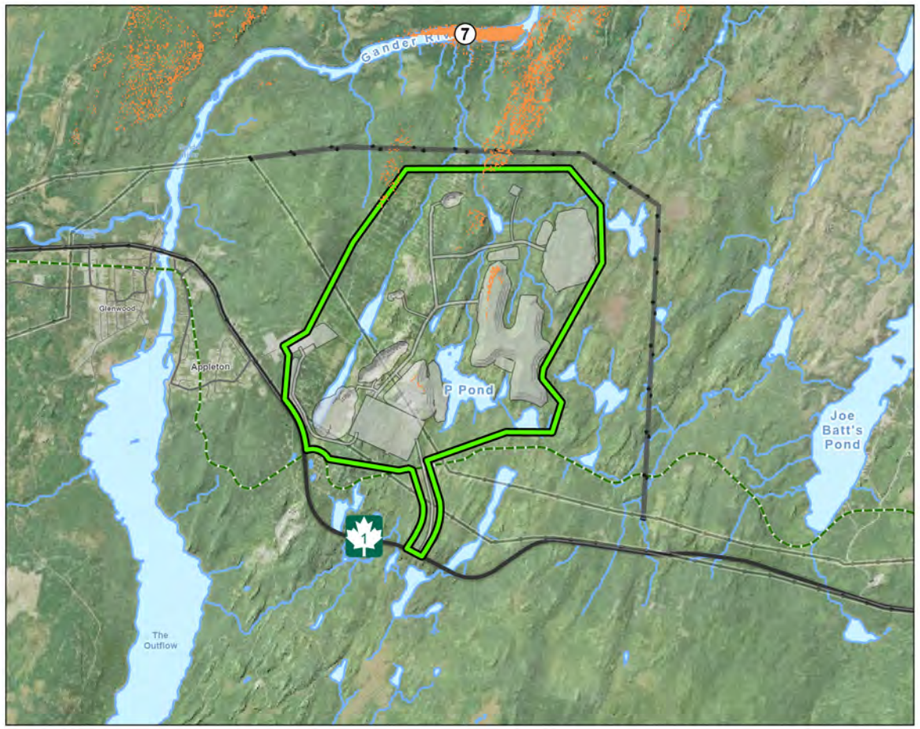
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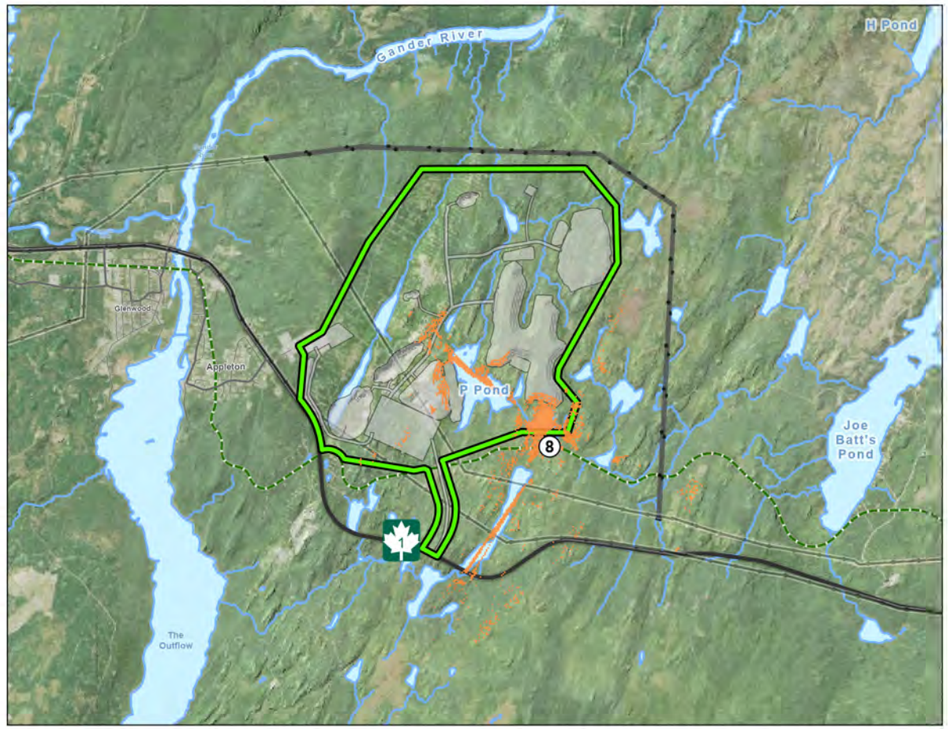


Figure No.
5.3

Title
Potential Visibility from Receptor Locations 5-8

Client/Project
New Found Gold Corp.
Queensway Gold Project

121418830_101b

Project Location
Appleton
Newfoundland and Labrador

Prepared by NW on 2026-09-24
QR by GC on 2026-10-26

N

0 0.5 1 1.5 2 km
(At original document size of 11x17)
1:70,000

Legend

- Potential Receptor
- Area Visible From Potential Receptor
- Project Area

Proposed Project Layout

- Access / Haul Road
- Proposed Site Features

Existing Infrastructure

- Transmission Line
- Proposed Transmission Line (Re-routing)
- Highway
- Collector
- Local Road
- NL T'Railway Provincial Park

Waterways

- Watercourse
- Waterbody

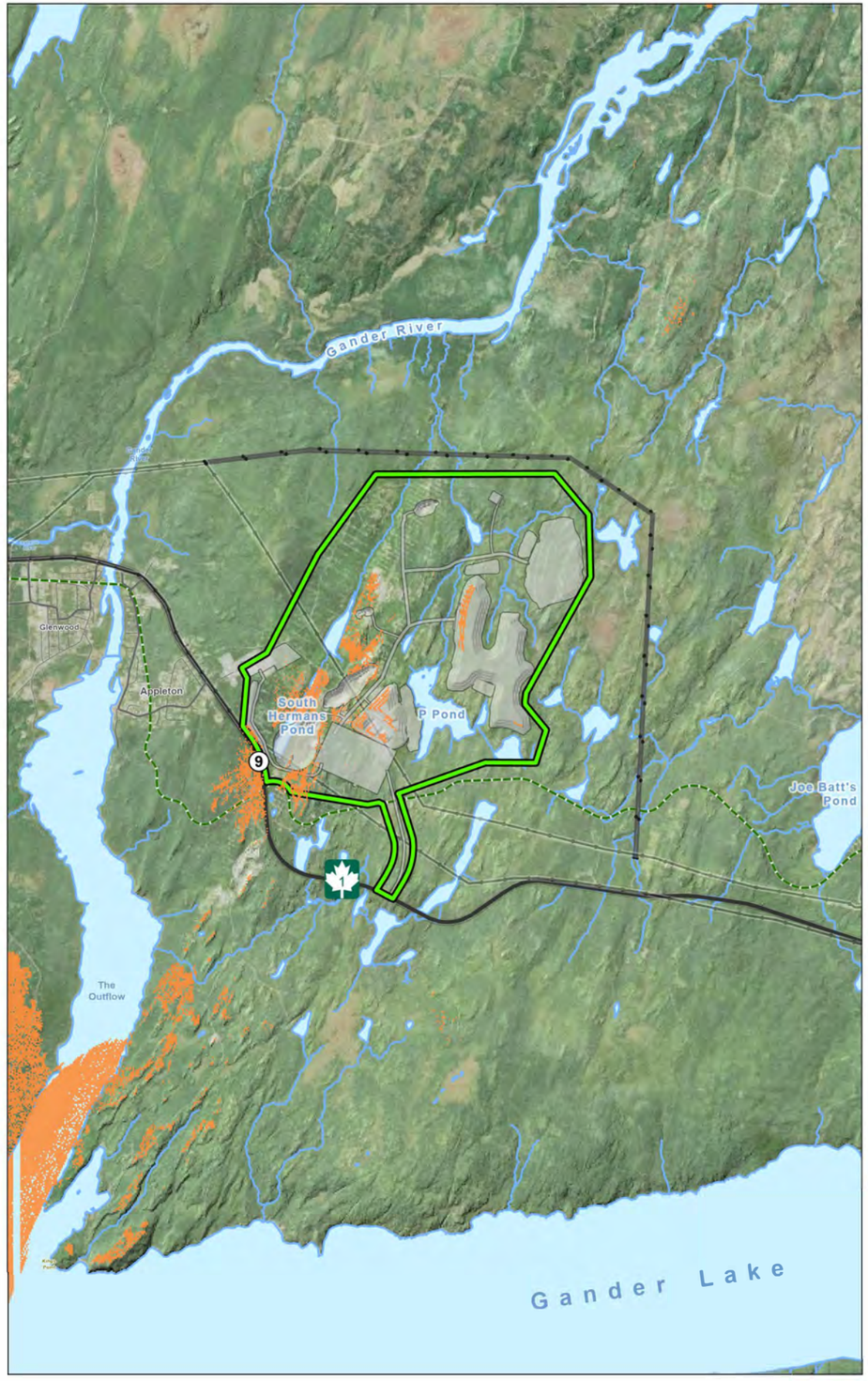


Notes
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3. Background: Government of Newfoundland and Labrador; NRCan CanVec; Earthstar Geographics, Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community, Esri, NASA, NGA, USGS

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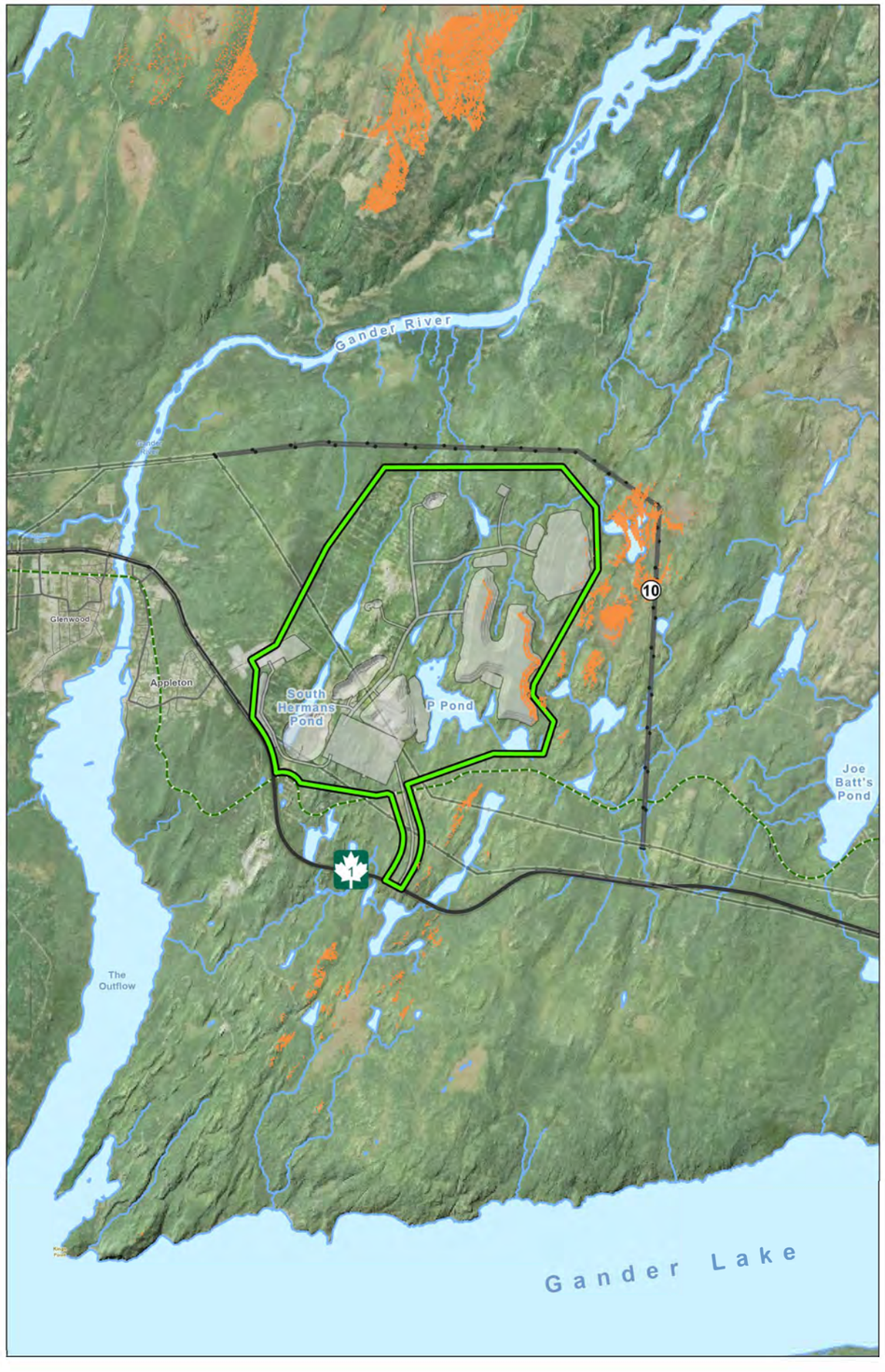


Figure No.
5.4

Title
Potential Visibility from Receptor Locations 9-10

Client/Project
121418830_101c
New Found Gold Corp.
Queensway Gold Project

Project Location
Appleton
Newfoundland and Labrador

Prepared by NW on 2026-09-24
QR by GC on 2026-09-26

N

0 0.5 1 1.5 2 km
(At original document size of 11x17)
1:60,000

Legend

- Potential Receptor
- Area Visible From Potential Receptor
- Project Area

Proposed Project Layout

- Access / Haul Road
- Proposed Site Features

Existing Infrastructure

- Transmission Line
- Proposed Transmission Line (Re-routing)
- Highway
- Collector
- Local Road
- NL T'Railway Provincial Park

Waterways

- Watercourse
- Waterbody



Notes
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2. Data Sources: Stantec; New Found Gold Corp.; GovNL Department of Forestry, Agriculture and Lands; CanVec NRCan. Contains information licensed under the Open Government License - Governments of Canada and Newfoundland and Labrador.
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5.1.2.1 Potential Effects on Sound Quality

Noise from Project activities, including equipment operation, vehicle movements, blasting, and active work areas, may be noticeable to nearby residents, cabin users, commercial land users, recreational users, and travellers during construction and operation. Table 5.2 indicates that noise may result in a noticeable change at Location #1 in the Appleton Industrial Park, the residence at Location #2, and the Town of Appleton at Location #4; some perceived change at the residence at Location #3, two fishing locations on the Gander River (Locations #6 and #7), the T'Railway (Location #8), and the resource road (Location #10); and no perceived change at Joe Batt's Pond (Location #5) and the TCH (Location #9).

Noise effects are managed through Project design and mitigation measures, including:

- The crusher and stockpiles will be located east of the open pits
- Trees and other vegetation will be left in place or vegetation growth encouraged where practicable in accessible areas to obstruct views, act as a wind break, reduce the transportation of fugitive dust, and muffle nuisance noise
- A 10 m-high noise berm will be constructed, as described in Section 4.7.2 of the Environmental Registration, to reduce potential effects of sound emissions on nearby receptors in Appleton
- Blasting activities will be scheduled to occur during daytime hours, once per day
- Concerns from nearby land users will be identified and addressed through communication and the grievance redress mechanism

While noise levels are predicted to increase at nearby receptors, based on modelling and implementation of mitigation measures, the increase in noise levels is predicted to comply with Health Canada guidelines (see Section 4.1.3). If community members identify concerns with respect to noise from operation of the Project, New Found Gold will implement adaptive management procedures in consultation with regulators and the community.

5.1.2.2 Potential Visual Effects

Visual and light-related effects may occur where Project infrastructure, active work areas, lighting, vehicles, and equipment are visible from nearby receptors or travel routes. A viewshed analysis was completed to evaluate the potential visibility of the Project from selected receptor locations (Figure 5.1) using a terrain model that incorporated proposed mine infrastructure with 0.5 m LiDAR-derived elevation data and provincial forest canopy data. Table 5.2 identifies the applicable viewshed figure for each selected receptor, with Figures 5.2 to 5.4 showing the areas of proposed development that may be theoretically visible from the selected locations. During construction, the primary source of light will be mobile artificial lighting used intermittently across the Project Area, particularly around designated construction and installation sites; however, the specific quantity and placement of mobile lighting units have not yet been determined. During operation, nighttime lighting may be required for site roads, waste and water management, and site infrastructure, with final lighting design to be developed. Visual and light-related effects are managed through siting and mitigation measures, including: locating stockpiles away from the TCH and the T'Railway; retaining vegetation as visual screening, where practicable; using directional lighting and best practices to reduce light trespass, glare, and sky glow; locating mobile lighting to reduce light spill toward receptors outside the Project Area; to the extent practicable, and

applying industry best practices such as full cut-off fixtures and variable lighting using motion detection or similar technologies, where appropriate. With these measures, changes to light trespass, glare, and sky glow are expected to remain within applicable International Commission on Illumination (CIE) guideline criteria for nearby receptors and are not expected to reach levels representative of an urban environment. Some visual change associated with remaining waste rock and overburden storage facilities would remain after closure and rehabilitation, although these features will be rehabilitated to blend with the surrounding rolling landscape.

5.1.2.3 Potential Effects from Ground Vibration and Airblast

Ground vibration and airblast from blasting may be felt or heard at nearby locations, depending on distance, local ground conditions, blast design, open travel corridors, and site-specific conditions. Table 5.2 indicates that predicted ground vibration is very low at the residence at Location #3, the Town of Appleton at Location #4, Joe Batt's Pond at Location #5, two fishing locations on the Gander River (Locations #6 and #7), the T'Railway at Location #8, and the resource road at Location #10; low at Appleton Industrial Park Location #1 and the residence at Location #2; and elevated at the TCH at Location #9. Predicted airblast is very low at Joe Batt's Pond (Location #5); low at the residence at Location #2, the residence at Location #3, the Town of Appleton (Location #4), two fishing locations on the Gander River (Locations #6 and #7), the T'Railway (Location #8), and the resource road (Location #10); moderate at Appleton Industrial Park Location #1; and elevated at the TCH. These effects are managed through the Blast Management Plan (Appendix C.2), which will guide safe and controlled practices and address associated risks, including flyrock and infrastructure damage. Activities will follow best practices outlined in the Blasters Handbook and the Environmental Code of Practice for Metal Mines. Blasting will occur between 9:00 a.m. and 5:00 p.m., avoid days of cultural importance as identified in consultation with Indigenous groups, and avoid the use of explosives in or near water unless required and permitted. Communication with nearby land users and the grievance redress mechanism will also be used to identify and address blasting-related concerns during construction and operation.

The results from Table 5.2 indicate that noise effects would be most noticeable at the closest buildings and in Appleton, while visual change would vary by receptor and is shown in the viewshed results on Figures 5.2 to 5.4. Predicted ground vibration and airblast are generally very low or low at most selected receptors, with elevated ratings identified at the TCH (Location #9) and a moderate airblast rating at the Appleton Industrial Park (Location #1). Potential effects and land-use conflicts are managed through Project design measures, including the location of the crusher and stockpiles, the proposed noise berm, retained vegetation where practicable, downward-directed and shielded lighting where practicable, daytime blasting, application of referenced best management practices, continued engagement with cabin owners, outfitters, local resource users, communities, local authorities, and relevant government departments, and use of a grievance redress mechanism to identify and address concerns. With these measures in place, effects on designated land use, resource use, and recreational use are predicted to result in a small measurable change, with activities continuing at or near current levels within the 5-km of the Project Area. Most effects are expected to be reversible following rehabilitation, although visual change associated with remaining waste rock and overburden storage facilities will remain and will be rehabilitated to blend with the surrounding rolling landscape.

5.2 Air Quality and Climate

In the Environmental Registration, an overview of the anticipated air emissions is provided in Section 4.7.1. The Environmental Registration also modelled GHG (Appendix 4.B of the Environmental Registration) and air contaminant emissions (Appendix 7.A of the Environmental Registration) for the peak year of the construction and operations phases. Chapter 7 of the Environmental Registration evaluates the atmospheric environment as a Project VC, including a description of the existing atmospheric environment, the potential air quality and climate effects and effect pathways, mitigation and management measures, residual environmental effects, and follow-up and monitoring programs.

Section 5.2.1 provides an overview of the information presented in the Environmental Registration on these topics to provide context for reviewers of this EPR. Also, additional information has been provided for the specific topics required by the EPR Guidelines as identified in Table 5.6, which summarizes the applicable EPR requirements and identifies where each is addressed.

Table 5.6 EPR Guidelines Requirements Related to Air Quality and Climate

Guideline Requirement	EPR Section
Conduct a best available control technologies (BACT) analysis for significant sources of particulate and associated metals, and assess the predicted state of compliance with the air quality standards in the Air Pollution Control Regulations, 2022, with BACT employed.	Section 5.2.2
Assess potential air quality effects associated with project-related dust and metal-containing particulate matter, including generation, transport, deposition, and accumulation and identify measures to avoid or mitigate adverse effects.	Section 5.2.3
Evaluate potential air quality effects on human health and ecological receptors, including residential, tourist, commercial and recreational areas, sensitive habitats and vegetation, ecological reserves, species of conservation concern, wildlife and livestock.	Section 5.2.4
Address greenhouse gas reporting obligations and implementation of identified BACT measures for GHG emissions in the registration document.	Section 5.2.5

5.2.1 Summary of Air Quality and Climate from the Environmental Registration

Air quality and climate were selected as a VC because the Project will result in the release of air contaminants and GHG to the atmosphere. Emissions of air contaminants and GHGs are anticipated from a range of Project activities, such as:

- Combustion of diesel- and gas-powered equipment and generators for site power, lighting, and pumps (construction phase) and to support such activities as blasting, ore extraction, crushing, material handling, and transportation (operations phase)
- Vegetation clearing, earthworks, wind erosion, and vehicle travel on unpaved roads
- Material handling (unloading), crushing, screening, and storage (stockpiles)
- Blasting

Air contaminants of concern from the Project include nitrogen oxides, sulphur dioxide, carbon monoxide, trace metals, and particulate matter including total suspended particulate matter (TSP), PM_{10}, and $PM_{2.5}$. Greenhouse gases of concern from the Project include carbon dioxide, methane, and nitrous oxide.

5.2.1.1 Ambient Air Quality Assessment

The existing air quality in the vicinity of the Project Area is typical of air quality in a rural wooded forest with camps and cottages / houses (small rural community). The primary source of air contaminants is from personal vehicles including offroad vehicles on trails and access roads, as well as traffic in Appleton and along the nearby TCH. Home heating would also contribute to local air contaminant emissions (wood or other fuel burning). New Found Gold completed ambient air quality monitoring at two locations near the Project Area in August 2023: within the Town of Appleton and near Joe Batt's Pond. Sampling included TSP, $PM_{2.5}$, and nitrogen dioxide. Sampling results confirmed these three components to be below threshold limits set by the NL AQS. In addition to the data collected near the Project Area, the most recently available provincial and federal ambient air quality data were obtained and used in the assessment (NLDECC 2025).

5.2.1.2 Greenhouse Gas Assessment

During Project construction, GHG emissions are expected to be equivalent to 0.1% of NL's 2023 GHG emissions. During the operation phase, the Project's peak direct and indirect estimated GHG emissions represent approximately 0.3% of 2023 NL GHG emissions. Additional information on GHGs and best available control technologies (BACT) for GHGs is presented in Section 5.2.5 of this EPR.

5.2.1.3 Air Quality Modelling Results

Air quality dispersion modelling for the Project was presented in the Environmental Registration and was completed in accordance with provincial guidance and compared to provincial air quality standards to assess the potential effects of air contaminant releases from the Project on ambient air quality in the LAA/RAA (i.e., within a 50 km radius centred on the Project Area). Modelling results suggest that the Project is anticipated to result in moderate air quality effects, with exceedances of ambient standards related to dust emissions possible at peak operation levels. In the Environmental Registration (Chapter 7), two modelling scenarios were presented for the peak operational year (Year 4). The first represented full operations and predicted occasional exceedances of the NL AQS during dry and windy days. A reduced operation scenario was also assessed, which assumed that hauling, material transfer, and crushing would be fully suspended during these conditions. This scenario demonstrated that through the use of real-time monitoring and adaptive management, the Project can operate in compliance with the NL AQS. However, temporary suspension of all hauling and crushing represented a relatively substantial change in Project operations. Since submission of the Environmental Registration, New Found Gold has further optimized the mine plan to identify a scenario that maintains compliance with NL AQS while allowing critical mining activities to continue with enhanced dust mitigation and smaller adjustments to mining activities. This is discussed further in Section 5.2.3 of this EPR.

5.2.1.4 Monitoring and Adaptive Management

The EPP (Appendix B) for the Project includes detailed dust mitigation practices and inspection procedures to support ongoing monitoring and continuous improvement of dust management for the Project. The EPP will also include an Air Quality Monitoring Plan as an appendix, to be developed prior to construction in consultation with regulators, which would specify procedures for monitoring, trigger levels and standards.

Continuous, real-time ambient air and meteorology monitoring will be implemented in conjunction with emissions mitigation to provide an understanding of the meteorological conditions and offsite particulate matter concentrations and evaluate the ongoing need for more rigorous mitigation. Monitoring will include meteorological monitoring (wind speed and wind direction) and monitoring of ambient TSP, PM_{10} and $PM_{2.5}$ concentrations. The final ambient Air Quality Monitoring Plan will be developed and reviewed with stakeholders and regulatory agencies during the permitting process.

The monitoring will be integrated with a data management system that can provide timely alerts to site personnel when action-level thresholds are exceeded. These action levels will be set at lower levels of applicable ambient air quality criteria and short-term health-based exposure limits with the objective to provide early warning prior to exceedance of ambient standards. Exceedances of action levels will be promptly investigated and will trigger the implementation of enhanced dust mitigation measures and transition to the optimized operation scenario.

Mitigation could include further dust suppression, permanent engineered solutions, or adjustment of hauling activities to maintain compliance, as modelled in the optimized operation scenario. For example, given that fugitive dust from the haul roads is the largest source of dust emissions, more frequent road watering or an application of a chemical dust suppressant will reduce emissions. As modelled and discussed in Section 5.2.3, adjustments of hauling activities, which could include temporarily limitations in hauling of waste rock or overburden while maintaining hauling of ore during dry conditions, has been demonstrated through modelling to achieve compliance with NL AQS and also allow for key mining operations to proceed in an uninterrupted manner. After mitigations are implemented, ambient dust monitoring will be used to assess their effectiveness and evaluate the need for additional mitigation (such as more frequent watering of roads).

5.2.2 Best Available Control Technology Analysis and Air Quality Compliance

A best available control technology (BACT) assessment was completed for the Project in accordance with Section 6 of the Newfoundland and Labrador *Air Pollution Control Regulations*, 2022 (NLR 11/22) under the *Environmental Protection Act*. Section 6 requires the owner or operator of a new or modified emission source to employ BACT acceptable to the province. Typically, a BACT assessment is completed as part of the permitting process, however, it has been completed during this stage in response to the EPR Guidelines. Controls identified in the BACT assessment must represent the most effective or stringent emission control device or technique that is proven reliable for comparable processes and is economically feasible. The assessment considered the Project's primary emission sources and evaluated available control measures based on these criteria. The Project's primary emissions sources included in the BACT assessment include mobile equipment, unpaved roads, stockpiles, crushing, screening, conveyors, and transfer points, stationary equipment, and blasting.

Preliminary findings of the BACT assessment for air quality (Appendix D) indicate that technically and economically feasible controls for mobile equipment combustion gas emissions include the use of Tier 4 diesel engines, regular inspection and maintenance, fuel and energy use monitoring, and anti-idling policies. Alternative mobile equipment technologies such as battery / electric, autonomous systems, and hydrogen are not considered broadly feasible for this Project at this stage due to limitations related to equipment availability, supporting infrastructure, and Project scale.

For blasting, feasible controls include optimized blast design and stemming, blast plugs or mats where appropriate, and scheduling blasts with consideration of meteorological conditions. Blasts may be delayed during dry or windy conditions when winds are directed toward Appleton. Real-time monitoring and EPP procedures would support responsive mitigation, while fog cannons are expected to provide limited benefit for short-duration blasting emissions.

For road travel, dust suppression is a key mitigation priority because haul roads are identified as a major contributor to particulate emissions. Water application, chemical suppressants, speed limits, reduced activity during windy or high-dust conditions, road maintenance, optimized routing, vegetation or wind breaks, vehicle wash or wheel shaker stations, and real-time air quality and weather monitoring are identified as practical controls. The EPP for the Project also covers dust mitigation and control best practices and will be followed by staff and contractors. Paving of haul roads was also considered and may reduce dust emissions but is expected to have lower economic feasibility compared with the application of dust suppression and operational controls on unpaved roads, particularly given the relatively short mine life.

For stockpiles, crushing, screening, conveyors, and transfer points, the most effective dust controls include enclosure or partial enclosure where feasible, reduced drop heights, sealed transfer points, wet suppression where compatible with processing, dust collectors and ongoing preventative maintenance of dust management systems. Enclosed stockpiles and associated dust collection systems may provide high emissions reduction potential but are not considered economically feasible in consideration of final stockpile sizes and design requirements.

For stationary combustion equipment, practical controls include Tier 4 engines or generator sets, proper equipment sizing, regular maintenance, fuel-use monitoring, and good combustion practices. Grid electricity, renewable power with battery storage, and selective catalytic reduction were also considered but may have lower feasibility due to infrastructure needs, capital cost, Project scale, and the short mine life

A key overarching practice to support monitoring performance of dust management (including trace metals) will be real-time ambient dust (TSP, $PM_{2.5}$, PM_{10}) monitoring between the Project and Appleton. The real-time monitoring will be set up with trigger alarm levels lower than the ambient air quality standards, as an early indication of rising dust levels. In the event of trigger level alarms at the air quality monitoring station, review of activities and mitigation would be initiated. Additional mitigation will be deployed in a timely manner as needed to avoid air quality standard exceedances due to Project emissions. This could include more frequent application of dust suppressants (water or other approved suppressants), maintenance on dust collection systems as required, or reduction of certain activities if necessary to reduce Project emissions during dry and windy periods, for example, crushers could undergo maintenance days during dry and windy periods to reduce dusting during these periods or non-

essential hauling activities could be reduced in a manner that still allows for key mine operations to proceed in an uninterrupted manner.

The EPP for the Project includes detailed dust mitigation practices and inspection procedures to support ongoing monitoring and continuous improvement of dust management for the Project.

Overall, the preliminary BACT review provides supporting technologies and practices that can be implemented as part of a practical dust-focused control strategy that will be refined during detailed engineering. Recommended next steps include confirming the final equipment fleet and crushing/sorting configuration, completing detailed economic and emissions control efficiency evaluations for available options, selecting site-specific dust suppressant products and ambient air quality trigger levels, and incorporating monitoring, inspection, and adaptive management requirements into the Project's air quality management planning. With the planned implementation of technologies and practices and as demonstrated by air dispersion modelling results (refer to Section 5.2.3 for updated modelling results), the Project is expected to maintain compliance with the air quality standards in the Air Pollution Control Regulations, 2022.

5.2.3 Air Quality Effects from Dust and Metal-Containing Particulate Matter

As part of the Environmental Registration (Chapter 7), air dispersion of emissions from the Project were inventoried and modelled to determine the nature and extent of residual effects from Project activities, such as material handling, hauling on unpaved roads, crushing and screening, and operation of mobile and stationary equipment. This included the assessment of potential air quality effects (Section 7.4.1 of the Environmental Registration) associated with Project-related gases, dust and metal-containing particulate matter (including generation, transport, deposition, and accumulation) and identified measures to avoid or mitigate adverse effects (Section 7.3 of the Environmental Registration). The air dispersion modelling conducted (as described in Section 7.1.3 of the Environmental Registration) demonstrated that through the use of real time monitoring and adaptive management, including temporary reduction of activities such as hauling and crushing during particularly dry periods, the Project can operate in compliance with the provincial ambient air quality standards. However, the proposed scenario in the Environmental Registration represented a temporary and relatively substantial change in Project operations to achieve full compliance. Further evaluation of feasible operating scenarios has been done to establish a more representative operating scenario that can also achieve full compliance when ambient monitoring and associated trigger levels identify the need for enhanced dust mitigation. This is referred to as the optimized operation scenario.

The emissions inventory was developed using published emissions factors and methodologies from the United States Environmental Protection Agency AP-42, *Canadian Environment Protection Act*, the Australian National Pollutant Inventory, and ECCC. Trace metal concentrations in particulate matter were estimated from ore analysis provided by New Found Gold. Stockpile sizes, traffic data, and diesel fuel consumption were provided by New Found Gold across the operational years of the mine site. Details of the emissions inventory were provided in Section 4.7.1 of the Environmental Registration.

The optimized operation scenario, developed following submission of the Environmental Registration, optimizes dust control measures when required during dry periods with high winds. This optimized operation scenario represents what is considered feasible for dust control via adaptive management and would allow the facility to continue producing ore at the target rate of 700 tpd. The optimized operation

scenario considers only contaminants which were predicted to infrequently exceed the NL AQS limits in initial model scenarios (i.e., for total particulate matter (TPM), $PM_{2.5}$, PM_{10}, aluminum, and iron on a 24-hour average), as other substances are predicted to have low magnitude effects, being well below the applicable NL AQS, even during peak operation with less dust control than the optimized operation scenario.

Accumulation or deposition of dust including trace metals is not directly an air quality effect as it relates to dust after it is no longer air borne. The dust from the Project is not expected to deposit or accumulate notably beyond the site boundaries. Deposition as it may relate to human-health and ecological risk is discussed in Section 5.2.4.

5.2.3.1 Optimized Operation Scenario

The optimized operation scenario focuses on additional reductions in dust emissions at the primary sources:

- Fugitive emissions from unpaved roads
- Material transfers at stockpiles
- Crushing and screening

5.2.3.1.1 Fugitive Emissions from Unpaved Roads

Fugitive emissions from unpaved roads were estimated from AP-42 Chapter 13.2.2 (Unpaved Roads), which is also the foundation for the method presented in the ECCC Pits and Quarries guidance. The modelling presented in the Environmental Registration considered dust suppressants, for which AP-42 Chapter 13.2.2 indicates a control efficiency of 80% (applications of water have a control efficiency of 70%). However, these control efficiencies typically only account for two applications of suppressant. The efficiency of water, for example, can attain up to 99% control efficiency within a half hour of application (University of Alberta 2017). Therefore, with more continuous watering (e.g., every 30 minutes during dry periods), a control efficiency of 98% has been applied for road dust in the optimized operation model.

Another measure that could be implemented to further reduce dust emissions during dry periods, if needed, is the reduction in non-critical operations. Hauling of ore accounts for approximately 2% of the unpaved road emissions while the majority of haulage is related to waste rock and overburden materials. Therefore, a large percentage of haul road use could be reduced temporarily by limiting waste rock and overburden hauling if dust levels are becoming elevated at the monitoring station without affecting production rates. A reduction in operations for waste rock and overburden hauling of approximately 90% would achieve the same control efficiency as application of water every 30 minutes (while allowing production to continue). This offers flexibility in achieving the adaptive dust management strategy.

Operations management will review ambient dust (TSP, $PM_{2.5}$, PM_{10}) data from the real-time monitoring station during dry periods and advise staff on requirements to manage dust levels as low as reasonably achievable.

5.2.3.1.2 Material Transfers at Stockpiles

The primary method for estimating emissions from material transfers was adopted from AP-42 Chapter 13.2.4 (Aggregate Handling and Storage Piles). The original modelling, as presented in the Environmental Registration, considered uncontrolled emissions. Similar to dust from unpaved roads, watering can cause agglomeration of particulate and prevent dust from lifting after being freshly deposited onto stockpiles or at the crusher. AP-42 Chapter 13.2.4 indicates that with appropriate controls (watering or a dust suppressant), control efficiencies of up to 90% can be obtained. To be conservative, and considering the application of water to unpaved roads, an efficiency of 70% (for two or more applications per day) was selected for material transfers at stockpiles.

5.2.3.1.3 Crushing and Screening

Crushing and screening sources were estimated through a combination of Australian National Pollutant Inventory (primary and secondary crusher), and AP-42 Chapter 11.19.2 (the screens). For the crushers, the Australian National Pollutant Inventory guidance indicates that if watering is added to the crushing process, a control efficiency of 50% can be achieved. Similarly, AP-42 Chapter 11.19.2 indicates that screening emissions can be controlled by watering (achieving a control efficiency of approximately 90%).

These control efficiencies were applied to the targeted daily production rate of 700 tpd of ore.

5.2.3.1.4 Updated Emission Rates

Table 5.7 indicates the updated emission rates for the considered sources and contaminants of concern. Other emission sources retain the same rates as indicated in Table 7.13 of the Environmental Registration.

Table 5.7 Air Contaminants Releases – Optimized Operation Scenario

Air Contaminant	CAS #	Emission Rate (tonnes/year)		
		Transfer Points at Stockpiles	Crushing and Screening	Fugitives from Unpaved Roads
TPM	N/A-1	52.9	5.4	45.2
PM_{10}	N/A-2	25.0	2.2	12.8
$PM_{2.5}$	N/A-3	3.8	0.3	1.3
Aluminum	7429-90-5	5.4	0.6	-
Iron	7439-89-6	3.5	0.4	-

5.2.3.1.5 Model Results

For the optimized operation scenario, Table 5.8 shows the reduced maximum concentrations at or outside the Project Area as a result of the additional controls discussed above. Concentration contours are shown for these contaminants (24-hour TSP, 24-hour PM_{10}, 24-hour $PM_{2.5}$, 24-hour aluminum, and 24-hour iron) in Figures 5.5 to Figure 5.9. The optimized operation scenario allows for production to be maintained while reducing dust emissions within the limits of the NL AQS.

Background ambient concentrations are added to the model results to incorporate existing emission sources in the area. The values of the background concentration for $PM_{2.5}$ and PM_{10} are estimated from recorded data in Grand Falls-Windsor, which is over 60 km from the site. Due to a lack of recorded total particulate data at Grand Falls-Windsor, the value used for TPM background data is based on sampling recorded at site during a baseline study in 2023. The background value for TPM (measured at site during a brief period) is substantially lower than the value for PM_{10} based on Grand Falls-Windsor data. As the proposed ambient monitoring station near Appleton becomes active, estimates of the background concentration will be refined, which may potentially lead to lower background concentrations for $PM_{2.5}$ and PM_{10} than what has been conservatively applied in this study. Currently, PM_{10} background contributes almost 50% of the total (background almost equal to Project contribution).

Table 5.8 Maximum Predicted Ground-level Concentrations – Optimized Operation Scenario

Contaminant	Averaging Period	Background Concentration (µg/m^3)	Maximum Predicted Ground Level Concentration (µg/m^3)	Maximum Predicted Ground Level Concentration (Including Background) (µg/m^3)	NL AQ Standard or Adopted Standard (µg/m^3)	Percent of NL/Adopted Standard
TPM	24-hour	8	46.8	54.8	120	45.7%
PM_{10}	24-hour	21.3	25.8	47.1	50	94.2%
$PM_{2.5}$	24-hour	7.3	3.8	11.1	25	44.2%
Aluminum	24-hour	-	2.2	2.2	12	18.1%
Iron	24-hour	-	1.4	1.4	4	35.5%

Note:
'-' represents a contaminant with no background data

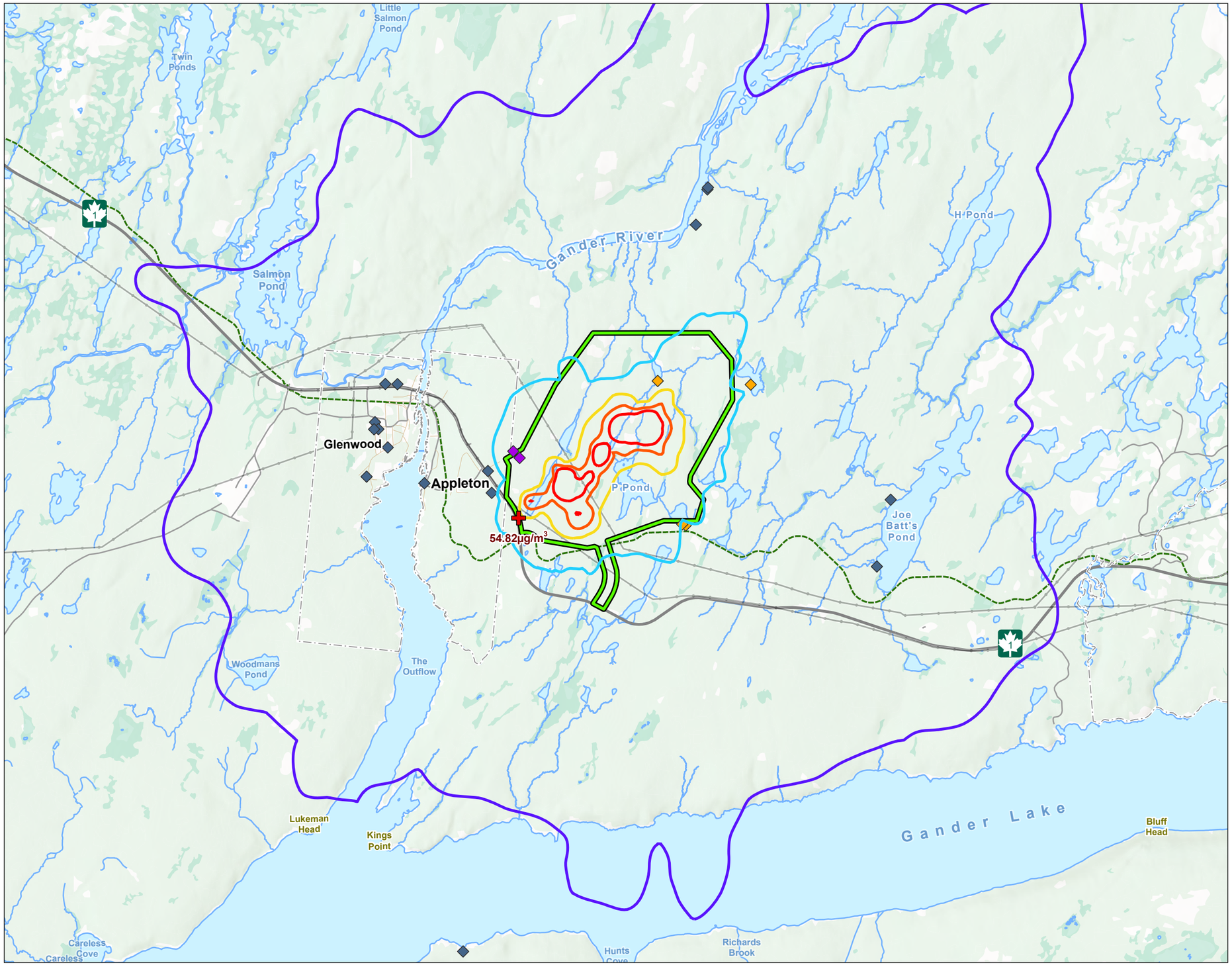


Figure No.

5.5

Title

Maximum Predicted 24-hour Concentration of Total Particulate Matter (including background) for Optimized Operations

Client/Project 121418510_746

New Found Gold Corp.
Queensway Gold Project

Project Location
North Gander Lake
Newfoundland and Labrador

Prepared by ED on 2026-11-02
QR by AC on 2026-11-12
TR by DOM on 2026-11-12

N

0 0.5 1 2 km

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Proposed Project Features

- Project Area

Total Particulate Matter Maximum Predicted 24-hour Concentration Contours (8 µg/m³ Background) (µg/m³)

- 10
- 30
- 60
- 90
- 120 - AAQS
- Maximum Concentration

Receptors

- Sensitive Receptor
- Offices / Industrial
- Other Potential Receptor

Existing Infrastructure

- Transmission Line
- Highway
- Collector
- Local / Street
- NL T'Railway Provincial Park
- Municipal Boundaries

Wetlands and Waterways

- Watercourse
- Waterbody
- Wetland



Notes

1. Coordinate System: NAD 1983 CSRS MTM 2
2. Data Sources: New Found Gold Corp.; Stantec; Government of Newfoundland and Labrador, Department of Environment, Conservation and Climate Change, Department of Forestry, Agriculture and Lands - Land Use Atlas Mapping Service, Department of Municipal and Community Affairs; National Road Network, Statistics Canada.
3. Background: Government of Newfoundland and Labrador, Department of Forestry, Agriculture and Lands - Land Use Atlas Mapping. Topographic Mapping - Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community, Esri, USGS, Esri, NASA, NGA, USGS

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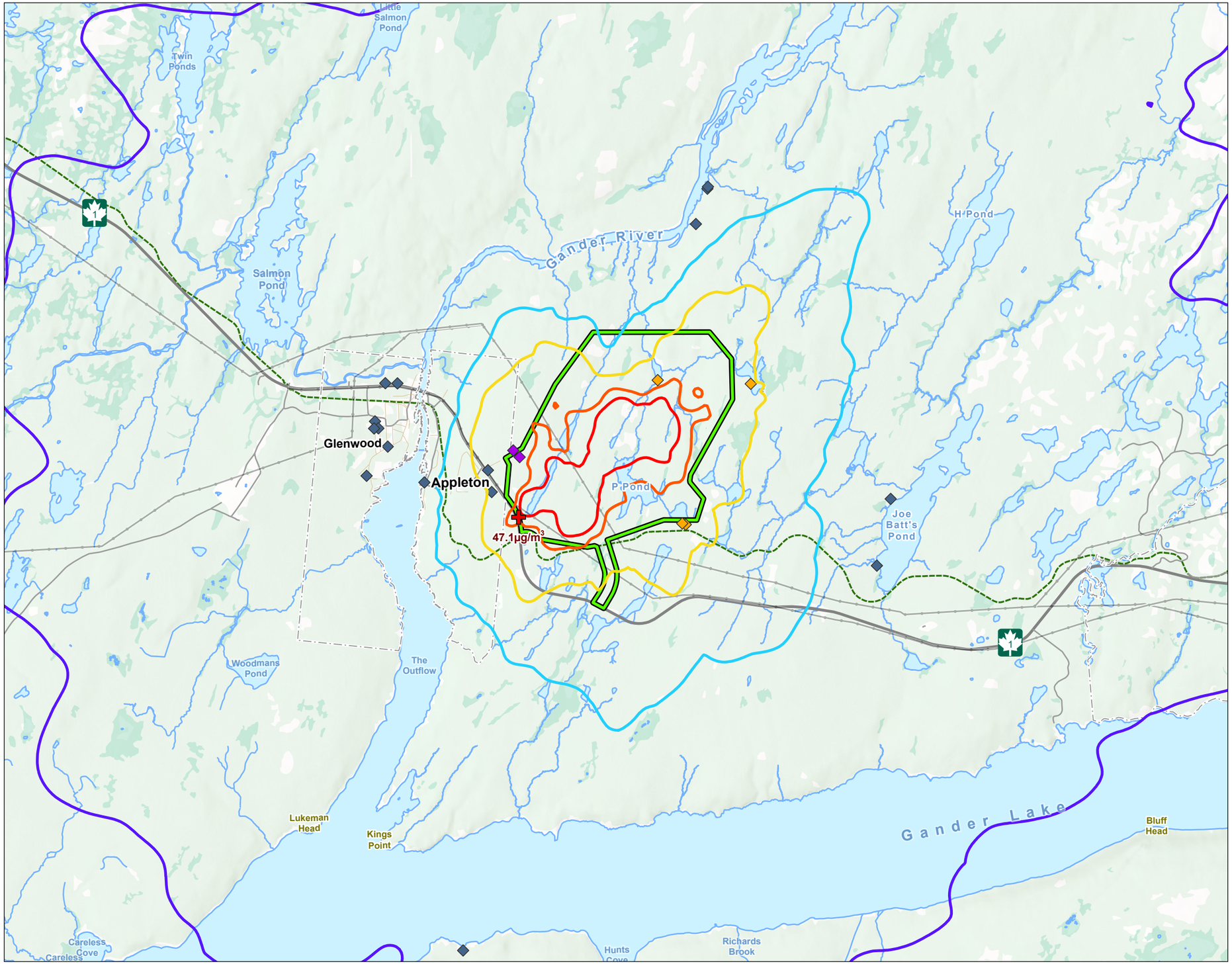


Figure No.

5.6

Title

Maximum Predicted 24-hour Concentration of Particulate Matter (< 10 microns) (including background) for Optimized Operations

Client/Project

121418510_746

New Found Gold Corp.
Queensway Gold Project

Project Location

North Gander Lake
Newfoundland and Labrador

Prepared by ED on 2026-11-02
QR by AC on 2026-11-12
TR by DOM on 2026-11-12

N

0 0.5 1 2 km

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Proposed Project Features

- Project Area

Particulate Matter (< 10 µm) Maximum Predicted 24-hour Concentration Contours (21.3 µg/m³ Background) (µg/m³)

- 22
- 25
- 30
- 40
- 50 - AAQS
- Maximum Concentration

Receptors

- Sensitive Receptor
- Offices / Industrial
- Other Potential Receptor

Existing Infrastructure

- Transmission Line
- Highway
- Collector
- Local / Street
- NL T'Railway Provincial Park
- Municipal Boundaries

Wetlands and Waterways

- Watercourse
- Waterbody
- Wetland



Notes

1. Coordinate System: NAD 1983 CSRS MTM 2
2. Data Sources: New Found Gold Corp.; Stantec; Government of Newfoundland and Labrador, Department of Environment, Conservation and Climate Change, Department of Forestry, Agriculture and Lands - Land Use Atlas Mapping Service, Department of Municipal and Community Affairs; National Road Network, Statistics Canada.
3. Background: Government of Newfoundland and Labrador, Department of Forestry, Agriculture and Lands - Land Use Atlas Mapping. Topographic Mapping - Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community, Esri, USGS, Esri, NASA, NGA, USGS

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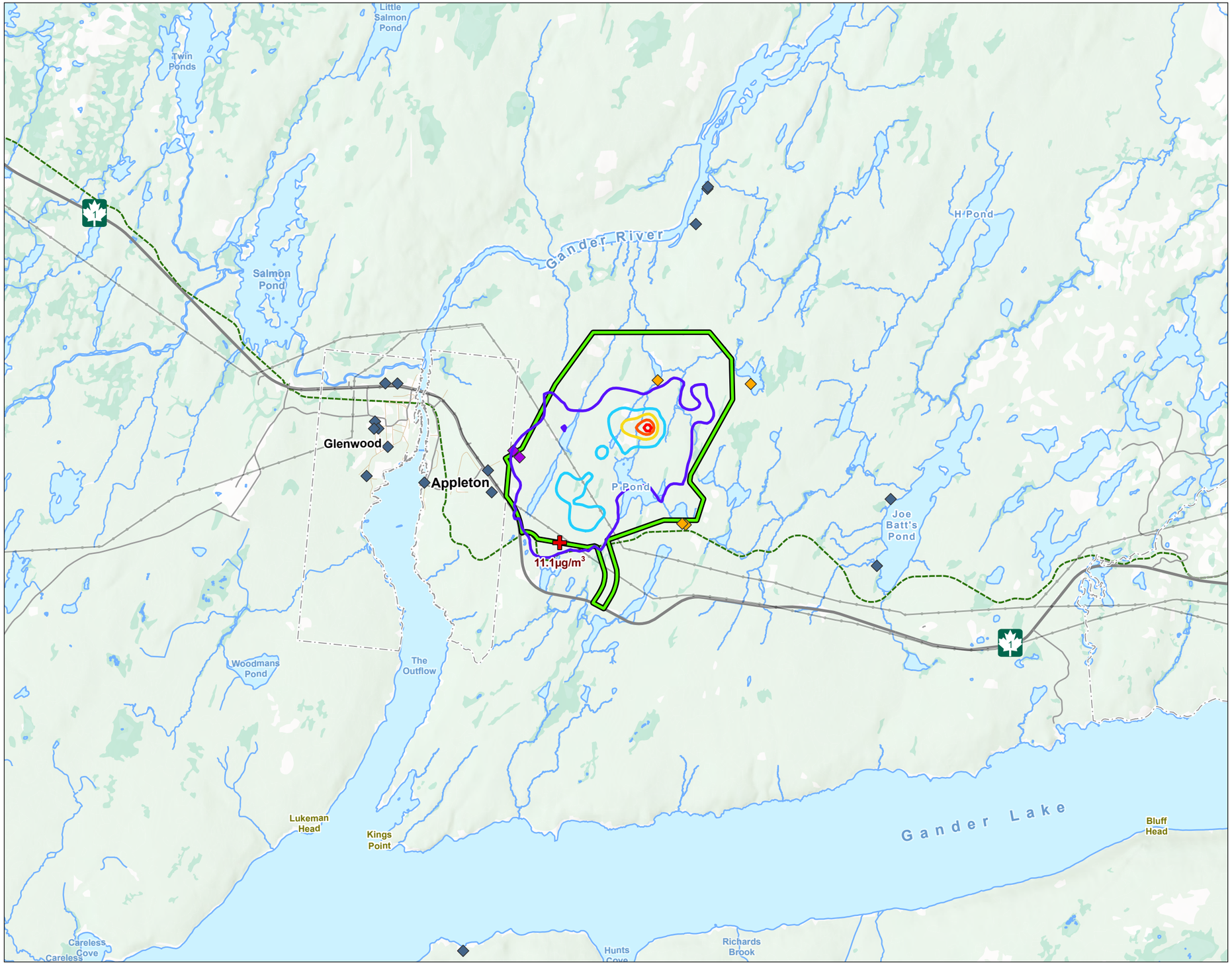


Figure No.

5.7

Title

Maximum Predicted 24-hour Concentration of Particulate Matter (< 2.5 microns) (including background) for Optimized Operations

Client/Project

121418510_746

New Found Gold Corp.
Queensway Gold Project

Project Location

North Gander Lake
Newfoundland and Labrador

Prepared by ED on 2026-11-02
QR by AC on 2026-11-12
TR by DOM on 2026-11-12

N

0 0.5 1 2 km

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Proposed Project Features

- Project Area

Particulate Matter (< 2.5 µm) Maximum Predicted 24-hour Concentration Contours (7.3 µg/m³ Background) (µg/m³)

- 10
- 14
- 18
- 22
- 25 - AAQS
- Maximum Concentration

Receptors

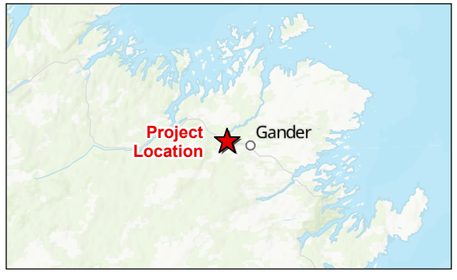
- Sensitive Receptor
- Offices / Industrial
- Other Potential Receptor

Existing Infrastructure

- Transmission Line
- Highway
- Collector
- Local / Street
- NL T'Railway Provincial Park
- Municipal Boundaries

Wetlands and Waterways

- Watercourse
- Waterbody
- Wetland



Notes

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Figure No.

5.8

Title

Maximum Predicted 24-hour Concentration of Aluminum (no background data) for Optimized Operations

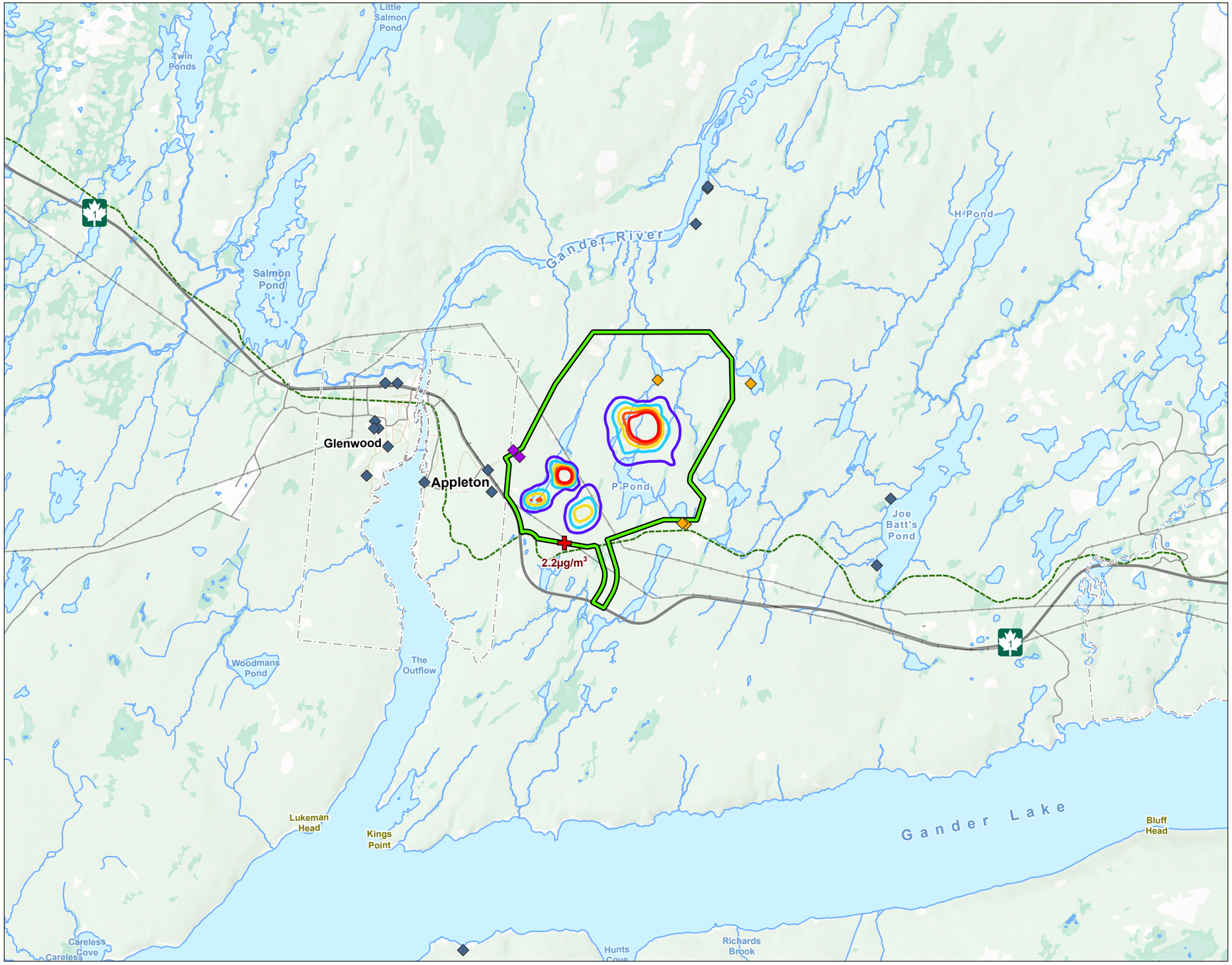
Client/Project

121418510_746

New Found Gold Corp.
Queensway Gold Project

Project Location
North Gander Lake
Newfoundland and Labrador

Prepared by ED on 2026-11-02
QR by AC on 2026-11-12
TR by DOM on 2026-11-12



N

0 0.5 1 2 km

(At original document size of 11x17)
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Proposed Project Features

- Project Area

Aluminum Maximum Predicted 24-hour Concentration Contours (No Background) (µg/m³)

- 4
- 6
- 8
- 10
- 12 - AAQS
- Maximum Concentration

Receptors

- Sensitive Receptor
- Offices / Industrial
- Other Potential Receptor

Existing Infrastructure

- Transmission Line
- Highway
- Collector
- Local / Street
- NL T'Railway Provincial Park
- Municipal Boundaries

Wetlands and Waterways

- Watercourse
- Waterbody
- Wetland



Notes

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2. Data Sources: New Found Gold Corp.; Stantec; Government of Newfoundland and Labrador, Department of Environment, Conservation and Climate Change, Department of Forestry, Agriculture and Lands - Land Use Atlas Mapping Service, Department of Municipal and Community Affairs; National Road Network, Statistics Canada.
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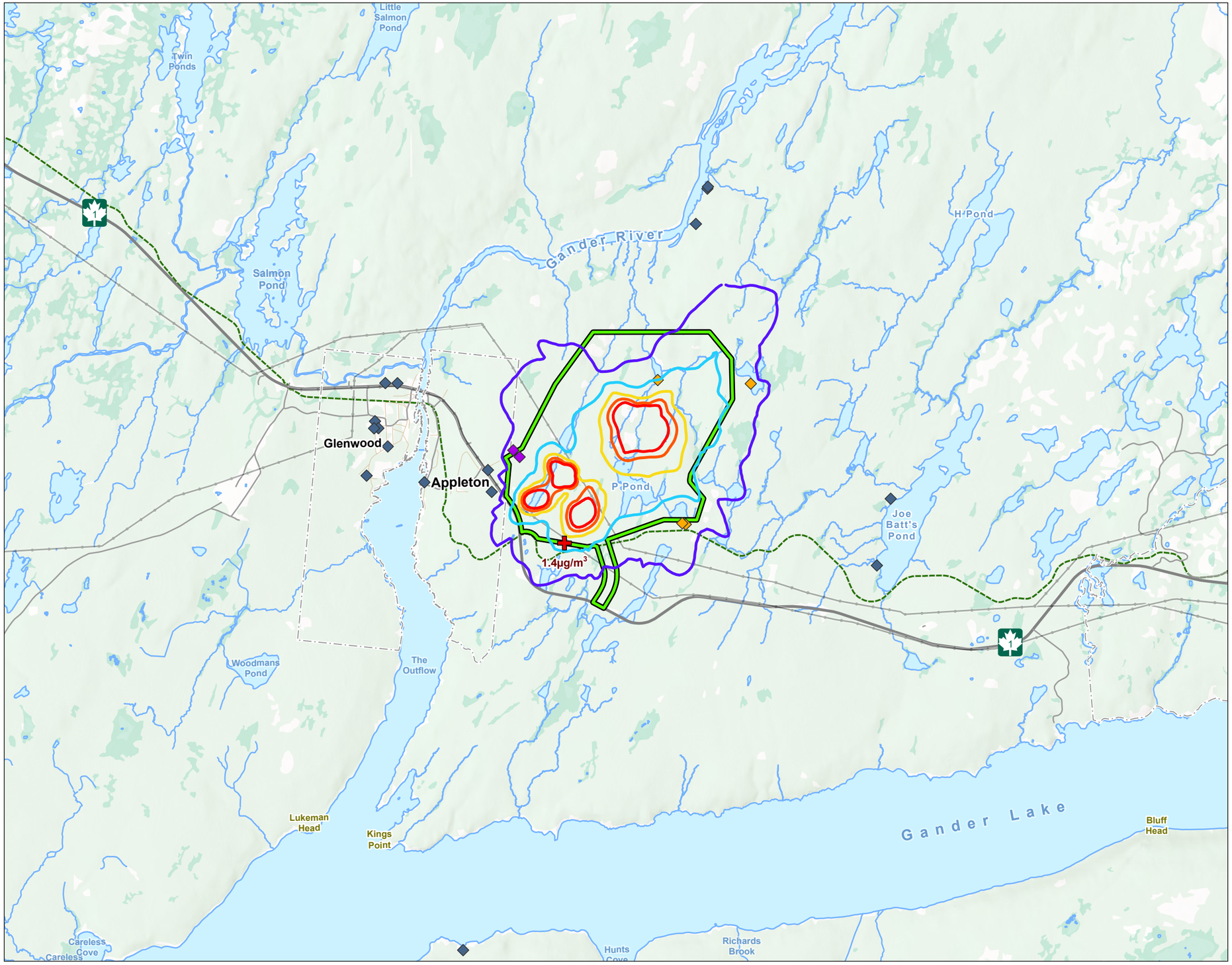


Figure No.

5.9

Title

Maximum Predicted 24-hour Concentration of Iron (no background data) for Optimized Operations

Client/Project

121418510_746

New Found Gold Corp.
Queensway Gold Project

Project Location

North Gander Lake
Newfoundland and Labrador

Prepared by ED on 2026-11-02
QR by AC on 2026-11-12
TR by DOM on 2026-11-12

N

0 0.5 1 2 km

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1:65,000

Proposed Project Features

- Project Area

Iron Maximum Predicted 24-hour Concentration Contours (No Background) (µg/m³)

- 0.50
- 1
- 2
- 3
- 4 - AAQS
- Maximum Concentration

Receptors

- Sensitive Receptor
- Offices / Industrial
- Other Potential Receptor

Existing Infrastructure

- Transmission Line
- Highway
- Collector
- Local / Street
- NL T'Railway Provincial Park
- Municipal Boundaries

Wetlands and Waterways

- Watercourse
- Waterbody
- Wetland



Notes

1. Coordinate System: NAD 1983 CSRS MTM 2
2. Data Sources: New Found Gold Corp.; Stantec; Government of Newfoundland and Labrador, Department of Environment, Conservation and Climate Change, Department of Forestry, Agriculture and Lands - Land Use Atlas Mapping Service, Department of Municipal and Community Affairs; National Road Network, Statistics Canada.
3. Background: Government of Newfoundland and Labrador, Department of Forestry, Agriculture and Lands - Land Use Atlas Mapping. Topographic Mapping - Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community, Esri, USGS, Esri, NASA, NGA, USGS

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5.2.4 Air Quality Effects on Human and Ecological Receptors

The potential human health and ecological effects associated with emissions from the Project were evaluated as part of the Environmental Registration. Potential effects on human health were considered as part of the Communities assessment (Chapter 12 of the Environmental Registration), while potential ecological effects on habitat quality and wildlife were considered in the Terrestrial Environment assessment (Chapter 11 of the Environmental Registration). The human health assessment considered the potential for air emissions from the Project to result in direct exposure to contaminants, through inhalation of air, and indirectly through ingestion of country foods such as berries and fish. Short-term exceedances of health-based exposure levels for nitrogen dioxide (NO_2) and PM (PM_{10} and $PM_{2.5}$) were predicted near the Project Area boundary and at a small number of nearby receptors. Annual concentrations generally meet long-term health-based guidelines, and adaptive management measures are in place to mitigate particulate emissions during adverse conditions. The Terrestrial Environment assessment identified the potential for dust deposition to affect vegetation and wildlife habitat in proximity to Project activities; however, these effects are expected to be localized and mitigated through Project design and management measures.

Overall, potential Project-related effects on human and ecological health associated with changes in air quality were predicted to be of low magnitude, localized in extent, and infrequent.

5.2.4.1 Approach

The assessment of air quality effects on human and ecological receptors considers both direct and indirect exposure. Direct exposure pathways include the inhalation of airborne contaminants such as particulate matter (PM_{10} and $PM_{2.5}$), combustion gases, and metal-containing particulate matter. Indirect exposure pathways consider the ingestion of dust and associated metals deposited onto soils, waterbodies, vegetation, and other environmental media, which may affect wildlife tissue concentrations and contribute to exposure through food consumption.

The assessment is supported by atmospheric dispersion modelling and particulate deposition modelling completed for the Project (refer to Section 5.2.3). Atmospheric dispersion modelling was used to predict ground-level concentrations of air contaminants while deposition modelling was used to characterize the distribution and magnitude of particulate matter (PM_{10} and $PM_{2.5}$) and associated metal deposition across the 50 km by 50 km modelled area. These modelling results were combined with baseline environmental information, applicable guidelines, and consideration of proposed mitigation and adaptive management measures.

To evaluate potential effects on human receptors, this assessment draws on the findings of the Environmental Registration (Appendix 12.A of the Environmental Registration), which examined potential human health effects associated with Project-related changes in air quality and other environmental media, including direct inhalation exposure and indirect exposure pathways. Potential effects on ecological receptors were considered in conjunction with the terrestrial environment assessment, which evaluated the potential for deposited contaminants to affect vegetation, wildlife, species at risk, and their habitats. Together, these lines of evidence provide an integrated assessment of potential air quality effects on human and ecological receptors.

5.2.4.2 Effects on Human Receptors

Human receptors may be exposed to Project-related air emissions through the inhalation of airborne contaminants and through contact with particulate matter and associated metals deposited onto soils, vegetation, waterbodies, and other environmental media. The assessment of potential effects on human receptors is supported by atmospheric dispersion modelling and particulate deposition modelling (Chapter 7 of the Environmental Registration and Section 5.2.3 of this EPR), and the human health assessment presented in Appendix 12.A of the Environmental Registration. The human receptors considered in the assessment are residents, commercial workers, tourists, recreational users, outfitter clients, and trail users within the modelled area. The following sections summarize the potential for exposure through inhalation and deposition pathways and discuss the implications for each receptor group.

5.2.4.2.1 Inhalation Exposure Pathway

Potential human health effects associated with Project-related air emissions are evaluated in Appendix 12.A of the Environmental Registration through consideration of direct inhalation exposure to air contaminants at sensitive receptor locations, including nearby residences, cabins, public facilities, recreational areas, and other locations where people may be present within the modelled area. The assessment used atmospheric dispersion modelling results from the air quality assessment together with health-based exposure criteria to evaluate potential human exposure to Project-related emissions and potential subsequent effects.

Consistent with Health Canada guidance, detailed evaluation focused on contaminants that either exceeded or approached applicable air quality guidelines, or warranted additional consideration based on potential effects. Nitrogen dioxide was assessed because it is considered a non-threshold contaminant, while particulate matter (PM_{10} and $PM_{2.5}$), also a non-threshold contaminant, was assessed because modelled concentrations exceeded guideline values under certain conditions. Aluminum and iron were also reviewed because atmospheric modelling predicted localized exceedances of ambient air quality guidelines. The rationale for contaminant selection, toxicity benchmarks, and assessment methods is provided in Appendix 12.A of the Environmental Registration.

The assessment of NO_2 and particulate matter relied on the World Health Organization (WHO) Global Air Quality Guidelines (WHO 2021) as health-based exposure levels. These guidelines are recognized by Health Canada as appropriate benchmarks for evaluating human health effects and provide a health-protective basis for assessing contaminants such as NO_2 and particulate matter, for which adverse effects may occur even at relatively low concentrations. The assessment of aluminum and iron relied on the Provisional Peer Reviewed Toxicity Values (United States Environmental Protection Agency 2006a, 2006b) The assessment considered not only whether guideline values were exceeded, but also the magnitude, frequency, duration, and likelihood of exposure at locations where people may reasonably be expected to occur. Supporting rationale and guideline values are presented in Appendix 12.A of the Environmental Registration.

The full operational scenario evaluated in Appendix 12.A of the Environmental Registration represents peak Project activities and provided a conservative estimate of potential air quality effects because it is expected to over-predict actual ambient concentrations. Under this scenario, predicted concentrations of NO_2, PM_{10}, and $PM_{2.5}$ were above WHO health-based exposure levels at some locations near the Project Area and at a limited number of nearby receptors. However, the highest concentrations generally

occurred near the Project boundary or at locations not associated with continuous public occupancy. The assessment concluded that potential inhalation-related effects would be localized and infrequent, with a low likelihood of sustained population exposure at levels associated with meaningful incremental health risk. Detailed results for NO_2 are provided in Tables 12.A-1 and 12.A-2, while PM_{10} and $PM_{2.5}$ results are provided in Tables 12.A-3 and 12.A-4 in Appendix 12.A of the Environmental Registration.

As discussed in Section 5.2.3, the optimized operation scenario was developed following submission of the Environmental Registration and incorporates enhanced dust control measures during dry periods with high winds. This optimized operation scenario represents what is considered feasible for dust control via adaptive management and would allow the facility to continue producing ore at the target rate of 700 tpd. The maximum predicted ground-level concentrations of $PM_{2.5}$ and PM_{10} for the optimized operation scenario as well as each of the sensitive receptor locations, are provided in Table 5.9. The results indicate that under the optimized operation scenario, predicted concentrations of PM meet the applicable health-based guidelines, or, in the case of annual average $PM_{2.5}$, represent only a small incremental increase above background levels. These results demonstrate that the Project can effectively control PM emissions through adaptive operational controls and real-time management of dust-generating activities.

Aluminum and iron were also evaluated in Appendix 12.A of the Environmental Registration. Predicted aluminum concentrations remained below the selected health-based exposure level, while iron concentrations were low and would be further reduced through dust control and adaptive management measures. Consequently, potential health risks associated with these metals are considered negligible.

Overall, the human health assessment provided in in Appendix 12.A of the Environmental Registration concluded that Project-related residual effects on human health associated with changes in air quality are predicted to be of low magnitude, localized extent, and infrequent occurrence that result in a low likelihood of adverse health effects.

Table 5-9 Maximum Predicted Ground-Level Concentrations of PM_{10} and $PM_{2.5}$ at Sensitive Receptor Locations and Frequency of Exceedances of Health-based Exposure Levels for Optimized Operation Scenario

Receptor Location	Description	Concentration, including Background, μg/m³ (% of health-based guideline)			
		PM_{10}	PM_{10}	$PM_{2.5}$	$PM_{2.5}$
		24-hour *	Average Annual	24-hour *	Average Annual
Health-Based Exposure Level (WHO 2021), μg/m³		45	15	15	5
Background Concentration, μg/m³		21.3	13	7.3	**5.2 (104.0%)**
	Maximum Location Outside Project Area	37.6	15.0	10.2	**5.6 (112.0%)**
1	Nearby Appleton Residence	28.5 (63.4%)	13.61 (90.7%)	8.54 (56.9%)	**5.32 (106.3%)**
2	Nearest Appleton Residence	30.22 (67.2%)	13.67 (91.1%)	8.80 (58.6%)	**5.32 (106.5%)**
3†	Cabin on Lake just northeast of Project Area	29.98 (66.6%)	14.01 (93.4%)	8.61 (57.4%)	**5.38 (107.5%)**
4	Nearby Joe Batts Pond Residence	22.89 (50.9%)	13.20 (88.0%)	7.54 (50.3%)	**5.24 (104.7%)**
5	Nearest Joe Batts Pond Residence	23.05 (51.2%)	13.19 (87.9%)	7.59 (50.6%)	**5.23 (104.7%)**
6	Nearest Gander Residence	21.74 (48.3%)	13.04 (86.9%)	7.38 (49.2%)	**5.21 (104.2%)**
7†	P8 Structure #1	30.49 (67.7%)	14.34 (95.6%)	8.68 (57.9%)	**5.43 (108.5%)**
8†	P8 Structure #2	30.54 (67.9%)	14.41 (96.0%)	8.66 (57.7%)	**5.44 (108.7%)**
9‡	Simms Road Building #1	30.43 (67.6%)	13.86 (92.4%)	8.89 (59.2%)	**5.35 (107.1%)**
10‡	Simms Roads Building #2	31.99 (71.1%)	14.00 (93.3%)	8.98 (59.9%)	**5.38 (107.5%)**
11†	P13 Structure	33.14 (73.6%)	16.10 (107.3%)	8.99 (60.0%)	**5.68 (113.6%)**
12	Lakewood Academy	23.02 (51.2%)	13.14 (87.6%)	7.60 (50.7%)	**5.23 (104.5%)**
13	Glenwood War Memorial	22.98 (51.1%)	13.14 (87.6%)	7.64 (51.0%)	**5.23 (104.5%)**
14	Multidenominational Cemetery	23.02 (51.2%)	13.13 (87.5%)	7.61 (50.7%)	**5.22 (104.5%)**
15	Derm Flynn Peace Park	23.45 (52.1%)	13.17 (87.8%)	7.69 (51.2%)	**5.23 (104.6%)**
16	First United Church	22.99 (51.1%)	13.13 (87.6%)	7.59 (50.6%)	**5.22 (104.5%)**
17	St. Andrews Anglican Church	23.07 (51.3%)	13.14 (87.6%)	7.60 (50.7%)	**5.22 (104.5%)**
18	New Fun Land Day Care Centre	23.03 (51.2%)	13.14 (87.6%)	7.60 (50.7%)	**5.23 (104.5%)**
19	P13 Structure #1	22.69 (50.4%)	13.21 (88.0%)	7.54 (50.3%)	**5.24 (104.7%)**

Table 5-9 Maximum Predicted Ground-Level Concentrations of PM_{10} and $PM_{2.5}$ at Sensitive Receptor Locations and Frequency of Exceedances of Health-based Exposure Levels for Optimized Operation Scenario

Receptor Location	Description	Concentration, including Background, μg/m³ (% of health-based guideline)			
		PM_{10}	PM_{10}	$PM_{2.5}$	$PM_{2.5}$
		24-hour *	Average Annual	24-hour *	Average Annual
Health-Based Exposure Level (WHO 2021), μg/m³		45	15	15	5
Background Concentration, μg/m³		21.3	13	7.3	**5.2 (104.0%)**
20	P13 Structure #2	22.68 (50.4%)	13.20 (88.0%)	7.54 (50.3%)	**5.24 (104.7%)**
21	Fred L. Pritchett Memorial Park	23.00 (51.1%)	13.14 (87.6%)	7.60 (50.7%)	**5.23 (104.5%)**
22	Remote Building	22.04 (49.0%)	13.07 (87.1%)	7.45 (49.6%)	**5.21 (104.3%)**
23	Cabin/Home	21.98 (48.8%)	13.10 (87.3%)	7.41 (49.4%)	**5.22 (104.4%)**
24	Cabin/Home	22.98 (51.1%)	13.26 (88.4%)	7.58 (50.5%)	**5.25 (104.9%)**
25	Cabin/Home	21.61 (48.0%)	13.05 (87.0%)	7.36 (49.1%)	**5.21 (104.2%)**

Notes:

* 99th percentile (fourth highest 24-hour value)
"-" not applicable
† Cabins or structures for which New Found Gold is currently engaged in negotiations with property owners
‡ Office buildings associated with New Found Gold and its subcontractors
BOLD indicates concentration is higher than the health-based exposure level

5.2.4.2.2 Deposition Exposure Pathways

In addition to direct inhalation exposure, the assessment considered the potential for human exposure to occur indirectly through the atmospheric deposition of particulate matter and associated metals. Atmospheric deposition can result in the accumulation of dust and metal-containing particulate matter from the air on soils and vegetation, and subsequent uptake to plants and animals consumed by people. Potential human receptors considered for this pathway include residents, recreational users, trail users, tourists, and outfitter clients who may be exposed through incidental contact with soils or consumption of country foods. The indirect exposure pathway was considered in the broader human health assessment presented in Appendix 12.A of the Environmental Registration and evaluated more closely in using particulate deposition modelling completed as part of the air quality assessment in Section 5.2.3 of this EPR.

Particulate deposition modelling predicted that dustfall rates are highest within and immediately adjacent to active Project areas and decrease rapidly with increasing distance from emission sources. As illustrated in Figure 5.10, the spatial extent of elevated dustfall is limited and deposition rates decline substantially beyond the Project footprint. The maximum predicted 30-day dustfall rate at the Project property boundary is approximately 2.5 g/m²/30 days, which is substantially below the Ontario dustfall guideline of 7 g/m²/30 days (Ontario Ministry of the Environment, Conservation and Parks 2020). This guideline is commonly applied in environmental assessments as a benchmark for evaluating nuisance dust and potential off-site deposition effects. The guideline is intended primarily to protect against dust accumulation that could result in nuisance conditions, such as visible dust deposition on surfaces, rather than direct toxicological health effects.

The modelling results indicate that deposition of particulate matter and associated metals would be localized near Project emission sources and that deposition rates at locations accessible to the public would generally be substantially lower than those predicted near the Project boundary. This pattern is consistent with the atmospheric dispersion modelling results, which show that particulate concentrations decrease rapidly with distance from the primary dust-generating sources, particularly haul roads, material handling areas, and stockpiles. Dust suppression, best available control technologies, ambient air monitoring, and adaptive management measures would further reduce the potential for particulate generation and subsequent deposition beyond the Project Area, as noted in Section 5.2.3 of this EPR.

Considering the relatively low predicted dustfall rates, the rapid decrease in deposition with distance, and the implementation of mitigation and adaptive management measures, the potential for indirect human exposure through atmospheric deposition is considered low. The deposition pathway is therefore not expected to result in adverse effects to human health and does not alter the overall conclusion of the human health assessment that Project-related residual health risks are low.

Additional details are provided below.

5.2.4.2.3 Residential Areas

Residential receptors within the modelled area include residences in Appleton, Glenwood, Joe Batts Pond, and Gander, as well as a limited number of specific cabins and individual homes located near the Project Area. These locations represent areas where people may spend substantial amounts of time and therefore may experience direct exposure to Project-related air contaminants through inhalation and

indirect exposure through the deposition of particulate matter and associated metals. To evaluate potential effects on residents, the air quality assessment identified representative sensitive receptor locations, including two residences in Appleton (Receptor Locations 1 and 2), two residences in Joe Batts Pond (Receptor Locations 4 and 5), the nearest residence in Gander (Receptor Location 6), and several cabin/home receptors located throughout the assessment area. Additional details of receptor locations and modelling results are provided in Appendix 12.A of the Environmental Registration. Receptor locations are shown on Figure 5.10.

Under the full operational scenario with limited controls, predicted NO_2 concentrations at the Appleton residences slightly exceeded the 24-hour health-based exposure level, with exceedances predicted approximately 1.1% and 1.4% of the year at Receptors 1 and 2, respectively. No exceedances of the 1-hour NO_2 health-based exposure level were predicted at other residential receptor areas. For particulate matter, the Appleton residences were predicted to experience 24-hour PM_{10} concentrations above the health-based exposure level approximately 5.8% to 6.3% of the year, while $PM_{2.5}$ concentrations remained below the 24-hour health-based exposure level and exceeded the annual health-based exposure level by a small margin due largely to existing regional background concentrations (which already exceed the WHO guideline; Appendix 12.A of the Environmental Registration). Predicted particulate matter concentrations at residences in Joe Batts Pond and Gander remained below the short-term health-based exposure levels. As concluded in Chapter 12 of the Environmental Registration, these exceedances would be localized and infrequent and are unlikely to result in sustained exposure, resulting in a low likelihood of adverse health effects for residents. Detailed inhalation results are presented in Tables 12.A-2 and 12.A-4 in Appendix 12.A of the Environmental Registration.

Modelling of the optimized operation scenario demonstrated that PM_{10} and 24-hour $PM_{2.5}$ concentrations in residential areas would meet the applicable health-based exposure levels under this scenario and annual $PM_{2.5}$ were predicted to be only slightly higher than existing background concentrations (Table 5.9). The existing background annual average $PM_{2.5}$ concentration is already above the health-based exposure level before accounting for potential Project contributions. The results indicate that air quality objectives can be achieved through the proposed monitoring and adaptive management measures.

Residential receptors may also be exposed indirectly through the deposition of dust and associated metals. Deposition modelling indicates that dustfall rates decrease rapidly with distance from the Project Area. The highest predicted dustfall rates at residential receptors occur at the two Appleton residences (Receptor Locations 1 and 2), where predicted deposition rates range between approximately 1 and 2 g/m²/30 days. Predicted dustfall rates at the other residential receptor locations are less than 1 g/m²/30 days. These deposition rates are substantially below the Ontario dustfall guideline of 7 g/m²/30 days, which is commonly used as a screening benchmark for evaluating potential off-site dust deposition effects. This modelling indicates a low potential for measurable dust accumulation or nuisance-related effects at residential locations. Dust suppression, ambient air monitoring, and adaptive management measures would further reduce the potential for particulate deposition outside the Project Area.

Overall, the assessment indicates that potential air quality effects on residential areas would be localized, infrequent, and low in magnitude. With implementation of the proposed mitigation and adaptive management measures, residual effects on residential areas are not expected to be significant.

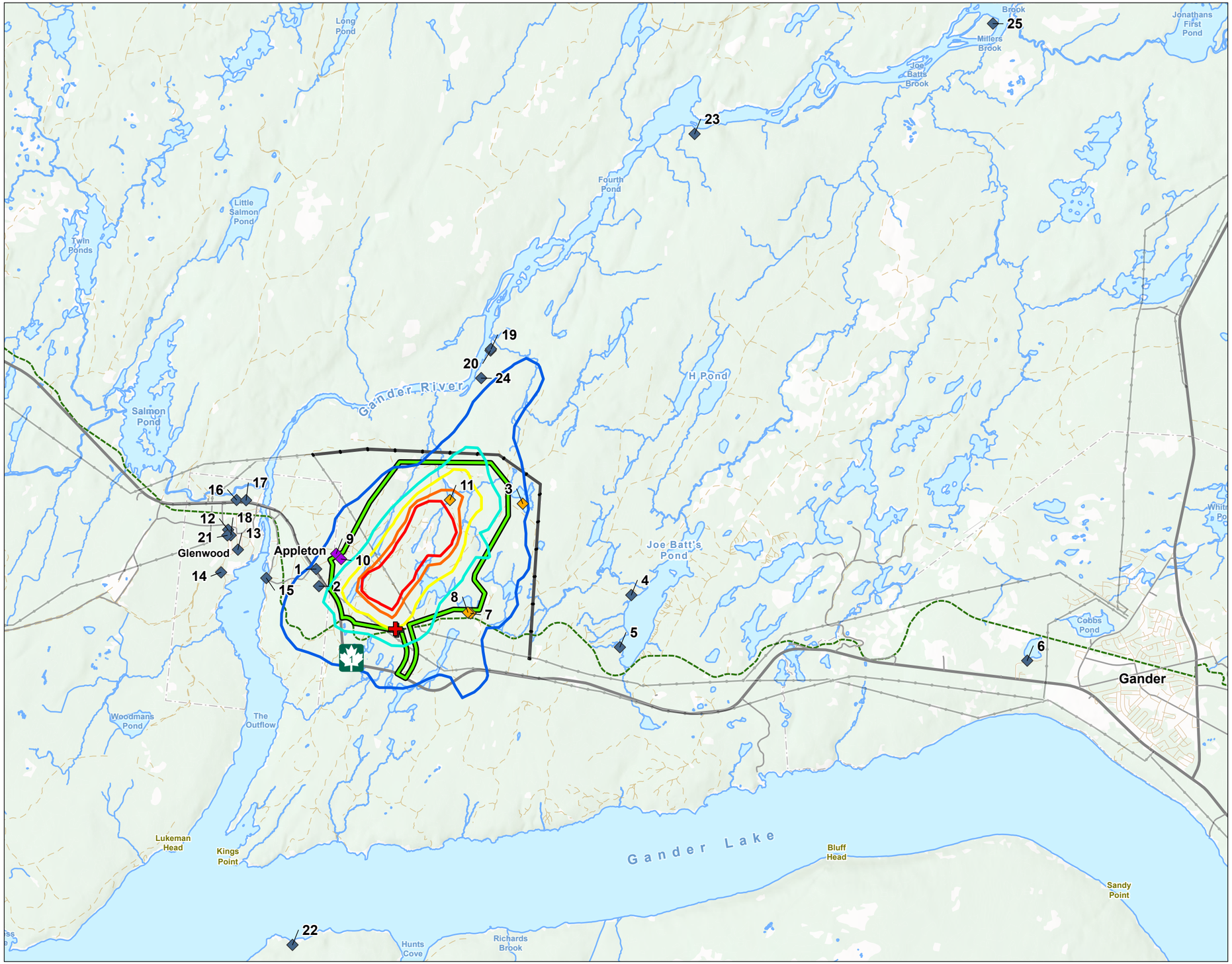


Figure No.

5.10

Title

Sensitive Receptor Locations and Total Particulate Deposition, Maximum Predicted 30-day Deposition Flux (g/m^2)

Client/Project

121418830_039

New Found Gold Corp.
Queensway Gold Project

Project Location
North Gander Lake
Newfoundland and Labrador

Prepared by NW on 2026-10-02
QR by PM on 2026-10-16
TR by DO on 20216-10-02

N

0 1 2 4 km

(At original document size of 11x17)
1:83,000

Legend

- Project Area

Receptors

- Sensitive Receptor
- Offices/Industrial
- Other Potential Receptor

Total Particulate Deposition Maximum Predicted 30-day Deposition Contours (no background)

- 1 g/m^2
- 2 g/m^2
- 3 g/m^2
- 5 g/m^2
- 7 g/m^2
- Max Deposition 2.9 µg/m^3

Existing Infrastructure

- Transmission Line
- Proposed Transmission Line (Re-routing)
- Highway
- Collector
- Local / Street
- Resource Road / Trail
- NL T'Railway Provincial Park

Wetlands and Waterways

- Watercourse
- Waterbody

Other Features

- Municipal Boundary



Notes

1. Coordinate System: NAD 1983 CSRS MTM 2
2. Data Sources: New Found Gold Corp.; Stantec; Government of Newfoundland and Labrador, Department of Environment, Conservation and Climate Change, Department of Forestry, Agriculture and Lands - Land Use Atlas Mapping Service, Department of Municipal and Community Affairs; National Road Network, Statistics Canada.
3. Background: Government of Newfoundland and Labrador, Department of Forestry, Agriculture and Lands - Land Use Atlas Mapping. Topographic Mapping - Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community, Esri, USGS, Esri, NASA, NGA, USGS

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5.2.4.2.4 Commercial Areas

Commercial receptors within the modelled area consist primarily of office and workplace environments in Appleton and the immediate vicinity of the Project. Receptor Locations 9 and 10 represent office buildings associated with the New Found Gold and its subcontractors, where employees, contractors, and visitors may be present during normal working hours. Potential exposure at these locations would occur primarily through the inhalation of Project-related air contaminants, including nitrogen dioxide NO_2, PM_{10}, and $PM_{2.5}$, while individuals are outdoors or through the exchange of ambient air with indoor environments.

The human health assessment evaluated commercial receptors using 24-hour and annual averaging periods consistent with the WHO health-based exposure levels. These averaging periods are inherently conservative for commercial receptors because they assume continuous occupancy throughout the entire averaging period, whereas office workers and visitors would not typically be present at these locations continuously for 24 hours per day or throughout an entire year. Consequently, the assessment overestimates actual exposure duration that would be experienced by commercial workers and visitors.

Under the full operational scenario, predicted exceedances of health-based exposure levels at commercial receptors were limited primarily to Receptor Locations 9 and 10, which are among the closest non-residential receptors to Project activities. No exceedances of the 1-hour NO_2 health-based exposure level were predicted. Predicted 24-hour NO_2 and $PM_{2.5}$ concentrations above the WHO guideline were infrequent, while 24-hour PM_{10} concentrations exceeded the health-based exposure level up to 10% of the year. Predicted 24-hour $PM_{2.5}$ concentrations remained below the applicable short-term health-based exposure level. Annual $PM_{2.5}$ concentrations at these receptors marginally exceeded the WHO annual guideline; however, Appendix 12.A of the Environmental Registration notes the background annual average $PM_{2.5}$ concentration (5.2 µg/m³) already exceeds the health-based exposure level of 5 µg/m³, and the background annual average PM_{10} concentration (13 µg/m³) is approaching the annual level of 15 µg/m³. As a result, incremental contributions from the Project are superimposed on an existing regional PM burden that is already at or near health-based benchmarks. Overall, the assessment concluded that predicted exceedances would be localized, infrequent, and unlikely to result in adverse health effects for commercial workers. Detailed results are presented in Tables 12.A-2, 12.A-4, and 12.A-5 in Appendix 12.A of the Environmental Registration.

Modelling of the optimized operation scenario demonstrated that PM_{10} and 24-hour $PM_{2.5}$ concentrations would meet the applicable health-based exposure levels under this scenario (or, in the case of annual $PM_{2.5}$, represent a negligible change from background concentrations), as shown in Table 5.9. The results indicate that air quality objectives can be achieved through the proposed monitoring and adaptive management measures.Atmospheric deposition at commercial receptor locations is also predicted to be low, with dustfall rates remaining well below established screening benchmarks. Consequently, Project-related dust deposition is not expected to result in measurable dust accumulation on commercial buildings, parking areas, vehicles, or outdoor workspaces, nor is it expected to interfere with normal commercial activities.

5.2.4.2.5 Tourist Areas, Recreational Areas, and Outfitters

Tourism and outfitting activities in the region are closely linked to outdoor recreation and natural resource use. The Gander River is well-known for recreational Atlantic salmon angling and is used by several outfitting operations, including Bear Cliff Lodge and other licensed outfitters operating within the broader watershed. Recreational users of the area participate in activities such as guided fishing, boating, wildlife viewing, hiking, hunting, berry picking, snowmobiling, and ATV use. The T'Railway, which passes south of the Project Area, is a regionally important recreational corridor used for both motorized and non-motorized recreation, including ATV use, snowmobiling, walking, and cycling.

The potential exposure of tourists, recreational users, and outfitter clients would occur primarily through the inhalation of Project-related air contaminants while participating in outdoor activities. The human health evaluation (Appendix 12.A of the Environmental Registration) assessed several receptor locations that are representative of these activities. Receptor Locations 7 and 8 (structures for which New Found Gold is currently engaged in negotiations with property owners regarding potential purchase or relocation) provide a reasonable representation of users of the nearby T'Railway and adjacent recreational lands. Receptor Locations 15, 19, 20, and 24 are located near the Gander River and associated waterbodies where recreational fishing, boating, and outfitting activities occur. These receptor locations represent conservative exposure scenarios because they assume an individual remains present at the receptor location for the entire averaging period used in the assessment, whereas actual recreational and tourism activities are generally intermittent and of shorter duration.

Under the full operational scenario, predicted exceedances of health-based air quality guidelines at recreational and tourism-related receptors were infrequent (Tables 12.A-2 and 12.A-4 in Appendix 12.A of the Environmental Registration). For example, at Receptor Locations 7 and 8, 24-hour NO_2 concentrations remained below the applicable health-based exposure level, while 24-hour PM_{10} concentrations exceeded the WHO health-based exposure level approximately 9.0% and 10.4% of the year, respectively. Predicted $PM_{2.5}$ concentrations remained below the short-term health-based exposure level at both receptors, and annual concentrations were only modestly above the WHO guideline because regional background concentrations are already at or near the guideline value. Similar results were predicted for receptors located near the Gander River, where 24-hour PM_{10}, $PM_{2.5,}$ and NO_2 concentrations either remained below health-based exposure levels or exceeded them only infrequently. Additional modelling completed for the optimized operational scenario predicted PM_{10} and $PM_{2.5}$ concentrations that met the applicable short-term health-based exposure levels, and annual $PM_{2.5}$ concentrations that reflect only a minor incremental contribution above existing background conditions, demonstrating that adaptive management can effectively reduce particulate matter emissions and associated human health risks. Overall, the assessment indicates that effects to air quality are unlikely to result in adverse health effects for people at tourist areas, recreational areas and outfitters.

The atmospheric dispersion modelling indicates that the highest concentrations of Project-related air contaminants are localized near the Project Area and decrease rapidly with distance from the primary emission sources. Recreational destinations and outfitting operations associated with the Gander River system and surrounding resource-use areas are located beyond the areas where the highest air contaminant concentrations are predicted. Similarly, particulate deposition modelling indicates that dustfall rates decrease substantially with distance from the Project footprint and are expected to be low at tourism and outfitting locations. Consequently, the potential for direct inhalation exposure or indirect exposure through deposited particulate matter at these receptor locations is expected to be low.

Atmospheric deposition was also evaluated as a potential pathway affecting recreational users and outfitter clients. Predicted dustfall rates at receptor locations associated with the T'Railway, recreational trail use, and the Gander River recreation and outfitting areas are generally less than 1 g/m²/30 days and decline substantially with increasing distance from the Project Area. These rates are well below the Ontario dustfall guideline and indicate a low potential for visible dust accumulation on trails, boats, fishing equipment, vehicles, cabins, vegetation, or other recreational assets. Considering the relatively low predicted dustfall rates, the rapid decrease in deposition with distance, and the implementation of mitigation and adaptive management measures, the potential for indirect human exposure through atmospheric deposition is considered low therefore not expected to result in adverse effects to human health.

5.2.4.3 Effects on Ecological Receptors

Project air emissions (details on Project air emissions and predicted changes in air quality are provided in Chapter 7 of the Environmental Registration) may cause changes in air quality, potentially resulting in exposure of ecological receptors through both direct and indirect pathways. In Chapter 11 of the Environmental Registration, it is noted that activities associated with Project construction and operation have the potential to interact with the Terrestrial Environment, potentially affecting vegetation, wetlands, avifauna, and other wildlife, namely: vegetation, wetlands, and avifauna and other wildlife, comprising avifauna, bats, large mammals, furbearers, small mammals, and insects.

The assessment of effects on ecological receptors is supported by atmospheric dispersion modelling and particulate deposition modelling completed for the Project. Atmospheric dispersion modelling was used to predict ground-level concentrations of air contaminants (NO_2 and sulphur dioxide [SO_2]) while deposition modelling was used to characterize the distribution and magnitude of dust and associated metal deposition across the 50 km by 50 km modelled area.

Direct exposure to contaminants in ambient air is relevant primarily to vegetation, including vascular plants, sensitive lichen communities, and agricultural crops. Gaseous air contaminants, particularly nitrogen oxides and SO_2, may be taken up directly by above-ground plant tissues and have the potential to affect plant health, growth, species composition, or ecosystem function where concentrations exceed ecological effect thresholds. Ecological receptors may also be exposed indirectly through the deposition of airborne contaminants onto vegetation, soils, wetlands, surface water bodies, and other environmental media. Atmospheric deposition of particulate matter and associated contaminants can influence soil and water quality and may subsequently affect vegetation and other ecological receptors through terrestrial and aquatic exposure pathways.

To evaluate the potential for direct effects of air emissions on vegetation, predicted concentrations of NO_2 and SO_2 were compared with ecological benchmarks developed specifically for the protection of vegetation. Although the Canadian Ambient Air Quality Standards (CAAQS) include environmental considerations, they were developed primarily as air quality management objectives and were not intended as facility-specific, effects-based criteria for ecological risk assessment. Therefore, benchmarks developed under the United Nations Economic Commission for Europe (UNECE) Convention on Long-range Transboundary Air Pollution were selected for this assessment (Mills et al. 2017). The UNECE critical levels are toxicity-based thresholds intended to protect sensitive vegetation from the adverse effects of air pollutants and include receptor-specific values for vegetation communities known to vary in sensitivity, including lichen communities, forest ecosystems, semi-natural vegetation, and agricultural

crops. These values have been adopted by WHO (2000) and are considered appropriate for this assessment and are presented in Table 5.10.

Table 5.10 UNECE Ecological Benchmarks for Vegetation

Contaminant	Averaging Period	Critical Level (µg/m³)	Receptor
NO_2	Annual mean	30	All vegetation
SO_2	Annual mean	10	Cyanobacterial lichens
SO_2	Annual mean and winter half-year mean	20	Forest ecosystems
SO_2	Annual mean and winter half-year mean	20	Semi-natural vegetation
SO_2	Annual mean and winter half-year mean	30	Agricultural crops

Source: Mills et al. (2017)

The potential for indirect effects of air emissions on vegetation and wildlife (deposition of particulate matter and associated contaminants) are assessed in Chapter 11 of the Environmental Registration as dust deposition.

Based on the above, the following discussion focuses on the potential ecological effects associated with Project-related air contaminant emissions, including direct exposure of vegetation to nitrogen oxides and SO_2, and indirect exposure associated with atmospheric deposition.

5.2.4.3.1 Sensitive Habitats and Vegetation

The Project Area and surrounding geography (i.e., the modelled area) support a variety of vegetation communities, wetlands, and wildlife habitats (Chapter 11 of the Environmental Registration). Baseline studies documented wetland and upland vegetation communities (from barrens, wooded, and wetland areas) that were native plants, invasive plants, SAR, and SOCC. Lichen communities were also documented, as were agricultural lands in the modelled area.

Nitrogen oxides and SO_2 were identified as the primary air contaminants with the potential to directly affect vegetation through uptake from ambient air. Predicted concentrations were compared with toxicity-based ecological benchmarks developed specifically for vegetation protection. The maximum predicted annual NO_2 concentration was 11 µg/m³, which is well below the UNECE critical level of 30 µg/m³ for vegetation. Similarly, the maximum predicted annual SO_2 concentration was 6 µg/m³, which is below the most conservative UNECE critical level of 10 µg/m³ established for sensitive cyanobacterial lichens and below the critical levels established for forest ecosystems, semi-natural vegetation, and agricultural crops. Accordingly, direct exposure to Project-related NO_2 and SO_2 emissions is not expected to adversely affect vegetation communities, wetlands, agricultural areas, or sensitive lichen habitats within the assessment area

Project-related particulate emissions also provide an indirect ecological exposure pathway through atmospheric deposition to terrestrial ecosystems. The predicted dust deposition pattern was reviewed relative to mapped wetlands, sensitive vegetation communities, species at risk habitat, and species of conservation concern observations.

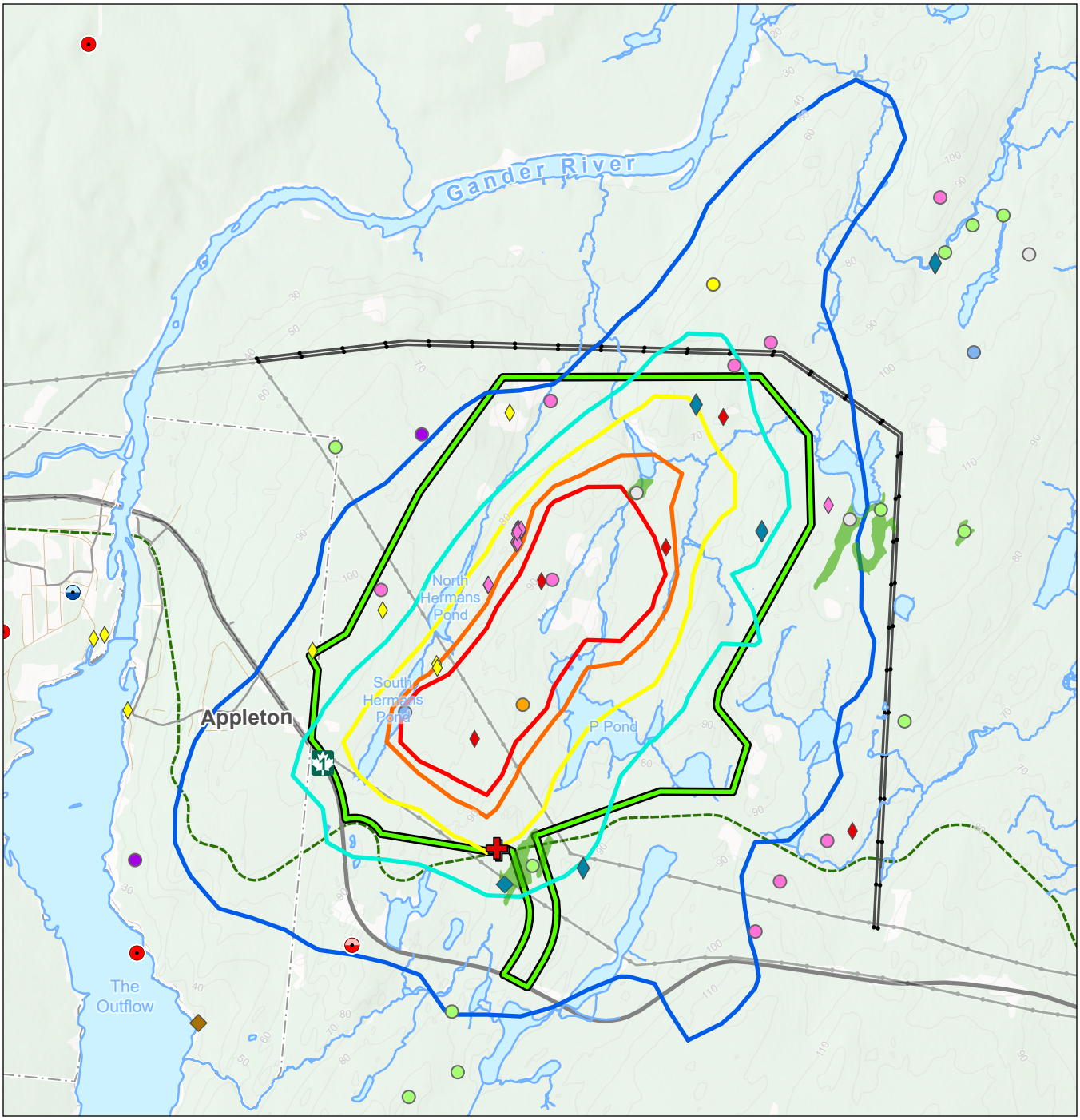
As shown on Figure 5.11, the maximum predicted particulate deposition rate is 2.9 g/m² per 30 days, which is below the Ontario dustfall guideline of 7 g/m² per 30 days. In addition, mapped species at risk habitat occurs outside the 7 g/m²/30-day deposition contour, and most mapped species of conservation concern observations are also located outside this contour. Consequently, the areas receiving the highest rates of particulate deposition are limited to locations immediately adjacent to Project activities and do not overlap the majority of identified sensitive ecological receptors. Atmospheric deposition of particulate matter may result in localized accumulation of dust on vegetation and soils near active Project activities; however, deposition rates decrease rapidly with distance from emission sources and are not expected to result in measurable adverse effects on vegetation communities, wetlands, species at risk habitat, or other sensitive ecological features.

5.2.4.3.2 Species of Conservation Concern, Wildlife and Livestock

The Project Area and surrounding area supports habitat for a variety of wildlife species, including SAR and SOCC identified during baseline studies. Livestock such as horses, poultry, and other domesticated animals associated with rural residential properties may also be present within the modelled area. Potential ecological exposure of wildlife and livestock to Project-related air emissions occurs primarily through indirect pathways. Unlike vegetation, which may be directly exposed to gaseous air contaminants through uptake from ambient air, wildlife exposure is expected to occur through contact with, or ingestion of, environmental media affected by atmospheric deposition. Potential exposure pathways include incidental ingestion of soil or sediment, ingestion of vegetation with deposited particulate matter, ingestion of prey species, and use of habitats where dust deposition may occur.

Predicted concentrations of NO_2 and SO_2 are below applicable ecological benchmarks developed for the protection of vegetation, including critical levels established for sensitive lichen communities, forest ecosystems, semi-natural vegetation, and agricultural crops. The maximum predicted annual NO_2 concentration is 11 µg/m³, compared with a vegetation benchmark of 30 µg/m³, while the maximum predicted annual SO_2 concentration is 6 µg/m³, below the most conservative SO_2 benchmark of 10 µg/m³ established for sensitive cyanobacterial lichens. As a result, Project-related air emissions are not expected to adversely affect vegetation communities that support wildlife habitat or food resources.

Potential wildlife/livestock exposure associated with particulate deposition is also expected to be limited. The maximum predicted dust deposition rate is 2.9 g/m²/30-days, which is below the Ontario dustfall guideline of 30 g/m²/30-days. The highest deposition rates are restricted to areas immediately adjacent to Project activities, and most mapped species of conservation concern observations occurs outside the 7 g/m²/30-day deposition contour, as indicated on Figure 5.11. Consequently, atmospheric deposition is not expected to result in substantive changes to habitat quality, forage quality, or ecological function for wildlife species, including SAR, SOCC, and livestock. Given the limited spatial extent of particulate deposition and the absence of predicted adverse effects on vegetation communities that provide habitat and food resources, Project-related air emissions are not expected to result in adverse effects on wildlife populations, SAR, SOCC or livestock.



Legend

Project Area

Total Particulate Deposition Maximum Predicted 30-day Deposition Contours (no background)

- 1 g/m²
- 2 g/m²
- 3 g/m²
- 5 g/m²
- 7 g/m²
- Max Deposition 2.9 µg/m³

Species at Risk / Species of Conservation Concern

AC CDC Rare Species (Accuracy in metres) [2]

- Rare Fauna (1000)
- Rare Fauna (10000)
- Rare Flora (10000)

Species at Risk (Stantec 2026)

- Red Pine, *Pinus resinosa*

Species of Conservation Concern (Stantec 2026)

- Transverse Lady Beetle
- Yellow-banded Bumble Bee

Species of Conservation Concern (Stantec 2024)

- Black Chokeberry, *Aronia melanocarpa*

Species of Conservation Concern (GEMTEC 2024)

- Black Chokeberry, *Aronia melanocarpa*
- Cyperus-Like Sedge, *Carex pseudocyperus*
- Gray-cheeked Thrush
- Least Flycatcher
- Olive-sided Flycatcher
- Evening Grosbeak
- Nashville Warbler
- Olive-sided Flycatcher
- Yellow-bellied Sapsucker
- Species at Risk Habitat (GEMTEC 2022)

Existing Infrastructure

- Transmission Line
- Proposed Transmission Line (Re-routing)
- Highway
- Collector Road
- Local Road
- NL T'Railway Provincial Park

Waterways

- Watercourse
- Waterbody

Other Features

- Contour (10 m)
- Municipal Boundary

0 250 500 750 metres

(At original document size of 8.5x11)
1:45,000

N

Stantec

Project Location
Appleton,
Newfoundland and Labrador

Prepared by NW on 2026-10-02
TR by PM on 2026-10-16
TR by DO on 2026-10-02

Client/Project
New Found Gold Corp.
Queensway Gold Project

121418830_032

Figure No.
5.11

Title
Sensitive Species and Total Particulate Deposition, Maximum Predicted 30-day Deposition Flux (g/m²)

Notes

1. Coordinate System: NAD 1983 CSRS UTM Zone 21N
2. AC CDC (Atlantic Canada Conservation Data Centre) occurrence records are qualified with varying degrees of spatial and temporal precision. Interpretations of this map should be conducted in relation with the report.
3. Data Sources: Stantec; GEMTEC; GovNL Department of Forestry, Agriculture and Lands; CanVec NRCan; Newfound Gold Corp.
4. Background: Government of Newfoundland and Labrador; NRCan CanVec; Esri, NASA, NGA, USGS

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5.2.4.3.3 Ecological Reserves

The NL Natural Areas Program noted that a public nomination has been submitted to the Wilderness and Ecological Reserves Advisory Council to establish an ecological reserve in an area known locally as Charlie's Place. Although Charlie's Place is located more than 10 km southwest of the terrestrial RAA (Chapter 11 of the Environmental Registration), it contains several rare plant species that could potentially be sensitive to changes in regional air quality. As a result, Charlie's Place was considered in the evaluation of potential ecological effects associated with Project-related air emissions.

As discussed in Sections 5.2.4.3.1 and 5.2.4.3.2 of this EPR, the maximum predicted annual NO2 concentration (11 µg/m³) and SO2 concentration (6 µg/m³) are below ecological benchmarks established for the protection of sensitive vegetation, including lichen communities, forest ecosystems, semi-natural vegetation, and agricultural crops. Similarly, the maximum predicted dust deposition rate of 2.9 g/m²/30-days is below the Ontario dustfall guideline of 7 g/m²/30-days. Because predicted deposition rates decrease rapidly with distance from the Project and concentrations at the Project boundary already meet applicable ecological benchmarks and dustfall guidelines, no measurable changes in air quality or deposition-related effects are expected at Charlie's Place. Consequently, Project-related air emissions are not expected to adversely affect the ecological values for which the area has been proposed for protection.

5.2.5 Greenhouse Gas Emissions Reporting and Mitigation Measures

As discussed in Section 4.3.9 of this EPR and based on the GHG estimates completed, the Project is estimated to release approximately 24,643 t of carbon dioxide equivalent (t CO_2e) in the peak year of operation from direct activities, through the use of diesel combustion in mobile equipment (80%), stationary equipment (17%), and blasting (2%). An additional 107 t CO_2e from indirect electricity use in the peak year at the Project is planned (electricity from the provincial grid).

The NL *Management of Greenhouse Gas Act* (the GHG Act) requires that industrial facilities with GHG emissions that exceed 15,000 t CO_2e annually quantify and report the facility's emissions. For facilities with GHG emissions that exceed 25,000 t CO_2e annually, the *Management of Greenhouse Gas Reporting Regulations* (14/17, the GHG Regulations), under the GHG Act, requires third-party verification of *Emissions Reports and the Management of Greenhouse Gas Regulations* 116/18 (under the GHG Act) sets out emission reduction targets. As such, it is expected that the New Found Gold will have to quantify and report GHG emissions from activities during operation, may be required to have the Emissions Report verified, and may be required to reduce GHG emissions over time.

At the federal level, ECCC operate the GHG Reporting Program (GHGRP) under the *Canadian Environment Protection Act*. Facilities that release 10,000 t CO_2e annually are required to quantify and report GHG emissions to the GHGRP. It is expected that New Found Gold will participate in the GHGRP during operation.

A BACT GHG assessment was conducted for the Project as part of the Environmental Registration (Appendix 4.C of the Environmental Registration). Under the *Management of Greenhouse Gas Regulations*, BACT requirements apply to industrial facilities that are subject to the Regulations (facilities that emit 25,000 tonnes of CO_2e or more in any year) and that are being registered under the Provincial EA process. The objective of the BACT assessment was to identify the technologies that could reduce GHG emissions from Project activities over a "business as usual" case. Because mining equipment has traditionally relied on diesel combustion for energy, the combustion of diesel in mining equipment is considered business as usual. The scope of the BACT assessment followed the reporting scope of the GHG Regulations. In general, activities that occur within the Project's physical footprint for the purpose of production and that are controlled by New Found Gold were included. The BACT that were identified are presented in Table 5.11 and will be implemented as part of Project operation.

Table 5.11 BACT Selection

Project Component	Technologies	Notes
Mobile Equipment	• Diesel, biodiesel, renewable diesel	• Biodiesel must be blended with diesel at a rate appropriate to the equipment manufacturer's specification. Use is limited in colder months. • Renewable diesel offers the lowest GHG emissions intensity but is not currently economically feasible for the Project. • Fuel carbon intensity is subject to the *Clean Fuel Regulation*, regardless of type of diesel used.
Stationary Equipment	• Grid electricity	• Availability of electricity is subject to substation construction timing and provision of electricity by NL Hydro.

The sourcing of diesel will depend on Project economics and diesel costs at the time. It is anticipated that diesel will be sourced from local suppliers that comply with the *Clean Fuel Regulation*.

5.3 Surface Water, Groundwater and Water Resources

In the Environmental Registration, existing conditions related to surface water resources, the aquatic environment, and water management are described in Sections 4.1.2.6 and 4.4.10. The Environmental Registration also includes groundwater modelling (Appendix 8.A of the Environmental Registration) and surface water modelling (Appendices 9.A and 9.B of the Environmental Registration). Chapter 8 and 9 of the Environmental Registration details groundwater and surface water resources as Project VCs, respectively, including a description of the existing environment, the potential effects and effect pathways, mitigation and management measures, residual environmental effects, and follow-up and monitoring programs.

Section 5.3.1 provides an overview of the information presented in the Environmental Registration on these topics to provide context for reviewers of this EPR. Also, additional information has been provided for the specific topics required by the EPR Guidelines as identified in Table 5.12, which summarizes the applicable EPR requirements and identifies where each is addressed.

Table 5.12 EPR Guidelines Requirements Related to Surface Water, Groundwater and Water Resources

Guideline Requirement	EPR Section
Assess potential effects of heavy metals on surface water and groundwater resources, including effects of arsenic, antimony, lead, and sulphur mobilization from waste rock, ore stockpiles, pit water and mine runoff.	Section 5.3.2
Describe long-term groundwater contamination pathways and seepage to the Gander River watershed.	Section 5.3.3
Assess the potential effects of mine effluent, seepage, contact water, wastewater, and water control infrastructure failures (including flooding, dam failures, and high-water events) on downstream water quality, aquatic environments, and water users, and identify appropriate mitigation and contingency measures.	Section 5.3.4
Provide a detailed mine water treatment strategy, including: • treatment methods for mine contact water • expected influent and effluent water quality • removal of dissolved metals (e.g., arsenic, lead) • contingency measures for treatment failures • post-closure water management and treatment requirements	Section 5.3.5
Assess potential environmental effects associated with acid rock drainage and metal leaching, including potential effects on groundwater, surface water, and downstream receptors, and identify mitigation, monitoring, and contingency measures.	Section 5.3.6
Assess predicted effects of construction and operation activities associated with potential changes to drainage patterns and runoff within catchment areas associated with provincial transportation infrastructure.	Section 5.3.7

5.3.1 Summary of Surface Water, Groundwater, and Water Resources

Water resources were selected as a VC because of their importance to ecosystem function, the hydrological cycle, and human and industrial/commercial uses. Surface water is an integral component of the regional environment, providing aquatic habitat, supporting downstream ecosystems, and contributing to local socio-economic and recreational values within the Gander River watershed. Groundwater resources support baseflow to streams for ecological habitat and provide fresh water for potable, industrial, and commercial purposes.

Project spatial boundaries for surface water resources include the Project Area (the immediate area in which Project activities and components occur), the Local Assessment Area (LAA, includes the Project Area and the watersheds that interact with the Project Area) and the Regional Assessment Area (RAA, incorporates the Project Area and LAA, and extends to include a larger portion of the Gander River system to provide regional context for potential effects).

While similar, spatial boundaries for groundwater resources differ slightly from those of surface water resources in that the LAA is limited to the surface watersheds that represent the possible extent of drawdown due to dewatering of the mine workings, and changes to flow or groundwater quality due to recharge from the WRSF. For groundwater, the RAA is the same as the LAA because the aquifers that interact with the Project are limited in extent due to groundwater flow divides coinciding with surface water sub-watershed boundaries.

5.3.1.1 Surface Water

Project activities that disturb the ground, such as earthworks/excavations, dewatering, and waste rock and ore handling, may affect surface water drainage patterns, changing how water flows and connects across the area. These changes could affect water levels and quality in nearby streams, ponds, and wetlands (and groundwater, as described below), depending on where, when, and how the work is done.

The Project mining activities are situated within one watershed (Hermans Pond), which reduces potential effects on surface water resources. Likewise, the Project has been designed to avoid placement of mine waste in fish-bearing waterbodies, direct losses of watercourses and waterbodies through careful planning of the infrastructure locations and shifting locations of activities away from watercourses and waterbodies. Surface runoff outside mine activity areas will be directed away from active work areas to the extent feasible and mine contact water will be directed to and collected in water management ponds via perimeter ditches.

During construction and operation, mine contact water will be collected, treated, and discharged, in compliance with MDMER discharge requirements, to the environment via two FDPs (1. P Pond [P9]; 2. North Hermans Pond [P1]). Water collected in the WRSF sedimentation ponds and ore stockpile sedimentation pond will be treated in a water treatment plant prior to discharge to the FDPs. Localized effects are expected in the receiving watercourses (Hermans Pond watercourse, Gander River) and receiving waterbodies (P Pond and North Hermans Pond) immediately downstream of the FDPs. Worst case scenario modelling indicated that the mixing zone for the treated discharge could extend up to 50 m into the Gander River before water quality is expected to return to either baseline levels or below the CWQG-FAL. It is noted that these localized effects may be overestimated due to the conservative approach taken in the supporting water quality modeling and assimilative capacity assessment. Non-contact surface waters are expected to remain at baseline conditions.

For surface water quantity, the magnitude of residual effects with the implementation of mitigation measures is predicted to be a moderate change for the individual Hermans Ponds and unnamed Gander Lake Tributary sub-watersheds. There will be reductions in mean annual flow over 10% with two sub-watersheds in the Hermans Ponds watercourse system (HP-12 and HP-14) not maintaining summer environmental flows causing potential localized residual effects.

A surface water monitoring program will be established to confirm compliance with regulatory requirements, support predictions of the Project's water quality effects, identify changes in drainage patterns and surface water flow, and determine if additional mitigation measures are required. Based on the application of mitigation measures, including a WaMP, best management practices, and New Found Gold's commitment to comply with applicable federal and provincial regulatory requirements, residual environmental effects on Surface Water Resources are predicted to be not significant.

5.3.1.2 Groundwater

Project activities could influence groundwater quantity through localized drawdown associated with open pit dewatering and the construction of impervious surfaces through construction, which may alter groundwater flow patterns, recharge, and discharge to surface water and wetlands. The main residual effect on groundwater quantity (i.e., water table lowering) will occur during the operation phase, with minor water level decreases remaining during closure, as the open pits fill and groundwater levels recover. There are no known third-party groundwater users located within the portion of the LAA/RAA where groundwater level decreases are predicted.

Earthworks activities and contact seepage release may also change groundwater chemistry, potentially degrading water quality in the context of applicable guidelines. The release of contact seepage from Project components (i.e., overburden storage facility, ore stockpile, and WRSF) will be mainly confined to the Project Area, with some modelled groundwater flow paths from the Project components extending to the LAA/RAA. No potable groundwater users are known within the predicted pathways for seepage from Project components, therefore, the Project's residual effects on groundwater quality are predicted to be not significant.

Effects to groundwater resources will be mitigated by the installation of interception wells between the Project components and the receptor or using deep sumps within the perimeter drainage ditches of these Project components that will intercept the seepage as required to allow for treatment prior to discharge to the environment. A groundwater monitoring program will be developed based on regulatory requirements for both quantity and quality that will be conducted during construction and operations and continued during closure. An annual report documenting water quality and groundwater level effects in a monitoring well network across the Project Area will be produced as part of the groundwater monitoring program.

5.3.2 Effects of Heavy Metals on Water Resources

Potential effects of metals, including heavy metals, and other parameters (e.g., nutrients, general chemistry) on water resources and human health were evaluated as part of the Environmental Registration: Groundwater Resources VC assessment (Chapter 8), Surface Water Resources VC assessment (Chapter 9), and the Evaluation of Human Health Effects (Appendix 12.A of the Environmental Registration).

For the purposes of evaluating changes in surface water quality, PoPCs were identified by comparing baseline monitoring 75th percentile concentration results and predicted effluent water quality (discharge from sedimentation ponds and water treatment plant of collected and treated surface water runoff and stockpile seepage) and stockpile seepage from the water quality model to applicable CCME CWQG-FAL guidelines.

In addition to the PoPCs identified in Table 4.31, *in situ* pH, total aluminum, and total iron were also identified as PoPCs based on comparing 75th percentile baseline monitoring concentrations to applicable CWQG-FAL guidelines. Arsenic was also predicted to exceed MDMER guidelines from groundwater seepage during the operation and closure phases. Groundwater seepage from the WRSF, overburden storage facility, or ore stockpiles will be intercepted by wells or deep sumps within the contact water ditches and conveyed to the collection ponds for treatment prior to discharge to local surface water receivers. With the planned interception and treatment, untreated groundwater seepage is not expected to reach the Gander River.

New Found Gold estimated the quality of (1) surface water runoff and seepage associated with the Project facilities from the construction/operation phase through the post-closure phase, and (2) the quality of effluent discharge at each FDP and pit overflow during different phases of the Project (Appendix 9.A of the Environmental Registration). Results from the water quality model for the open pits and water management ponds under the Normal – Expected Case scenario (i.e., the model scenario that represents the likeliest water quality conditions at the Project) and associated mitigation measures are summarized in the following sub-sections and in Section 9 and Appendix 9.A of the Environmental Registration.

5.3.2.1 Open Pits

For the Keats pit, total arsenic concentrations (median: 0.150 mg/L, range: 0.0952 mg/L to 0.621 mg/L) are expected to exceed the MDMER maximum limit of 0.2 mg/L from the onset of pit filling to approximately the end of Mine Year 3 to below the MDMER monthly mean limit of 0.1 mg/L when the pit is predicted to overflow in Mine Year 25. Concentrations of arsenic are not expected to exceed MDMER limits during pit dewatering (median: 0.025 mg/L, range: 0.0122 mg/L to 0.0871 mg/L) or pit overflow (post-closure) (median: 0.0594 mg/L, range: 0.0377 mg/L to 0.0948 mg/L) phases. The concentrations of other metals with MDMER limits (i.e., copper, lead, nickel, zinc) are expected to remain below their respective limits during the entire life of the pit. Sulphate concentrations at Keats pit are generally low during pit dewatering (median: 3.68 mg/L, range: 2.94 mg/L to 6.36 mg/L), spike at the start of pit filling and gradually decrease as the pit fills (median: 6.23 mg/L, range: 4.67 mg/L to 18 mg/L) and continue to decrease over time during the pit overflow phase (median: 3.52 mg/L, range: 2.83 mg/L to 4.65 mg/L). Antimony concentrations at Keats pit follow the same pattern, which are generally low during the pit dewatering (median: 0.0421 mg/L, range: 0.0226 mg/L to 0.138 mg/L), spike at the start of pit filling and gradually decrease as the pit fills (median: 0.0744 mg/L, range: 0.0519 mg/L to 0.237 mg/L), and continue to decrease over time during the pit overflow phase (median: 0.0352 mg/L, range: 0.0252 mg/L to 0.0518 mg/L.

For Iceberg pit, total arsenic concentrations (median: 0.0346 mg/L, range: 0.0199 mg/L to 0.102 mg/L) are expected to marginally exceed MDMER monthly mean limit of 0.1 mg/L during the summer months of Mine Years 2 and 3 (pit dewatering). During the pit filling phase, total arsenic concentrations (median: 0.0860 mg/L, range: 0.0483 mg/L to 0.162 mg/L) are expected to exceed the MDMER monthly mean limit of 0.1 mg/L but be below the limit when the pit overflows to the environment in Mine Year 31. Total arsenic concentrations (median: 0.0621 mg/L, range: 0.0540 mg/L to 0.0723 mg/L) are expected to be below MDMER criteria at the onset of pit overflow and continue to decrease over time. The concentrations of other metals with MDMER limits are expected to remain below their respective limits during the entire life of the pit. Sulphate concentrations at Iceberg pit are generally lower during the dewatering phase (median: 4.46 mg/L, range: 3.37 mg/L to 19.5 mg/L) compared to pit filling (median: 10.9 mg/L, range: 8.15 mg/L to 53.7 mg/L). Once pit overflow is established, modelled sulphate concentrations (median: 6.86 mg/L, range: 5.85 mg/L to 8.12 mg/L) steadily decline and stabilize. Antimony concentrations at Iceberg pit are generally low during the dewatering phase (median: 0.00231 mg/L, range: 0.00159 mg/L to 0.005388 mg/L), increase slightly during the pit filling (median: 0.00327 mg/L, range: 0.00272 mg/L to 0.0052 mg/L), and steadily decline and stabilize during pit overflow (median: 0.00236 mg/L, range: 0.00207 mg/L to 0.00272 mg/L).

For the Dome pit, concentrations of metals with MDMER limits are expected to remain below their respective limits during the entire life of the pit. Antimony concentrations are generally lower during pit dewatering (median: 0.00162 mg/L, range: 0.00114 mg/L to 0.00243 mg/L), increase during pit filling (median: 0.00265 mg/L, range: 0.00217 mg/L to 0.00307 mg/L), and stabilize during pit maintenance (median: 0.00213 mg/L, range: 0.00197 mg/L to 0.00828 mg/L). Sulphate concentrations are higher in the pit dewatering (median: 3.59 mg/L, range: 3.3 mg/L to 4.21 mg/L), steadily decrease in pit filling (median: 3.22 mg/L, range: 3.05 mg/L to 3.43 mg/L), and decrease and stabilize in pit maintenance (median: 2.44 mg/L, range: 2.3 mg/L to 3.07 mg/L). The water level in Dome pit is not expected to rise above the spillway crest elevation and overflow but instead reaches a stable maximum elevation in Mine Year 6.

For the Jackpot pit, total arsenic concentrations during pit dewatering (median: 0.0489 mg/L, range: 0.0203 mg/L to 0.104 mg/L) are predicated to marginally exceed the MDMER monthly mean limit of 0.1 mg/L during July and August in Mine Years 1 and 2. During pit filling, total arsenic concentrations (median: 0.107 mg/L, range: 0.0811 mg/L to 0.117 mg/L) are expected to fluctuate close to or above the MDMER monthly mean limit of 0.1 mg/L during the entirely of the phase, but are not expected to exceed the MDMER maximum limit of 0.2 mg/L. During pit maintenance, total arsenic concentrations (median: 0.0621 mg/L, range: 0.0540 mg/L to 0.0723 mg/L) are expected to be above the MDMER monthly mean limit for the first year of the phase but then decline and stabilize at concentrations below the guideline. The concentrations of other metals with MDMER limits are expected to remain below their respective limits during the entire life of the pit. Sulphate concentrations in Jackpot pit are generally lower during pit dewatering (median: 3.92 mg/L, range: 3.07 mg/L to 6.38 mg/L), slightly increase during in pit filling (median: 4.3 mg/L, range: 3.98 mg/L to 4.69 mg/L), before stabilizing during pit maintenance (median: 4.14 mg/L, range: 3.9 mg/L to 4.38 mg/L). Antimony concentrations during pit dewatering (median: 0.0028 mg/L, range: 0.00159 mg/L to 0.00548 mg/L), spike during pit filling (median: 0.00507 mg/L, range: 0.00402 mg/L to 0.00544 mg/L), and decrease and stabilize during pit maintenance (median: 0.00247 mg/L, range: 0.00228 mg/L to 0.0052 mg/L). The water level in Jackpot pit is not expected to rise above the spillway crest elevation and overflow but instead reach a stable maximum elevation in Mine Year 11.

5.3.2.2 Water Management Ponds

For the WRSF ponds (WR-SP-01 and WR-SP-02), total arsenic concentrations in the operation phase (median: 0.193 mg/L, range: 0.00518 mg/L to 0.596 mg/L) are expected to increase sharply during the initial years of mining and exceed applicable MDMER limits starting in approximately Mine Year 3. Total arsenic concentrations fluctuate seasonally but remain elevated relative to MDMER limit into active closure (median: 0.164 mg/L, range: 0.0508 mg/L to 0.449 mg/L) until the ponds are decommissioned at the end of Mine Year 8. The collected water in the WRSF ponds will be pumped to the ore stockpile pond and then be treated for arsenic via a water treatment plant prior to discharge to the environment at the two FDPs (1. P Pond [P9]; 2 North Hermans Pond [P1]). The concentrations of other metals with MDMER limits are expected to follow the same trend as arsenic but do not exceed the criteria at any point during the operation and active closure phases. Sulphate concentrations are expected to increase during operation (median: 17.5 mg/L, range: 0.375 mg/L to 61.3 mg/L) and begin to decrease during active closure (median: 19.3 mg/L, range: 6.05 mg/L to 52.5 mg/L). Antimony concentrations are expected to increase during operation (median: 0.0104 mg/L, range: 0.000231 mg/L to 0.0342 mg/L) and decrease during active closure (median: 0.00895 mg/L, range: 0.00277 mg/L to 0.0246 mg/L).

For the overburden storage facility pond (OB-SP-01), the concentrations of most parameters are expected to fluctuate seasonally and follow a generally increasing trend through the operation phase until it is decommissioned by way of material placement to cover the WRSA, ore pad and process area at the end of Mine Year 7. No applicable parameters, including arsenic, are expected to exceed MDMER limits. The concentrations of antimony and sulphate are expected to be half an order to a full order of magnitude lower than in the WRSF ponds.

For the ore stockpile pond, total arsenic concentrations in the operation phase from the ore stockpile surface runoff and seepage (median: 0.186 mg/L, range: 0.0191 to 0.359 mg/L) are expected to be above the MDMER mean monthly limits and similar in active closure (median 0.165 mg/L, range 0.104 to 0.360 mg/L)) prior to decommissioning of the other ponds in Mine Year 8. Water from the ore stockpile pond, including collected water from the WRSF facilities, will be treated prior to discharge via the two FDPs. Concentrations of other metals subject to MDMER limits are expected to show trends similar to arsenic but are not predicted to exceed their respective limits during the operation or active closure phases. The implementation of arsenic treatment would also be expected to further reduce concentrations of these metals, depending on the treatment method used. The combined water quality of the ore stockpile surface runoff and seepage and pumped water from the waste rock stockpiles in the ore stockpile pond is predicted to have sulphate concentrations following a generally increasing trend during the operation phase (median: 6.03 mg/L, range: 2.05 mg/L to 15.7 mg/L) and declining in active closure (median: 6.52 mg/L, range: 3.06 mg/L to 16.2 mg/L). Generally, antimony concentrations during operation (median: 0.00408 mg/L, range: 0.00135 mg/L to 0.00898 mg/L) and active closure (median: 0.00343 mg/L, range: 0.00212 mg/L to 0.00922 mg/L) remain stable.

Water from the WRSF ponds that is pumped to the ore stockpile pond and its outflow will be treated for arsenic prior to discharge to the environment at the two FDPs.

5.3.2.3 Effluent Discharge

Characterization, prior to discharge, of any effluent planned to be discharged into the environment, including seepage from the overburden, WRSF, and ore stockpile areas, is discussed in Section 4.3.10.

5.3.2.4 Mitigation Measures

Gander Lake is a PPWSA. The water supply for the Town of Appleton is located within the outflow of Gander Lake. The Project mining and operations components are located within the Hermans Pond watershed, which ultimately drains to the Gander River system (Appendix 12.A.2 of the Environmental Registration).

The southern area of the industrial terrace that overlaps the Gander Lake watershed will not have mine equipment, chemical or fuel storage, or ore crushing facilities, and will be used for general material laydown and employee parking (Figure 5.12). The activities within this section of the industrial terrace will be similar to other existing commercial parking and construction laydown area uses within the Gander Lake watershed. Drainage in the material laydown and employee parking area will be collected via perimeter riprap lined ditches. The ditches will drain to an energy dissipation pool that will reduce flow velocities prior to discharge into a wooded area within the Gander Lake watershed as overland flow. The discharge location of the pool is over 470 m away from the nearest watercourse/waterbody.

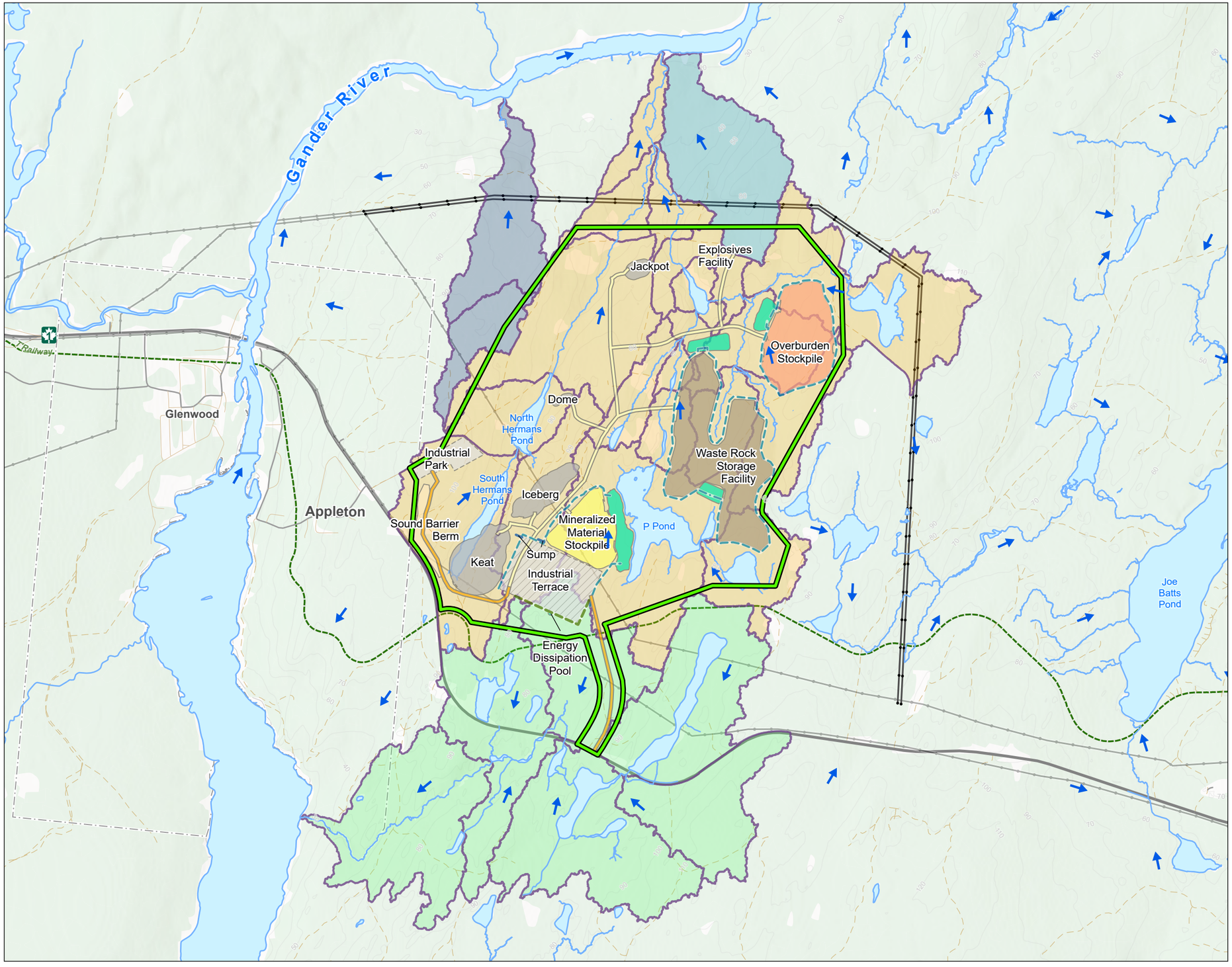


Figure No.
5.12

Title
Watersheds that Overlap the Project Area

Client/Project
New Found Gold Corp.
Queensway Gold Project

121418830_120

Project Location
North Gander Lake
Newfoundland and Labrador

Prepared by NW on 2026-10-16
QR by PM on 2026-10-16
TR by AS on 2026-10-16

N

0 250 500 1,000 1,500 m

(At original document size of 11x17)
1:34,000

Legend

- Project Area

Proposed Project Layout

- Access Road
- Haul Road
- Sump
- Perimeter Ditch
- Perimeter Ditch (GL Watershed)
- Sedimentation Pond
- Open Pit
- Ore Stockpile
- Overburden Stockpile
- Waste Rock Storage Facility
- Industrial Terrace
- Appleton Industrial Park
- Other Mine Features

Waterways

- Watercourse
- Flow Direction
- Waterbody

Watershed Delineation (Stantec 2025)

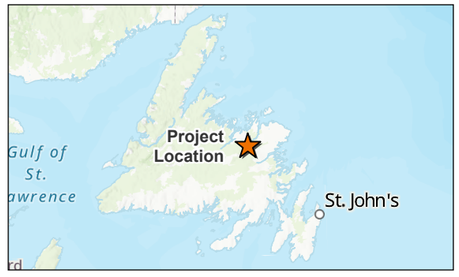
- GLT1 (Gander Lake Tributary 1)
- GRT1 (Gander River Tributary 1)
- GRT2 (Gander River Tributary 2)
- HP (Hermans Pond)
- Subwatershed (Stantec 2025)

Existing Infrastructure

- Transmission Line
- Proposed Transmission Line (Re-routing)
- Highway
- Collector Road
- Local Road
- Resource Road / Trail
- NL T'Railway Provincial Park

Other Features

- Contour (10 m)
- Municipal Boundary



Notes
1. Coordinate System: NAD 1983 CSRS UTM Zone 21N
2. Data Sources: New Found Gold Corp.; Stantec
3. Background: Government of Newfoundland and Labrador, Department of Environment, Conservation and Climate Change, Department of Forestry, Agriculture and Lands - Land Use Atlas Mapping Service, Department of Municipal and Community Affairs; National Road Network, Statistics Canada; Additional topographic basemapping from Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community, Esri, USGS, Esri, NASA, NGA, USGS

Stantec

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The mine operation contact water within the Project Area, including the northern portion of the industrial terrace, will be collected and conveyed to the two FDPs (P Pond [P9] and North Hermans Pond [P1]) following sedimentation within sedimentation ponds (e.g., overburden stockpile) or if water quality requires conveyance to the ore stockpile pond (e.g., waste rock stockpile ponds, pit dewatering). The water will then be pumped through the water treatment plant for metals removal (specifically arsenic) before being discharged to the FDPs.

Mine contact water from surface runoff and seepage from the stockpiles originating within the Project Area will be intercepted as described above, treated and discharged, with non-intercepted seepage draining into the Hermans Pond watershed surface water receivers and eventually the Gander River, downstream of Gander Lake and the Gander Lake outflow. No mine contact water from surface water runoff and seepage will be generated, collected or discharged within the Gander Lake watershed. Because the Gander Lake watershed will not be hydraulically downstream of Project discharges and seepage pathways, it does not represent a plausible human exposure pathway for Project-related PoPCs to reach this drinking water source.

The Groundwater Resources VC assessment (Chapter 8 in the Environmental Registration) considered potential effects on private drinking water wells. There are 12 drilled water wells that may be used as potable water sources for residences and/or cabins identified within the LAA/RAA. Results from baseline groundwater quality and quantity investigations and from the calibrated groundwater model completed for the Project indicate that the drilled water wells are not expected to be affected by groundwater seepage from Project components.

New Found Gold will implement mitigation and monitoring measures throughout the life of the Project, including pre-construction sampling of residential wells and ongoing groundwater quantity and quality monitoring for heavy metals and other PoPCs.

5.3.3 Groundwater Seepage and Contaminant Pathways to the Gander River Watershed

New Found Gold considered groundwater seepage and contaminant pathways as part of the Groundwater Resources VC assessment (Chapter 8 of the Environmental Registration). The mean seepage quality, discharge rates, and travel times to the receiving environment was estimated during the operation phase and the rehabilitation and closure phase. Results of the calibrated groundwater model indicate that groundwater flow (i.e., seepage) and contaminant transport will remain within the Hermans Pond watershed, though concentrations of arsenic are predicted to exceed the MDMER criteria during the operation phase and initial years of post-closure, with some modelled (without water capture) travel times of less than one year to surface water receivers within this watershed. No other parameters are expected to exceed the MDMER criteria in seepage to groundwater during operation or post-closure.

Groundwater seepage from the WRSF, overburden storage facility, or ore stockpiles will be intercepted by wells or deep sumps within the contact water ditches and conveyed to the collection ponds for treatment prior to discharge to local surface water receivers. With the planned interception and treatment, untreated groundwater seepage is not expected to reach the Gander River.

Water quality monitoring stations (e.g., monitoring wells and surface water monitoring stations) will be established downstream of the WRSF, ore stockpile, and overburden areas on applicable watercourses to confirm seepage collection systems are functioning as designed. Existing provincial real-time water quality monitoring stations will be included in the surface water monitoring program and will also be included in the groundwater monitoring program. During post-closure, need for the installation of passive treatment systems will be evaluated based on follow-up modelling of groundwater seepage patterns around former mine site infrastructure.

5.3.4 Effects of Mine Water, Effluent, and Water Control Infrastructure on Water Resources

5.3.4.1 Existing Water Users

New Found Gold considered potential effects to private drilled water wells and the associated human health effects as part of the Groundwater Resources VC assessment (Chapter 8 of the Environmental Registration). The assessment identified 12 drilled water wells within the LAA/RAA that may be used as potable water sources for residences and/or cabins. Given the distance between the Project and these well users (approximately 3 km), the Project is not anticipated to interact with the nearest reported domestic groundwater user. Groundwater flow modelling was completed as part of the assessment in the Environmental Registration. This modelling indicates that groundwater flow from the Project will not reach the known private drilled water wells, and the wells are therefore not expected to be affected by groundwater seepage from the Project. New Found Gold will implement mitigation and monitoring measures to protect groundwater resources throughout the life of the Project, including pre-construction sampling of residential wells and ongoing groundwater quantity and quality monitoring.

New Found Gold also considered potential effects to Gander Lake, which is within a PPWSA upstream of the Project, as part of the Surface Water Resources VC assessment (Chapter 9 of the Environmental Registration). The water supply for the Towns of Appleton and Glenwood is located within the outflow of Gander Lake. The Project is located within the Hermans Pond watershed, which ultimately drains to the Gander River system (Appendix 12.A.2 of the Environmental Registration), except for the southern portion of the industrial terrace, which is within the Gander Lake watershed (Figure 5.12). The southern area of the industrial terrace which still overlaps the Gander Lake watershed will not have mine equipment, chemical or fuel storage, or ore crushing facilities, and will be used for general material laydown and employee parking. Surface water runoff from the mine activity side of the industrial terrace will be directed to the ore stockpile pond via perimeter ditches that are connected to ditching around the stockpile with sumps that will be pumped to adjacent ditching. Contact water within the Project Area, including the mine activity side of the industrial terrace, will be collected in sedimentation ponds and conveyed to the ore stockpile pond or FDP pipeline, and subsequently discharged into the Hermans Pond watershed via diffusers at one of two FDPs in P Pond (P9) and North Hermans Pond (P1). Drainage in the material laydown and employee parking area of the industrial terrace will be collected via perimeter riprap lined ditches. The ditches will drain to an energy dissipation pool that will reduce flow velocities prior to discharge into a wooded area within the Gander Lake watershed as overland flow.

New Found Gold will implement mitigation and monitoring measures to protect surface water resources throughout the life of the Project, including pre-construction sampling of waterbodies and watercourses and ongoing surface water quantity and quality monitoring.

5.3.4.2 Downstream Water Quality and Aquatic Environments

New Found Gold considered potential effects of mine effluent, seepage, mine contact water, wastewater, and water control infrastructure failures including flooding, dam failures, and high-water events on downstream water quality and aquatic environments as part of the Environmental Registration: Groundwater Resources assessment (Chapter 8), Surface Water Resources assessment (Chapter 9), including as part of the water quality model (Appendix 9.A) and the assimilative capacity study (Appendix 9.B), Fish and Fish Habitat assessment (Chapter 10), and Accidental Events and Response Planning (Section 15.2).

Wastewater from the office and dry trailers will be managed through a septic system and disposal field.

Contact surface water runoff and seepage will be collected from mine activities and subsequently treated via sedimentation ponds and/or a water treatment plant prior to discharge via diffusors at two FDPs (P Pond [P9] and North Hermans Pond [P1]).

Localized water quality effects are expected in the receiving watercourses (Hermans Pond Brook, Gander River) and receiving waterbodies (P Pond and South Hermans Pond) immediately downstream of the FDPs. For the assimilative capacity assessment worst-case scenario, local effects could extend up to 50 m from the outlet point of Hermans Pond watershed into the ultimate receiver (Gander River) before water quality is expected to return to either baseline levels or below CWQG-FAL values. It is noted that these localized effects may be overestimated due to the conservative approach taken in the supporting water quality modeling and assimilative capacity assessment. Specific PoPCs that have been identified as having the largest mixing zones for the regulatory, average and post-closure scenarios, include lead and arsenic.

Groundwater modelling completed predicts the arsenic levels in groundwater seepage surrounding the overburden storage facility, ore stockpile, and the WRSF to be above the MDMER concentration limit of 0.1 mg/L. Interception wells or deep sumps within the perimeter drainage ditches around the WRSF, overburden storage facility and ore stockpiles will be installed to intercept groundwater seepage that exceeds MDMER Schedule 4 Table 1 limits prior to discharging to local surface water receivers (as required). The intercepted water will be transferred to the site-wide contact water management system for treatment prior to discharge to the environment. During post-closure, need for the installation of passive treatment systems in seepage collection ditches and sedimentation ponds (e.g., permeable reactive barriers, engineered wetlands) will be evaluated based on follow up modelling of groundwater seepage patterns around former site infrastructure.

The WaMP (Appendix 4.A of the Environmental Registration) details the design considerations in the event of an unplanned release of contact water due to flooding, malfunction of catchment sumps, ditches, channels, and sedimentation ponds. Unplanned releases are also discussed in Section 5.8 of this EPR. A network of catchment sumps, ditches, channels, and sedimentation ponds will manage contact water and reduce the risk of unplanned releases. Ditches will be designed to convey runoff for the 24-hour, 1:100 AEP design event without climate change, and sedimentation ponds will be designed for storm events up to the 24-hour, 1:100 AEP without climate change, and management of runoff up to the 1:100 AEP with climate change. The water sedimentation ponds will be designed to incorporate climate change by sizing the pond and spillway and the central treatment pond for the Inflow Design Flood based on the climate change adjusted (SSP2-4.5) 24-hour, 1:100 AEP for the 2021–2050 time horizon (122.0 mm). Routine inspections and maintenance will be conducted to confirm system functionality and identify potential issues early.

Dam safety and monitoring is also discussed in Section 5.8.3 of this EPR. Dam failure hazard is anticipated to be low, based on the CDA dam failure consequences classification criteria: loss of life, environmental impacts, cultural values, and infrastructure and economic losses (CDA 2013). No potential loss of life is anticipated, since no personnel are stationed working or transient persons expected at the dam or the downstream outflow zone. Minimal loss or deterioration of the environment is expected. The downstream receiver is expected to accommodate the outflow, and mobilized dam rockfill material would likely run out in a dam breach over a short distance, resulting in some sedimentation but no long-term water quality effects. No long-term loss or deterioration of significant cultural sites is anticipated. As discussed in Chapter 14 of the Environmental Registration (Historic Resources), there are no registered historic sites within the Project's LAA. However, review of archaeological data indicates that the Project Area has potential for archaeological resources, including those pertaining to the Pre-contact Period and Historic Period logging and aviation industries, and Beothuk and Mi'kmaq occupations. With no communities or third-party culverts, bridges, or other infrastructure within the downstream outflow zone, the overall consequences of dam failure are expected to be low. Mitigation measures will follow CDA guidelines.

A surface water quality monitoring program will be implemented during construction, operation, and rehabilitation and closure to assess compliance with applicable regulatory requirements and to evaluate the effectiveness of water management measures. Monitoring results will be used to determine if additional mitigation measures are required.

5.3.5 Mine Water Treatment

New Found Gold considered potential effects of water quality that could occur if wastewater or water that has come into contact with mining activities (mine contact water), including runoff from open pits, ore stockpiles, and other Project infrastructure, is not properly managed.

To mitigate potential effects, the Project's WaMP includes separate measures for managing wastewater and mine contact water. Wastewater from the office and dry trailers will be managed through a septic system and disposal field. Mine contact water will be collected through ditches, sumps, and water management ponds rather than being released directly to the environment.

Contact water will be detained in water management ponds to allow sediment to settle before being transferred to the ore stockpile pond for further treatment prior to discharge. Groundwater seepage water from interceptor wells and/or deep sumps will be collected and sent to the ore stockpile pond and water treatment plant prior to discharge to the environment, as previously described in Section 5.3.3. Details on mine contact water treatment are described in the subsections below.

A Groundwater Monitoring Plan and Surface Water Monitoring Plan will be developed and implemented to monitor groundwater and surface water quality and quantity throughout the life of the Project. The plans will include monitoring, response measures, and contingency actions should groundwater and/or surface water quality results indicate unanticipated effects.

5.3.5.1 Construction and Operations Mine Contact Water Treatment Method for Arsenic Removal

Based on the water quality model results (Chapter 9 of the Environmental Registration), the runoff and intercepted seepage from the WRSF and ore stockpiles is predicted to require treatment for arsenic to meet MDMER criteria. Contact water that is collected and sent to the ore stockpile pond and will be subsequently treated in a water treatment plant (WTP) during the construction and operations phases prior to discharge to the environment.

The conceptual WTP is a physical-chemical treatment system intended to remove arsenic from mine-impacted water and to provide final effluent conditioning prior to discharge. As the water treatment plant moves forward into detailed design, some of the processes will potentially be altered depending on the vendor/supplier. The WTP will be designed to reduce arsenic and other POPCs prior to discharge via the FDPs. The conceptual WTP process consists of pre-straining, arsenic oxidation, coprecipitation/adsorption with iron and high-rate clarification prior to discharge, which are each described below.

- **Pre-Screening and Arsenic Oxidation** – Influent water is pumped from the ore stockpile pond to the WTP and pre-screened to remove debris which may clog downstream equipment. Sodium hypochlorite is added to oxidize arsenic that may be present as arsenite (As^{3+}) to arsenate (As^{5+}). The arsenate exists as a negatively charged ion in solution that is more favourably removed via iron coprecipitation/adsorption. Sodium hypochlorite will also raise the pH of the wastewater.
- **Arsenic Precipitation** – Following oxidation, an iron-based solution (e.g., ferric chloride) is added to form ferric hydroxide/oxyhydroxide. Arsenic and certain other metals/oxyanions are adsorbed onto the ferric precipitates, which can then be separated by gravity sedimentation. Sodium hydroxide is added to maintain an optimum pH between 7 and 7.5 for arsenic removed by this process. A portion of sludge recovered from the downstream clarification system is recycled back to the precipitation reactor. Sludge recycling increases the concentration of ferric solids in the precipitation reactor to improve the kinetics for arsenic removal through coprecipitation/adsorption.
- **High-Rate Clarification** – Clarification is the process of removing suspended solids, particulate matter, and impurities from the water. A polymeric flocculant is added to help aggregate the suspended solids and precipitated metals formed in the precipitation reactor allowing the formation of larger aggregates of flocs, increasing their weight and improving sedimentation. The clarifier allows the floc to settle and form a sludge at the bottom. A portion of the sludge is recycled back to the precipitation reactor, and the excess sludge is sent to a holding tank and then dewatering. The clarified water overflows to a holding tank and then water is discharged via gravity through effluent piping to the final discharge points

The above WTP processes are expected to reduce concentrations of other metals and metalloids, including lead. The proposed conceptual WTP process is presented in Figure 5.13.

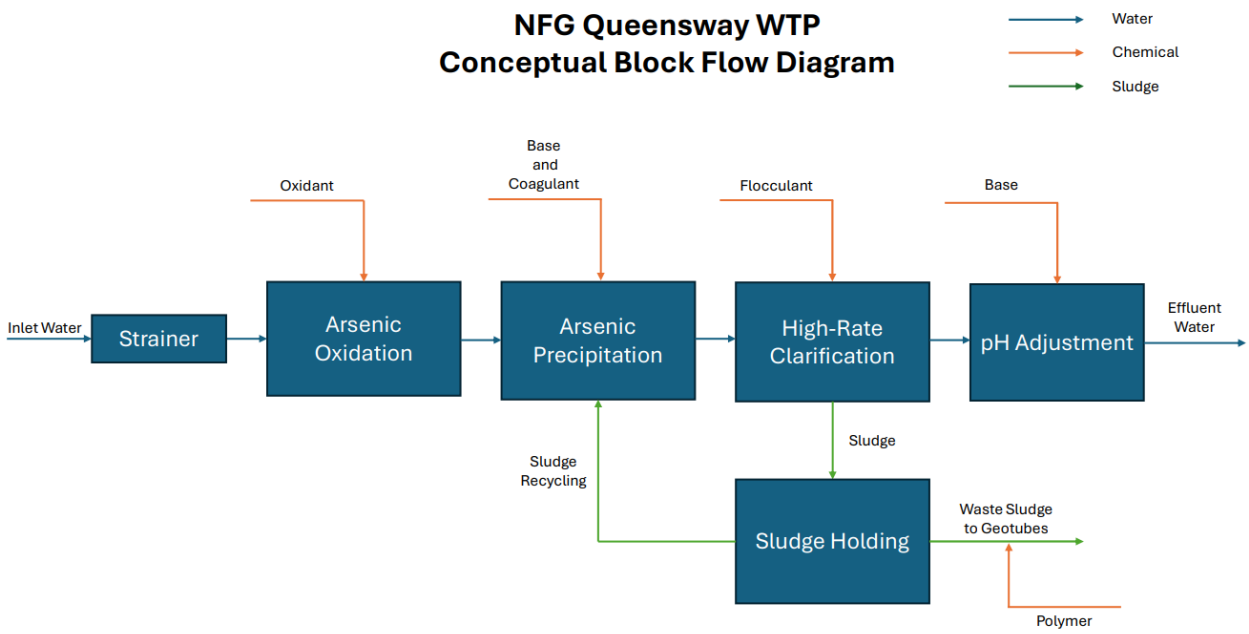


Figure 5.13 Water Treatment Plant Flow Diagram

Treatment outflow, if it does not meet discharge criteria, will be directed back to the ore stockpile pond or to the WTP inflow. The sludge from the WTP processes will be sent to dewatering geotubes constructed within a catchment basin that will drain into the ore stockpile pond. The dewatered sludge will be disposed of in one of the mined-out pits or transported and disposed of at an approved landfill.

Water quality modelling (Section 9, Appendix 9.A Environmental Registration) used to predict water quality in the open pits indicates that treatment is not required post-closure during the pit dewatering, pit filling, and pit overflow/maintenance phases, and in the water management pond during the active closure phases.

In Keats pit and Iceberg pit, arsenic concentrations are expected to decline to below the MDMER limit by the time each pit begins to overflow in post-closure. In Jackpot pit, once water level stabilizes at a steady state elevation during post-closure, arsenic concentrations are expected to decline below the MDMER limit. In Dome pit, total arsenic concentrations are not predicted to exceed the monthly mean MDMER discharge limit during any phase of pit development. Total concentrations of copper, lead, nickel, and zinc are not predicted to exceed monthly mean MDMER discharge limits in any open pit at any stage of pit development. Following active closure, the pits are expected to have total arsenic concentrations below MDMER discharge limits.

Assuming treatment, total arsenic concentrations in the main contact water pond (i.e., the ore stockpile pond) are predicted to remain below the MDMER criterion throughout the operation phase and to decrease further following decommissioning of the other ponds at the end of active closure (Mine Years 8 to 9). Total arsenic concentrations are not predicted to exceed the monthly mean MDMER discharge limit in the overburden storage facility pond (OB-SP-01). Total copper, lead, nickel, and zinc concentrations are not predicted to exceed monthly mean MDMER discharge limits in any pond during the various stages of mine development.

If treatment is required, in-pit water can potentially be batch treated, seepage from stockpiles can be potentially intercepted by passive treatment systems such as engineered wetlands. Passive treatment systems could take the form of subsurface anaerobic permeable bioreactor units in the ditches. French drains will be implemented in ditches to transmit seepage where passive treatment is to be augmented by engineered wetlands in the former water management pond locations. The outflows of the Keats and/or Iceberg pits if additional treatment is required in closure can have engineered wetlands constructed to provide passive treatment of metals/metalloids, including arsenic.

5.3.5.2 Expected Influent and Effluent Water Quality

The WTP influent quality is shown in Table 5.13 and the WTP shall be designed based on the 95th percentile concentrations.

Table 5.13 Water Treatment Plant Influent Water Quality

Group	Parameter	Unit	50th Percentile	95th Percentile	Maximum
Major Anions	Sulphate	mg/L	19.3	51.3	114.7
	Chloride	mg/L	2.73	7.74	14.14
	Fluoride	mg/L	0.477	1.27	3.29
Nutrients	Phosphorus	mg/L	0.109	0.309	0.367
	Ammonia (as N)	mg/L	0.434	0.924	20.1
	Nitrate (as N)	mg/L	3.43	7.31	159.1
	Nitrite (as N)	mg/L	0.0789	0.168	3.66
Total Metals and Metalloids	Aluminum	mg/L	0.471	1.34	1.84
	Antimony	mg/L	0.0104	0.0285	0.0750
	Arsenic	mg/L	0.193	0.499	1.59
	Barium	mg/L	0.0379	0.114	0.171
	Beryllium	mg/L	0.000545	0.00154	0.001835
	Bismuth	mg/L	0.00209	0.00508	0.006445
	Boron	mg/L	0.0731	0.211	0.394
	Cadmium	mg/L	0.0000545	0.000154	0.000256
	Calcium	mg/L	28.1	79.7	110.4
	Chromium	mg/L	0.00209	0.00508	0.00645
	Cobalt	mg/L	0.00251	0.00687	0.0107
	Copper	mg/L	0.00637	0.0177	0.0264
	Iron	mg/L	0.246	0.646	1.01
	Lead	mg/L	0.00081	0.00223	0.00396
	Magnesium	mg/L	4.15	11.5	18.06
	Manganese	mg/L	0.144	0.407	0.657
	Mercury	mg/L	0.0000545	0.000154	0.000183
	Molybdenum	mg/L	0.0277	0.0659	0.283
	Nickel	mg/L	0.00433	0.0116	0.0269

Table 5.13 Water Treatment Plant Influent Water Quality

Group	Parameter	Unit	50th Percentile	95th Percentile	Maximum
Total Metals and Metalloids	Aluminum	mg/L	0.471	1.34	1.84
	Potassium	mg/L	2.65	7.38	16.6
	Selenium	mg/L	0.00359	0.00957	0.0116
	Silver	mg/L	0.000545	0.00154	0.00184
	Sodium	mg/L	1.64	4.73	15.5
	Strontium	mg/L	0.277	0.822	1.20
	Thallium	mg/L	0.000545	0.00154	0.00183
	Tin	mg/L	0.00246	0.00627	0.0125
	Uranium	mg/L	0.00376	0.0102	0.0145
	Vanadium	mg/L	0.00444	0.0122	0.0242
	Zinc	mg/L	0.0207	0.0601	0.108
Dissolved Metals and Metalloids	Aluminum	mg/L	0.471	1.34	1.84
	Antimony	mg/L	0.0104	0.0285	0.0750
	Arsenic	mg/L	0.193	0.499	1.59
	Barium	mg/L	0.0379	0.114	0.171
	Beryllium	mg/L	0.000545	0.00154	0.00183
	Bismuth	mg/L	0.00209	0.00508	0.00645
	Boron	mg/L	0.0731	0.211	0.394
	Cadmium	mg/L	0.0000545	0.000154	0.00026
	Calcium	mg/L	28.1	79.7	110.4
	Chromium	mg/L	0.00209	0.00508	0.00645
	Cobalt	mg/L	0.00251	0.00687	0.01067
	Copper	mg/L	0.00637	0.0177	0.0264
	Iron	mg/L	0.246	0.646	1.01
	Lead	mg/L	0.00081	0.00223	0.00396
	Magnesium	mg/L	4.15	11.5	18.1
	Manganese	mg/L	0.144	0.407	0.657
	Mercury	mg/L	0.0000545	0.000154	0.000183
	Molybdenum	mg/L	0.0277	0.0659	0.283
	Nickel	mg/L	0.00433	0.0116	0.0269
	Potassium	mg/L	2.65	7.38	16.6
	Selenium	mg/L	0.00359	0.00957	0.0116
	Silver	mg/L	0.000545	0.00154	0.00184
	Sodium	mg/L	1.64	4.73	15.5
	Strontium	mg/L	0.277	0.822	1.20
	Thallium	mg/L	0.000545	0.00154	0.00183
	Tin	mg/L	0.00246	0.00627	0.0125
	Uranium	mg/L	0.00376	0.0102	0.0145
	Vanadium	mg/L	0.00444	0.0122	0.0242
	Zinc	mg/L	0.207	0.0601	0.108

Table 5.13 Water Treatment Plant Influent Water Quality

Group	Parameter	Unit	50th Percentile	95th Percentile	Maximum
Parameter				Units	Range
pH				-	6.0–7.0
Alkalinity (as $CaCO_3$)				mg/L	12–40
Total Suspended Solids				mg/L	15–30

Notes:

Maximum values represent the highest observed from the three different input sources. These sources will be blended; therefore the WTP influent maximums will be lower.

Table 5.14 shows the effluent limits for the WTP, with exceedances shaded. The WTP shall be designed to reduce the concentrations of the parameters of concern sufficiently below the regulatory limits to achieve compliance in case of upsets.

Table 5.14 Water Treatment Plant Effluent Limitations

Parameter	Units	Effluent Limits	Regulation
Temperature	°C	32	NL ECWSR
Total Dissolved Solids	mg/L	1,000	NL ECWSR
Total Suspended Solids	mg/L	15	MDMER
Oils	mg/L	15	NL ECWSR
Floating Debris, Oils and Grease	-	None Visible	NL ECWSR
pH, Field	-	6.0-9.0	MDMER and NL ECWSR
Ammonia, Total	as N mg/L	N/A	-
Ammonia, Unionized	as N mg/L	0.5	MDMER
Nitrates	mg/L	10	NL ECWSR
Sulphides	mg/L	0.5	NL ECWSR
Arsenic, Total	mg/L	0.1	MDMER
Barium, Total	mg/L	5	NL ECWSR
Boron, Total	mg/L	5	NL ECWSR
Chlorine	mg/L	1	NL ECWSR
Cadmium, Total	mg/L	0.05	NL ECWSR
Chromium, Total	mg/L	N/A	-
Chromium, Hexavalent	mg/L	0.05	NL ECWSR
Chromium, Trivalent	mg/L	1	NL ECWSR
Copper, Total	mg/L	0.1	MDMER
Cyanide, Total	mg/L	0.025	MDMER
Iron, Total	mg/L	10	NL ECWSR
Lead, Total	mg/L	0.08	MDMER
Mercury, Total	mg/L	0.005	NL ECWSR
Nickel, Total	mg/L	0.25	MDMER

Table 5.14 Water Treatment Plant Effluent Limitations

Parameter	Units	Effluent Limits	Regulation
Radium-226	Bq/L	0.37	MDMER
Selenium, Total	mg/L	0.01	NL ECWSR
Silver, Total	mg/L	0.05	NL ECWSR
Strontium, Total	mg/L	N/A	-
Strontium 90, Total	Bq/L	0.37	NL ECWSR
Zinc, Total	mg/L	0.4	MDMER
Phenol, Total	mg/L	0.1	NL ECWSR
Phosphates, Total	mg/L	1	NL ECWSR
Elemental Phosphorus	mg/L	0.0005	NL ECWSR
BOD	mg/L	20	NL ECWSR
Coliform, Faecal	mg/L	1000/100ml	NL ECWSR
Coliform, Total	mg/L	5000/100ml	NL ECWSR

Notes:
MDMER – Section 4 and Schedule 4
NL *Environmental Control Water and Sewage Regulations* (NL ECWSR) – Section 6 and Schedule A
When referenced in both regulations, the stricter of the two limits was taken
N/A = Not available

5.3.6 Potential Effects of Acid Rock Drainage and Metal Leaching on Water Resources

The ML/ARD potential of waste rock, overburden, and mineralized material was assessed using static and kinetic geochemical testing. Overall, the test results indicate that most (i.e., greater than 70%) of the Project materials tested are classified as non-PAG based on NPR classification criteria; however, locally elevated acid generation potential is present in specific lithological wireframes and material types, particularly the BSIL and BSGI wireframes, as well as mineralized material (Table 4.4 of the Environmental Registration). Testing also identified moderate to high metal-leaching potential in most material types, particularly for arsenic. PAG material may release copper, nickel, and zinc if acidic conditions develop, while some non-PAG material may release arsenic under neutral drainage conditions.

Potential ML/ARD sources include exposed pit walls, waste rock and construction rock, overburden, ore and mineralized-material stockpiles, and associated contact-water facilities. Contact water will be managed through water management infrastructure and water treatment. Infiltration and seepage could alter groundwater quality and migrate toward nearby ponds and watercourses; runoff, pit water, treated effluent, overflow, or an uncontrolled release could affect surface-water quality. Potential changes include higher concentrations of sulphate, arsenic, and other dissolved metals. Without effective management, these changes could affect fish and aquatic habitat in the Hermans Pond watercourse and Gander River, including Atlantic salmon habitat, and could affect recreational, traditional, and cabin water users. Gander Lake is upstream of Project discharge pathways and is not a predicted receiving environment.

The Project will apply source control and contact-water management through construction, operation, rehabilitation, and closure. Measures (as further described in Section 4.3.5 of this EPR) include operational geochemical testing; segregation, tracking, and controlled placement of PAG and metal-leaching material; restrictions on construction use of material with elevated leaching potential; subaqueous placement of PAG waste rock below the predicted long-term water level in the mined-out Iceberg pit; diversion of non-contact water; collection of pit water, runoff, and seepage in ditches, sumps, and ponds; and treatment before discharge, as required. Interceptor wells and deep sumps will be constructed around the perimeter of the waste rock and ore stockpiles as required to collect groundwater seepage that exceeds MDMER limits for arsenic and convey it to water management ponds and eventual treatment in the water treatment plant. Discharges will be managed through approved FDPs in accordance with approval conditions, the MDMER, and receiving-water objectives.

The monitoring program will integrate operational material characterization with groundwater, seepage, contact-water, treated-effluent, surface-water, and receiving-environment monitoring. Parameters will include pH, conductivity, acidity, alkalinity, sulphate, total dissolved solids, total suspended solids, and total and dissolved metals and metalloids. Upgradient or reference locations, downgradient groundwater and seepage locations, final discharge points, initial receiving waters, and downstream locations toward the Gander River will be monitored. Results will be evaluated against baseline conditions, model predictions, permit limits, receiving-water objectives, and defined action levels.

Action levels will trigger investigation and a response if monitoring identifies acidic drainage, increasing metal concentrations, migration beyond predicted pathways, an exceedance of a discharge or receiving-water criterion, or reduced collection or treatment performance. Responses may include confirmatory or increased-frequency sampling, source investigation, repair or expansion of collection and storage systems, temporary retention or rerouting of water, suspension of discharge, additional segregation or isolation of reactive material, and modified or additional treatment. Follow-up monitoring will confirm response effectiveness, and the results will be used to update water-quality predictions and the ML/ARD Management Plan, WaMP, EPP, and RCP.

5.3.7 Changes to Drainage and Surface Water Runoff within Transportation Corridors

The main provincial public transportation corridor adjacent to and accessed from the Project Area is the TCH. There are several Project component areas that potentially interact with drainage and surface runoff for the TCH, including the sound berm, Keats pit and access road, and southern area of the industrial terrace and site access road connection to the highway (Figure 4.6). The Keats pit and access road area, and the part of the provincial highway that drain to South Hermans Pond and the Hermans Pond watercourse will continue to drain north towards the Gander River throughout the Project. The access road will have appropriately sized culverts constructed to convey the design storm event. With the dewatering of South Hermans Pond to support construction of the Keats pit, appropriately sized sumps, with pumps and pipelines, will be installed and operated to convey flows south of the pit to the existing drainage channel emptying into North Hermans Pond. The access road culverts and South Hermans Pond dewatering infrastructure will continue to convey drainage from the TCH area within the Hermans Pond watershed north to the Gander River and not increase flood elevations along the roadway.

The southern area of the industrial terrace within the Gander Lake watershed will not have mine equipment, chemical or fuel storage, or ore processing facilities and will be used for general material laydown and employee parking. Drainage in this area is proposed to be collected in an energy dissipation pool that will discharge into a wooded area within the Gander Lake watershed as overland flow (Figure 4.8). The southern industrial terrace water management infrastructure is not expected to measurably change flood flow conveyance towards the TCH. The site access road does not cross watercourses or waterbodies from the TCH to the industrial terrace. Local drainage along the access road will be maintained using potential mitigation measures such as cross-culverts.

New Found Gold considered potential effects of erosion, sedimentation, and ML/ARD as part of the Environmental Registration, including for construction and operations activities within transportation corridor catchments and adjacent to TCH.

For erosion and sedimentation, the environmental assessment identified runoff from construction and mining activities as a potential pathway for suspended sediment to enter waterbodies and contribute to changes in water quality. To mitigate potential effects, the Project will implement standard mitigation measures, including erosion and sediment control, which are outlined in the EPP (Appendix B) and Section 10 of this EPR. Runoff will be directed away from active work areas, and water management infrastructure, including ditches, catch basins, and ponds, will be used to collect and manage water that has come into contact with Project infrastructure or disturbed areas. This water will be treated, as required, prior to discharge to the environment.

For ML/ARD, the Environmental Registration identified that seepage from Project components has the potential to affect groundwater and surface water quality. An ML/ARD Management Plan will be implemented to manage the release of acidic water and dissolved metals from mine materials and is further discussed in Section 4.3.5 of this EPR. The internal and site access roads will be constructed with non-PAG and non-metal leaching materials.

In addition, groundwater and surface water quality monitoring programs (Section 9.3) will be implemented during construction, operation, and rehabilitation and closure to assess compliance with applicable regulatory requirements and to evaluate the effectiveness of water management measures. Monitoring results will be used to determine if additional mitigation measures are required.

Other management plans will be implemented to mitigate potential Project effects, including the EPP (Appendix B) and the WaMP, as well as ongoing water quality monitoring throughout the life of the Project.

5.4 Aquatic Environment

In the Environmental Registration, an overview of the aquatic environment is provided in Section 4.1.2.6. Chapter 10 of the Environmental Registration details fish and fish habitat as a Project VC, including a description of the existing aquatic environment, the potential effects to fish and fish habitat and effect pathways, mitigation and management measures, residual environmental effects, and follow-up and monitoring programs.

Section 5.4.1 provides an overview of the information presented in the Environmental Registration on these topics to provide context for reviewers of this EPR. Also, additional information has been provided for the specific topics required by the EPR Guidelines as identified in Table 5.15, which summarizes the applicable EPR requirements and identifies where each is addressed.

Table 5.15 EPR Guidelines Requirements Related to Aquatic Environment

Guideline Requirement	EPR Section
Describe the potential environmental effects of the Project on fish and fish habitat, including Atlantic salmon, in consultation with the Department of Forestry, Agriculture and Lands (FAL) and the Department of Fisheries and Oceans Canada (DFO), (refer to Best Management Practices for the Protection of Freshwater Fish Habitat in Newfoundland and Labrador at https://www.dfo-mpo.gc.ca/publications/pnw-ppe/nfl-freshwater-eaudouce-tnl/protection-eng.html).	Section 5.4.2; a description of NFG's approach to regulatory engagement is included in the introduction to Chapter 5
A description of the potential effects and proposed mitigation measures shall consider, but not be limited to the following:	Sections 5.4.2 – 5.4.
• Sensitive times of the year (e.g. migration, feeding and spawning) and the use of work windows to mitigate adverse effects	Section 5.4.2
• Areas where fish, fisheries, or species at risk could be directly or indirectly affected by the Project	Section 5.4.3
• All in-water works, including, but not limited to the following: – fording – removal of aquatic and/or stream-side vegetation and habitat alteration – installation, maintenance and removal of culverts, bridges, dams, water crossing infrastructure, and water withdrawal structures – infilling – in-water site isolation – water withdrawal and dewatering – changes to natural flow regime and water withdrawals	Section 5.4.4
• Blasting activities, assessed according to the DFO Guidelines for the Use of Explosives in or Near Canadian Fisheries Waters	Section 5.4.5
• Increased public access to fish-bearing waters	Section 5.4.6
• The Gander River and tributary streams of the Gander River	Section 5.4.7
• Fish relocation plans and a commitment to relocate fish within the same watershed	Section 5.4.8

5.4.1 Summary of Aquatic Environment from the Environmental Registration

The potential effects of the Project on fish and fish habitat, including Atlantic salmon, were assessed in Chapter 10 (Fish and Fish Habitat) of the Environmental Registration. The assessment considered changes in fish habitat quantity, fish habitat quality, and fish health and survival. Multiple surveys and sampling methods confirmed the presence of Atlantic salmon, brook trout, sticklebacks, and American eel within the Project Area or LAA. Small order streams and ponds within the Project Area generally do not provide habitat for Atlantic salmon, and therefore there are no additional stressors on Atlantic salmon populations in small streams and ponds within the Project Area. However, juvenile Atlantic salmon were identified in larger order streams near the confluence with the Gander River and within the mainstem of the Gander River.

Change in fish habitat quantity may occur through the direct loss of fish habitat associated with open pit development, placement of Project infrastructure in fish habitat, and water crossing structures, as well as indirect loss of fish habitat resulting from loss of watershed area or waterbodies upstream, reductions in flow, water management infrastructure, changes in groundwater discharge associated with dewatering the pits, and natural filling of the open pits during closure. Changes in flow may result in effects to fish habitat quantity through changes in water level and subsequent channel morphology in streams. Adverse effects to fish and fish habitat are anticipated because of reductions in stream flow during construction, operation, or rehabilitation and closure.

Change in fish habitat quality may occur from work in or near water, surface runoff or dust from areas of disturbance, removal of vegetation, changes in stream flow due to water management, discharge of treated effluent, groundwater seepage, and turnover in filled pits. Changes in habitat quantity can also result in indirect effects to habitat quality, including changes in substrate, velocity, and primary and secondary productivity. During operation, residual Project-related effects on the quality of fish habitat are anticipated to occur due to changes in water quality from discharge of effluent containing parameters of potential concern above the CWQG-FAL or baseline conditions into ponds and streams. These parameters are predicted to meet CWQG-FAL or background conditions within 50 m of mixing within the Gander River.

Change in fish health and survival may occur through injury or mortality from activities occurring in or near water, introduction of sediments or contaminants into fish habitat, reduced access to habitat, fish stranding associated with reduced flows, and exposure to parameters of potential concern in pond and stream receiving environments. Loss of South Hermans Pond (P2), site water management, and changes in groundwater levels associated with open pit mining or recharge could affect fish health and survival by altering surface water flows and causing fish to become stranded. During operation, residual Project-related effects on fish health and survival have the potential to occur due to changes in water quality from discharge of effluent containing contaminants above the CWQG-FAL or baseline concentrations. However, effluent discharges will be managed and treated to meet authorized MDMER limits prior to discharge and therefore are not expected to result in direct mortality of fish. Although some parameters of potential concern may exceed the CWQG-FAL or background conditions downstream of discharge points, concentrations are not expected to be acutely lethal to fish or affect the sustainability of fish populations in the LAA.

Consistent with DFO's Best Management Practices for the Protection of Freshwater Fish Habitat in Newfoundland and Labrador (DFO 2022), and the mitigation and management measures described in Section 10 of this EPR, measures will be implemented throughout the life of the Project to avoid or reduce effects on fish and fish habitat. Based on the implementation of mitigation, monitoring, and fish habitat offsetting measures, residual adverse effects on fish and fish habitat, including Atlantic salmon, are predicted to be not significant.

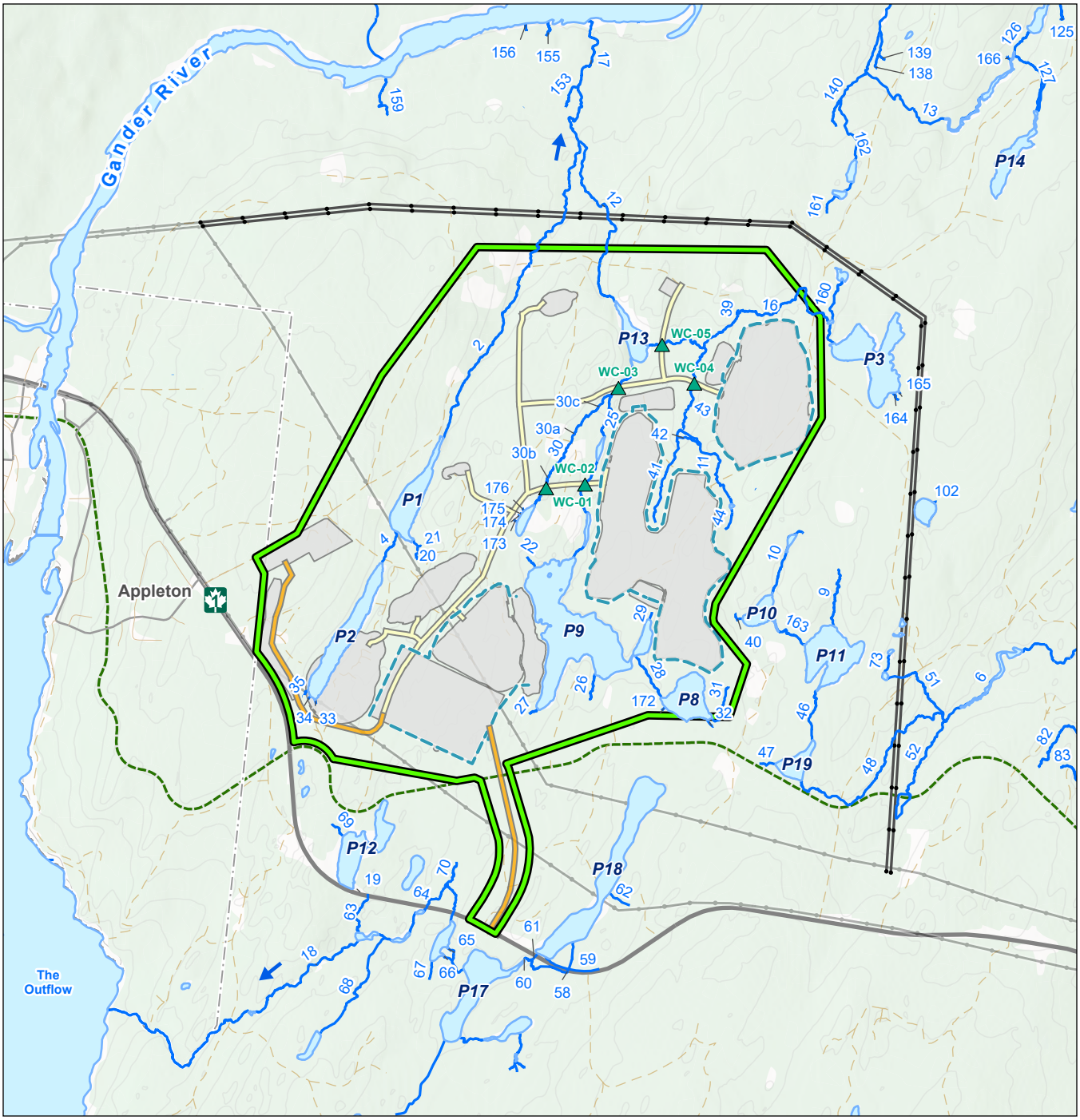
5.4.2 Sensitive Timing Periods and Environmental Protection Work Windows

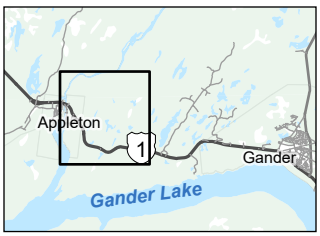
Sensitive periods for fish were considered in the assessment of fish health and survival. As described in Chapter 10 of the Environmental Registration, timing of in-water works could affect fish health and survival if early life stages (e.g., eggs or larvae) are present when in-water work occurs. Conducting in-water work between October 1 and May 31 may affect spawning activities or result in the mortality of early life stages of fish, including eggs or larvae. To reduce the potential for these effects, the Project will implement standard mitigation measures, including following DFO timing windows (DFO 2026a) for in-water works and apply the mitigation and management measures described in Section 10 of this EPR, which are consistent with DFO best management practices, standards, and codes of practice for work in and around fish habitat.

5.4.3 Areas of Potential Direct and Indirect Effects on Aquatic Resources

Fish, fisheries, and aquatic SAR, and associated fish habitat that could be directly or indirectly affected by the Project were assessed in Chapters 10 (Fish and Fish Habitat) and 13 (LRU) of the Environmental Registration.

As shown in Figure 5.14, potential direct effects on habitat quantity are associated with Streams 33, 34, and 35, and Pond P2, through the development of the Keats Pit, Ponds P1 and P9 through effluent outfalls/discharge points, water intakes (if required), and stream crossings on Streams 11, 16, 25, and 30. Indirect effects on habitat quantity may occur in streams experiencing Project-related changes in flow, including Streams S2, S4, S11, S16, S20, S21, S28, S41, S42, S43, S44, S45, and S70. The identification of streams potentially affected by Project-related changes in flow was based on the hydrologic watershed modelling and site-wide water balance modelling described in Section 4.1.4.2 of this EPR. Figure 10.4 of the Environmental Registration identifies the locations of the predicted direct and indirect fish habitat losses that were assessed in the Environmental Registration. Where residual losses of fish habitat occur, these will be counterbalanced through an Offsetting Plan that has been developed in consultation with DFO and in accordance with the *Fisheries Act.* Activities that will result in the loss of fish habitat will not occur until a *Fisheries Act* Authorization is obtained. A list of species known to occur in each of these ponds and streams is provided in Table 10.4 of the Environmental Registration.





Notes

1. Coordinate System: NAD 1983 CSRS MTM 2
2. Data Sources: Stantec; GovNL Department of Forestry, Agriculture and Lands; CanVec NRCan; Newfound Gold Corp.
3. Background: Government of Newfoundland and Labrador; NRCan CanVec; Esri, NASA, NGA, USGS

Legend

- Project Area
- Stream Crossing
- Watercourse (##)
- Flow Direction
- Waterbody

Proposed Project Layout

- Access Road
- Perimeter Ditch
- Haul Road
- Proposed Site Features

Existing Infrastructure

- Transmission Line
- Proposed Transmission Line (Re-routing)
- Highway
- Collector
- Local / Street
- Resource Road / Trail
- NL T'Railway Provincial Park

Other Features

- Contour (10 m)
- Municipal Boundary

0 0.5 1 1.5 km

(At original document size of 8.5x11)
1:40,000

N

Stantec

Project Location
Appleton
Newfoundland and Labrador

Prepared by NW on 2026-10-08
QR by PM on 2026-10-16
TR by JR on 2026-10-08

Client/Project
New Found Gold Corp.
Queensway Gold Project

121418830_503

Figure No.
5.14

Title
Aquatic Study Area

\\ca0151-ppfss01\work_group\12141active\121417598\03_data\gis_cad\mapping\ArcGIS Pro\121418830_NewFoundGold\121418830_NewFoundGold.aprx Revised: 2026-11-02 By: eduong

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Recreational fisheries within the Gander River watershed were also considered in the LRU assessment (Chapter 13 in the Environmental Registration). The Gander River supports an important recreational Atlantic salmon fishery and local outfitters, including Bear Cliff Lodge which provides guided Atlantic salmon and brook trout angling opportunities. While Project activities could result in localized changes to fishing and outfitting activities due to restricted access to the Project Area and sensory disturbances (e.g., noise and visual effects) from Project activities, numerous opportunities to fish outside of the Project Area will remain available, and fishing activities are expected to continue at or near current levels. In addition, assessments at two receptor locations on the Gander River demonstrate how the Project will have limited effect on the experience of anglers, as discussed in Section 5.1.

New Found Gold will continue to engage with local anglers, outfitters, and the NL Outfitters Association throughout the life of the Project. Additional details regarding Project engagement activities are provided in Section 7.2. A creel survey has been completed in cooperation with the Qalipu First Nation to collect baseline information on recreational fisheries on the mainstem of Gander River prior to mine development. Data from the survey is still being analyzed and will be provided to regulators under separate cover. An Outfitter Environmental Effects Monitoring Plan will also be implemented to mitigate potential Project effects on the outfitting sector. As a result, recreational Atlantic salmon angling opportunities will be able to continue at or near current levels.

5.4.4 In-Water Works Construction Activities and Watercourse Alterations

Potential effects associated with in-water works were assessed as part of the Fish and Fish Habitat assessment (Chapter 10 of the Environmental Registration). Project activities with the potential to interact with fish and fish habitat include vegetation clearing and habitat alteration near watercourses and waterbodies, installation of stream crossings and culverts, dewatering of South Hermans Pond (P2), water withdrawals (if required), site water management activities, and changes in flow associated with water management infrastructure, effluent outfall diffusers, and pit development. Mitigation measures were developed to avoid or reduce potential effects on fish and fish habitat and include adherence to applicable DFO standards (DFO 2026a), codes of practice (DFO 2022, 2026b), and measures to protect fish and fish habitat as identified in Section 10 of this EPR. The potential effects and mitigation measures associated with these activities are summarized below.

- Fording: Where fording of watercourses is required, the NLDECCC Guidelines and DFO code of practice will be adhered to (NLDECC 2018; DFO 2026c). In addition, works in or near water will be conducted in accordance with applicable DFO codes of practice (DFO 2026b), standards, and measures to protect fish and fish habitat.
- Removal of aquatic and/or stream-side vegetation and habitat alteration: Removal of riparian vegetation may affect fish habitat quality and fish health and survival through changes to shade, cover, and energy inputs. The Project has been designed to avoid effects to fish habitat through careful planning and placement of infrastructure and shifting activities away from waterbodies where practicable. In addition, buffer zones will be established and maintained between work areas and waterbodies, watercourses, and other sensitive areas in accordance with the mitigation measures outlined in Section 10 of this EPR, as practically feasible.

- Stream crossings, culverts, and water intake structures: Installation of watercourse crossings and culverts may result in direct loss of fish habitat or obstruct fish passage if not properly designed. Culverts on fish-bearing streams will be installed using best practices to protect fish habitat including stabilizing stream banks, countersinking, alignment with natural stream flow, appropriate sizing, and design measures that facilitate fish passage. If required, water intake structures will be equipped with appropriately sized fish screens to prevent impingement or entrainment and will follow DFO's interim standard on water intake end-of-pipe fish screens (DFO 2026d). Additional details on the construction of watercourse crossings are provided in Section 4.2.4 of this EPR.
- Water site isolation and associated works: In-water work areas will be isolated from receiving fish-bearing waters as required by applicable permits. Cofferdams may be installed to isolate in-water work areas and maintain dry working conditions. Areas requiring dewatering will be dewatered gradually to prevent sediment resuspension and bank destabilization. Measures will be implemented in accordance with DFO's standard for in-water site isolation (DFO 2026e).
- Water withdrawal and dewatering: Dewatering of South Hermans Pond (P2) will be required to facilitate development of the Keats Pit. Potential effects include loss of fish habitat fish stranding or mortality. Fish rescues will be conducted as required and in consultation with DFO. Additional details on the dewatering of South Hermans Pond are provided in Section 4.2.5.1 of this EPR. It is anticipated that water for dust suppression and non-potable domestic use (e.g., toilets) will be required over the life of the Project and will be obtained from site-contact water. If the need for additional water is required, applicable regulators will be consulted and permits obtained for the placement of a freshwater intake and water withdrawal.
- Blasting in or near water: Please refer to Section 5.4.5 of this EPR for a description of blasting activities.
- Changes to natural flow regimes: Project-related changes in flow may occur due to pit development, site water management infrastructure, water withdrawals (if required), and groundwater recharge during pit filling in closure. As described in Chapter 10 of the Environmental Registration, these changes may result in the indirect loss of fish habitat and changes in habitat quality. Streams identified as potentially affected by changes in flow, based on the hydrologic watershed modelling and site-wide water balance modelling described in Section 4.1.4.2 of this EPR, include S2, S4, S11, S16, S20, S21, S28, S41, S42, S43, S44, S45, and S70 (Figure 4.9). Where residual losses of fish habitat occur, they will be counterbalanced through a fish habitat Offsetting Plan developed in consultation with DFO and in accordance with the *Fisheries Act*.

5.4.5 Potential Effects from Blasting Activities on Aquatic Resources

Potential effects associated with blasting activities were assessed as part of the Fish and Fish Habitat assessment (Chapter 10 of the Environmental Registration). It is anticipated that blasting will occur during the development and operation of the four pits (Keats, Dome, Iceberg, and Jackpot). The use of explosives in or near water could affect fish health and survival through injury or instantaneous death to fish or eggs. The Environmental Registration states that the use of explosives in or near water will be avoided; however, if required, applicable permit requirements, DFO blasting guidelines, standards, and codes of practice will be followed.

Prior to development of the Keats open pit, fish will be relocated from South Hermans Pond (P2) and then the pond will be dewatered (as discussed in Section 4.2.5.1 of this EPR). Following dewatering the pit will be stripped and blasting will commence following standard surface mining techniques. Since no fish habitat will remain following dewatering, there are no effects from blasting on fish or fish habitat in P2.

Following submission of the Environmental Registration, a Project-specific blasting assessment was completed by WSP to further evaluate potential effects of blasting on fish habitat near the proposed pits (WSP 2026; Appendix C.1) in consideration of the DFO blasting guidelines.

The WSP assessment evaluated fish habitat receptors near the Dome, Iceberg, and Jackpot pits using overpressure thresholds to prevent fish mortalities and ground vibration thresholds for fish spawning habitats during egg incubation in consideration of DFO guidance (Wright and Hopky 1998; Cott and Hanna 2005). The assessment concluded that there were sufficient distances between the ponds/ streams and blasting activities at Dome, Iceberg, and Jackpot pits to prevent overpressures that could result in fish mortalities. However, the peak particle velocities produced in Dome on the eastern side Pond 1 and from Iceberg in Stream 20 could result in ground vibration thresholds that resulted in mortality of salmonid eggs during the incubation period (e.g., November to late February).

Mitigation measures will be dependent on timing of blasting and type of fish habitats affected (e.g., pond or stream). Potential mitigation measures during the egg incubation period may include reducing blast hole diameters to 102 or 89 mm, limiting blasting sequences to one hole per delay, reducing blast sizes near ponds and streams, considering the use of electronic detonators, and avoiding ANFO-type bulk explosives near ponds and streams (WSP 2026; Appendix C.1). Additionally, drilling and blasting parameters could also be refined based on site-specific monitoring results obtained during operations (WSP 2026; Appendix C.1). New Found Gold will discuss the results and recommendations of the blast assessment with DFO as part of the ongoing EA review process, Project planning, and fisheries permitting requirements to establish appropriate mitigation.

5.4.6 Potential for Increased Public Access to Fish-Bearing Waters

Potential effects associated with increased public access to fish-bearing waters were considered in the Fish and Fish Habitat and LRU assessments of the Environmental Registration (Chapters 10 and 13, respectively). Access to ponds and streams within the Project Area is generally good because of previously constructed roads for forestry and exploration activities. New road construction or upgrades associated with the Project will be limited to the Project Area and are not expected to provide access to previously inaccessible areas. Therefore, changes in fish health and survival in streams and ponds within the Project Area are not anticipated due to increased access by anglers to recreational fishing areas.

The presence of Project workers could increase competition for fish harvested by local anglers. To reduce this potential effect, employees and contractors associated with the Project will be prohibited from fishing within the Project Area, or from using the Project Area to access surrounding areas for these purposes, unless such access is specifically granted to support Indigenous traditional land use activities. Access to the mine site will also be controlled through signage, gates, fencing, and restricted-access zones implemented for safety and security. New Found Gold will continue to engage with local resource users, including anglers and outfitters, regarding Project activities and concerns.

5.4.7 Potential Effects on the Gander River and Tributary Streams

Potential effects associated with the Gander River and its tributary streams were considered in the Fish and Fish Habitat assessment of the Environmental Registration (Chapter 10). The Project is located within the Gander River watershed, with primary mine infrastructure situated within the Hermans Pond sub-watershed, which drains to the Gander River downstream of Gander Lake. As described in Section 4.1.4.1, the only Project components that overlap the Gander Lake watershed are a portion of the industrial terrace and the site access road. To reduce overlap with the Gander Lake watershed, the industrial terrace was shifted north and the associated sedimentation pond removed from the Project design. Activities within the portion of the industrial terrace that overlaps with the Gander Lake watershed will be limited to employee parking and inert material laydown. Surface water runoff from the portion of the industrial terrace that will generate contact water will be directed to the ore stockpile pond and managed through the Project water management system.

Water collected from the RoM pad, WRSF, overburden storage facility, and open pits will be routed to settling ponds and the central water treatment pond prior to discharge. Final effluent discharge will be directed to P Pond (P9) and North Hermans Pond (P1) within the Hermans Pond sub-watershed, prior to emptying into the Gander River. Additional details regarding collection, treatment, and discharge of surface runoff and runoff from infrastructure through the FDPs are provided in Sections 4.3.4 and 4.3.10. Potential effects, and the corresponding mitigation measures, include:

- Direct loss of fish habitat in tributary streams: Project infrastructure may result in direct loss of fish habitat through construction of the open pits or placement of infrastructure. The Project has been designed to avoid fish habitat through careful planning and placement of infrastructure and by shifting activities away from watercourses where practicable. Where residual losses remain following avoidance and mitigation, they will be counterbalanced through an Offsetting Plan that has been developed in consultation with DFO and in accordance with the *Fisheries Act.*
- Tributary stream flow and indirect loss of fish habitat: Loss of upstream ponds, changes in watershed area, site water management, diversion of groundwater and surface water flows to open pits, natural pit filling during closure or groundwater recharge, and water withdrawal (if required, has the potential to reduce stream flows, affect water levels and alter channel morphology, resulting in indirect loss of fish habitat or cause fish to be stranded. To reduce these effects, flows to fish-bearing streams and ponds will be maintained by designing water management within the pre-development catchments to the extent practicable. Treated mine effluent will be discharged through two final discharge points to assist in maintaining stream flows downstream of P Pond (P9) and North Hermans Pond (P1), where feasible (as described in Sections 4.3.4 and 4.3.10 of this EPR). Where residual losses remain following avoidance and mitigation, they will be counterbalanced through an Offsetting Plan developed and implemented in consultation with DFO and in accordance with the *Fisheries Act*. Fish rescues will be conducted in isolated areas of streams experiencing flow reductions, as required by applicable regulators.

- Water quality in tributary receiving environments and the Gander River: Surface runoff, groundwater seepage, sedimentation, and treated effluent discharges may affect water quality, fish habitat quality, and fish health and survival. To reduce these effects, runoff will be directed away from active work areas, erosion and sediment control measures will be implemented, and site water will be collected and treated prior to discharge. Effluent will meet applicable MDMER limits before release. Under the conservative regulatory scenario (described in Sections 9.4.2 and 10.4.2 of the Environmental Registration), aluminum, arsenic, copper, lead, zinc, and un-ionized ammonia are predicted to exceed freshwater aquatic life guidelines or background conditions downstream of the final discharge points within pond and stream receiving environments during operation. These parameters are predicted to meet the applicable guidelines or background conditions within 50 m of mixing in the Gander River. During closure, outflowing water from the filled pits is predicted to meet MDMER for parameters of potential concern during closure. Water quality values for parameters of potential concern are anticipated to meet the freshwater aquatic life guidelines or baseline in pond and stream receiving environments, with the exception of arsenic, which is expected to meet the CWQG-FAL following mixing in Gander River.

Surface water quality and environmental effects monitoring will be conducted to verify the assessment predictions, assess potential effects on fish and fish habitat, and confirm compliance with applicable requirements. An environmental effects monitoring program will be implemented to assess effects to fish populations in accordance with MDMER. In addition, a juvenile Atlantic salmon electrofishing program is being conducted to monitor juvenile salmon populations on the Gander River. Monitoring results will inform adaptive management, including additional monitoring or mitigation where required. With mitigation, monitoring, and offsetting in place, residual adverse effects on fish and fish habitat are predicted to be not significant.

5.4.8 Fish Relocation and Rescue Measures

Fish relocation requirements were considered as part of the Fish and Fish Habitat assessment. As described in Section 10.3 of the Environmental Registration, best efforts will be made by a qualified environmental professional to relocate fish from areas of in-water works (e.g., South Hermans Pond) to an appropriate location in the same watershed, as required. In addition, fish rescues will be conducted in isolated areas of streams or ponds which experience reductions in flow, as required by applicable regulators.

New Found Gold will develop and implement a Fish Relocation Plan prior to undertaking fish relocation activities and as part of the *Fisheries Act* Authorization for the Project to avoid the death of fish as defined in the *Fisheries Act*. The intent of the fish relocation is to remove as many fish as reasonably practical and transfer them to suitable habitats nearby, as required by applicable regulators. Fish will be identified to species, counted, and biological data will be collected as time permits. The fish rescues will take place primarily within the construction phase, with some taking place during the operation or closure phase (e.g., during natural pit filling). Fish capture and relocation activities will be conducted in accordance with applicable regulatory requirements, the Fish Relocation Plan, and DFO's Fish Capture and Relocation Standard for Projects Near Water (DFO 2026f), and in consultation with DFO.

5.5 Wildlife, Wetlands and Species at Risk

In the Environmental Registration, an overview of the terrestrial environment, including wildlife, wetlands and SAR, is provided in Section 4.1.2.5. Chapter 11 of the Environmental Registration details the terrestrial environment as a Project VC, including vegetation, wetlands, avifauna, other wildlife, and SAR, and provides a description of existing conditions, the potential effects and effect pathways, mitigation and management measures, residual environmental effects, and follow-up and monitoring programs.

Section 5.5.1 provides an overview of the information presented in the Environmental Registration on these topics to provide context for reviewers of this EPR. Also, additional information has been provided for the specific topics required by the EPR Guidelines as identified in Table 5.16, which summarizes the applicable EPR requirements and identifies where each is addressed.

Table 5.16 EPR Guidelines Requirements Related to Wildlife, Wetlands and Species at Risk

Guideline Requirement	EPR Section
In consultation with ECCC and the Wildlife Division of FAL, the EPR shall describe the potential effects of Project construction and operations activities on the following:	Sections 5.5.2 to 5.5.5; a description of NFG's approach to regulatory engagement is included in the introduction to Chapter 5
• Sensitive habitats (e.g., raptor nest sites, migratory bird breeding habitat, bat habitat, red pine, etc.)	Section 5.5.2
• Migratory birds, nests, eggs, and species at risk	Section 5.5.3
• Nesting birds and species at risk	Section 5.5.3
• Roosting bats, maternity colonies, and bat species at risk	Section 5.5.3
• Insects of conservation concern, including bumble bees and other listed invertebrates	Section 5.5.4
• Wildlife	Section 5.5.3
• Wetlands identified in section 4.1, including wetland areas, functions, hydrology, groundwater interactions, available habitat, and carbon storage	Section 5.5.5
Project construction and operations activities considered in this section shall include, but may not be limited to, the following:	Sections 5.5.1 to 5.5.5
• Vegetation clearing, grubbing, earthworks, including the effects of habitat fragmentation and restriction of movements and habitat alteration and loss	Sections 5.5.1 to 5.5.5
• Blasting, crushing, hauling and other high impact activities, and effects resulting from associated noise and vibration	Sections 5.5.1 to 5.5.5
• The effects of artificial lighting at construction and operations	Sections 5.5.1 to 5.5.5
• The potential introduction and spread of invasive plant and animal species through the movement of construction equipment and operational activities	Sections 5.5.1 to 5.5.5
The EPR shall describe measures that will be implemented to avoid or mitigate the effects of the Project on wildlife, wetlands and species at risk, as noted above, and shall consider the application of work timing windows, setback distances/ buffer zones, monitoring, and adaptive management.	Sections 5.5.1 to 5.5.5

5.5.1 Summary of Wildlife, Wetlands, and Species at Risk from the Environmental Registration

The terrestrial environment was selected as a VC due to the Project's potential interactions with wetlands, vegetation, and wildlife, including SAR and SOCC[1]. The spatial boundaries for the terrestrial environment include the Project Area, LAA (the 500-m buffer surrounding the Project Area), and RAA (includes the Southwest Gander River and Northwest Gander Lake sub-watersheds).

Much of the Project Area is already disturbed by extensive mineral exploration on the western side, historical forestry activities, and existing roads, transmission lines, and residential development. These existing conditions have likely resulted in avoidance of the area and/or habituation / accommodation to the activities by some wildlife. However, activities in the 983.73 ha Project Area will further directly and indirectly disturb habitat through:

- Wetland loss/disturbance from construction activities and change in wetland function from vegetation removal/disturbance and altered wetland hydrology
- Changes in vegetation composition/density/diversity due to vegetation removal, the introduction / spread of invasive / non-native species, dust deposits onto vegetation, and alterations to soil chemistry
- Adverse effects to wildlife from loss or fragmentation of suitable habitat/important habitat features, sensory disturbances (e.g., noise, light, dust), increased physiological stress, and increased human-wildlife contact (e.g., vehicular collisions, increased predation)

Terrestrial baseline field studies were conducted in 2021, 2022, and 2023 to support ongoing Project planning, including an Ecological Land Classification, wetland investigations, vegetation inventories, breeding bird and other wildlife surveys (including SAR and SOCC), and an independent muskrat (*Ondatra zibethicus*) study (GEMTEC 2023a, 2024a, 2024b). Targeted SAR investigations were also completed in 2026 for red pine (Island of Newfoundland Population; *Pinus resinosa*), American Marten (Island of Newfoundland Population; *Martes americana atrata*), and insect SAR. Reporting associated with each SAR survey, including geospatial data, are required to be submitted to Wildlife Division to fulfill the research permit requirements. Due to the timing of these surveys, results of these surveys were not included in the Environmental Registration. Collectively, these baseline surveys, targeted investigations, and existing records identified the following terrestrial SAR/SOCC, other species of interest, and associated habitats, including wetlands, within or near the Project Area:

- Five avifauna SAR were recorded during baseline surveys: olive-sided flycatcher (*Contopus cooperi*), rusty blackbird (*Euphagus carolinus*), red crossbill (*Loxia curvirostra percna*), gray-cheeked thrush (*Catharus minimus*), and evening grosbeak (*Coccothraustes vespertina*). There is also a record of one other SAR, bank swallow (*Riparia riparia*), within 5 km of the Project. Three avifauna SOCC were also documented: least flycatcher (*Empidonax minimus*), yellow-bellied sapsucker (*Sphyrapicus varius*), and Nashville warbler (*Leiothlypis ruficapilla*).

[1] SOCC are defined as species ranked S1 (Critically Imperiled), S2 (Imperiled), or combinations thereof (e.g., S1S2) on the Island of Newfoundland by the Atlantic Canada Conservation Data Centre; species recommended for listing by the Committee on the Status of Endangered Wildlife in Canada as Endangered, Threatened, Vulnerable, or Special Concern but not yet listed under the federal *Species at Risk Act*; or recommended for listing by the Species Status Advisory Committee as Endangered, Threatened, Vulnerable, or Special Concern but not yet listed under the NL *Endangered Species Act*.

- Two bat SAR were confirmed in or near the Project Area: little brown myotis (*Myotis lucifigus*) and northern myotis (*Myotis septentrionalis*). There migratory bat SAR – hoary bat (*Lasiurus cinereus*), eastern red bat (*Lasiurus borealis*), and silver haired bat (*Lasionycteris noctivagans*) – may also occur in the area.
- Four individual red pine (*Pinus resinosa*) were identified in the Project Area.
- Two insect SAR were confirmed within and near the Project Area: yellow-banded bumble bee (*Bombus terricola*) and transverse lady beetle (*Coccinella transversoguttata*).
- Caribou (*Rangifer tarandus*) Core Areas do not overlap with the Project Area, and they are not expected to occur within the Project Area; however, occasional vagrants may occur within the RAA.
- Evidence of muskrat (*Ondatra zibethicus*), a species of interest to the Wildlife Division, was documented within the Project Area and included clippings, trails, feed beds, burrows, and an unconfirmed muskrat house.
- Newfoundland marten (Island of Newfoundland Population; *Martes americana atrata*)) have the potential to occur in the Project Area. However, hair snag surveys for marten conducted in early 2026 did not confirm their presence.
- Wetlands are common within the Project Area and LAA but represent only 2.9% of the Project Area and 3.6% of the LAA based on the augmented NLDFAL data. The observed wetland classes, forms, and types that were encountered during additional habitat analyses are presented in Table 11.3. of the Environmental Registration. Functional assessments have been completed for eight of the wetlands visible on 1:50,000 National Topographic System maps which overlap the planned Project footprint, using the Wetland Ecosystem Services Protocol – Atlantic Canada (WESP-AC) method. The results of these assessments will be provided in a separate technical report.

Change in wetland function due to direct effects, including loss, could occur within an estimated 29.9 ha of wetland area in the Project Area, representing 1.9% of the wetlands within the RAA. Change in wetland function due to indirect effects could conservatively occur within an additional 36.9 ha of wetland within the LAA (but outside of the Project Area), representing 2.4% of wetlands within the RAA. No single wetland class and type will experience greater than 10% loss or change in function within the RAA. Most residual effects on wetland function will occur during construction but are expected to persist throughout and beyond the Project's life.

Residual effects to species/vegetation diversity and/or habitat may include effects to vegetation SAR/SOCC, vegetation communities, and associated habitat for avifauna and other wildlife. Most residual effects will commence during construction, with some residual effects extending beyond the Project's life. The loss or alteration of some vegetation communities/habitats may be reversible in some areas, as much of the Project Area is disturbed and the site is expected to gradually transition to forested habitat following rehabilitation and closure. However, some vegetation communities/habitats, such as some wetlands (particularly peatlands), are unlikely to return to their pre-Project state.

Residual effects to mortality risk are expected to be low as the number of direct mortalities from the Project is expected to be small relative to existing mortality sources within the RAA. Effects are anticipated to be limited to the Project Area, and mortality events are expected to occur irregularly throughout the life of the Project. The change in mortality risk will be reversible once the Project ceases.

Mitigation measures and best management practices will be implemented to reduce direct and indirect changes to habitat, including vegetation removal, wetland disturbance, and habitat alteration (e.g., sensory disturbance and edge effects), and mortality risk.

While some long-term effects to the terrestrial environment are anticipated, they are relatively limited in extent and are not expected to affect the long-term viability of vegetation communities, wildlife populations, or SAR/SOCC and other species of interest. With mitigation and New Found Gold's commitment to comply with regulatory requirements, residual effects terrestrial environment effects are anticipated to be not significant.

5.5.2 Potential Effects on Sensitive Habitat

Sensitive habitat includes areas or habitat features that support species or important ecological functions, such as raptor nest sites, migratory bird breeding habitat, or habitats that support plant and other wildlife SAR. This section focuses on plant SAR as a sensitive habitat feature. Birds, bats, other wildlife, invertebrates, and their habitats, are addressed separately in Sections 5.5.3 and 5.5.4, while wetlands, which are also considered sensitive habitat, are addressed separately in Section 5.5.5.

Potential effects of Project construction and operation on the terrestrial environment, including SAR and sensitive habitat, identified in the Environmental Registration include the following:

- Change in wetland habitat and function (discussed in Section 5.5.5)
- Change in species diversity, vegetation community diversity, and/or habitat (e.g., creation of edge habitat and exposure to dust)
- Loss or alteration of habitat which may directly (e.g., removal of occupied bat roost trees) or indirectly (e.g., habitat changes that increase predation risk) increase mortality risk for avifauna and other wildlife (discussed further, as applicable, in the sections below that address birds, bats, other wildlife, and insects).

Vegetation clearing and the creation of edge habitat during Project construction are expected to be the main cause of habitat loss and alteration for vegetation species and communities, including sensitive habitat and habitats that may support plant SAR. This may occur through the direct removal of vegetation within the Project footprint, as well as indirectly through edge effects in areas adjacent to cleared areas, or dust deposition on surrounding vegetation and sensitive areas.

No plant SAR were observed within the Project Area during initial field surveys conducted to support the Environmental Registration. At that time, red pine (*Pinus resinosa*) was found in a suspected 30-year-old plantation south of both the Project Area and LAA. While the NL *Endangered Species Act* specifies that "natural populations" of red pine are listed as Threatened, NLDFAL Wildlife Division recently clarified that planted red pine are considered a SAR if the source comes from naturalized stock.

Targeted follow-up surveys for red pine were conducted within the Project Area in 2026, following submission of the Environmental Registration, within the areas planned for clearing. During these surveys, four red pine trees were found within the Project Area, two of which are within the planned footprint of Project components. These trees range in diameter at breast height from 5 to 15 centimetres, and none showed visible signs of infection, though some general signs of stress were noted. An additional red pine was incidentally observed adjacent to a road located approximately 940 m east of the

Project Area. New Found Gold has met with Wildlife Division to discuss the results of these surveys and the potential requirement for a Section 19 Economic Activity Permit under the NL *Endangered Species Act*, including preparation of a Species at Risk Impact Mitigation and Monitoring Plan. New Found Gold will continue to engage with Wildlife Division regarding appropriate mitigation measures which may include seed banking and plantation.

Mitigation measures to be applied throughout Project construction, operation, and rehabilitation and closure are provided in Section 10 of this EPR. Mitigation measures to be implemented to reduce potential effects on the plant SAR and sensitive habitats include (but are not limited to) the following:

- Restricting clearing and grubbing to areas necessary for Project construction and limiting new disturbance
- Limiting or avoiding pesticide use
- Retaining buffer zones of undisturbed vegetation around identified sensitive areas (e.g., wetlands, rare plant occurrences), where feasible
  - If avoidance of red pine individuals is not possible, mitigation will be developed in consultation with NLDFAL Wildlife Division
- Protecting and retaining important habitat features, where feasible, including: avoiding vegetation clearing during sensitive periods (e.g., migratory breeding bird season); retaining large diameter trees (e.g., potential roost sites for bats); and retaining coarse woody debris and undisturbed patches of soil (e.g., potential shelter, breeding and/or foraging opportunities for insects, small mammals, amphibians, and ground-nesting birds)
- Rehabilitating disturbed soils and slopes to support natural revegetation, and using native seed mixes where appropriate
- Inspecting equipment upon arrival at the construction to confirm it is clean and free of soil and vegetative debris, to reduce the risk of introducing or spreading non-native and/or invasive vascular plant species. Equipment that does not meet these requirements will be cleaned, re-inspected, and approved before use
- Monitoring for invasive vascular plants. If potentially invasive species are noted within or near the Project Area during construction or operation, the extent of the species will be assessed and a plan for removal and/or control will be developed

If sensitive habitat features are encountered during Project construction or operation, such as red pine or other SAR / SAR habitat (e.g., hibernacula, maternity roost, marten den), an active migratory bird nest, or a raptor nest, work will immediately cease. The Mine Manager will be notified promptly, and the Wildlife Division will be informed if required. Follow-up actions will be determined in consultation with regulators and a qualified biologist.

5.5.3 Potential Effects on Birds, Bats, and Other Wildlife

Wildlife surveys in the general region of the Project have documented typical boreal species, including American beaver (*Castor canadensis*), black bear (*Ursus americanus*), moose (*Alces alces*), Canada lynx (*Lynx canadensis*), muskrat, and several bat species. A range of bird species are also present, with over 70 species recorded in the region during baseline studies including, woodpeckers, songbirds, waterfowl, and one raptor (northern goshawk [*Accipiter gentilis*]). Several wildlife SAR and SOCC have the potential

to occur in the broader region, with several documented within the Project Area, including five avifauna SAR (olive-sided flycatcher, rusty blackbird, red crossbill, gray-cheeked thrush, and evening grosbeak), three avifauna SOCC (least flycatcher, yellow-bellied sapsucker, and Nashville warbler), and two bat SAR (little brown myotis and northern myotis). There was also evidence of muskrat (e.g., clippings, trails, feed beds, burrows), a species of conservation interest to the NLDFAL Wildlife Division, documented within the Project Area. A discussion of potential effects on insects is provided in Section 5.5.4 of this EPR.

An overview of the terrestrial environment from the Environmental Registration is provided in Section 5.5.1 of this EPR. The effects of Project construction and operation activities on birds (migratory birds, nests, eggs, and SAR), bats (roosting bats, maternity colonies, and bat SAR), and other wildlife align with Section 5.5.2 (sensitive habitats) and include the following:

- Site preparation could result in the direct loss of suitable habitat and important habitat features such as nests, denning sites, or maternity roosts, and progressive expansion of the WRSF may result in incremental habitat alteration
- Vegetation clearing can result in habitat fragmentation, which can have adverse effects on species with large ranges, and those that require large patches of interior forest or other types of homogenous habitat
- Vegetation clearing can indirectly affect adjacent habitats through edge effects, including changes in microclimate and vegetation structure, that in turn may influence wildlife presence and/or abundance
- Sensory disturbance, including noise, vibration, lighting, dust, odours, and human presence, may affect habitat quality and alter behaviour. For birds, this may result in avoidance, displacement, attraction or disorientation, and changes in movement patterns. For bats, this may alter roosting, emergence, foraging, and movement patterns.
- Potential alteration of wetland and waterbody habitat used by migratory birds, or foraging habitat used by bats
- Direct change in mortality risk due to vegetation clearing and site preparation activities, and human-wildlife conflicts (e.g., vehicle traffic may increase mortality risk through vehicle collisions) or the accidental release of toxic substances or waste
- Indirect change in mortality risk due to changes in wildlife health and survival, including increased stress and/or reduced body condition (e.g., increased physiological stress in wildlife may increase their susceptibility to disease [e.g., Hing et al. 2016])
- Indirect change in mortality risk due to increased predation, hunting, and/or poaching because of improved access or other habitat changes

Key mitigation for birds and bats will include avoiding, where practicable, vegetation clearing during sensitive periods (e.g., migratory breeding bird season, approximately mid-April to mid-August [ECCC 2025]) and retaining important (i.e., sensitive) habitat features (e.g., large diameter trees that may serve as summer roost sites for bats and coarse woody debris and undisturbed patches of soil that may provide shelter, breeding, and/or foraging opportunities for small mammals, amphibians, and ground-nesting birds. As required in the EPR Guidelines, the Project EPP commits to the following specific bird and bat mitigation:

- Trees and snags with a diameter at breast height of greater than 25 cm will be surveyed for potential active bat colonies prior to clearing between May 1 to September 1, with a 250 m no-cut buffer applied until September 1 should an active bat colony be detected.
- Vegetation clearing will not occur within (i) 800 m of a bald eagle or osprey nest between March 15 and July 31; 200 m during the remainder of the year; (ii) 800 m of a short-eared owl (ground) nest between May 15 to August 15; and (iii) 200 m of other raptor nests between March 15 and July 31.
- Raptor nest sites, if identified, will be reported to Wildlife Division.
- An EEMP will be developed that includes preventative measures, long-term monitoring objectives, performance indicators, reporting requirements, and adaptive management measures for species listed under the NL *Endangered Species Act*, SOCC, and wetlands, for the life of the Project, including the decommissioning and reclamation phase.

While the mitigation measures above are intended to reduce direct effects on birds, bats, and other wildlife habitat, residual indirect effects may still occur from sensory disturbance, including noise, vibration, lighting, and increased human activity. Since the Project Area is adjacent to Appleton and Glenwood's municipal boundaries, sensory disturbance mitigation measures in place to protect those communities may also serve to reduce sensory disturbance on local SAR. Further, traffic activity and artificial lights have the potential to disturb wildlife, however, mitigation measures (e.g., dust control, lighting shades, vehicle speeds) will be in place to reduce the effects of traffic and light on wildlife. Overall, with the application of mitigation and management measures, residual effects on the Terrestrial Environment are not anticipated to result in a threat to the long-term persistence or viability of a species within the Terrestrial Environment RAA, including those that are contrary to or inconsistent with the goals, objectives, or activities of provincial or federal recovery strategies, action plans, and management plans.

5.5.4 Potential Effects on Insects of Conservation Concern

Two insect SAR, the yellow-banded bumblebee (*Bombus terricola*) and transverse lady beetle (*Coccinella transversoguttata*), were identified during terrestrial surveys within the Project Area, completed in August of 2026. Both species are listed as Vulnerable under the NL *Endangered Species Act*.

These insect species can use many habitat types and generally are found where key food and nectar sources are present. Yellow-banded bumble bees are typically found where flowers provide pollen and nectar throughout the bee season, while transverse lady beetles are largely associated with the availability of aphids and other small prey items (Committee on the Status of Endangered Wildlife in Canada [COSEWIC] 2016; ECCC 2023).

An overview of the terrestrial environment from the Environmental Registration is provided in Section 5.5.1 of this EPR. Potential Project effects on insect SAR align with those outlined in Section 5.5.1 and Section 5.5.2 (sensitive habitats) and include the following:

- The loss of suitable habitat and important habitat features, such as nests and overwintering sites during site preparation
- Changes in habitat quality due to sensory disturbances (e.g., dust, artificial light) that may result in avoidance of, or attraction to, affected areas.
- Mortality risk may increase during vegetation removal or through collisions with Project vehicles.

While the construction and operation of the Project will reduce natural habitat, disturbed areas may also create opportunities for insect SAR that use flowering plants, as these areas can support floral resources used by bumble bees, lady beetles, and other pollinating insects. Retaining coarse woody debris on site and allowing soil patches remain undisturbed (where practicable) can also support breeding, overwintering, and sheltering habitat for insect SAR. Additional mitigation measures to reduce potential effects on the terrestrial environment, including insect SAR, are provided in Sections 5.5.1 and 5.5.2. In addition, site orientation and review of environmental protection measures will include information regarding SAR identification (insects and red pine) and reporting requirements.

5.5.5 Potential Effects on Wetlands

Wetlands are known to provide essential ecological functions like improving water quality, supporting wildlife and wildlife habitat, and mitigating erosion and flooding events (National Wetlands Working Group 1997; United States Environmental Protection Agency 2026). Further, wetlands provide important social, cultural, aesthetic, recreational, and economic value to the public, Indigenous groups, governments, and other affected parties.

In NL, wetlands are included in various digital information sources, including 1:50,000 National Topographic System maps, the Canadian National Wetland Inventory (restricted to the St. John's region and a portion of Labrador), and within NLDFAL land cover data. The most extensive of these is NLDFAL land cover data, which was used to determine the locations of wetlands within the Project Area, LAA, and RAA. This dataset was adjusted to include cleared areas and residential or developed areas associated with mining exploration activities and the expansion of the Town of Appleton. The NLDFAL land cover data indicate that wetlands make up about 3% of the Project Area, 3.8% of the LAA, and 5.8% of the RAA (provided in Table 11.2 of the Environmental Registration). Ecological Land Classification field work completed in the area (the results of which do not completely cover the spatial extents of assessment areas) indicate that not all wetlands are captured within these datasets, and the amount of wetland within the assessment areas may be higher than is indicated in digital information sources; however, it is assumed wetlands are similarly under-represented at all assessed spatial scales.

NLDFAL wetland data includes bogs, wet bogs, and treed bogs. Dome bogs are common in the Central Newfoundland Forest ecoregion, and particularly, in areas where fires have repeatedly occurred, a dwarf-shrub heath provides the dominant vegetation cover. Bogs receive most of their water from precipitation and have primarily vertical water movement, whereas fens can receive water from many sources, including groundwater discharge and surface run-off, and have both horizontal and vertical water movement (Vitt 2013). Both wetland classes are peatlands, and as some of the NLDFAL wetlands within the Project Area are associated with mapped watercourses, it is likely that both bogs and fens are

present, as well as other wetland classes, in lesser amounts. The observed wetland classes, forms, and types that were encountered during additional habitat analyses were presented in Table 11.3 of the Environmental Registration. Figure 4.16 of the Environmental Registration illustrates the known location of wetlands within the Project Area.

Peatlands provide important functions and services, including hydrologic, biogeochemical, and ecological functions (Price and Maloney 1994; Hanson et al. 2008; Kimmel and Mander 2010; Beauline et al. 2021). Bogs and fens can store carbon both in peat layers and in woody vegetation. When outlets are present, wetlands can export nutrients and organics to downstream environments (Hansen et al. 2008). Some fens can store water and moderate water flows, protecting stream shorelines from erosion, and downstream environments from flooding (Hanson et al. 2008). Many of the mapped wetlands that are directly within the Project footprint were field assessed in 2026. Data from the field assessments are still being analyzed and can be provided to regulators directly under separate cover.

The following potential effects of Project construction and operations activities on wetlands (including wetland areas, functions, hydrology, groundwater interactions, and available habitat) were identified in the Environmental Registration:

- Change in wetland function
- Change in species diversity, vegetation community diversity, and/or habitat in wetlands
- Reduction of infiltration, alteration of groundwater flow patterns, and discharge to surface water features
- Seepage from stockpiles migrating through overburden and shallow bedrock towards wetlands

The Project footprint planned for clearing currently includes disturbed and undisturbed habitat; after clearing and development, the Project Area will be mostly disturbed. Though some areas of wetland were avoided or overlap with wetland was reduced to the extent practical when siting Project components (e.g., wetlands bordering the WRSF), total avoidance of wetlands was not possible, and some wetland areas within the Project Area will be disturbed and associated wetland functions lost as a result of the Project.

Changes to hydrology and edge effects are expected to be the primary indirect effects on wetlands that are not completely lost because of the Project (as discussed in Section 11.4.1 of the Environmental Registration). Though most effects to wetlands are expected to occur during the construction phase, indirect effects may continue through operation of the Project. Mitigation measures and best management practices, including obtaining a Section 48 Permit for Work within 15 m of wetlands visible on 1:50,000 National Topographic System maps, will be implemented to reduce vegetation removal, wetland disturbance, and habitat alteration, when possible. While some long-term changes to wetland function and habitat are anticipated, these effects are relatively limited in extent relative to the amount of wetland in the RAA, and are not expected to affect the long-term viability of these wetland functions in the RAA, which will continue to be performed by wetlands outside of the Project footprint. Mitigation measures and monitoring programs to reduce environmental effects to wetlands are discussed further in Sections 9.2 and 10 of this EPR.

5.6 Socio-economic and Land Use

In the Environmental Registration, socio-economic and land use information was described in Sections 12 (Communities), 13 (LRU), and 14 (Historic Resources). These sections detail existing conditions, the Project's potential effects and effect pathways in a socio-economic, historic, land use context, and related mitigation and management measures, residual environmental effects, and follow-up and monitoring programs.

Section 5.6.1 provides an overview of the information presented in the Environmental Registration on these topics to provide context for reviewers of this EPR. Additional information has been provided for the specific topics outlined in the EPR Guidelines as identified in Table 5.17, which summarizes the applicable EPR requirements and identifies where each is addressed.

Table 5.17 EPR Guidelines Requirements Related to Socio-economic and Land Use

Guideline Requirement	EPR Section
Describe the potential effects and mitigation measures of all access, crossings, and construction activities proposed within and adjacent to the T'Railway Provincial Park in consultation with the Provincial Parks Division	Section 5.6.2; a description of NFG's approach to regulatory engagement is included in the introduction to Chapter 5
Assess potential blasting-related vibration, air overpressure, and structural impacts on nearby residences, cabins, drinking water wells, and infrastructure.	Section 5.6.3
Assess potential effects on traditional harvesting, country foods, cultural practices, and cultural heritage resources.	Section 5.6.4
Assess Project effects on community well-being, mental health, community services, housing affordability, and quality of life.	Section 5.6.5
Assess the potential effects of the Project on tourism operations and recreational fishing (including those directly reliant on the salmon river), outfitting businesses, hotel operators, T'Railway users, recreational land access, Crown land users, cottage owners, and other stakeholders, and identify proposed mitigation, monitoring, and follow-up measures.	Section 5.6.6
Assess traffic-related safety risks associated with the proposed new mine access road and increased mine-related vehicle movements and identify appropriate mitigation measures.	Section 5.6.7
Assess potential changes to drainage patterns and runoff within catchment areas associated with provincial transportation infrastructure.	Section 5.3.7
Assess the effects of the Project on the natural landscape and aesthetic appeal of the region, including viewscapes and identify appropriate mitigation measures.	Section 5.6.8

5.6.1 Summary of Socio-Economic and Land Use from the Environmental Registration

5.6.1.1 Communities

Communities were selected as a VC because of the Project's potential socio-economic and community well-being benefits and adverse effects, and because the Project may affect the public's existing recreational, traditional, and commercial LRU.

Project-related employment and business may support residents' economic livelihoods and provide associated social benefits from earned income. The Project can also have other economic effects (e.g., labour, labour income, contributions to Gross Domestic Product, and government revenues) for the region and the province of NL. Project activities and Project-related population growth could increase demand for community infrastructure and services and affect (beneficially or adversely) community well-being.

The Project's economic and employment effects are anticipated to be mostly positive, associated primarily with local and regional employment, increased income, and business opportunities. Demands on services or infrastructure (e.g., housing, infrastructure, and health and emergency services) are not expected to exceed current capacity. Considering New Found Gold's commitment to prioritize hiring from local and regional communities, noticeable changes to related service standards and infrastructure demands are not predicted. Community well-being is not anticipated to deteriorate over an extended period that cannot be managed or mitigated through adjustments to programs, policies, plans, or other mitigation.

Project design measures, including the development of a dedicated site access road, are expected to reduce Project-related traffic on local roads. New Found Gold will implement a range of management plans and workplace policies aimed at promoting a safe, respectful, and inclusive work environment, supporting employee well-being, and reducing demands on local services. With the application of mitigation and management measures, residual adverse effects on Communities are anticipated to be not significant.

5.6.1.2 Land Use

Changes in access, landscape, and sensory disturbances from Project activities could influence how land is used for hunting, fishing, forestry, outfitting, and outdoor recreation. These interactions may alter the availability or quality of land and resources for local users, depending on the location and extent of Project activities. A public LRU survey conducted to support the Environmental Registration (Appendix 13.A of the Environmental Registration) identified recreational and harvesting activities in the vicinity of the Project Area, such as berry picking, firewood cutting, hunting, fishing, and hiking.

While the Project Area will be restricted for hunting, fishing, outfitting, and gathering activities, alternative locations within the LRU LAA (1-km buffer on the Project Area) and RAA (5-km buffer on the Project Area) will remain available for resource users to engage in these activities. T'Railway use will not be restricted by the Project, but signage and safety mechanisms will be implemented in consultation with relevant authorities where the site access road and T'Railway intersect. It is predicted that LRU activities will be able to continue at or near current levels.

Residual effects on LRU are not anticipated to exceed or contravene applicable federal, provincial, or municipal land use designations, policies, or by-laws. Project-related activities are also not expected to restrict or degrade LRU capacity to a level where activities cannot continue at or near current levels over the long term.

During rehabilitation and closure, New Found Gold will work toward returning the Project Area to conditions as close to pre-Project as practical, with consideration of landform stability and visual aesthetics. Based on the application of mitigation and management measures, including ongoing engagement with local land and resource users, and adherence to regulatory requirements, the residual environmental effects on LRU are expected to be not significant.

5.6.2 Potential Effects of Project Activities within and Adjacent to the T'Railway Provincial Park

The Project includes the development of new road infrastructure to support safe and efficient access and internal connectivity across the mine site. This includes a new site access road from the TCH that will be designed in coordination with the NLDTI. This road will serve as the primary access for light vehicles, including employee transportation, supply deliveries, and highway truck haulage of ore to the Pine Cove processing facility. The site access road has been strategically located to reduce interaction between light vehicles and mine haulage trucks, consistent with best practices for safe mine operations. The road will intersect the T'Railway, and safety features will be incorporated in consultation with relevant authorities.

The T'Railway, a multi-use recreational trail, passes through the Project Area where it intersects the proposed new mine access road. Near the Project, the T'Railway runs approximately parallel to the TCH and crosses beneath the highway east of Appleton. The trail supports walking, cycling, snowmobiling, and other motorized and non-motorized recreational activities.

The key interaction between the Project and the T'Railway will occur where the proposed mine access road crosses the trail. Project-related traffic using this road will include light vehicles associated with employee transportation and supply deliveries, as well as highway trucks transporting ore to the Pine Cove processing facility. The crossing has the potential to result in safety risks and conflicts between recreational trail users and Project vehicles. The T'Railway will remain open for public use. Safety features will be incorporated into the crossing design in consultation with relevant authorities, and public education measures will be implemented to support safe use of the trail. New Found Gold will also continue to communicate with local land users regarding access concerns and planned Project activities near the T'Railway.

Construction and operation near the T'Railway may also temporarily affect the quality of the recreational experience through noise, dust, light, vibration, visual changes, and the presence of vehicles, equipment, and construction activities. Project activities may influence recreational use of areas near the Project Area, although use of the T'Railway itself will not be restricted by the Project. Sensory and visual effects on T'Railway users will be reduced through Project siting and environmental management measures. The crusher and stockpiles have been located away from the T'Railway, and stockpiles have also been positioned away from the TCH to reduce visual effects on nearby land users. Measures to reduce noise and light emissions will be implemented, and trees and other vegetation will be retained or encouraged to grow in accessible areas, where practicable, to screen views of Project facilities and muffle nuisance noise. Standard mitigation measures will be applied to site clearing, site preparation, erosion and sediment control, blasting, vehicles, equipment, roads, light emissions, and rehabilitation and closure.

New Found Gold will communicate Project activities, locations, and timing to communities, affected land and resource users, the provincial government, local authorities, and other interested parties. Advance notice will be provided for activities that may affect use of the access road, with information communicated through local town councils, local radio stations, and/or social media.

New Found Gold will also consult applicable regulators regarding the design, permitting and construction of the T'Railway crossing. A 15-m referral buffer applies on either side of the T'Railway, and required permits and approvals will be obtained from NLDTCAR Provincial Parks Division where crossings are required within the buffer.

With the proposed crossing controls, access restrictions, communication measures, infrastructure siting, sensory-disturbance mitigation, and rehabilitation measures, a small measurable change in recreational use is predicted. Recreational activities are expected to continue at or near current levels within the RAA (refer to Figure 13.1 of the Environmental Registration). Effects associated with construction and operation are expected to occur intermittently and to be largely reversible following rehabilitation and closure.

5.6.3 Potential Effects of Blasting on Nearby Receptors

Potential blasting-related vibration, air overpressure, and structural impacts on nearby residences, cabins, drinking water wells, and infrastructure are further described in Section 5.1.2 of this EPR.

Vibrations will be generated from the use of explosives in the development of the Project. A Blast Management Plan has been developed and included in Appendix C.2. The Blast Management Plan outlines mitigation measures and monitoring procedures for blasting as they relate to negative effects associated with vibration. The plan also provides guidance for safe and controlled blasting practices, address risks from flyrock and infrastructure/home damage, and will be a working document that will be revised periodically so that changes in the mine construction and operations plan are appropriately addressed.

Mitigation measures to reduce vibration from blasting include restricting blasting to daytime hours only (9:00 am to 5:00 pm), communicating the blasting schedule to residents, avoiding using explosives in or near water (unless required, whereupon New Found Gold will follow applicable permit requirements), and giving a safe distance between the blasting locations and other infrastructure. New Found Gold will follow best practices outlined in the Blasters Handbook and the Environmental Code of Practice for Metal Mines for the Blast Management Plan. Blasting volumes will vary depending on the mine plan but can range in sizes from 10,000 to 35,000 t. Emulsion will be the primary explosive agent, and the sequencing of the blasts will be designed to reduce vibration and noise. A blasting assessment (refer to Section 5.1.2) and Blast Management Plan (Appendix C.2), including overpressure and ground vibration analyses to support the blast design, is scheduled to be implemented before and during Project activities.

5.6.4 Potential Effects on Traditional Harvesting, Country Foods, Cultural Practices, and Cultural Heritage Resources

The Project could affect traditional harvesting, country foods, and related cultural practices through the direct loss or restricted use of harvesting areas within the Project Area; sensory disturbance associated with noise, dust, lighting, vibration, traffic, and visual changes; changes in the distribution or behaviour of harvested species; and possible changes in access to surrounding lands and resources. These effects could influence hunting, trapping, fishing, berry and plant harvesting, domestic wood cutting, and other land-based practices undertaken by Indigenous and non-Indigenous land users. As described further in Chapter 14 of the Environmental Registration, there are no known registered sites within the Project Area. A Discovery of Historic Resources Contingency Plan has been included as part of the EPP (Appendix B) to mitigate the potential of adverse effects on historic resources (i.e., archaeological and palaeontological resources) resulting from an accidental discovery during Project activities.

Existing use of the area was characterized using the LRU Survey (Appendix 13.A of the Environmental Registration) and preliminary results from the Qalipu First Nation Traditional Use Study (Appendix 13.B of the Environmental Registration). The Traditional Use Study did not identify recorded traditional-use data points directly within the Project Area. However, multiple land-use features were documented within 5 km of the Project Area, including hunting, small-game harvesting, fishing, and general land use. Salmon fishing was also identified along the Gander River outside the Project Area. The absence of recorded data points does not necessarily indicate an absence of use because of the confidentiality and data-sovereignty requirements governing the information. The LRU Survey indicates that the surrounding area supports hunting, trapping, freshwater fishing, and berry or plant harvesting for food, recreation, and traditional or cultural purposes. Survey participants most commonly reported big-game hunting and berry or plant harvesting, while small-game harvesting, trapping, and freshwater fishing were also identified as important land-use activities.

Construction and operation activities, as well as the physical presence of Project infrastructure, will make resource-use areas within the Project Area unavailable for harvesting during the life of the Project. Restricted-access zones will be established around Project activities for safety and security. The Project could also displace harvested wildlife or influence where people choose to hunt, trap, fish, or gather resources because of sensory disturbance. Fishing opportunities at ponds and streams within the mine site will be lost, and fishing or angling in the LAA could be affected by Project-related noise. However, alternative harvesting areas are available within the LAA and RAA.

Several mitigation measures will be implemented to avoid or reduce these effects. Signage, gates, and restricted-access zones will inform land users of Project facilities and prevent entry into active work areas. Project activities, locations, timing, and potential access limitations will be communicated to communities and affected land and resource users. New Found Gold will continue engaging with hunters, trappers, anglers, outfitters, Indigenous land users, and other local resource users regarding Project overlaps, planned activities, concerns, and potential means of addressing identified issues.

Additional measures include limiting on-site lighting, implementing speed limits, timing construction activities to avoid the wildlife breeding season, and applying mitigation and monitoring measures for the atmospheric environment, surface water, fish and fish habitat, and terrestrial environment.

With these measures in place, it is predicted that effects on resource use will constitute a small measurable change. Hunting, trapping, outfitting, fishing, and related land-use activities are expected to continue at or near current levels within the RAA (refer to Figure 13.1 of the Environmental Registration). Effects will occur within the Project Area through the direct loss of harvesting areas and within the LAA through indirect sensory disturbance. They will persist through construction and operation but are expected to be largely reversible following rehabilitation.

5.6.5 Potential Effects on Community Infrastructure and Services, Well-Being, and Quality of Life

Community infrastructure and services, as well as community well-being and quality of life, can be affected by a variety of factors, including access to services and infrastructure, ability to conduct land use activities, health effects of Project emissions, and participation in employment and business opportunities.

The workforce for the construction phase will total approximately 207 employees. Operation will employ between 117 to 239 people annually. It has been estimated that 88% of New Found Gold's employees will be from NL, and that approximately 61% of the workforce will be from central Newfoundland. Employees hired from local communities will not place additional demands on services and infrastructure. Based on these estimates, approximately 80 employees could relocate to the communities near the Project Area when the labour force is at its peak.

The Project has the potential to provide economic and community benefits to Central Newfoundland communities. These benefits may include local jobs, opportunities for local businesses, and long-term investment in the region. Increased disposable income from Project employment can have positive effects on well-being because it will allow some individuals more opportunities for exercise and family activities, as well as more access to healthy market foods. The Project will also create opportunities for local contractors, suppliers, accommodation providers, transportation companies, and other businesses that provide goods and services in the region.

Project employment may lead to adverse effects on well-being if it leads to negative coping mechanisms, such as overeating, smoking, heavy drinking, and illicit drug use. People who are employed by the Project have less time to engage in traditional and recreational activities, such as hunting, fishing, forestry, outfitting, and outdoor recreation. Project employees may experience more time away from family members, which could result in increased stress and strained family dynamics.

Given the availability of services and infrastructure in Gander and the surrounding communities, it is unlikely that the non-local workforce will exert material demands on health and emergency services and infrastructure or permanent and temporary housing. A housing study prepared for New Found Gold indicates that the supply of existing temporary and permanent housing within a one-hour commute of the Project, which includes 1,092 rooms for rent and 220 real estate listings, is more than sufficient to accommodate non-local Project workers.

With respect to housing affordability, the Project, and other resource projects in the area, could place additional pressure on housing availability and rental costs in nearby communities. Future housing costs are difficult to predict considering the changing nature of the housing market. However, as described above, and in Section 12 of the Environmental Registration, available housing and temporary accommodation capacity is considered sufficient for the Project's anticipated non-local workforce. There are also existing and planned residential developments in the communities closest to the Project, which will increase the capacity of accommodations in the future.

New Found Gold has committed to improving the well-being of the communities near the Project through sponsorships, donations, and partnerships with community organizations. These efforts are intended to support projects and activities that will benefit local residents.

New Found Gold will manage potential effects on community well-being and quality of life by implementing policies, including a Respectful Workplace Policy, Violence Prevention Policy, Harassment Protection Policy, and a Substance Use Policy. New Found Gold will also continue to work with municipalities to identify opportunities to reduce negative impacts of population growth and enhance positive socio-economic benefits in LAA communities. These policies will help create a working environment that is free from harassment and discrimination and reduce opportunities for altercations among Project employees. New Found Gold will facilitate local Project employment by conveying employment information to local communities in a timely manner so that local residents have an opportunity to acquire the necessary skills to qualify for potential Project-related employment.

To reduce adverse effects of the Project on health infrastructure and services, New Found Gold will develop and implement an EPP (Appendix B) and Emergency Response Plan (ERP) to reduce and address the potential for on-site accidents. First aid stations will be available on-site, and medical services will be delivered by a designated provider. Under the medical services contract, New Found Gold employees will have access to a physician and other medical professionals, while an employee assistance program will help lessen demand on local health care facilities. It is expected that for conditions that require long-term care, non-local workers will continue to use the services of family physicians or specialists located in their home communities. New Found Gold will manage potential demands on the local police service by continuing to provide on-site security and controlling access to the site to accommodate the needs of the Project.

Additional measures include limiting on-site lighting, implementing speed limits, timing construction activities to avoid the wildlife breeding season, and applying mitigation and monitoring measures for the atmospheric environment, surface water, fish and fish habitat, and terrestrial environment.

Details on mitigation to manage effects on human health from Project emissions are detailed in Sections 7, 8, and 9 of the Environmental Registration. They are also described in Sections 5.2 and 5.3 of this EPR and include using speed control, correct truck loading techniques, proper road maintenance, and water suppression to reduce vehicle-generated dust, ongoing water monitoring for heavy metals and other potential contaminants, and development of a site-specific WaMP for the Project. In addition, dust-generating activities could be temporarily curtailed in response to elevated levels of particulate matter. New Found Gold will also implement a grievance redress mechanism to investigate and resolve incidents and complaints from Project employees and community members in a fair and timely way.

People residing in the communities near the Project enjoy partaking in both traditional and recreational outdoor activities. Activities, such as hunting, fishing, forestry, outfitting, and other outdoor recreation are not expected to be substantially affected. The overlap between the Project Area and wildlife management zones is limited, so while the Project Area will be restricted for hunting, fishing, outfitting, and gathering activities (for the safety of both workers and the public), other areas will remain available for resource users to engage in these harvesting activities.

Project employment may also lead to a decrease in the amount of time that workers have available to engage in traditional and recreational activities, such as hunting, fishing, forestry, outfitting, and outdoor recreation, and increase time away from family, which could result in increased stress and strained family dynamics. Conversely, employment associated with the Project may provide economic benefits to workers and their households that could support their continued participation in traditional and recreational activities. The extent to which employment affects participation in these activities will vary depending on individual work schedules, household circumstances, and personal harvesting and recreational practices.

Several mitigation measures will be implemented to avoid or reduce effects related to access for land use activities (refer to Section 10 of this EPR for a complete list of mitigation measures). As described in Section 5.6.4 of this EPR, signage, gates, and restricted-access zones will inform land users of Project facilities and prevent entry into active work areas. Project activities, locations, timing, and potential access limitations will be communicated to communities and affected land and resource users. New Found Gold will continue engaging with hunters, trappers, anglers, outfitters, Indigenous land users, and other local resource users regarding Project overlaps, planned activities, concerns, and potential means of addressing identified issues.

Emissions and discharges from the Project and their potential effects on air, including sound quality, and water quality are available in Sections 7, 8, and 9 of the Environmental Registration and Sections 5.2 and 5.3 of this Registration.

With respect to noise produced by the Project, changes in sound quality were assessed using Health Canada's *Guidance for Evaluating Human Health Impacts in Environmental Assessment: Noise* (Health Canada 2023). As noted in Section 7 of the Environmental Registration and Sections 4.1.3 and 5.1.2 of this EPR, the increase in noise levels is predicted to comply with Health Canada guidelines and therefore would not be expected to affect human health.

A discussion of potential health effects resulting from Project emissions can be found in Appendix 12.A of the Environmental Registration and Section 5.2.4 of this EPR. The assessment of Project effects on air quality found that exposure levels for some contaminants (nitrogen dioxide and PM) may occur near the Project Area boundary in the short-term. However annual concentrations generally meet long-term health-based guidelines, and management measures will be in place to mitigate Project emissions. These effects have been determined to have a low likelihood of adverse health effects.

Likewise, it has been determined that the Project is unlikely to affect human health as a result of changes in water quality. Model results indicate that surface water quality will remain protective of both aquatic life and human health. Effects on human health through direct contact or ingestion pathways are therefore unlikely, short-term, and reversible, with a low probability of occurrence.

5.6.6 Potential Effects on Tourism, Recreation, and Local Stakeholders

The Project is in an area that supports recreational, tourism, and LRU activities, including recreational fishing, outfitting, hunting, all-terrain vehicle (ATV) and snowmobile use, hiking, boating, berry harvesting, cottage use, and travel along the T'Railway. The Gander River is well-known for recreational Atlantic salmon angling and is used by local outfitters, including Bear Cliff Lodge. New Found Gold recognizes that the region's natural landscape, outdoor recreation opportunities, and fish and wildlife resources contribute to local tourism, outfitting, and quality of life for residents and visitors.

Potential effects on tourism operators, outfitters, hotel operators, recreational land users, cottage owners, and other stakeholders are primarily associated with changes in access, sensory disturbance, traffic, blasting, visual changes, and concerns regarding the quality of recreational fishing and other outdoor experiences. During construction and operation, access to the mine site and other active work areas will be restricted for the safety and security of both workers and the public. These restrictions will make areas within the Project Area unavailable for hunting, fishing, harvesting, outfitting, and recreational use during the life of the Project. Project activities may also influence where people choose to recreate or operate tourism-related businesses because of noise, dust, lighting, vibration, visual changes, and the presence of vehicles and equipment.

These effects are expected to be most noticeable within or near the Project Area, where direct access restrictions and Project-related sensory disturbance will occur. However, the Project overlaps only a small portion of the broader LRU areas surrounding Appleton, Glenwood, Gander, the Gander River, and nearby recreational corridors. Alternative hunting, fishing, berry harvesting, snowmobiling, ATV use, hiking, and other outdoor recreation areas remain available within a 5 km buffer of the Project Area. Hunting, trapping, outfitting, fishing, and other recreational and land-use activities are expected to continue at or near current levels in the region.

The T'Railway will remain open for public use. The primary Project interaction with the T'Railway will occur where the new site access road crosses the trail, resulting in potential safety considerations for trail users and Project traffic. Measures to address safe use of the T'Railway at the Project crossing are described in Section 5.6.2.

As described further in Section 5.1.2 of this EPR, the Project may also affect tourism and outfitting businesses through perceived or actual changes in the recreational experience, including changes to viewscapes, noise, dust, traffic, access, and fish and wildlife resources. Table 5.2 indicates that recreational users at Joe Batt's Pond, the Gander River, and the T'Railway may notice small portions of Project infrastructure and, at some locations, some perceived changes in sound. Blasting-related ground vibration and airblast are predicted to be very low or low and generally barely perceptible or unnoticed, so recreational activities are expected to continue at or near current levels. New Found Gold has been engaging, and will continue to engage, with local outfitters, cabin owners, the NL Outfitters Association, government agencies, communities, and other affected land and resource users regarding Project overlaps, occupancy and future use of nearby cabins, Project information, and potential mitigation measures. Engagement will continue as Project planning, permitting, construction, operation, and closure activities advance.

Mitigation measures will be implemented to reduce effects on tourism, recreation, and local stakeholders. These include restricting access to active work areas using signage, gates, and controlled access points; communicating Project activities, locations, and timing to communities and affected land users; applying traffic management measures; reducing noise, dust, light, and vibration where practicable; retaining or encouraging vegetation screening in accessible areas; and implementing mitigation and monitoring measures for fish and fish habitat, surface water, air quality, wildlife, and wetlands. Project information and updates will be shared through appropriate channels, and concerns raised by land users and stakeholders will be addressed through ongoing engagement and the Project grievance redress mechanism.

With these mitigation, communication, and monitoring measures in place, residual effects on tourism, recreation, and local stakeholders are predicted to be limited spatially and primarily associated with the Project Area and nearby access corridors. Some users may experience temporary or intermittent changes in access, visual quality, noise, dust, lighting, vibration, or traffic during construction and operation; however, recreational, outfitting, tourism, and land-use activities are expected to continue at or near current levels within the broader region. Following rehabilitation and closure, many effects related to access and sensory disturbance are expected to be reduced, although some landscape changes may remain depending on final closure conditions.

5.6.7 Traffic Safety Effects Associated with Mine Access and Transportation Activities

New Found Gold has commissioned a Project-specific traffic assessment for the Town of Appleton (WSP 2026). Results indicate that the Project is expected to generate approximately 96 two-way vehicle trips during both the AM and PM peak hours. These trips include employee passenger vehicles, ore haul trucks travelling between the Queensway Project and Pine Cove Mill, and delivery trucks serving the site. The traffic assessment determined that the main roads and intersections in the area are expected to operate within acceptable limits, and the Project is not expected to materially affect operations on the TCH.

The Project includes the development of new road infrastructure to support safe and efficient access to the mine site. A new site access road from the TCH will be constructed to be the primary access for light vehicles, including employee transportation, supply deliveries, and highway truck haulage of ore to processing facility. The site access road has been strategically located to reduce interaction between light vehicles and mine haulage trucks operating on the site. Additionally, access to the Project site's industrial terrace from the Appleton Industrial Park will be constructed along the northern base of the noise berm. The construction of Project roads will reduce the traffic on existing roads in the local communities and will be designed in coordination with NLDTI.

New Found Gold will develop and implement a Traffic Management Plan, which will be regularly updated and communicated to employees and contractors to allow safe vehicle movement throughout the site. Carpooling and shuttle stations may be established at key locations to transport workers and to encourage carpooling. Transport requirements will be reviewed during the site preparation and construction phase to identify opportunities to reduce traffic volumes. The shift changes will likely occur during early morning or late evening, outside the regular work or school day, so traffic increases in local communities may not be apparent to the residents.

5.6.8 Visual Effects

The Project will alter the natural landscape within the Project Area through site preparation, earthworks, vegetation clearing, and the development of mine infrastructure, including open pits, roads, stockpiles, and overburden, waste rock, and ore storage facilities. These physical changes may alter existing viewscapes and reduce the aesthetic quality of the landscape for nearby residents, cabin users, highway travellers, recreational users, and other land users. The effects will occur within a landscape that is already partly disturbed by mineral exploration on the western side of the Project Area and recent forest harvesting on the eastern side.

Potential visual effects may be experienced from the Town of Appleton, the T'Railway, the TCH, nearby cabins, and surrounding recreational and resource-use areas. A viewshed analysis is provided in Section 5.1.2 of this EPR, which indicates areas that are visible from selected locations.

The development and continued presence of stockpiles and other mine infrastructure may change views from surrounding areas and affect the quality of outdoor recreational and resource-use experiences. Visual changes may influence where people choose to undertake activities such as hiking, snowmobiling, ATV or utility vehicle use, hunting, trapping, fishing, boating, camping, and berry or plant harvesting. These changes may occur together with other sensory disturbances, including noise, dust, lighting, vibration, traffic, and the presence of heavy equipment.

The Project design includes measures to reduce effects on viewscapes and the aesthetic appeal of the region. Site infrastructure has been strategically located east of the open pits to reduce noise, dust, and lighting effects on the Town of Appleton. Stockpiles have been located away from the TCH and the T'Railway to reduce their visibility to highway travellers, trail users, and other nearby land users. The crusher and stockpiles have also been sited at a distance from the T'Railway to reduce sensory and visual disturbance for recreational users. Where practicable in accessible areas, including along cleared rights-of-way, trees and other vegetation will be retained or encouraged to grow. This vegetation will help obstruct views of Project facilities and muffle nuisance noise. The noise berm will also serve to reduce visual and noise effects. Measures to limit light emissions will also reduce sensory effects and the visibility of Project activities from surrounding areas.

As detailed Project design progresses, appropriate distances will be maintained between Project activities and nearby residences and seasonal dwellings. New Found Gold has consulted and will continue to consult cabin owners regarding occupancy, future cabin use, and possible mitigation measures. Project information and updates will also be communicated to communities and affected land and resource users, and concerns regarding Project-related effects will be addressed through a grievance redress mechanism. Additional mitigation may be implemented where needed to address concerns raised by affected users.

During closure, the RCP will aim to restore the site as close to its natural state as practical, create a landscape that is visually acceptable and compatible with the surrounding terrain and land uses, and maintain the site in a condition suitable for future public use. While most landscape and visual effects are expected to be reversible following rehabilitation, the remaining waste rock and overburden storage facilities as an irreversible visual change. These facilities will be rehabilitated in a manner that blends with the rolling landscape of the region.

With the proposed siting, vegetation screening, lighting controls, engagement, and rehabilitation measures, it is predicted that effects on designated land use and recreational use will result in a small measurable change. Recreational and land-use activities are expected to continue at or near current levels within the RAA.

5.7 Cumulative Effects Assessment

Additional information has been provided for the specific topics outlined in the EPR Guidelines as identified in Table 5.18, which summarizes the applicable EPR requirements and identifies where each is addressed.

Table 5.18 EPR Guidelines Requirements Related to Cumulative Effects Assessment

Guideline Requirement	EPR Section
Identify and assess the Project's cumulative environmental effects over the life of the Project. Cumulative effects are defined as changes to the environment and resident species and their habitat in the area due to the Project and combined with the effects of past, present, and reasonably foreseeable future planned projects and/or developments and activities in the area. A project causes a cumulative effect if the potential impacts associated with the Project will cause an additive effect when added to other projects in the region and in consideration of climate change.	Sections 5.7.1 – 5.7.6
Justify the geographic and temporal boundaries of the cumulative effects assessment and shall describe measures to mitigate adverse environmental effects.	Section 5.7

The cumulative effects assessment evaluates potential cumulative environmental effects over the life of the Project. For this EPR, cumulative effects are defined as changes to the environment, including resident species and their habitat, that may result from residual Project effects in combination with the effects of past, present, and reasonably foreseeable future projects and physical activities in the area. A cumulative effect may occur where a residual Project effect has the potential to interact with the effects of another project or activity, including in the context of changing climate conditions. The assessment therefore focuses on VCs for which residual Project effects may overlap spatially and temporally with effects from other physical activities.

Geographic boundaries for the cumulative effects assessment are based on the VC-specific LAAs and RAAs used in the Environmental Registration as further described in Sections 5.7.1 to 5.7.5. The LAAs and RAAs established for each VC were developed to reflect the ecological, physical, and socio-economic processes relevant to that component and encompass the areas where cumulative interactions are most likely to occur. Temporal boundaries extend across construction, operation, and rehabilitation and closure. Past, present, and reasonably foreseeable future activities are considered where their effects may overlap with the timing of Project activities or Project-related residual effects. These boundaries provide an appropriate framework for assessing cumulative effects because they capture the spatial and temporal extent over which residual Project effects may overlap with other human activities and environmental changes.

The Project is in a region that has been influenced by past and ongoing human activities, including mineral exploration, forestry operations, transportation infrastructure, utility corridors, recreational land use, and community development associated with the Towns of Appleton, Glenwood, and Gander. The Project itself is largely situated within an area that has been subject to extensive mining exploration, quarry activity, and other existing disturbances.

As described in Table 5.19, activities considered for the cumulative effects assessment potentially overlapping with Project effects include mineral exploration and mine development, forestry operations, communities and associated infrastructure, transportation corridors (including the TCH and the T'Railway), utility transmission corridors, and other resource development activities occurring within central Newfoundland. Past and present activities are assumed to continue into the future and no major new projects have been identified as likely (e.g., publicly announced or in the permitting process). The assessment considered whether the Project has the potential to interact with these activities to create cumulative effects on the VCs assessed in the Environmental Registration.

The following subsections provide a cumulative effects assessment for each VC identified in the Environmental Registration, considering potential residual Project effects in combination with past, present, and reasonably foreseeable future projects and activities over the life of the Project. For clarity, the following sections are organized by related VC groupings, recognizing that some Project activities and mitigation measures apply across multiple VCs. Measures to mitigate cumulative effects are integrated within the mitigation and management measures developed for each VC. The mitigation measures identified throughout the Environmental Registration remain applicable to the cumulative effects assessment because they are intended to avoid, reduce, control, or offset residual Project effects before they can interact cumulatively with the effects of other activities. Proposed mitigation measures are expected to reduce the magnitude, extent, duration, and frequency of residual Project effects and consequently reduce the potential for cumulative environmental effects throughout the life of the Project.

Table 5.19 Scoping of Other, Past, Present, and Likely Future Projects and Activities for Cumulative Effects Assessment

Physical Activity	Description	Spatial and Temporal Overlap Considerations
Community Development / Use	Appleton and Glenwood are the nearest communities to the Project and are key local centres for community land use, services, residences, and municipal water supply. The Project Area slightly overlaps the Town of Appleton's municipal boundary and land use planning area, including areas zoned for industrial park and resource uses, while Glenwood is located nearby but outside the Project Area. Both communities use Gander Lake as a protected public water supply, and the surrounding area also supports residential, recreational, and resource-based uses, including cabins, trails, domestic harvesting, and access to the T'Railway and Gander River. There are also seasonal cabins/dwellings with an associated Crown land lease or grant located nearby, with the closest located approximately 55 m from the Project Area and approximately 370 m from the closest Project component. The Project is also located near the Joe Batt's Cabin Development Area; therefore, potential effects with seasonal cabin use and nearby land users in that area have also been considered in the assessment.	The Project has direct spatial overlap with the Town of Appleton's municipal boundary and land use planning area and indirect spatial overlap with nearby community, residential, recreational, and service uses in Appleton and Glenwood. Potential overlap may occur during construction, operation, and rehabilitation and closure through changes in traffic, noise, dust, light, access, visual quality, and demand for local services. Seasonal cabins and nearby recreational/resource uses may experience periodic temporal overlap during active Project phases, particularly during higher-activity construction and operation periods.
Mining and Exploration	The Project is located in an area with existing mining, exploration, and quarry activity. Most mineral claims in the area are held by New Found Gold, with a small number of additional claims held by other private individuals or companies. Quarry activity is also present in the broader area, including several existing quarry permits and one new application, with a few overlapping the Land and Resource Use LAA. Overall, the area has an established resource development context, though most identified mineral claim activity is associated with New Found Gold.	The Project spatially overlaps an area with existing mineral claims, exploration activity, and quarry activity, including claims largely associated with New Found Gold and quarry permits or applications in the broader assessment areas. Temporal overlap is expected because exploration and quarry activities have occurred in the past, are occurring at present, and may continue during construction, operation, and potentially beyond Project closure.
Forestry	Forestry is an established resource use in central NL, including the Project region, and is managed through provincial Forest Management Districts (FMDs). The Project overlaps FMDs 5, 6, and 8, with direct overlap in FMD 5; however, the Project Area represents only a small portion of that district. Corner Brook Pulp and Paper Limited currently holds timber rights in District 5 and 6. One domestic wood harvesting area is identified within the broader region, but no domestic harvesting areas overlap the Project Area.	The Project spatially overlaps a small portion of FMD 5 and areas that have historically supported forestry and forest access. Temporal overlap is expected where forestry activities, including harvesting, road use, silviculture, or forest management, occur during construction, operation, or rehabilitation and closure. Given the Project Area represents approximately 0.18% of the total FMD 5 area, spatial overlap with the broader forestry land base is limited, although localized overlap may occur where Project infrastructure, access roads, or restricted access areas coincide with forestry use areas.

Table 5.19 Scoping of Other, Past, Present, and Likely Future Projects and Activities for Cumulative Effects Assessment

Physical Activity	Description	Spatial and Temporal Overlap Considerations
Hunting, Trapping, and Outfitting	Hunting, trapping, and outfitting are established resource uses in the Project Area and surrounding assessment areas. As detailed in Section 13.1.2.2 of the Environmental Registration, the Project overlaps several wildlife management areas, including Bonavista North Moose Management Area 23, Moose Reduction Zone 101, North East Coast Black Bear Management Area 203, and portions of Fur Zone 6 traplines, with the greatest trapline overlap occurring in Trapline 89. Based on the results of the Land and Resource Use survey (Appendix 13.A of the Environmental Registration), participants are known to hunt in the area, with moose and bear identified as the main species. Use is concentrated more in the broader 5 km buffer than in the immediate Project Area. One outfitter, Bear Cliff Lodge, is located approximately 1.7 km north of the Project Area on the Gander River and offers angling for Atlantic salmon and brook trout. Overall, the area supports active local harvesting and outfitting use, although the direct Project Area represents a relatively small portion of the broader available hunting, trapping, and outfitting landscape.	The Project spatially overlaps wildlife management areas, trapline areas, and broader local land and resource use areas that support hunting, trapping, and outfitting. Direct overlap is greatest where Project components and access restrictions coincide with portions of these areas, while indirect overlap may occur within the surrounding 1 km and 5 km assessment buffers used by local resource users. Temporal overlap is expected during construction, operation, and rehabilitation and closure, including seasonal overlap with hunting, trapping, and outfitting periods. Use is more concentrated in the broader surrounding area than in the immediate Project Area, so overlap is localized relative to the larger available harvesting and outfitting landscape.
Angling / Fishing	Angling in NL provides recreational opportunities for both residents and non-residents and contributes to the province's economy through licence sales, tourism, and outfitting services. The Gander River is recognized as one of Canada's top salmon rivers for recreational angling (Fishing Booker 2024). Numerous outfitters operate on the Gander River, offering guided, salmon and brook trout fishing, in addition to hunting other wildlife. Bear Cliff Lodge is located on a fishing pool within the Land and Resource Use RAA and provides angling for Atlantic salmon and brook trout.	The Project does not directly overlap the mainstem of the Gander River but is located within the broader Gander River watershed, with nearby tributaries and recreational fishing areas in the region. Spatial overlap is therefore primarily indirect, through potential pathways related to access, traffic, water quality, fish habitat, and recreational use near the Project and downstream receiving environments. Temporal overlap may occur during construction, operation, and rehabilitation and closure, including seasonal overlap with recreational angling and outfitting periods on the Gander River.
Off-road Vehicle Use (snowmobiles / ATVs)	The use of off-road vehicles occurs in the area on official trails, as well as through unofficial use of crown and private lands (e.g., forestry roads and powerline RoWs). Within the Project Area there is one protected area, the T'Railway. Near the Project, the T'Railway runs roughly parallel to and north of the TCH. It crosses under the TCH just east of Appleton and continues westward on the south side of the TCH. The T'Railway crosses through the Project Area along the new access road. Approximately 6 km of the T'Railway intersects the LAA and approximately 17 km intersects the RAA.	The Project spatially overlaps existing off-road vehicle use areas, including official and informal trail networks, forestry roads, powerline RoWs, and the T'Railway, which crosses through the Project Area along the new access road. Temporal overlap is expected during construction, operation, and rehabilitation and closure because off-road vehicle use is ongoing and expected to continue beyond the life of the Project. Seasonal overlap may occur with ATV use during snow-free periods and snowmobile use during winter.

Table 5.19 Scoping of Other, Past, Present, and Likely Future Projects and Activities for Cumulative Effects Assessment

Physical Activity	Description	Spatial and Temporal Overlap Considerations
Existing Linear Features (e.g., highways, power lines)	Linear activities, such as highways, roads, and power lines, occur throughout the region, including extensive forestry roads. These roads represent existing habitat fragmentation and open access to remote areas through use of ATVs. Power and communication lines currently transverse the Project Area. Two parallel 138 kilovolt electrical transmission lines run from Cobbs Pond and from Gander NL Hydro substations, and 69 kilovolt and telecommunication lines run along the TCH. These lines will require relocation to the north of the Project Area. The Project will require use of the TCH and will have a new access point to the highway for use by light vehicles, including employee transportation, supply deliveries, and highway truck haulage of ore to the Pine Cove processing facility. The Project Area contains several existing linear features that support transportation, access, recreation, and utilities. Key features include the TCH, which will be used for Project access and haulage, and the T'Railway, which crosses the Project Area near the proposed access road and functions as a multi-use recreational corridor. Existing RoWs, including roads and transmission lines, are also present in the broader area and contribute to the partly disturbed landscape surrounding the Project.	The Project spatially overlaps and interacts with existing linear features, including the TCH, forestry roads, transmission lines, and the T'Railway. Direct overlap will occur where the Project uses existing roads, creates a new access point to the TCH, crosses the T'Railway, and connects to existing utility corridors. Temporal overlap is expected throughout construction, operation, and rehabilitation and closure, since these linear features currently exist and are expected to remain beyond the Project life. Overlap will be most active during periods of road construction, haulage, employee transportation, supply deliveries, maintenance, and use of the proposed access road.

5.7.1 Atmospheric Environment

Residual Project effects on the Atmospheric Environment are primarily associated with changes in air quality, sound quality, and ambient light levels resulting from construction, operation, and rehabilitation and closure activities. For the Atmospheric Environment, the geographic boundaries used in the cumulative effects assessment are consistent with those established for the Atmospheric Environment VC, including the Project Area and the 50 km × 50 km LAA/RAA (Figure 7.1 of the Environmental Registration). Key sources include dust generation from clearing, earthworks, blasting, crushing, screening, material handling, stockpiling, and vehicle travel on unpaved roads, as well as combustion emissions from mobile equipment and stationary diesel-powered equipment. Residual effects are expected to be localized and largely confined to the vicinity of the Project Area through the implementation of mitigation measures, including dust suppression, emission controls, adaptive management, noise mitigation measures, and lighting controls.

The cumulative effects assessment considers whether these residual Project effects could interact with atmospheric emissions and disturbances associated with past, present, and reasonably foreseeable future activities within the atmospheric environment assessment area. Activities considered include existing and future mining and mineral exploration activities, forestry operations, community development in Appleton, Glenwood, and the broader Gander area, transportation infrastructure and associated traffic, utility corridors, off-road vehicle use, and other resource development activities occurring within central Newfoundland. These activities may contribute atmospheric emissions through vehicle exhaust, heavy equipment operation, road use, land clearing, material handling, power generation, and lighting. The Project is situated within a region that has experienced historical disturbance from exploration, forestry, highway use, utility infrastructure, and community development, and therefore atmospheric conditions already reflect contributions from existing anthropogenic sources.

5.7.1.1 Air Quality

Potential cumulative effects on air quality could occur where Project-related emissions overlap with emissions from existing and future regional activities, including highway and local traffic, off-road vehicle use, residential heating, forestry, mineral exploration, quarry operations, mine development, and other community or resource-development activities. These sources may contribute particulate matter and combustion gases; however, the assessment of the Atmospheric Environment VC (Chapter 7 of the Environmental Registration) incorporated existing background air quality conditions using monitored and regional ambient air quality data, meaning current cumulative conditions were already reflected in the baseline inputs used for modelling. As discussed in Section 5.2.3 of this EPR, updated air dispersion modelling demonstrates that use of the optimized operation scenario, when required based on ambient monitoring and associated thresholds, allows Project emissions, in combination with background concentrations, to comply with the NL AQS.

Fugitive dust from haul road traffic, material handling, crushing, screening, blasting, and exposed surfaces represents the primary contributor to potential air quality effects and may overlap with similar emissions from regional activities. Additive cumulative effects are expected to remain localized because emissions are dispersed across a broad landscape and atmospheric concentrations decrease rapidly with distance from source areas. With implementation of the Air Quality Management Plan, real-time dust monitoring, adaptive management, road watering or approved dust suppressants, Tier 4 equipment, equipment maintenance, speed controls, and temporary reduction or suspension of dust-generating

activities when required, Project contributions are expected to be limited, localized, and manageable within the proposed mitigation and monitoring framework.

Greenhouse gas emissions from the Project will primarily be associated with diesel combustion from mobile equipment, haul trucks, generators, blasting support equipment, and other fuel-consuming activities during construction, operation, and rehabilitation and closure. As described in Section 4.7.1.1 of the Environmental Registration, Project-related GHG emissions represent a small contribution relative to total provincial emissions and are not expected to materially affect provincial or national climate change objectives. While GHG emissions are inherently cumulative because they contribute to global atmospheric concentrations, the Project's incremental contribution, when considered in combination with other past, present, and reasonably foreseeable future activities, is expected to remain small in the provincial context. GHG emissions will be managed through efficient mine planning, equipment maintenance, reduced idling, use of lower-emitting equipment where practicable, energy efficiency measures, and consideration of alternative technologies or fuels as they become commercially and operationally feasible.

5.7.1.2 Sound Quality

Potential cumulative noise effects may occur where Project-related noise from mobile mining equipment, haul trucks, crushing and material handling activities, and blasting overlaps with existing or future sources such as highway traffic, forestry activities, exploration programs, quarry operations, off-road vehicle use, utility corridors, and other resource development activities. Baseline sound monitoring was completed to quantify existing noise levels at nearby receptors so that the cumulative effect of the Project and existing noise levels can be assessed. The baseline monitoring results indicate that existing sound levels are generally characteristic of a rural environment, with receptors close to the existing TCH or industrial activities such as quarries experiencing higher noise levels than those located farther away from those sources.

Noise modelling predicts increases in sound levels at nearby points of reception; however, predicted changes remain below Health Canada’s nuisance threshold following implementation of mitigation measures, including the proposed 10 m-high noise berm and operational controls. The conclusions of the noise modelling explicitly incorporate existing noise levels to assess the cumulative effects from the Project. Therefore, overlapping cumulative noise effects are expected to remain below levels associated with adverse effects on human receptors, with Project contributions managed through the proposed mitigation measures.

5.7.1.3 Ambient Light

Potential cumulative effects on ambient light levels could occur where Project lighting overlaps with lighting from communities, transportation infrastructure, utility corridors, industrial activities, and other resource development projects. Existing conditions indicate that the Project Area is characterized by very low ambient light levels and limited sky glow, representative of a dark rural environment, with principal existing light sources associated with Appleton, Glenwood, transportation corridors, residential development, and industrial areas.

Project lighting will be required for safety and operations but will be managed using industry best practices, including full cut-off fixtures, directional lighting, reducing unnecessary lighting, avoiding light spill toward receptors, and limiting mobile lighting, where practicable. Although future regional development may introduce additional localized lighting, Project-related lighting effects are expected to remain confined near the Project due to its relatively isolated location and the use of lighting controls. Cumulative effects on ambient light levels and dark-sky conditions are therefore expected to be limited, localized, and managed through the proposed lighting controls.

5.7.1.4 Cumulative Effects Conclusion

Based on the nature and extent of residual Project effects, the existing disturbed landscape, consideration of background atmospheric conditions, implementation of mitigation and adaptive management measures, and the dispersed nature of other past, present, and reasonably foreseeable future activities in the region, the Project contribution to cumulative effects on the Atmospheric Environment are expected to be low and remain localized and manageable. Residual cumulative effects on air quality, GHG emissions, sound quality, and ambient light levels are expected to be addressed through the proposed monitoring and mitigation programs, with adaptive management applied where monitoring identifies the need for additional controls.

5.7.2 Water Resources

Residual Project effects on Water Resources are associated with changes in groundwater quantity and quality and surface water quantity and quality during construction, operation, and rehabilitation and closure. The geographic boundaries for the cumulative effects assessment are consistent with those established for the Groundwater Resources (Chapter 8) and Surface Water Resources (Chapter 9) VCs in the Environmental Registration. For Groundwater Resources, the LAA/RAA are the same because the aquifers that interact with the Project are limited by groundwater flow divides that generally coincide with surface water sub-watershed boundaries (Figure 8.1 of the Environmental Registration). For Surface Water Resources, the LAA includes watersheds that interact with the Project Area, while the RAA extends to include a larger portion of the Gander River system (Figure 9.1 of the Environmental Registration).

The cumulative effects assessment considers whether residual Project effects could interact with changes to water resources associated with past, present, and reasonably foreseeable future activities within these assessment areas. Activities considered include mining and mineral exploration, forestry operations, community development, transportation infrastructure and associated traffic, utility corridors, and off-road vehicle use. These activities may contribute to cumulative changes in drainage patterns, runoff, groundwater recharge, erosion and sedimentation, and water quality. Existing conditions already reflect historical and ongoing mineral exploration, forestry, roads, transmission corridors, recreational land use, and community development. Climate change may also influence water resources through changes in precipitation, snowmelt, runoff, drought, and the intensity and frequency of storm events.

5.7.2.1 Groundwater Resources

Potential cumulative effects on Groundwater Resources could occur where Project-related drawdown, changes in groundwater recharge and flow, or contact seepage overlap with groundwater changes associated with other activities. The main residual Project effect on groundwater quantity and flow is lowering of the water table from open pit dewatering, which may alter groundwater flow patterns, recharge rates, and groundwater discharge to surface water features and wetlands. Groundwater flow modelling predicts that these changes will be localized, with simulated reductions in baseflow outside the mine catchment of 2% or less during operation and rehabilitation and closure. There are no known water supply wells or active groundwater permits that supply potable water within the 5 m water table drawdown contour for the open pits (Figure 8.14 of the Environmental Registration), and no known third-party groundwater users are located within the areas of predicted decreased groundwater levels.

The main residual Project effect on groundwater quality is related to contact seepage from the overburden storage facility, ore stockpile, and WRSF. Groundwater transport pathways to receptor streams, lakes, or wetlands are generally expected to be short (i.e., less than a few hundred metres), and no known groundwater users are located within the predicted seepage pathways. Interception wells or deep sumps will be installed, as required, within perimeter drainage ditches to intercept seepage that exceeds MDMER limits before it discharges to local surface water receivers. Collected water will be transferred to the site-wide contact water management system for treatment.

Groundwater quantity and quality will be monitored using the groundwater monitoring network and adaptively managed, as required, through operation, closure, and post-closure. With these measures, Project contributions to cumulative groundwater effects are expected to remain confined to the LAA/RAA and concentrated near Project components and receiving surface water features.

5.7.2.2 Surface Water Resources

Potential cumulative effects on Surface Water Resources could occur where Project-related changes in drainage, runoff, mean annual flow, sediment loading, mine effluent, or groundwater seepage to surface water receivers overlap with effects from other land-disturbing activities or changing climate conditions. The Project may alter catchment areas and flows through site preparation, ground disturbance, watercourse crossings, roads and drainage infrastructure, development of the waste rock and overburden storage facilities and ore stockpile, open pit dewatering, and the collection and discharge of mine contact water. These effects will be most relevant within the Hermans Pond watercourse sub-watersheds draining to the Gander River that interact with the Project Area.

Surface water quantity modelling predicts localized increases and decreases in mean annual flow during operation and active closure. Water management infrastructure will be used to collect and manage contact water, maintain flow to fish-bearing streams and wetlands to the extent practicable, and discharge mine effluent through two final discharge points to assist in maintaining downstream flows, where feasible. Residual effects on water quantity for most watercourses and waterbodies are considered reversible, as conditions are expected to return to pre-development flow patterns for the majority of the LAA during post-closure. Effects on watercourses and waterbodies overprinted by the open pits are considered irreversible.

Potential cumulative effects on surface water quality could arise where Project-related sediment, effluent, or seepage combines with inputs from other activities. As noted above, interception wells or deep sumps will be installed, as required, within perimeter drainage ditches to intercept seepage that exceeds MDMER limits before it discharges to local surface water receivers. Collected water will be transferred to the site-wide contact water management system for treatment.

Surface water quality and quantity monitoring, infrastructure inspections, and adaptive management will be implemented to verify predictions and determine whether additional mitigation measures are required.

5.7.2.3 Cumulative Effects Conclusion

The Project will incrementally contribute to existing pressures on groundwater and surface water in an area affected by historical and ongoing exploration, forestry, linear infrastructure, recreational use, and community development. Considering the localized extent of predicted groundwater drawdown and seepage pathways, the limited downstream extent of predicted surface water quality effects, the expected recovery of most surface water flows during post-closure, and the implementation of water collection, treatment, erosion and sediment control, monitoring, and adaptive management measures, Project contribution to cumulative effects on Water Resources are expected to be low, remain concentrated within the VC-specific assessment areas, and be manageable through the proposed mitigation and monitoring programs.

5.7.3 Fish and Fish Habitat (including SAR)

Residual Project effects on Fish and Fish Habitat are associated with changes in fish habitat quantity, fish habitat quality, and fish health and survival resulting from construction, operation, and rehabilitation and closure activities. The geographic boundaries used in the cumulative effects assessment are consistent with those established for the Fish and Fish Habitat VC, including the Project Area, the LAA, which includes the sub-watersheds where the Project is located and the Project's expected effluent mixing zones, and the RAA, which extends downstream within the Gander River (Figure 10.1 of the Environmental Registration). Fish and fish habitat within the assessment area include brook trout, Atlantic salmon, sticklebacks, and American eel. Brook trout and sticklebacks occur throughout ponds and smaller streams, while Atlantic salmon and American eel are primarily associated with larger order streams and the Gander River. Small order streams and ponds within the LAA generally do not provide habitat for Atlantic salmon.

Atlantic salmon (*Salmo salar*) within the Gander River are part of the Northeast Newfoundland Population and are considered by COSEWIC to be "Not at Risk" (2010). It is acknowledged that many Atlantic salmon populations have been declining across much of eastern North America (COSEWIC 2010). However, recent abundance data on the Northeast Newfoundland Population shows no clear trends in the number of adults returning (COSEWIC 2010). The overall impact of threats for Northeast Newfoundland Population is estimated as low and is attributed to poor marine survival in part due to changes in ocean ecosystems. Freshwater threats are generally less significant in the northern portions of the range, such as Newfoundland (COSEWIC 2010).

American eel are identified as aquatic SAR and are considered by COSEWIC as “Threatened” (2012) and considered “Vulnerable” under the NL ESA. Like Atlantic salmon, it is acknowledged that American eel has declined across much of Eastern North America with major threats being attributed to hydroelectric developments, climate change and shifting conditions in the marine environment (COSEWIC 2012).

The cumulative effects assessment considers whether residual Project effects could interact with changes associated with past, present, and reasonably foreseeable future activities within these assessment areas as well as climate change. Activities considered include mining and mineral exploration, forestry operations, transportation infrastructure, utility corridors, recreational land use, and community development. Existing conditions already reflect historical and ongoing disturbance from exploration, forestry, roads, transmission corridors, and recreational activities within the Gander River watershed. The watershed also supports recreational fisheries for Atlantic salmon and brook trout, including a well-established recreational angling and outfitting industry associated with the Gander River. These activities may contribute to cumulative changes in fish habitat availability, habitat quality, water quality, stream flow, fish passage, and fish health and survival.

Potential cumulative effects on Fish and Fish Habitat could occur where Project-related habitat loss, changes in stream flow, changes in water quality or fish passage constraints overlap with effects from other activities. The Project has been designed to avoid fish habitat through careful planning and placement of infrastructure, shifting activities away from waterbodies, where practicable, and designing water management systems that maintain existing stream flows, where feasible. Where avoidance is not feasible, fish habitat may be directly affected through open pit development, stream crossings, final discharge points, and associated infrastructure, or indirectly affected through changes in flow resulting from water management, groundwater recharge, and pit filling. Residual losses of fish habitat will be counterbalanced through an Offsetting Plan developed in consultation with DFO.

Residual Project-related effects on fish habitat quality and fish health and survival can occur through localized changes in water quality and habitat conditions in ponds and streams receiving Project discharges. Effluent discharges will be managed and treated to meet authorized MDMER limits prior to discharge and are not expected to result in direct mortality of fish. Residual Project-related effects on fish habitat quality are expected to be localized and primarily associated with ponds, streams, and receiving environments near discharge locations. The Glenwood-Appleton Sewage Treatment Facility is the only identified existing point source discharge within 5 km of the Project Area and discharges treated municipal wastewater to the Gander River through an engineered wetland treatment system (Central Engineering Consultants of Newfoundland Limited. 2003). The facility was designed to treat wastewater prior to discharge and operate in accordance with applicable regulatory requirements. Given the localized nature of effects associated with the existing municipal wastewater discharge and Project-related effluent discharges, which will be managed and treated to meet authorized MDMER limits prior to discharge, measurable cumulative effects on fish habitat quality or fish health and survival are not expected. Water quality monitoring, environmental effects monitoring, and adaptive management will be implemented to verify predictions and assess the effectiveness of mitigation measures on Project effluents.

Potential cumulative effects on fish and fish habitat and SAR related to climate change are anticipated to occur in the absence of the Project, with main threats for both Atlantic salmon and American eel occurring primarily within the marine environment with major threats attributed to shifting oceanic conditions.

In conclusion, the Project will incrementally contribute to existing pressures on fish and fish habitat within the Gander River watershed, where historical and ongoing exploration, forestry, transportation infrastructure, recreational land use, and other development activities occur alongside a valued recreational fishery. Considering the localized extent of predicted habitat losses and water quality effects, the implementation of fish habitat offsetting, compliance with regulatory requirements, environmental effects monitoring, fish rescue measures, and adaptive management, Project contributions to cumulative effects on Fish and Fish Habitat are expected to be low, remain concentrated within the VC-specific assessment areas, and be manageable through the proposed mitigation, monitoring, and offsetting programs. Project-related changes to the sustainability of fish populations or SAR within the LAA are not anticipated.

5.7.4 Terrestrial Environment (Including SAR)

The Project is located within a landscape that has experienced historical and ongoing disturbance from forestry operations, mineral exploration, transmission and transportation corridors, recreational land use, and community development associated with Appleton, Glenwood, and the broader Gander region. Baseline studies indicate that historical and recent forest harvesting is common throughout the area, with approximately 22.2% of the Project Area and 21.2% of the LAA (500 m buffer of the Project Area, Figure 11.1 of the Environmental Registration) showing evidence of recent harvesting. Existing linear disturbances, exploration trails, roads, transmission corridors, and previously cleared areas have altered habitat availability, habitat connectivity, wetland condition, and wildlife movement patterns within portions of the RAA (Southwest Gander River and Northwest Gander Lake sub-watersheds, Figure 11.1 of the Environmental Registration).

Some disturbed areas are regenerating and continue to provide habitat for vegetation and wildlife; however, the Project will result in additional habitat removal and conversion through the open pits, WRSF and overburden storage facility, water management infrastructure, roads, and associated facilities. Because portions of the Project footprint will remain unavailable for habitat use throughout the operational life of the mine, the cumulative assessment focuses on how residual Project effects interact with existing landscape disturbance and reasonably foreseeable future development.

5.7.4.1 Wetlands

Wetlands in the Project region have been affected by past and ongoing land uses that may have altered hydrological function, connectivity, and ecological condition in some locations. The Project will contribute additional direct and indirect wetland effects through habitat loss, drainage changes, dewatering activities, and edge effects. Although up to approximately 4.3% of wetlands within the RAA may be directly or indirectly affected by the Project, wetland classes and types are expected to remain represented across the regional landscape.

Cumulative effects on wetland function are expected where residual Project effects overlap with previously altered systems. These effects will be reduced through avoidance where practicable, water management controls, erosion and sediment control measures, regulatory permitting, progressive rehabilitation, monitoring, and adaptive management. Wetland functions are expected to remain broadly represented throughout the RAA, with cumulative effects localized within areas of overlapping disturbance.

5.7.4.2 Vegetation and Wildlife Habitat

Past and ongoing land uses have caused habitat fragmentation and vegetation alteration throughout the Terrestrial Environment RAA, contributing to the cumulative loss or modification of forest, wetland, and habitats that support species sensitive to edge-effects. The Project will add localized habitat loss and alteration within this already disturbed landscape, with cumulative effects expected on habitat availability, fragmentation, vegetation community diversity, and ecological connectivity.

Though the permitted removal of red pine individuals within the footprint of Project components is planned, with mitigation, the Project is not predicted to destroy identified critical habitat or known residences of wildlife SAR, nor is it expected to affect the long-term persistence or recovery of vegetation or wildlife SAR within the RAA. Seasonal clearing restrictions, nesting surveys, species-specific setbacks, protection of dens and roosts, wildlife reporting procedures, invasive species controls, and progressive rehabilitation will reduce cumulative risks to SAR/SOCC and their habitat. Cumulative effects are therefore not expected to prevent achievement of federal or provincial recovery objectives for SAR.

5.7.4.3 Wildlife, including Species at Risk

Existing access routes, forestry activity, transmission corridors, off-road vehicle use, and community activity have influenced wildlife movement and behaviour across portions of the region. Project-related noise, vibration, light, dust, blasting, traffic, odors, and human activity may combine with these existing disturbances to affect movement, habitat use, and connectivity for some wildlife species. These cumulative effects are most relevant for wide-ranging species and species sensitive to disturbance, including migratory birds, bats, and other species with specialized or limited habitat conditions.

SAR and SOCC confirmed within or near the Project Area are summarized in Section 5.5.1 and include five species of avifauna SAR (olive-sided flycatcher, rusty blackbird, red crossbill, gray-cheeked thrush, and evening grosbeak); three avifauna SOCC (least flycatcher, yellow-bellied sapsucker, and Nashville warbler); two bat SAR (little brown myotis and northern myotis); two insect SAR (yellow-banded bumble bee and transverse lady beetle); and one plant SAR (red pine). Evidence of muskrat, a species of interest to NLDFAL-Wildlife Division, was also documented within the Project Area. While caribou core areas do not overlap the Project Area, there is the potential for occasional vagrants to occur in the RAA. These species may be sensitive to cumulative changes in forest, wetland, riparian, and edge habitats, as well as sensory disturbance and increased human activity. Potential cumulative pathways include incremental habitat loss or alteration, reduced habitat connectivity, displacement from otherwise suitable habitat, disturbance during sensitive breeding or maternity periods, increased collision or vehicle-strike risk, and indirect effects from dust, noise, lighting, blasting, and changes in predator or human access patterns. The assessment considers these pathways in the context of existing regional disturbance and reasonably foreseeable future development, with particular attention to habitats that may support migratory birds, bats, and species with specialized habitat requirements such as wetlands, interior forest, stopover and breeding habitat, and other habitat features that may be sensitive to changes in habitat quality over time.

Mitigation and management measures will reduce Project contributions to cumulative effects on SAR and SOCC. These include seasonal clearing restrictions, pre-clearing surveys where avoidance is not practicable, avoidance of active nests, dens, and roosting sites, species-specific buffers and setbacks, control of lighting and noise where practicable, traffic management, wildlife incident reporting and SAR identification and protocols, invasive species controls, and progressive rehabilitation of disturbed areas.

Although some localized displacement or behavioural response may occur during construction and operation, similar habitat is expected to remain available across the regional landscape, and the Project does not overlap with identified critical habitat. With implementation of the proposed mitigation, monitoring, and adaptive management measures, Project contribution to cumulative effects on SAR and SOCC are expected to remain focused near areas of disturbance and are not expected to limit the continued regional use of available habitat or prevent progress toward applicable federal or provincial recovery objectives.

5.7.4.4 Cumulative Effects Conclusion

The cumulative effects assessment recognizes that the Project will be developed in an already disturbed landscape where past and ongoing land uses have contributed to habitat loss, fragmentation, altered wildlife movement patterns, and reduced wetland function in some areas. The Project will incrementally add to these pressures through additional effects on wetlands, vegetation communities, migratory birds, SAR and SOCC, and wildlife habitat.

Considering the regional availability of habitat, the limited proportion of the RAA affected by the Project, the absence of overlap with identified critical habitat, and the implementation of mitigation, monitoring, rehabilitation, and adaptive management measures, Project contributions to cumulative effects on the Terrestrial Environment (including SAR and SOCC) are expected to be low and remain limited in regional extent and concentrated where Project effects overlap with existing disturbance. Habitat, wetlands, wildlife movement opportunities, and habitat for SAR and SOCC are expected to remain represented across the broader regional landscape.

5.7.5 Socio-Economic

5.7.5.1 Communities

The cumulative effects assessment for Communities considers the potential for the Project to interact with existing and reasonably foreseeable activities and developments in central Newfoundland, particularly other mining and mineral exploration activities, residential development, and associated demands on the regional labour force, housing, infrastructure, and services. For socio-economic and land use considerations, the boundaries capture the Project Area, nearby communities, recreational and resource use areas, access routes, the T'Railway, Gander River-related uses, and the broader regional context for mining, forestry, quarrying, exploration, and community development.

The Project is expected to employ approximately 207 FTEs during construction, and 117 to 239 FTEs during operation, with approximately 88% of employees anticipated to be from NL and approximately 61% from central Newfoundland. When considered alongside other resource projects, this could increase demand for skilled labour and contribute to wage pressures in the region. Multiple active projects could also provide cumulative benefits through employment, business opportunities, household income, and development of a more experienced regional mining workforce. The Project may also contribute to the establishment or expansion of local and regional businesses capable of servicing the mining sector.

When considering housing, rental availability in Gander had an average vacancy rate of 0.7% in 2024, while Grand Falls-Windsor experienced vacancy rates between 0.8% and 4.0%. Additional resource projects and subsequent population growth could place additional pressure on housing availability and rental costs. However, the Communities VC identifies existing and planned residential development in the LAA and nearby communities, and given that, it is anticipated that there will be sufficient housing capacity for workers without a camp. Given the proposed size of the workforce, it is not anticipated there will be a cumulative impact on housing infrastructure pending the development of reasonably foreseeable future Projects in the area.

Cumulative effects on community well-being could occur through the combined increase of employment and income, population change, demands on health and emergency services, traffic, and changes in access to LRU. Cumulative economic activity may also support household incomes, local businesses, municipal revenues, and community investment.

The Project is expected to contribute to the existing regional economic conditions and place associated pressures related to resource development, such as labour availability, wages, housing, and community services. Considering the Project's relatively small workforce and the existing labour within the region, paired with the available and planned capacity for housing, Project contributions to cumulative effects are not expected with the implementation of the identified mitigation measures. Additionally, it is assumed that other projects and activities with the potential for overlapping effects will be subject to applicable permitting requirements and mitigation measures, further reducing the potential for cumulative effects.

5.7.5.2 Land and Resource Use

The cumulative effects assessment for LRU considers the potential for residual Project effects to interact with existing and reasonably foreseeable activities within the Project Area, LAA (1-km buffer around the Project Area), and RAA (5-km buffer around the Project Area; refer to Figure 13.1 of the Environmental Registration). The Project occurs in a landscape that supports a variety of overlapping land and resource uses, including mineral exploration and mining, quarrying, forestry, hunting, trapping, fishing and outfitting, domestic wood harvesting, recreational activities, transportation infrastructure, utility corridors, and community development. The Project Area also overlaps the Gander Lake PPWSA, portions of several wildlife management areas, and the T'Railway, a regionally important recreational corridor.

Potential cumulative effects may occur where Project-related restrictions on access, changes in land availability, sensory disturbances, or changes in resource use patterns overlap with the effects of other resource development and recreational activities. The RAA contains 47 mineral claims, the majority of which are held by New Found Gold, as well as multiple quarry permits and applications. Forestry is also an established land use within the region, with the Project overlapping Forest Management Districts 5, 6, and 8, including a portion of Forest Management District 5. Ongoing and future mining, quarrying, forestry, and associated infrastructure development could cumulatively contribute to reductions in the availability of lands used for hunting, trapping, fishing, berry harvesting, domestic wood harvesting, and other resource-based activities.

The surrounding area also supports numerous recreational and traditional land uses, including ATV and snowmobile use, hiking, boating, camping, hunting, trapping, angling, berry harvesting, and other outdoor activities. The T'Railway represents a key recreational feature in the region, with approximately 6 km occurring within the LAA and approximately 17 km within the RAA. Resource and recreational users may

experience cumulative effects where Project-related sensory disturbances, access restrictions, or changes in land use occur in combination with those associated with other existing or future developments in the region. Similarly, cumulative effects could occur where multiple developments contribute to increased competition for access to preferred hunting, fishing, trapping, harvesting, and recreational areas.

The Project will contribute incrementally to existing pressures on LRU within a region where multiple resource development, recreational, and community uses already coexist. However, the Project is not expected to preclude existing LRU activities from continuing at or near current levels within the RAA. Alternative areas for hunting, trapping, fishing, outfitting, domestic wood harvesting, and recreation remain widely available throughout the region. The implementation of Project-specific mitigation measures, including ongoing engagement with land and resource users, communication of Project activities, management of access restrictions, protection of the T'Railway crossing, grievance resolution mechanisms, and mitigation measures developed for atmospheric environment, surface water resources, fish and fish habitat, and terrestrial environment VCs, will reduce the potential for cumulative effects on LRU. Given the Project's limited spatial footprint, mitigation and management measures, and the continued availability of alternative areas for resource and recreational activities, Project contributions to cumulative effects LRU are expected to be low.

5.7.5.3 Historic Resources

The Project is located in an area that has been subject to past and ongoing land-disturbing activities, including mineral exploration, forestry, road development, and recreational land use. In consultation with the Provincial Archaeology Office, no archaeological resources have been inventoried within the Project Area; however, the potential remains for previously unidentified archaeological resources associated with historic Indigenous land use, including Beothuk and Mi'kmaq use of the area. The Project's contribution to cumulative effects on historic resources could occur through its land-disturbing activities acting in combination with other land-disturbing activities, thereby increasing the potential for disturbance of previously unidentified historic resources. To mitigate this potential, a Discovery of Historic Resources Contingency Plan will be implemented as part of the EPP (Appendix B). Archaeological, cultural, or heritage resources encountered during Project activities will be protected, reported, and assessed in consultation with the Provincial Archaeology Office prior to work proceeding. Given there are no historic resources documented within the Project Area, Project contributions to cumulative effects are not anticipated.

5.7.6 Cumulative Effects Summary

The cumulative effects assessment considered potential cumulative environmental effects over the life of the Project, including potential residual Project effects in combination with the effects of past, present, and reasonably foreseeable future projects and activities in the region. Activities considered include mining and mineral exploration, forestry operations, community development, transportation infrastructure, utility corridors, recreational land use, harvesting activities, and other resource development activities occurring within central Newfoundland. Existing conditions, identified in the VC sections, already reflect historical and ongoing disturbance from exploration, forestry, roads, transmission corridors, recreational land use, and community development.

Overall, the assessment concluded that the Project will incrementally contribute to existing pressures on the atmospheric environment, water resources, fish and fish habitat, terrestrial environment, communities, and LRU within the regional landscape. However, considering the localized extent of predicted residual effects, the implementation of proposed mitigation, monitoring, offsetting, rehabilitation, and adaptive management measures, cumulative effects are expected to remain localized and manageable. Additionally, it is assumed that other projects and activities with the potential for overlapping effects will be subject to applicable assessment and permitting requirements and mitigation measures, further reducing the potential for cumulative effects.

5.8 Accidents, Malfunctions and Emergencies

An overview of accidental events, malfunctions, and emergencies is provided in Section 15.2 of the Environmental Registration. This section describes potential accidental events and malfunctions associated with the Project, their potential environmental effects, and the prevention, mitigation, and emergency response measures that will be implemented.

Additional information has been provided for the specific topics required by the EPR Guidelines as identified in Table 5.20, which summarizes the applicable EPR requirements and identifies where each is addressed.

Table 5.20 EPR Guidelines Requirements Related to Accidents, Malfunctions and Emergencies

Guideline Requirement	EPR Section
Assess environmental effects of accidental releases of fuels, lubricants, hazardous materials, wastewater, process water, and sediment-laden water on wetlands, fish and fish habitat, wildlife, migratory birds, and species at risk, and identify mitigation measures.	Section 5.8.1
Describe proposed emergency preparedness and response measures for operational activities, including spills of hazardous materials, water management failures, wildlife incidents, and extreme weather events.	Section 5.8.2
Provide monitoring and dam safety information for all existing and proposed dams, water management ponds, and associated water control infrastructure, including inspection, maintenance, and emergency preparedness measures.	Section 5.8.3
Environmental Emergency Response Plan (EERP) that includes, but may not be limited to, a specific response plan for a fuel/oil spill, or high-water events that cause water control infrastructure failures in areas that overlap the Gander Lake PPWSA (including the industrial terrace and site access road)	Section 5.8.4

5.8.1 Potential Effects of Accidental Releases on Wetlands, Fish Habitat, Wildlife, and Species at Risk

As there is no processing at the Queensway site as part of the Project, hazardous materials at site are anticipated to be limited to fuel, lubricants, and oil. A spill of fuel or hazardous material could occur as a result of equipment or vehicle malfunction, equipment leakage / failure, storage tank leak or rupture, human error, severe weather conditions, and/or spill from vehicles off site (i.e., along the access road). A large spill could contaminate soil, groundwater, or surface water, resulting in localize adverse effects on fish and fish habitat, wetlands and other vegetated areas, wildlife habitat, and SAR through direct exposure to uptake of contaminants. Without response measures, contaminates could migrate beyond

the initial spill site through surface runoff or infiltration into permeable soils. However, given the relatively limited volume of hazardous material stored and used onsite, adherence to spill prevention and handling procedures, regular equipment inspection and maintenance, secondary containment measures, and the implementation of emergency response controls, the potential for an accidental release is considered to be low. Residual effects on wetlands, fish and fish habitat, wildlife, migratory birds, and SAR are anticipated to be localized, short-term and reversible. As a result, adverse effects to wetlands, fish and fish habitat, wildlife, (including SAR), and migratory birds are anticipated to be not significant as summarized in Table 5.21.

Table 5.21 Summary of Significance Determinations – Accidents, Malfunctions and Emergencies

VC/Component Name	Accident or Malfunction Scenario	
	Fuel and Hazardous Material Spills	Unplanned Release of Wastewater / Contact Water
Wetlands	Not Significant	Not Significant
Fish and Fish Habitat	Not Significant	Not Significant
Wildlife (including SAR)	Not Significant	Not Significant
Migratory Birds	Not Significant	Not Significant

There is no process water associated with the Queensway site as processing will occur at an offsite, permitted facility, located at Pine Cove. Mine contact water considered in this assessment, therefore, includes runoff that comes in direct contact with ore, waste rock, or terrain where Project infrastructure or mining activities take place. A malfunction of the contact water system, including catchment sumps, ditches and channels, and sedimentation ponds (including embankment / dam failure), could result in the release of insufficiently treated contact water to the environment. Such release could temporarily adversely affect groundwater and surface water quality, and in turn, affect fish and fish habitat (e.g., toxicity, bioaccumulation, avoidance of area, alteration of planktonic and benthic communities), wetlands, wildlife habitat (thus affecting wildlife, including SAR), and migratory birds. There is also potential for localized seepage from contact water storage. Untreated / contaminated water can be ingested by wildlife, or receptors can be exposed through dermal contact. For wildlife, release of untreated / contaminated water could also affect prey species and habitat. Contact water quality within the water management systems will likely contain sediment and dissolved metals and other potential constituents at low concentrations. If avifauna or other wildlife made contact with or ingested this water (or adjacent vegetation) in the event of an unplanned release, it is unlikely they would be at an increased risk of mortality. However, the likelihood and magnitude of these effects are reduced by the design of the water management system, which is intended to collect, contain, monitor, and manage contact water before discharge. Contact water quality will be routinely monitored to confirm management objectives are being achieved.

In the event of an unplanned release, response measures would include immediate investigation, containment, corrective actions, and cleanup to limit the extent and duration of effects. As a result, a release would be expected to be localized, short-term, and confined primarily to the Project Area. Consequently, the potential for exposure of fish, wildlife, migratory birds, or SAR to concentrations that could result in mortality, population-level effects, or measurable habitat degradation is low. Therefore, adverse effects to wetlands, fish and fish habitat, wildlife, (including SAR), and migratory birds are anticipated to be not significant.

General mitigation to reduce risk associated with potential malfunctions and accidental events includes:

- Proper training, awareness, education will be conducted.
- Inherently safe designs will be incorporated into the Project.
- Current site environmental management plans will be updated and implemented including effective and efficient ERPs.
- Periodic assessment of accident and malfunction risks will be conducted during the Project life cycles, including detailed design, construction, operation and closure.
- Measures to prevent spills (e.g., primary and secondary containment design, good housekeeping, routine inspections and maintenance) will be detailed in the EPP (Appendix B).
- Project design and operational procedures will address fuel handling protocols. Fuel will be obtained from a licensed contractor who will be required to comply with regulations including the provincial *Storage and Handling of Gasoline and Associated Products Regulations*; fueling locations and procedures will conform to applicable regulatory requirements.
- Regular vehicle and equipment inspections and maintenance will be carried out to prevent hydraulic fluid spills.
- Areas in which hazardous materials are used or stored will have spill containment systems constructed with impermeable floors, walls, dykes or curbs and be inspected and maintained.
- If a spill occurs, it would be immediately contained and cleaned up using on-site spill kits and appropriate absorbent materials. Trained responders and spill response equipment and supplies will be directed to the spill area to provide a response.
- A spill response plan will include measures for emergency response, training, responsibilities, clean-up, and contact and reporting procedures in the event of a spill. Appropriate Project personnel will be trained in fuel handling, equipment maintenance, fire prevention and spill response measures.
- Transportation of hazardous materials will be by road; therefore, there is a risk of a collision or accident resulting in a spill of transported materials both on and off site. Vehicle and equipment operation procedures will address safe use of vehicles and heavy equipment to reduce the risk of accidents, including those involving hazardous materials. Traffic management measures and signage will be implemented along the access road to reduce risks to wildlife and the public.

- Sedimentation ponds will be appropriately sized for retention and removal (by gravity) of suspended solids (sediment). Sedimentation ponds will be constructed in-ground and/or using earthen berms with till or synthetic liners following CDA guidelines for dam design. Sedimentation ponds will be designed to store up to the 24-hour duration, 1:100 Annual Exceedance Probability without climate change design event, and convey runoff via a spillway for the 24-hour duration, 1:100 Annual Exceedance Probability with climate change event.
- Sedimentation ponds will be designed such that effluent is expected to meet MDMER limits prior to release to the receiving environment.
- Sumps and sump pumps will be installed for spillage control, and precipitation and groundwater entering the open pit will be managed in-pit via sloped pit floors and catchment sumps, as required.
- Effective control of potential high precipitation events will be implemented and water management design will produce effluent achieving regulatory effluent criteria
- Non-contact water will be diverted where feasible.
- Where feasible, water collected in pit and in the sedimentation ponds will be used for other purposes on site rather than discharged to the environment
- Sediment fencing will routinely be deployed, inspected and maintained as needed adjacent to wetlands and slow-moving watercourses
- In the event of an unplanned release of contact water due to failure of the water management system, sediment fencing would serve to reduce potential effects and, where feasible, contact water would be pumped back into the collection system

The Environmental Contingency Plan (a component of the EPP; Appendix B) will outline ongoing mitigation measures designed to maintain compliance with rules, regulations, and requirements or permits and authorizations. It will also outline procedures to be taken should an accidental event occur to reduce the severity of the event and to limit subsequent risk to human health and safety and to the environment.

5.8.2 Emergency Preparedness and Response Measures

The following emergency preparedness and response measures for operational activities, including spills of hazardous materials, water management failures, wildlife incidents, and extreme weather events will be implemented in the event of an accidental event. An ERP is being prepared and will be provided to regulators prior to the start of construction. The ERP will focus on accidents and emergencies that could risk human health and safety, such as medical emergencies, vehicle accidents and fires/explosions. The environmental contingency plan, which is located within the EPP (Appendix B) provides the response to emergencies resulting in environmental consequences, such as spills of hazardous materials, unplanned releases of contact water, and wildlife encounters. In addition, an MDMER ERP, a requirement of ECCC, will be developed and appended to the operation EPP.

In case of a fuel or hazardous material spill, the following procedures will apply:

- The individual who discovers the leak or spill will make a reasonable attempt to immediately stop the leakage and contain the flow, if safe to do so. Spill kits are located at fuel storage tanks and at designated central storage location(s).

- Spill location, type of fuel or hazardous material, volume and terrain condition at the spill site will be determined and reported immediately to the Mine Manager, who will report it immediately to the applicable regulatory agency.
- In the event of a reportable spill on-land or a spill regardless of size that may enter a waterbody frequented by fish must be reported immediately to the Environmental Emergencies 24 Hour Report Line **709-772-2083 or 800-563-9089**. (Refer to Section 2.16 of the EPP for the definition of reportable spills on-land versus in freshwater environments.) The spill occurrence will be documented on the Spill Report Form (available as Appendix C in the EPP [Appendix B of this EPR]).
- The Mine Manager or designate will act as the "On-Scene-Commander" for the purposes of cleaning up a fuel or hazardous materials spill. The Mine Manager or designate will be familiar with spill clean-up procedures and mobilization procedures of the clean-up equipment and will have full authority to take necessary and appropriate action without unnecessary delay.
- The overall responsibility of coordinating clean-up and maintaining the contingency plan current and up-to-date will be the Senior Project Manager.
- A spill at the mine site would be immediately contained and cleaned up using trained responders and on-site spill response equipment and supplies (e.g., spill kits and appropriate absorbent materials.
- Personnel will be trained in the procedures to follow in case of a fuel or hazardous material spill, and spill communication procedures. New Found Gold will update the personnel responsibilities list specific to spill response on an ongoing basis.
- A complete list of spill response equipment will be available.
- The Mine Manager or designate will be responsible for the preparation of a written report which will be sent (as soon as possible and no later than 30 days after the spill) to New Found Gold's Health, Safety, and Environment Department and, from there, to the applicable regulatory agencies.

Personnel and contractors are responsible that the following emergency preparedness and response procedures are followed in relation to potential a wildlife incidents:

- Site orientation will include information on SAR identification and protocols (e.g., buffers, bee sting protocols); sitings of potential SAR species will be reported to the Mine Manager (or designate).
- Employees and contractors will be prohibited from fishing, hunting, trapping, gathering plants, or using off-road vehicles for recreational purposes within the Project Area, or from using the Project Area to access surrounding areas for these purposes, unless such access is specifically granted to support Indigenous traditional land use activities.
- Site and working areas will be kept clean of food scraps and garbage.
- Waste will be collected for disposal in appropriate containers and routinely transferred to an approved location or facility.
- No personnel will chase, catch, divert, follow or otherwise harass wildlife by vehicle or on foot at Project sites.

- Equipment and vehicles will yield the RoW to wildlife.
- Personnel should be aware of the potential for encounters with wildlife. Wildlife sightings will be recorded on the wildlife sighting forms.
- The Field Manager will be responsible for actions in response to nuisance animals (e.g., bears) and will advise the Senior Project Manager for further action. Management of nuisance animals will be done in consultation with Wildlife Division.
- Capture, handling, relocation, or release of wildlife will be undertaken in consultation with and, where required, under authorization from the NLDECCC Wildlife Division in accordance with the *Wild Life Act* and associated regulations.
- Observations of caribou in the Project Area will be reported immediately to the Mine Manager (or designate) and work will cease. The Mine Manager (or designate) will determine if Project activities will be reduced or delayed, as applicable. New Found Gold will consult with the Wildlife Division on this issue.
- Project lighting will be controlled, while meeting regulatory, operational, health, and safety requirements, to mitigate attraction and disorientation of migratory birds, taking into account the Convention on Migratory Species' International Light Pollution Guidelines for Migratory Species.
- On-site wildlife observations, including caribou, will be documented (e.g., location, date) on a wildlife observation form.
- If the nest of a raptor, or other birds are encountered, work in the area is to be halted until the Mine Manager and/or Health, Safety and Environment Manager is contacted and has had the opportunity to contact Wildlife Division and appropriate mitigation is applied.
- Caves, sinkholes, fissures, or other underground cavities that are identified as a result of Project activities will be inspected for evidence of overwintering bats and reported to Wildlife Division if evidence is present.

The following emergency preparedness and response procedures will apply in relation to water management failures:

- If required, the water management structure would be repaired and/or improved as required to avoid a spill / reoccurrence of a spill should one occur. Contact water could be pumped back into the collection system where feasible.
- Water management pond dams will undergo routine engineering inspections to observe seepage, scour or erosion, subsidence, vegetal growth etc. Inspections will be conducted in accordance with permitting under Section 48 of the NL *Water Resources Act* and the CDA's Dam Safety Guidelines, as applicable.
- Measures in the event of a release (e.g., isolation of the discharge point, containment of affected water [i.e., sediment fencing], and water quality monitoring) will be outlined in the EPP (Appendix B).
- The EPP will detail procedures to mitigate potential adverse environmental effects of a fire or explosion, such as containment of emissions and runoff.

The following emergency preparedness and response procedures will apply in relation to extreme weather events:

- The Project will be designed and constructed to meet applicable engineering codes, standards, and best management practices, such as the National Building Code of Canada, the National Fire Code of Canada, and the CDA Guidelines.
- The potential effects of extreme weather including storms, precipitation, flooding/ice jams, and drought will be considered in Project planning, design and construction, including the selection of materials and equipment, and design of components, such as water management infrastructure.
- New Found Gold will regularly inspect and monitor Project infrastructure and equipment that could be affected by the environment (in addition to its normal function) and take required action to maintain, repair and upgrade infrastructure / equipment as needed.
- Work activities will include allowances / procedures for delays due to poor weather.
- The WaMP provides detail on runoff and seepage collection strategies and systems to collect and contain surface water runoff and groundwater discharge from major Project components during climate normal and extreme weather conditions.
- Water management ponds will be designed to contain the existing 24-hour duration, 1:100 Annual Exceedance Probability precipitation event and attenuate the climate change adjusted 24-hour duration,1:100- Annual Exceedance Probability precipitation event.
- Weather forecasts will be considered when planning activities that could be affected by adverse conditions, such as dam construction, receipt of materials and supplies, and product deliveries, particularly deliveries of diesel fuel. Where required, these activities will be scheduled for periods of favourable weather conditions.
- Weather forecasts will be regularly monitored and, prior to anticipated extreme weather events, appropriate preventative measures will be taken to reduce the risk of damage to the Project. This will include site inspection by staff to identify and secure loose items, materials and equipment that could be susceptible to wind events, and inspection and maintenance of sediment and erosion control measures prior to and following precipitation events.

5.8.3 Dam Safety, Monitoring, and Water Management Infrastructure

The following section provides monitoring and dam safety information for the proposed dams, water management ponds, and associated water control infrastructure, including inspection and maintenance. Emergency preparedness measures are provided in Section 5.8.2. Note that there are not any dams currently located at the Queensway site.

Direct precipitation, surface runoff, and groundwater seepage entering the open pit excavations will be captured via in-pit sumps and pumped to the ore stockpile pond. The ore stockpile pond will additionally receive pumped flows from the two other sedimentation ponds associated with the WRSF.

Regulation of dam safety in Canada is primarily a provincial responsibility. NL considers any structure retaining water between 1 to 2.5 m to be a very small dam. Such structures will require an approval under Section 48 of the *Water Resources Act* and the CDA Guidelines with respect to sedimentation ponds / dams required as part of Project infrastructure. Design criteria for the water management design meets

the most stringent requirements of the CDA and the NL *Mining Act*. The CDA classifies a dam as an embankment of 2.5 m or greater from the toe of the downstream slope to the dam crest and is capable of impounding at least 30,000 m³ of liquid storage. A criterion for this Project was to design berms to avoid the CDA dam classification, where practical. The dam safety program established in NL requires that dams must be designed, operated, and maintained to meet the requirements of the CDA Guidelines, Mining Association of Canada guidelines, as well as applicable provincial requirements.

Water management ponds provide on-site storage of runoff with controlled releases permitted after appropriate residence time for particulate settling for the 24-hour duration, 1:100 Annual Exceedance Probability precipitation design event. Permanent pools depths will be excavated below grade, reducing the total berm height required to achieve the storage while improving dam safety. Water management ponds will include outlet control through a pumped discharge above the permanent pool elevation and a spillway to attenuate flows up to a climate change-adjusted design event. Smaller pipelines will connect to the main roadside pipeline to convey water from the ponds and pits to the ore stockpile pond. The main roadside pipeline will be offset from the road with a berm between the road and pipeline for increased operational safety (i.e., reducing the likelihood of impact to the pipeline should a vehicle leave the haul road). Site monitoring will include visual inspections of facility infrastructure, including dams. Upon completion of rehabilitation and closure, water management ponds will be breached to allow drainage to natural ground and local receivers.

The Project WaMP (Appendix 4.A of the Environmental Registration) incorporates best management practices of current industry practice in NL, and draws on concepts in the document, *Environmental Code of Practice for Metal Mines* (Environment Canada 2009). A network of catchment sumps, ditches, channels, and sedimentation ponds (detailed in the WaMP) will manage contact water and reduce the risk of unplanned releases. Routine inspections and maintenance will be conducted to confirm system functionality and identify potential issues early.

The objectives of the WaMP for mine contact water are to determine if the quality of mine contact water is suitable for reuse as process water or for direct discharge to the environment and monitor the quality of contact water discharge and compare against applicable guidelines and environmental protection objectives. Management of the collection and appropriate treatment of sanitary sewage and grey water is also included in the WaMP.

Design parameters for water management infrastructure include a 15 m setback from fish-bearing waterbodies and consideration of climate change-associated precipitation events and associated flow. Water management infrastructure will include design of water management ponds to contain the 24-hour duration, 1:100 Annual Exceedance Probability precipitation event and attenuate the climate change adjusted 24-hour duration, 1:100 Annual Exceedance Probability precipitation event through the use of a spillway, design of ditches to convey the 24-hour duration, 1:100 Annual Exceedance Probability precipitation event and use of gravity drainage to the extent practicable to reduce operational costs from pumping.

The number of FDPs (two in total) has been reduced through grading of ditches and the use of a centralized water management pond (ore stockpile pond) for treatment while maintaining the natural conditions of the receiving environment to extent practicable. Treated contact runoff will be discharged to the North Hermans Ponds tributaries within the Gander River watershed. No contact water will be managed or discharged within the Gander Lake PPWSA. New Found Gold will monitor the quantity and

quality of the discharge in a manner that meets environmental protection objectives of the MDMER, *Environmental Control Water and Sewage Regulations, 2003*, CCME's CWQG-FAL, and Health Canada's Guideline for Canadian Drinking Water Quality.

Water management infrastructure and surface and groundwater quality and quantity will be monitored throughout the life of the mine. The objective of the surface water and groundwater monitoring programs are to confirm compliance with regulatory requirements, support predictions of effects of the Project on water quality, identify changes in drainage patterns and surface water flow, and determine if additional mitigation or emergency response measures are required. The proposed monitoring programs will include surface and groundwater quality monitoring, surface water flow monitoring of nearby watercourses and effluent discharge locations, and groundwater level monitoring of installed monitoring wells. It will also include visual inspections of facility infrastructure. The monitoring programs will be provided to applicable regulatory authorities for review prior to the commencement of operation.

Surface water and groundwater monitoring will continue into closure and post-closure. The objective of the monitoring will be to determine if the rehabilitation measures were successful and the Project produces stable runoff and seepage quality compliant with regulatory closure regulations. The proposed closure monitoring and maintenance activities include visual inspections of reclaimed areas to identify unstable areas, maintain facilities and equipment to be used during closure until they are no longer required, install instrumentation at selected facilities for monitoring of the reclaimed areas, and test surface and groundwater quality and measure water volumes at select locations to confirm that the closure measurements are performing as predicted and are not adversely affecting the environment.

5.8.4 Environmental Emergency Response Plan

Environmental emergency response procedures for fuel/oil spill or high-water event that causes a water control infrastructure failure are included in the Environmental Contingency Plan, a component of the EPP (Appendix B; Sections 4.1 and 4.2, respectively) and have been discussed in Section 5.8.2 of this EPR. These procedures address potential incidents occurring within areas of the Project that overlap the Gander Lake PPWSA, including the industrial terrace and site access road.

In the event of an accidental spill or water control infrastructure failure, the environmental contingency plans included within the EPP outline notification requirements, response actions, containment and recovery measures, and other procedures intended to limit potential effects on human health, safety, water resources, and the surrounding environment. These plans provide a framework for implementing timely and effective measures to reduce the severity of the event and to limit subsequent risk to the environment. In addition, an ERP is being prepared and will be provided to regulators prior to the start of construction. The ERP will focus on accidents and emergencies that could risk human health and safety, such as medical emergencies, vehicle accidents and fires/explosions. In addition, an MDMER ERP, a requirement of ECCC, will be developed and appended to the operation EPP.

6 Decommissioning and Rehabilitation

In the Environmental Registration, decommissioning was described in Section 4.5.4 (Rehabilitation and Closure) as a subsection of the Project Activities (Section 4.5) description. Rehabilitation was also discussed in Section 4.5.4 but, since rehabilitation is to be progressive (i.e., completed incrementally as work is completed in different areas), it is also touched upon in parts of Section 4.4 (Project Components), 4.5 (Project Activities), and 4.7 (Emissions, Discharges and Waste). The specific topics outlined in the EPR Guidelines are identified in Table 6.1, which summarizes the applicable EPR requirements and identifies where each is addressed.

Table 6.1 EPR Guidelines Requirements Related to Decommissioning and Rehabilitation

Guideline Requirement	EPR Section
Describe aspects of the proposed decommissioning, reclamation, and rehabilitation and closure plans for the Project. Discuss how mine infrastructure, the open pit, waste rock storage areas, water management infrastructure, access roads, and other disturbed areas will be managed and monitored to achieve a safe, stable, and environmentally acceptable post-closure condition and support the intended post-closure land use, including:	Section 6.1
• Post-closure pit lake water quality and overflow	Section 6.2
• Long-term environmental effects associated with residual contamination, water treatment requirements, watercourse crossings, and long-term infrastructure management	Section 6.3

6.1 Summary of Decommissioning and Rehabilitation Activities from the Environmental Registration

The mine is designed for an operational period of approximately seven years, with potential for extension. As reflected in its ongoing exploration activities, New Found Gold is committed to environmental responsibility and will implement environmental monitoring and management plans, mitigation measures, and best management practices throughout the planned Project phases.

The provincial government requires mining projects to have a RCP, which includes plans for rehabilitating disturbed areas, both on an on-going basis and upon closure of the mine. Rehabilitation refers to the measures taken to restore the site as close as reasonably practicable to its former use or condition, or to an alternative use or condition that is considered appropriate and acceptable by the province.

Mining proponents are required to post a financial assurance with the provincial government prior to construction. The financial assurance is based on the forecast costs of full site rehabilitation should the company be unable to fulfill its obligations. New Found Gold will prepare and implement a RCP and provide the financial assurance in compliance with these requirements.

Rehabilitation will occur in three main stages: 1) Progressive rehabilitation; 2) Closure rehabilitation, and 3) Post-closure and long-term monitoring.

6.1.1 Progressive Rehabilitation

Progressive rehabilitation will be implemented throughout the life of the mine, where practicable, and integrated into the operational schedule. Activities may include:

- Placement of waste rock berms and signage around exhausted pits for safety
- Demolition and removal of infrastructure which is no longer required
- Revegetation of disturbed areas no longer in use, including completed lifts of the WRSF
- Grading and stabilization of the WRSF using organic soils and overburden to promote natural revegetation
- Seeding of areas where natural revegetation may be slow to mitigate erosion and sedimentation
- Possible reshaping of the WRSF to blend with the surrounding landscape

Design features such as engineered slopes, drainage controls, and segregation of organic soils will support progressive rehabilitation. Non-PAG waste rock will be used for construction to reduce closure liabilities.

6.1.2 Closure Rehabilitation

Closure activities will commence following cessation of mining and will include both short-term decommissioning and long-term site restoration. Closure rehabilitation activities will include:

- Infrastructure Decommissioning:
  - Removal of modular offices, maintenance facilities, warehouses, weigh scales, and fuel storage systems
  - Decommissioning and removal of the crushing and sorting plant, conveyors, and associated equipment
  - Removal of explosives magazines in accordance with Natural Resources Canada guidelines
  - Decommissioning of electrical substation, power lines, and communications infrastructure
  - Removal of potable water and sewage systems
  - Decommissioning of site roads and haul roads
- Waste Material Management:
  - The PAG portion of waste rock from the Keats pit is currently planned to be placed sub-aqueously in the mined-out Iceberg pit to limit acid generation; the Iceberg pit will naturally fill at closure for long-term containment as a pit lake feature
  - Regrading and stabilization of WRSF lifts
  - Covering of non-PAG waste rock and overburden with organic soils and topsoil, followed by revegetation using native species
  - Mineralized material below cut-off grade remaining at closure will be relocated to a mined-out pit (90% in Keats pit and 10% in Iceberg pit) for long-term containment; these pits will naturally fill to become a pit lake feature as part of the approved RCP

- Water Management and Restoration:
  - Continued operation of settling ponds until discharge meets regulatory standards
  - Removal of water management infrastructure once natural drainage is re-established
  - Restoration of watercourses affected by infrastructure

The RCP will incorporate ML/ARD management strategies, including composite base liners for PAG material, other accepted PAG material management strategies such as encapsulation and layering, and drainage collection systems to prevent contamination. Management of PAG material is further described in Section 4.3.5 of this EPR.

6.1.3 Post-closure and Long-term Monitoring

Post-closure monitoring will confirm the success of rehabilitation efforts and compliance with regulatory standards. Monitoring programs may include the following:

- Physical Integrity: slope stability assessments of rehabilitated landforms and WRSF
- Revegetation Success: evaluation of vegetation cover and erosion control measures
- Water Quality: surface and groundwater monitoring to confirm compliance with provincial and federal requirements
- Wildlife Use: observations of rehabilitated areas for wildlife habitat recovery

Monitoring results will inform adaptive management and additional rehabilitation measures, if required. Once objectives are met, the site may be formally closed and released by NL Department of Energy and Mines (NLDEM) and receive Recognized Closed Mine status under MDMER. At such time, an application can be made to relinquish the site back to the Crown.

6.2 Post-Closure Pit Lake Water Quality and Overflow

Post-closure pit lake water quality and overflow scenarios were modelled as part of the Water Balance and Water Quality Model Report (Appendix 9.A of the Environmental Registration) and Section 9 of the Environmental Registration. The four pits developed for the Project will be allowed to naturally fill with surface water runoff and groundwater seepage. The Keats and Iceberg pits will also be backfilled with PAG material and mineralized material below cut-off grade to provide water cover to those materials. The water balance and water quality model predicted that following completion of mining, the Keats pit and Iceberg pit will fill to the spillway crest elevation and subsequently overflow along established drainage pathways toward the North Hermans Pond and downstream Hermans Pond watercourse. The Dome and Jackpot pits will not have mine waste rock placed in them and are not expected to overflow following natural pit filling due to their topographic position; instead, the pits will act as groundwater recharge features with no expected spillway discharge, and the water level in each pit will be naturally maintained at a stable elevation below the pit crest elevation.

The following pit-specific water quality trends were predicted:

Keats Pit – Pit Overflow Phase

- Total arsenic concentrations (median: 0.0594 mg/L, range: 0.0377 to 0.0948 mg/L) are expected to be below MDMER limits at the onset of the pit overflow period and continue to decrease over time. Similar declining trends are observed for the other MDMER-applicable metals, as well as sulphate.

Iceberg Pit – Pit Overflow Phase

- Total arsenic concentrations (median: 0.0621 mg/L, range: 0.0540 to 0.0723 mg/L) are expected to be below MDMER criteria at the onset of pit overflow and continue to decrease over time. Similar declining trends are observed for the other MDMER-applicable metals, as well as sulphate.

Dome Pit – Pit Lake Level Maintenance Phase

- The water level in Dome pit is not expected to rise above the spillway crest elevation and overflow but instead will reach a stable maximum elevation in Mine Year 6. Parameter concentrations are generally elevated relative to earlier pit phases during the initial years of the maintenance phase in active closure, but do not exceed applicable MDMER limits, including for arsenic, and stabilize in post-closure.

Jackpot Pit – Pit Lake Level Maintenance Phase

- The water level in Jackpot pit is not expected to rise above the spillway crest elevation and overflow but instead will reach a stable maximum elevation by the start of post-closure (Mine Year 11). Parameter concentrations that generally increase during the pit filling phase decline during the first few years of the maintenance phase and then stabilize.
- Total arsenic concentrations (median: 0.0621 mg/L, range: 0.0540 to 0.0723 mg/L) are expected to be above the MDMER Monthly Mean limit for the first year of the maintenance phase when the pit is filling but then decline and stabilize at concentrations below the guideline. When the pit is filling there will be limited groundwater seepage out of the pit as it is a groundwater sink. The other MDMER-applicable metals also stabilize and do not exceed their respective limits during the filling process.

As part of the closure process, pit lake water quality will be monitored to confirm that observed water quality is within the range predicted by the water quality model. If pit water quality during the pit filling process is observed or is predicted by the water quality model as it is updated during the operations and active closure phases to have overflow or long-term in-pit concentrations that exceed MDMER criteria, then passive treatment methods will be potentially applied. Passive treatment options may include engineered wetlands to treat pit overflows or in-pit treatments to precipitate out metals/metalloids.

6.3 Long-term Environmental Effects Associated with Residual Contamination, Water Treatment Requirements, Watercourse Crossings, and Long-term Infrastructure Management

Surface water quality changes may occur from pit overflows or seepage from the WRSF and would both potentially require treatment through a passive treatment system (e.g., engineered wetland) prior to discharge to local receivers. Passive treatment systems will potentially be installed (as required) in seepage collection ditches and sedimentation ponds (e.g., permeable reactive barriers, engineered wetlands), as well as potential in-pit treatment prior to discharge to local surface water receivers.

Determination of whether passive treatment would be required for either pit overflows or seepage from the WRSF will be based on outputs of updated water quality models, and the confirmation of observed water quality from the surface water quality monitoring program matching the predicted water quality results. If required, the passive treatment systems will be designed to allow for the precipitation and/or reduction of metal/metalloid concentrations to baseline concentrations.

The inclusion of passive treatment systems would reduce the overall operations and maintenance required of the systems as part of the long-term infrastructure maintenance. This includes the removal of watercourse crossings on access roads, and open pit overflows for Keat's pit and Iceberg pit will be connected to local receivers in the North Hermans Pond watershed.

7 Public Engagement

Additional information has been provided for the specific topics outlined in the EPR Guidelines as identified in Table 7.1, which summarizes the applicable EPR requirements and identifies where each is addressed.

Table 7.1 EPR Guidelines Requirements Related to Public Engagement

Guideline Requirement	EPR Section
At minimum, an Open House Public Information Session shall be held at a place adjacent to or in the geographical area of the undertaking, or as the minister may determine, in order to:	Section 7.1
• Provide information concerning the undertaking to the people (including, but not limited to residents, commercial and tourist establishments and operators, farmers and other stakeholders) whose environment may be directly affected by the undertaking;	Section 7.1
• Incorporate traditional knowledge, land use and cultural practices into Project design	Section 7.1
• Mitigation planning;	Section 7.1
• Record and respond to the concerns of the local community regarding the environmental effects of the undertaking, and describe those concerns and how the Proponent is addressing the concerns in a separate chapter of the EPR;	Section 7.1
• Describe the proposed approach for ongoing engagement with residents and commercial and tourism operators during construction, operation and maintenance, rehabilitation and decommissioning, and post-closure of the Project, including a complaints-resolution process so that issues may be addressed as they arise. The description should clearly outline how residents, land users and other stakeholders will be informed of Project activities, consulted on matters of interest or concern, and provided opportunities to participate in decision-making processes where appropriate;	Section 7.2

Table 7.1 EPR Guidelines Requirements Related to Public Engagement

Guideline Requirement	EPR Section
• Notify the Minister and the public of the scheduled meeting not fewer than 7 days before that meeting, in accordance with Section 10(2) of the Environmental Assessment Regulations, 2003. Public notification specifications are outlined in Appendix A of NLDECCC (2026).	Appendix E
The Proponent is encouraged to hold additional public information sessions or meet with stakeholder organizations or groups of concerned citizens, as needed, to ensure the public concerns are heard and understood and are addressed in the EPR.	Section 7.2

New Found Gold is committed to ongoing engagement with the public, Indigenous groups, and stakeholders that may be affected by the Project. Engagement provides timely, accessible information and opportunities for residents, land users, commercial and tourism operators, Indigenous groups, and other interested parties to identify issues or concerns. Feedback received has informed Project design and development, the assessment of potential environmental effects, and the identification of mitigation and management measures, where applicable.

This section summarizes engagement undertaken specifically in support of the EPR, including the Open House Public Information Session, the key issues and concerns raised, New Found Gold's responses, and the proposed approach to ongoing engagement during construction, operation and maintenance, rehabilitation and decommissioning, and post-closure. Section 5 of the Environmental Registration documents engagement conducted prior to submission of that document to government.

7.1 Open House Public Information Session

An Open House Public Information Session was held on the evening of Wednesday October 7, 2026, at the Appleton Town Hall to provide residents, land users, businesses, commercial and tourism operators, and other interested parties with an opportunity to learn more about the Project and provide input directly to New Found Gold.

Notice of the session was provided 15 days in advance of the session, in accordance with Section 10(2) of the *Environmental Assessment Regulations, 2003*. Notification was provided through direct mailbox postcard, public notice by posters within the community and on local town council social media. In advance of the Open House, postcards were also mailed to Towns of Appleton and Glenwood, advising of the planned event and inviting questions or comments in advance to support New Found Gold staff in preparing for the session. The postcards also noted that questions would be welcomed during the Open House. A copy of the public notice and associated notification materials is provided in Appendix E.

The session provided information on the Project overall, engagement efforts to date, EA process, 2026 baseline studies, as well as key public concerns raised, such as noise levels and management, air blast and ground vibration, water management and monitoring plans, and site reclamation. Project representatives were available to answer questions and discuss matters of interest or concern with attendees. A total of 55 people attended the Open House.

Questions, comments, and concerns raised during the Open House Public Information Session and through other engagement activities were documented and reviewed by the Project team. Key topics raised during the open house included blasting-related noise and potential property damage, surface and groundwater quality, air quality concerns related to heavy metals, concerns regarding future expansion,

potential effects on community lifestyle and property values, and plans for site remediation. A summary of this feedback, along with New Found Gold's responses, is presented in Table 7.2. Table 7.2 also references the section(s) in this EPR where additional information on the topic can be found.

Table 7.2 Engagement Feedback

Comments/Questions Raised	New Found Gold Response / Action	Reference Section
Concern that the phased development approach constitutes "project splitting," that corporate presentations show multiple phases, that future on-site mill and tailings development may face significant public resistance, and that there is limited community trust regarding the Project's development intentions.	This Environmental Registration addresses the Project described in Section 4, which is economically viable as a stand-alone undertaking. Further study, exploration, and data collection would be required before New Found Gold could advance a larger development. Future expansion would be subject to a separate registration and government approval process, including associated public and stakeholder engagement. Information currently available on activities at the Queensway property is provided on New Found Gold's corporate website.	Addressed within this table
Concern about the phased approach and how the Project may change over time, noting that residents chose to live in the community as it existed before development was proposed.	Phased development is a standard approach for mining projects and allows each stage to proceed on the basis of the technical, environmental, regulatory, and economic information available at that time. The Queensway Gold Project currently undergoing environmental assessment is a stand-alone project with a defined scope. New Found Gold has completed the studies and assessments required to support the current Project design and intends to advance the Project, subject to completion of the environmental assessment process and receipt of the required permits and authorizations. New Found Gold is also evaluating potential future expansion opportunities. These opportunities are separate from the current Project and would proceed only if the necessary supporting information is developed, the opportunities are determined to be viable, and applicable regulatory requirements are met.	Addressed within this table
Question regarding why a processing facility is not proposed at the Project site and concern that transporting ore to Pine Cove may limit local employment benefits for Appleton and Glenwood.	A processing facility and tailings management facility are not proposed at the Project site as part of the current Project. New Found Gold is continuing to evaluate processing options and to develop a fuller understanding of how the Project ore and resulting tailings would perform under site-specific conditions. The current Project provides an opportunity to obtain operating data and practical experience that can inform this work. Ore will be crushed and sorted at the Project site and transported to the existing Pine Cove facility, where an operating mill and permitted tailings management infrastructure are already in place. Using this established facility supports the responsible advancement of the current Project while New Found Gold continues the technical, environmental, and economic studies needed to assess whether future on-site processing and tailings management would be appropriate. Any future proposal would be separate from the current Project and would be subject to the applicable assessment, engagement, permitting, and approval requirements.	Addressed within this table

Table 7.2 Engagement Feedback

Comments/Questions Raised	New Found Gold Response / Action	Reference Section
Concern regarding the potential presence of antimony and other metals and a request for comprehensive metals analysis of air and water.	The Environmental Registration (Section 8) assessed Project-related dust and metal-containing particulate matter, including generation, transport, deposition, and accumulation, using trace metal concentrations estimated from ore analysis. Since submission of the Environmental Registration, New Found Gold has further optimized the mine plan to identify a scenario that maintains compliance with NL AQS during dry and windy conditions, while allowing activities to continue with enhanced dust mitigation and smaller adjustments to mining activities. Modelling of this optimized operation scenario is presented in Section 5.2.3 and demonstrates that use of this scenario as needed during dry and dusty periods will allow the mine to operate in compliance with the NL AQS (as well as those air quality standards adopted from other jurisdictions). The Environmental Registration also fully assessed potential Project effects on the quality of groundwater resources (Section 8) and surface water resources (Section 9). A summary of the results of this assessment is found in Section 5.3.1 of this EPR, while further discussion of potential effects of metals on water resources is included in Sections 5.3.2 to 5.3.6 of this EPR.	Section 5.2.3, Section 5.3
Concern regarding blasting-related noise and the potential for property damage.	Potential blasting effects on nearby residences, cabins and seasonal dwellings, tourism operators, commercial resource users, recreational users, travellers, and other land users are discussed in Sections 5.1.2 and 5.6.3 of this EPR. Predicted sound effects range from no perceived change (less than 3 dBA) to a noticeable change and are below Health Canada nuisance criteria. The Blast Management Plan in Appendix C.2 outlines measures for safe and controlled blasting and procedures to manage vibration, flyrock, and the potential for infrastructure or property damage. Measures include restricting blasting to daytime hours (9:00 a.m. to 5:00 p.m.), communicating blasting schedules to residents, maintaining appropriate separation distances, and designing blast sequences to reduce vibration and noise. New Found Gold will also follow applicable practices in the *Blasters Handbook* and the *Environmental Code of Practice for Metal Mines*, with overpressure and ground vibration analyses used to inform blast design. Project components have been sited, where practicable, to reduce noise effects on nearby residents, including locating site infrastructure east of the open pits. Enclosures, berms, or other barriers may be considered for activities with elevated noise emissions, and a noise berm is proposed to reduce sound at nearby receptors.	Section 5.1.2 Section 5.6.3

Table 7.2 Engagement Feedback

Comments/Questions Raised	New Found Gold Response / Action	Reference Section
Concern that rock fracturing could lead to subsurface leaching of contaminants into groundwater.	Multi-year baseline groundwater monitoring and quantitative modelling were completed to assess potential Project effects on surface water and groundwater. The results informed the design of water management and treatment infrastructure to reduce potential effects throughout the life of the Project. Rock fracturing as a result of blasting is not expected to change groundwater flow paths or leaching of contaminants in groundwater. Leaching from Project infrastructure will be mitigated using water management and treatment. Project-related discharges will be required to comply with applicable provincial and federal standards, and water quality will be monitored throughout the Project	Section 5.3
Concern that the phased development approach may involve “high-grading” of the deposits.	NLDEM require that proponents of mining projects demonstrate that they are making full use of the resource they are proposing to extract, and not only taking the highest-grade materials (i.e., not high-grading). New Found Gold has consulted with NLDEM in the development of the Project, as proposed in the Environmental Registration and has designed the four pit approach which fully extracts the resource in each pit.	Addressed within this table
Concern that wetland disturbance will result in permanent loss because affected wetlands cannot be fully reclaimed or replaced.	Project components were sited to avoid or reduce wetland overlap to the extent practicable. Where effects cannot be avoided, mitigation and better management practices will be used to reduce vegetation removal, wetland disturbance, and habitat alteration. A Section 48 Permit will be obtained for work within 15 m of wetlands visible on 1:50,000 National Topographic System maps, and monitoring programs will be implemented. Although up to approximately 4.3% of wetlands within the RAA may experience direct or indirect long-term effects as a result of the Project, wetland classes and types are expected to remain represented across the regional landscape.	Section 5.5.5
Concern that Council is not acting in the community’s best interest and that the Project will provide little or no benefit to the community.	The Project is expected to support long-term employment, local business opportunities, and regional economic activity in Appleton and nearby communities, while encouraging local hiring and procurement and maintaining ongoing engagement with community stakeholders. New Found Gold has committed to communicating employment opportunities to local communities, providing opportunities for apprenticeships and on-the-job training, and considering local and regional businesses in procurement activities. Project expenditures on goods and services are also expected to create opportunities for local contractors, suppliers, transportation companies, accommodation providers, and other service providers.	Section 5.6.5
Concern about the safety of the proposed mine access road location, citing existing traffic volumes and accidents in the area.	A traffic assessment completed for Project planning determined that the main roads and intersections are expected to operate within acceptable limits and that the Project is not expected to materially affect traffic on the TCH. A dedicated site access road from the TCH will provide primary access for employee transportation, supply deliveries, and highway haulage of ore, and Project roads will be designed in coordination with NLDTI. A Traffic Management Plan will support safe vehicle movement and address potential safety concerns through measures such as signage, access controls, and coordination with local stakeholders.	Section 5.6.7

Table 7.2 Engagement Feedback

Comments/Questions Raised	New Found Gold Response / Action	Reference Section
Concern that the Project will make the community less attractive to prospective homebuyers.	Property values and community attractiveness are influenced by many factors. The EPR focuses on managing Project-related conditions that may affect community well-being and residential amenity. Approximately 61% of the workforce is expected to be drawn from central Newfoundland, which is expected to limit additional demand on local services and infrastructure. New Found Gold will work with municipalities and implement measures related to lighting, traffic, air and water quality, on-site medical and security services, access communication, and grievance management. These measures are intended to reduce potential effects on community well-being and quality of life throughout the Project.	Section 5.6.5

7.2 Ongoing Engagement

In addition to the Open House Public Information Session, New Found Gold has engaged with potentially affected and interested parties, including through meetings with the Town of Appleton and concerned residents in the area.

New Found Gold is committed to ongoing engagement throughout the life of the Project. If the Project is released from the EA process, New Found Gold plans to:

- Provide a plain-language summary of the EA decision to stakeholders.
- Meet with Indigenous groups to discuss EA conditions of release, monitoring, and ongoing participation.
- Meet with local communities to explain EA conditions of release, environmental protection measures, and employment and procurement opportunities.

During construction and operation, New Found Gold plans to continue Community and Stakeholder meetings, provide community updates, and publish environmental monitoring results. The engagement approach will be reviewed and adapted, as appropriate, in response to stakeholder feedback. During rehabilitation and closure, planned activities include Indigenous and municipal planning sessions on land reuse and post-closure access, and public reporting on reclamation performance and long-term monitoring.

New Found Gold's grievance management process provides a fair, transparent, and accessible mechanism for Indigenous Peoples, communities, land users, and stakeholders to raise Project-related concerns. Grievances will be documented, investigated, tracked, and addressed in a timely manner, with unresolved matters escalated as appropriate. Grievance data will also be reviewed to identify recurring issues and opportunities to improve engagement and mitigation.

Feedback received through engagement and the grievance management process will be considered in Project planning, mitigation, monitoring, and adaptive management, as appropriate.

8 Project-related Documents

Additional information has been provided for the specific topics outlined in the EPR Guidelines as identified in Table 8.1, which summarizes the applicable EPR requirements and identifies where each is addressed.

Table 8.1 EPR Guidelines Requirements Related to Public Engagement

Guideline Requirement	EPR Section
Provide a bibliography of all Project-related documents already generated by or for the Proponent (e.g., feasibility/environmental/socio-economic studies, engineering reports, etc.).	Section 8

The appendices provided with this EPR are identified in Table 8.2. In addition, a list of Project-related documents, including baseline studies, modelling and assessment reports, technical reports and other supporting documentation prepared by or for New Found Gold, is provided in Tables 8.3 and 8.4.

Table 8.2 Project-related Documents Appended to the EPR

Appendix #	Title
Appendix A	Table of Concordance
Appendix B	Environmental Protection Plan
Appendix C.1	Vibration Studies
Appendix C.2	Blast Management Plan
Appendix D	Queensway Gold Project - Preliminary Air Quality Best Available Control Technology Report
Appendix E	Open House Information
Appendix F	Table of Commitments

Table 8.3 Baseline Studies Completed or Ongoing for the Project

Discipline	Years	Report Title
Air Quality	2023	• New Found Gold Baseline Ambient Air Quality Monitoring Technical Data Report (Stantec 2024b)
Noise	2023, 2026	• New Found Gold – Technical Data Report – Baseline Sound Pressure Level Survey (Stantec 2024c) • New Found Gold 2026 Additional Baseline Noise Monitoring (Stantec 2026d)
Light	2023	• New Found Gold - Environmental Technical Data Report - Baseline Light Monitoring Survey (Stantec 2024d)
Hydrogeology	2021, 2023-2026, ongoing in 2027	• Preliminary Baseline Hydrogeology Study New Found Gold Corp. Queensway North Project (GEMTEC 2023b) • 2023 Baseline Geotechnical and Hydrogeological Studies, Queensway North Project (GEMTEC 2024c) • Queensway Gold Project: Groundwater Baseline Report (Stantec 2026e, in preparation)

Table 8.3 Baseline Studies Completed or Ongoing for the Project

Discipline	Years	Report Title
Hydrology and Surface Water Quality	2021-2026, ongoing in 2027	• Hydrology Baseline Report New Found Gold Corporation Queensway North Gold Project (GEMTEC 2023c) • 2023 Hydrology Baseline Report New Found Gold Corp. Queensway North Gold Project (GEMTEC 2024d) • Queensway Surface Water Baseline Report (Stantec 2026f, in preparation)
Geochemistry (ML/ARD)	2023-2026, ongoing in 2027	• Static Testing of New Found Gold Waste Rock Samples; New Found Gold Corp. (RPC 2023) • Preliminary Geochemical Characterisation - Queensway (BSIL and GBL lithologies) (SRK Consulting [UK] Limited 2023a) • Preliminary Geochemical Characterisation - Queensway (Keats Prospect) (SRK Consulting [UK] Limited 2023b) • Geochemical Characterization Summary in Support of the NI 43-101 for the Queensway Project (SRK Consulting [UK] Limited 2025) • Queensway Gold Project Phase 1 Geochemical Characterization (Stantec 2026, in preparation)
Fish and Fish Habitat	2021-2026, ongoing in 2027	• Aquatic Summary Report New Found Gold Corporation Queensway North Gold Project (GEMTEC 2023d) • New Found Gold - Environmental Technical Data Report - 2023 Aquatic Baseline Study (Stantec 2024f) • New Found Gold - Environmental Technical Data Report - 2024 Aquatic Baseline Study (Stantec 2025b) • New Found Gold - Environmental Technical Data Report – 2025 Aquatic Baseline Study (Stantec 2026g) • Queensway Gold Project – 2025 Quantitative Electrofishing on the Gander River (Stantec 2026h)
Fisheries (Creel Survey)	2026	• New Found Gold 2026 Creel Survey (Stantec 2026i, in preparation)
Terrestrial (wetland investigations, vegetation inventory and rare flora studies, SAR studies, breeding bird studies, and other wildlife studies)	2021-2023, 2026	• Terrestrial Ecology Baseline Report New Found Gold Corporation Queensway North Gold Project (GEMTEC 2023a) • New Found Gold Ecological Land Classification Technical Data Report (Stantec 2024a) • Terrestrial Ecology Baseline Report New Found Gold Corporation Queensway North Gold Project (GEMTEC 2024a) • Muskrat Study (GEMTEC 2024b) • Queensway North Property – Bat Baseline Data Re-Analysis: Desktop re-analysis (manual verification) of bat data collected in 2022 (Stantec 2025a) • Queensway Gold Project: 2026 American Marten Hair Snag Survey (Stantec 2026a) • Queensway Gold Project: 2026 Insect SAR Survey (Stantec 2026b) • New Found Gold 2026 Red Pine Survey (Stantec 2026c, in preparation)
Socio-economic	2025-2026	• Housing and Accommodations Capacity Study (Stantec 2025c) • Queensway Gold Project, Land and Resource Use Survey Results (Stantec 2026k, in New Found Gold 2026; Appendix 13.A of the Environmental Registration) • Traditional Land Use Study (Qalipu First Nation 2025; Appendix 13.B of the Environmental Registration)

Table 8.3 Baseline Studies Completed or Ongoing for the Project

Discipline	Years	Report Title
Historic Resources	2023	• NFG Queensway North Gold Project: Historic Resources Impact Assessment (2023) (Stantec 2024e) • Historic Resources Overview Assessment (HROA) (Stantec 2023)

Table 8.4 Other Project-related Technical and Supporting Reports

Report Title	Citation
Modelling / Assessment Reports	
Queensway Gold Project – Preliminary Air Quality Best Available Control Technology Report	Stantec 2026l (included as Appendix D of the EPR)
Traffic Impact Study	WSP 2026a
Blast Assessment: Fish Habitat and Spawning Period	WSP 2026b (included as Appendix C.1 of the EPR)
Blast Assessment - Vibration and Airblast Estimate	WSP 2026c (included as Appendix C.1 of the EPR)
Greenhouse Gas Emissions Inventory	Stantec 2026m, in New Found Gold 2026 (included as Appendix 4.B of the Environmental Registration)
Queensway Gold Project - Greenhouse Gas Best Available Control Technology Report	Stantec 2026n, in New Found Gold 2026 (included as Appendix 4.C of the Environmental Registration)
Air Quality Emissions Inventory	Stantec 2026o, in New Found Gold 2026 (included as Appendix 7.A of the Environmental Registration)
Dispersion Modelling Strategy	Stantec 2026p, in New Found Gold 2026 (included as Appendix 7.B of the Environmental Registration)
Queensway Gold Project Environmental Assessment – Groundwater Modelling	Stantec 2026q, in New Found Gold 2026 (included as Appendix 8.A of the Environmental Registration)
Water Balance/Water Quality Model Report	Stantec 2026r, in New Found Gold 2026 (included as Appendix 9.A of the Environmental Registration)
CORMIX Modelling Approach	Stantec 2026s, in New Found Gold 2026 (included as Appendix 9.B of the Environmental Registration)
Plant Species List	Stantec 2026t, in New Found Gold 2026 (included as Appendix 11.A of the Environmental Registration)
Evaluation of Human Health Affects	Stantec 2026u, in New Found Gold 2026 (included as Appendix 12.A of the Environmental Registration)
Technical Reports	
Preliminary Economic Assessment	New Found Gold 2025a
Preliminary Economic Assessment (Update)	New Found Gold, in preparation
Initial Mineral Resource Estimate	New Found Gold 2025b
Queensway Gold Project NI 43-101 Technical Report	New Found Gold 2025c

9 Plans and Programs

Additional information has been provided for the specific topics outlined in the EPR Guidelines as identified in Table 9.1, which summarizes the applicable EPR requirements and identifies where each is addressed.

Table 9.1 EPR Guidelines Requirements Related to Public Engagement

Guideline Requirement	EPR Section
Plans and programs noted in the following sections shall be updated/provided in the EPR.	Section 9
Environmental Protection Plan An updated table of contents for the Environmental Protection Plan (EPP) for all phases of the Project shall be provided in the EPR and shall include, but may not be limited to, the following: a. a commitment to submit a comprehensive EPP prior to the commencement of each phase of the Project (construction, operation and maintenance, decommissioning and rehabilitation); b. a commitment to conduct pre-clearing survey of trees and snags with a diameter at breast height of greater than 25 cm for potential active bat colonies for tree removal from May 1 to September 1, and a commitment to apply a 250-metre no-cut buffer until September 1 should an active bat colony be detected; c. a commitment to apply an undisturbed (no cutting or ground disturbance) buffer zone of at least 300 metres of the high water mark around Gander Lake, at least 100 metres from the high water mark around major lakes and ponds and along both sides of all streams and main tributaries running into Gander Lake, and at least 30 metres around all other water bodies including wetlands and along both sides of field identified steams. Activity or development within these buffer zones is prohibited unless otherwise authorized by the Water Resources Management Division. All buffer zones must be marked with signs or flagging tape to avoid encroachment into the buffer zones. d. a commitment that no vegetation clearing will occur within: i. 800 metres of a bald eagle or osprey nest between March 15 and July 31; 200 metres during the remainder of the year, ii. ii.800 meters of a short-eared owl (ground) nest between May 15 to August 15, and iii. 200 meters of any other raptor nests between March 15 and July 31; iv. e. a commitment to report the location of any raptor nest site to the Wildlife Division (WildlifeReferrals@gov.nl.ca).	Section 9.1; Appendix B
The EPR shall include a commitment to develop an Environmental Effects Monitoring Plan (EEMP) that discusses the preventative measures, long-term monitoring objectives, performance indicators, reporting requirements, and adaptive management measures that will be undertaken for all species listed under the Newfoundland and Labrador *Endangered Species Act*, species of conservation concern, and wetlands for the life of the Project, including the decommissioning and reclamation phase.	Section 9.2
The EPR shall provide a commitment to establish and maintain, in consultation with the Water Resources Management Division, an environmental effects monitoring and reporting program for the life of the Project that includes real-time monitoring of surface water and groundwater quality and quantity and climate parameters, with ongoing adaptive management where it is determined that mitigations measures are not effective. The monitoring plan shall demonstrate how the proposed monitoring program will detect, evaluate, and support mitigation of potential Project-related effects on surface water, groundwater, aquatic habitats, and downstream receptors throughout all phases of the Project.	Section 9.3

Table 9.1 EPR Guidelines Requirements Related to Public Engagement

Guideline Requirement	EPR Section
The EPR shall include an Erosion and Sediment Control Plan that describes measures that will be undertaken to mitigate the effects of erosion and sedimentation on the receiving environment prior to the commencement of, and adapted throughout all Project phases, including pre-construction, construction, operations and maintenance, and decommissioning and rehabilitation. Mitigation measures shall consider the use of diversion ditching and settling ponds.	Section 9.4
An Outfitter Environmental Effects Mitigation and Monitoring Program shall be developed in consultation with the Department of Tourism, Culture, Arts and Recreation (TCAR) and the Newfoundland and Labrador Outfitting Association to mitigate potential Project effects on the outfitting sector. A list of licensed Outfitters in and near the Project area is available from TCAR.	Section 9.5
The EPR shall provide a Blast Management Plan that includes readily available information from the Proponent and a commitment to submit an updated plan in consultation with its blasting contractor. The Blast Management Plan shall focus on, but may not be limited to, a description of the following effects and shall clearly describe measures that will be implemented to mitigate adverse effects: • motorists using provincial, municipal and local roads and ATV trails in close proximity to the proposed blasting areas, and how blasting times and potential traffic delays will be communicated; • local residents, business and tourism operators and employees, farms, and schools and institutions in close proximity to the proposed blasting areas.	Section 9.6; Appendix C.2
The EPR shall include a commitment to develop a Wildlife Management Contingency Plan that describes procedures for wildlife monitoring and reporting wildlife observations, maintains a geospatial database of monitoring results, and includes a wildlife emergency response plan. The Plan shall be developed in consultation with the FAL-Wildlife Division.	Section 9.7, Appendix B (Section 3.3)

9.1 Environmental Protection Plan

The EPP for Early Works and Construction has been prepared and appended to this EPR (Appendix B). The EPP includes environmental protection measures for sensitive environmental features, including bat habitat, waterbody and wetland buffer zones, raptor nest protection, and wildlife reporting requirements. It also identifies required setbacks, timing restrictions, and environmental protection procedures to avoid or limit potential adverse effects throughout the Project lifecycle.

The EPP has been developed to be a practical tool for New Found Gold staff and contractors to use while on-site. It includes direction on erosion and sediment controls (see Section 9.4), handling of hazardous materials including fuels, handling of wastes, and includes contingency plans for potential incidents (e.g., fuel spill, discovery of historic resources). It is also designed to be compatible with New Found Gold's other environmental management plans, such as Blast Management (see Section 9.6) and the ERP.

9.2 Wildlife and Wetland Environmental Effects Monitoring Program

New Found Gold will develop a Wildlife and Wetland EEMP in consultation with Wildlife Division. The Wildlife and Wetland EEMP will be implemented for the life of the Project, including the decommissioning and reclamation phase. It will identify preventative measures, long-term monitoring objectives, performance indicators, reporting requirements, and adaptive management measures for species listed under the NL *Endangered Species Act*, SOCC, and wetlands. It will be developed to be complimentary to other wildlife-related plans that may be required (e.g., plans required as part of a Section 19 Economic Activity Permit under the NLESA, if such a permit is required).

The EEMP may require updating throughout the life of the Project. Updates will be made based on monitoring results, and changes in Project activities or environmental conditions, and will be made in consultation with Wildlife Division.

9.3 Groundwater and Surface Water Environmental Effects Monitoring Plan

In consultation with the Water Resources Management Division, a Groundwater and Surface Water EEMP will be established and maintained for the life of the Project, including construction, operation and maintenance, and decommissioning and reclamation. The program will include near real-time monitoring at surface water and groundwater quality and quantity at Water Resources Management Division managed monitoring stations, and other grab sample and real-time monitoring surface water and groundwater quality and quantity stations. The monitoring plan will establish monitoring locations, parameters, frequencies, performance indicators, and reporting requirements. Climate parameters monitored at local climate stations and in support of other monitoring programs will be incorporated as appropriate. The monitoring program will be designed to detect, evaluate, and document potential Project-related effects on surface water, groundwater, aquatic habitats, and downstream receptors. Monitoring results will be assessed against applicable regulatory requirements, baseline conditions, and established performance criteria to evaluate the effectiveness of mitigation measures and identify potential trends or changes in environmental conditions. Adaptive management measures will be implemented if needed, which may include increased monitoring, investigation of the source or cause of an effect, and the implementation or modification of mitigation measures. Monitoring results and adaptive management actions will be documented and reported to the appropriate regulatory authorities in accordance with applicable requirements.

9.4 Erosion and Sediment Control Plan

Erosion and sediment control measures have been incorporated in the EPP (Appendix B) and will be implemented prior to the commencement of Project activities. This includes measures to prevent and limit erosion and sedimentation and mitigate potential effects on the receiving environment throughout all Project phases, including pre-construction, construction, operation and maintenance, and decommissioning and rehabilitation. Measures include, as appropriate, diversion ditching, settling ponds, erosion protection, sediment control structures, and stabilization of disturbed areas. Measures will be reviewed and adapted as necessary throughout the life of the Project based on site conditions, monitoring results, the effectiveness of implemented mitigation measures, and discussions with regulators.

9.5 Outfitter Environmental Effects Monitoring Program

An Outfitter Environmental Effects Monitoring Program has been developed and provided to NLDTCAR. The Program identifies measures to mitigate and monitor potential Project-related effects on licensed outfitters and the outfitting sector in and near the Project Area. New Found Gold will continue engagement efforts with the licensed outfitters provided by NLDTCAR to support monitoring activities, as appropriate.

9.6 Blast Management Plan

A Blast Management Plan has been developed and included in Appendix C.2. The Plan outlines mitigation and communication measures to address potential effects on nearby road and trail users, including traffic notifications and delays, as well as nearby residents, businesses, tourism operators, farms, schools, and other institutions.

9.7 Wildlife Monitoring, Management and Contingency Plan

In consultation with the NLDFAL-Wildlife Division, New Found Gold will develop and implement a Wildlife Monitoring, Management and Contingency Plan and will be developed alongside the Wildlife and Wetland Environmental Effects Monitoring Plan (see Section 9.2). The Plan will establish procedures for wildlife monitoring and reporting of wildlife observations, including the maintenance of a geospatial database to document and track monitoring results. It will also include a wildlife emergency response procedure to address wildlife-related incidents and unexpected interactions with Project activities. The Plan will be reviewed and updated as necessary throughout the life of the Project based on monitoring results, regulatory requirements, and changes in Project activities or environmental conditions.

10 Table of Commitments

As required by the EPR Guidelines, a table with the commitments made in both the Environmental Registration and EPR, including environmental effects mitigation, monitoring, and follow-up, is provided in Appendix F.

11 Approvals, Authorizations and Permits

As required by the EPR Guidelines, the list of potential approvals, authorizations, and permits provided in Table 3.3 of the Environmental Registration is up-to-date and remains valid; it is provided as Table 11.1. No updates to the list of anticipated approvals, authorizations, permits, or associated regulatory requirements are required at this time.

Table 11.1 Potential Approvals, Authorizations, And Permits – for Mine Development at The Queensway Property

Permit / Approval	Agency
Provincial	
Release from EA Process	NLDECCC, EA Division
Approval of EPP	
Approval of BACT Plan (will only be required if projected GHG emissions from the Project surpass provincial emissions threshold)	NLDECCC, Climate Change Branch
Certificate of Approval for construction and operation (Industrial Processing Works)	NLDECCC, Pollution Prevention Division
Monitoring Plan for Certificate of Approval	
Certificate of Approval for Generators	
Approval of EPP / Emergency Spill Response	
Permit to Construct a Non-Domestic Well	NLDECCC, Water Resources Management Division
Approval to Alter a Body of Water: • Culvert installation • Fording / Bridge • Pipe Crossing / Water Intake • Stream modification or diversion • Other works within 15 m of a body of water	
Water Use Licence (for non-domestic uses with an existing, new, or planned water use from any water source)	
Permit to Construct a Potable Water System	
Permit to Develop in a PPWSA / Wellhead PPWSA	
Permit to Occupy Crown Land	NLDFAL
Permit to Control Nuisance Animals	NLDFAL, Wildlife Division
NL *Endangered Species Act* Section 19 Economic Activity Permit	
Operating Permit to Carry out an Industrial Operation During Forest Fire Season on Crown Land	NLDFAL, Forestry Division
Permit to Cut Crown Timber	
Development Plan	NLDEM
RCP	
Financial Assurance	
Quarry Development Permit	NLDEM - Mineral Lands Division

Table 11.1 Potential Approvals, Authorizations, And Permits – for Mine Development at The Queensway Property

Permit / Approval	Agency
Blasters Safety Certificate	Government Services
Approval for Storage and Handling of Gasoline and Associated Products	
Fuel Tank Registration	
Approval for Used Oil Storage Tank System (Oil Water Separator)	
Certificate of Approval for a Waste Management System	
Certificate of Approval for a Sewage / Septic System	
Application to Develop Land for Septic	
Protected Roads, Permit for Development	
National Building Code – Fire, Life Safety, and Building Safety	
Buildings Accessibility Registration and Permit	
Food Establishment Licence	
Temporary Vehicular Access Permit, T'Railway	NLDTCAR, Parks NL
Federal	
Fisheries and Oceans Canada Request for Review and Letter of Advice, and/or *Fisheries Act* Authorization for Works which result in the death of fish and/or harmful alteration, disruption and destruction of fish habitat	DFO
Schedule 2 of MDMER under Section 36(3) of the *Fisheries Act* [1]	ECCC
Initiate MDMER process, including notification, identification of final discharge point(s), effluent monitoring, and environmental effects monitoring	
Approval of MDMER ERP	
Licence for Explosives Magazine	Natural Resources Canada
Transportation of Dangerous Goods	Transport Canada
Approval to Interfere with Navigation	
Municipal	
Development Permits	Town of Appleton

Note:

[1] The Project has been designed to avoid placement of mine waste in waterbodies frequented by fish; therefore, an amendment to Schedule 2 of MDMER is not expected to be required.

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12.2 Personal Communications

12.2.1 Chapter 4

Warren, T., Senior Biologist – Freshwater Review, Fish and Fish Habitat Protection Program, St. John's, NL, email, October 14, 2026

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