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February 21, 2013
CEA Agency File No. 005367

Vanessa Rodrigues, Project Manager
Canadian Environmental Assessment Agency
1801 Hollis Street, Suite 200
Halifax, NS B3J 3N4

Dear Ms. Rodrigues:

RE: JOYCE LAKE DIRECT SHIPPING IRON ORE PROJECT - SUPPLEMENTAL INFORMATION PACKAGE

Labec Century is pleased to provide this Supplemental Information Package to update the Project Description and Provincial Registration document from the version dated November 5, 2012

This Supplemental Information Package to the Joyce Lake Direct Shipping Iron Ore Project Description and Provincial Registration has been prepared at the request of the Environmental Assessment Division of the Newfoundland and Labrador Department of Environment and Conservation (NLDOEC), and the Canadian Environmental Assessment Agency (CEA Agency), to address Project modifications.

Some elements of the Project have been updated based on ongoing engineering design and optimization, baseline environmental studies (2012), digital elevation model and aerial photographs (2012), and a new mining resource model based on the 2012 exploration drilling results. No additional potential environmental effects are anticipated and potential Valued Environmental Components remain consistent with what was presented in Table 5-6 of the Project Description and Provincial Registration (November 5, 2012).

This Supplemental Information Package addresses the following updates:

- a single pit versus three pits; and the requirement to de-water Joyce Lake;
- the location of water management infrastructure, processing infrastructure, and stockpiles (waste rock, overburden, low grade ore, run-of-mine);
- the location of haulage and access roads;
- the location of ice bridges and optional conveyor;
- the location of the railway loop and infrastructure; and
- year-round mining operation for Phase I.

This Supplemental Information Package, comprised of this letter plus an Attachment, provides the updated Project footprint, including optional locations for some infrastructure elements (*e.g.,* settling ponds, tailings management facility, conveyor) so that the effects of each alternative are captured within the scope of the Project and assessed. As the environmental assessment proceeds,

environmental, technical and economic criteria will be applied and described to determine the preferred location for each Project feature. Labec Century considers the environmental assessment process as an important component of the Project design process, and modifications to the Project may be required to accommodate planned mitigations.

Labec Century understands that permits/authorizations may be required from Water Resources Division, Transport Canada) and DFO to de-water Joyce Lake, and will be consulting with these agencies regarding this aspect of the Project and permitting requirements.

Table 1 provides a summary of Project infrastructure for which there has been a change in either footprint or tonnage.

Table 1 Summary of Project Infrastructure Footprint or Tonnage

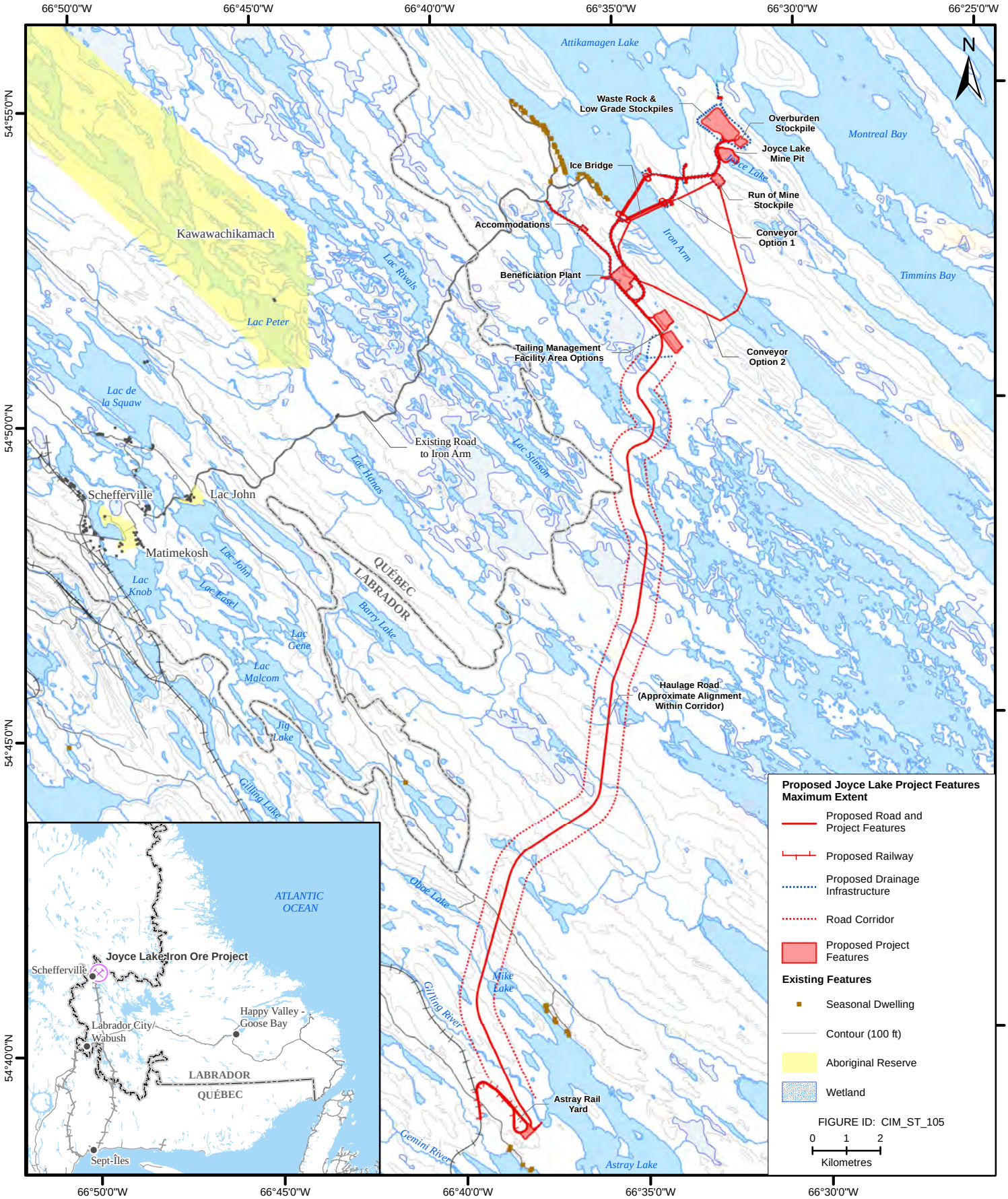
Project Element	Registration Site Plan (November 5, 2012)	Current Site Plan (February 21, 2013)
Haulage Road (Beneficiation Plant to Rail Yard)	~26.6 km	~27.6 km
Open Pit Area (m^2)	~164,716 m^2	~181,425m^2
Phase I DSO Tonnage	5,000,000	6,000,000
Waste Rock Tonnage	5,050,000 tonnes	56,000,000 tonnes
Overburden Tonnage	2,900,000 tonnes	3,500,000 tonnes
Tailings Management Facility (m^2)	500,000 m^2	250,000 m^2

Table 2 below provides an update to the production schedule, as provided in Table 1-1 of the Project Description and Provincial Registration (November 5, 2012).

Table 2 Estimated Production (by year) of Iron Ore in Phase I and Phase II for the Joyce lake Project

Product	Unit	Estimated Production by Year							
		2014	2015	2016	2017	2018	2019	2020	2021
Phase I Ore (DSO; 62% Fe)	tonne		1,000,000	2,500,000	2,500,000				
Phase II Ore (55% Fe)	tonne					3,000,000	4,000,000	TBD	TBD
Waste Rock	tonne	200,000	10,800,000	11,900,000	1,100,000	12,800,000	19,200,000		
Overburden	tonne	500,000	1,000,000		1,000,000	1,000,000			
Notes: TBD - To be determined.									

Figure 1-1 provides an overview of the updated Project infrastructure layout.



CENTURY IRON MINES CORP.	FIGURE TITLE: **Proposed Joyce Lake Iron Ore Mine Infrastructure Layout**			Stassinu Stantec Limited Partnership
	CLIENT: **LABEC CENTURY IRON ORE INC.**			
CHECKED BY: **C. Shupe**	FIGURE ID: **FIGURE 1.1**	PROJECT NUMBER: **121810649**	FIGURE SOURCES: Project features provided by CIMA+ version 9 recieved 2013/02/11. Basemap information from NRCan CanVec database and Newfoundland and Labrador Department of Natural Resources.	

Labec Century continues to work towards characterizing land use among Aboriginal peoples in the area. To this end, studies on both historic resources and land and resource use by Aboriginal peoples for traditional purposes are proceeding using a combination of review of existing information, field work, and direct engagement. The results of these studies will form the basis of the assessment of the Project as it relates to Aboriginal peoples.

The Attachment provides an update to Sections 2.8.1 to 2.8.3 of the Joyce Lake Direct Shipping Iron Ore Project Description and Provincial Registration (November 5, 2013), and these also apply to Sections 2.3 to 2.5 of the associated Project Description Summary Document (November 5, 2012) for the federal environmental assessment process.

Should you have any questions regarding this information, please do not hesitate to contact the undersigned.

Regards,

<Original signed by>

Hubert Vallée ing.
Vice Président Sénior
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Attachment: Attachment to Supplemental Project Information: Joyce Lake Direct Shipping Iron Ore Project

c' Mary Murdoch, Stassinu Stantec
Colleen Leeder, Stassinu Stantec
Bas Cleary, NLDOEC

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Note that this replaces Sections 2.8.1 to 2.8.3 of the Joyce Lake Direct Shipping Iron Ore Project Description and Provincial Registration (November 5, 2012)

2.8 PROJECT STEPS AND ACTIVITIES

2.8.1 Construction

To prepare for the surface site works, Labec Century will develop protocols to facilitate the execution of the proposed works in an environmentally responsible and safe manner.

General construction activities for the Project components will include:

- site preparation (*i.e.,* clearing of vegetation and excavation);
- construction of infrastructure;
- installation of utilities; and
- commissioning.

The areas requiring site surface preparation include waste rock disposal areas, mine infrastructure area, Beneficiation Plant site, rail loop, rail loading yard, all new roads, Run-of-Mine (ROM) ore stockpile, the Tailings Management Facility (TMF), and all ancillary infrastructure such as buildings, drainage infrastructure, fuel storage, sewage and water treatment units. Site grading is required to support the installation of the required site facilities, and this will include the installation of all necessary sedimentation and erosion control measures, including drainage infrastructure. Ongoing monitoring of these control measures will be conducted throughout the Construction stage.

Construction activities at each of the Project areas are described in the sections below.

2.8.1.1 Joyce Lake Mine Area

The layout for the mine area infrastructure is shown in Figure 2-1 and the main elements are described below.

2.8.2 Site Buildings

A number of site buildings will be constructed in the mine area, including:

- mobile trailer with an office, lunch room, and worker refuge for use in inclement weather and as a muster point;
- storage container for small equipment and supplies;
- power generator and fuel storage;
- fuel distribution area (pad and pump) for the mine equipment, machinery, and trucks;
- workshop in a fabric structure shed (approximate dimensions 20 m x 40 m); and

- explosives storage facility, located away from other buildings and near the mine; this building will be installed and managed by a licenced explosive vendor / contractor.

The buildings will be installed on gravel pads beside the mine access road, except for the explosives storage, which will be installed on level bare ground with enclosure walls and a roof.

2.8.2.1 Conveyance Across Iron Arm

The layout for conveyance infrastructure is shown in Figure 2-1.

Barge

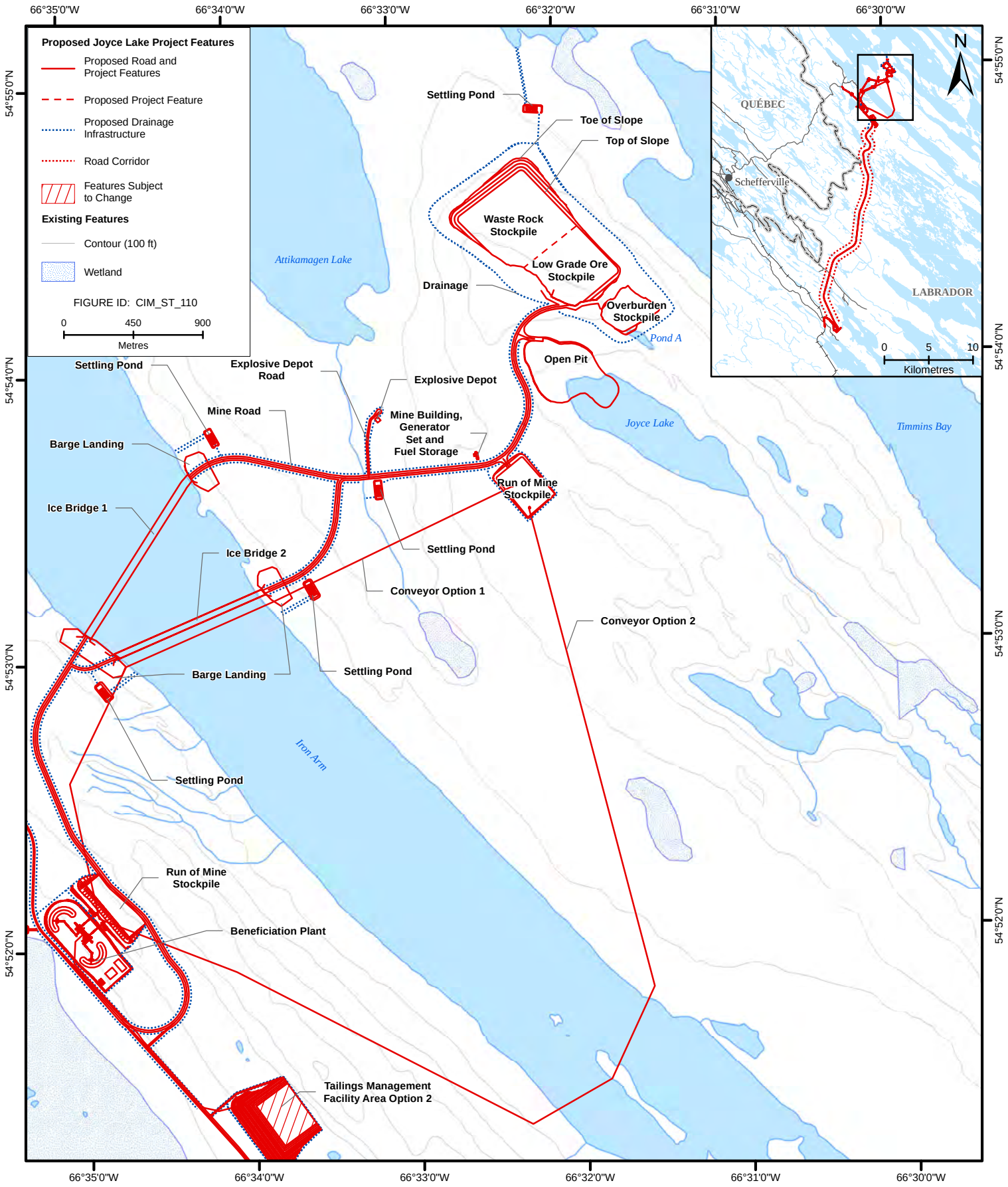
A modular barge assembly will be used to move construction equipment, supplies, and workers to and from the work camp and mine site across Iron Arm. This barge will have a designated landing site at both sides near the southern ice bridge and these will be maintained through the Operation and Maintenance, and Decommissioning stages of the Project. The roads used to access the barge will be the same roads used to access the ice bridge. The barge will be used during the open water season when the ice bridge is not in operation and will allow the on- and off-loading of equipment and supplies using a ramp extending from the barge to the shore above the water line.

Ice Bridge Roads

The ore will be hauled to the Beneficiation Plant using two ice bridges across Iron Arm; the southern bridge will have a length of approximately 1 km and the northern bridge will have a length of approximately 1.2 km. Each of the bridges will be located within a corridor approximately 50 m wide (rolling surface 15 m wide and 40 m at the base). The ice bridges have been located at crossing points that have acceptable depth based on a bathymetric study conducted in 2012. The ice bridges will each be one direction only for safety purposes. The ore will be hauled by a mixed fleet of 64 t off-road trucks and 40 t articulated trucks. The ice bridge roads will be designed, constructed and managed to recognized engineering standards as used in other provincial/territorial jurisdictions and in agreement with the Newfoundland and Labrador Department of Transportation and Works.

Conveyor Options

A conveyor may be used as an alternative to the use of ice bridges to convey iron ore across Iron Arm and then overland directly to the Beneficiation Plant. A conveyor would allow for the year-round transport of iron ore from the mining operation to the Beneficiation Plant, thus extending the transportation period to include summer months and shoulder seasons when the ice bridges are not in operation. Two conveyor options are presented in Figure 2-1 for consideration: Option 1 would span Iron Arm using the islands as support in the channel; Option 2 would be constructed to “float” on the surface of the water/ice of Iron Arm alongside the southern ice bridge. The conveyor option will reduce the haulage distance of mining trucks. This option requires that the iron ore is crushed on the peninsula near the ROM stockpile prior to loading onto the conveyor.



CENTURY IRON MINES CORP.	FIGURE TITLE: **Mine Site and Associated Infrastructure**			Stassinu Stantec Limited Partnership
	CLIENT: **LABEC CENTURY IRON ORE INC.**			
CHECKED BY: **C. Shupe**	FIGURE ID: **FIGURE 2.1**	PROJECT NUMBER: **121810649**	FIGURE SOURCES: Project features provided by CIMA+ version 9 recieved 2013/02/11. Basemap information from NRCan CanVec database and Newfoundland and Labrador Department of Natural Resources.	

The conveyor options will require the following elements:

- crusher plant and loading area alongside the ROM stockpile (see Section 2.8.3.4)on the peninsula;
- generator with 3-day fuel storage; and
- conveyor overland and including over Iron Arm

A conveyor option is being considered for commissioning after the mine is in operation for Phase I, and it would operate in addition to the ice bridge roads. The ice bridge roads would be used during the Construction stage of the Project and would remain in operation throughout the life of the Project for conveyance of iron ore during the initial Phase I of the Project and thereafter for moving traffic, workers, equipment, and supplies across Iron Arm to and from the mine area.

2.8.2.2 Roadways

A number of access roads and haulage roads will be constructed for the Project. Roadway construction will be undertaken as listed below:

- haulage road from the mine area to the ice northern bridge and barge landings – 30 m wide and approximately 3.3 km long;
- haulage road from southern ice bridge to mine haulage road – 30 m wide and approximately 1 km long;
- access road from mine haul road to the explosives storage – 10 m wide and approximately 400 m long;
- two ice bridge roads across Iron Arm (Section 2.8.2.1) – each 15 m wide (40 m at the base) and the length of the bridges are approximately 1.2 and 1.0 km long;
- haulage road from northern ice bridge to the Beneficiation Plant – 30 m wide and approximately 4 km long;
- haulage road from southern ice bridge to the beneficiation haulage road – 30 m wide and approximately 300 m long;
- access road from Beneficiation Plant to existing road – 30 m wide and approximately 3.2 km long; and
- haulage road from Beneficiation Plant to train loading – 30 m wide and approximately 28 km long; a roadway corridor has been established for planning purposes and the final alignment will be in agreement with surface rights and other title holders; sediment control measures (*e.g.,* sediment traps) will be implemented to control sediment from entering adjacent watercourses.

On land road construction will involve surveying, clearing, grubbing (as necessary), and applying a suitable gravel-based surface. The gravel material for road bed and pad construction will be sourced from borrows pits that will be developed within the Project area. A study is underway to identify suitable borrow pit areas. Borrow pit locations will be identified when road routes are surveyed and when the final haulage road option is chosen. Road alignments will be planned to minimize to the extent practicable the number of watercourse crossings, habitat disturbance of sensitive habitat such as wetlands, and direct and indirect effects on species of conservation concern. Management of surface runoff and drainage will include construction of roadside ditches, where needed, and construction of structures (*e.g.,* culverts) at watercourses and wetlands to allow drainage to freely pass underneath the roadway.

For the existing road linking Iron Arm to Schefferville, no changes to the road alignment or infrastructure are anticipated to be required as a result of the Project, other than maintenance activities such as surface management (*e.g.,* grading, top-dressing with gravel) and drainage management (*e.g.,* culvert management).

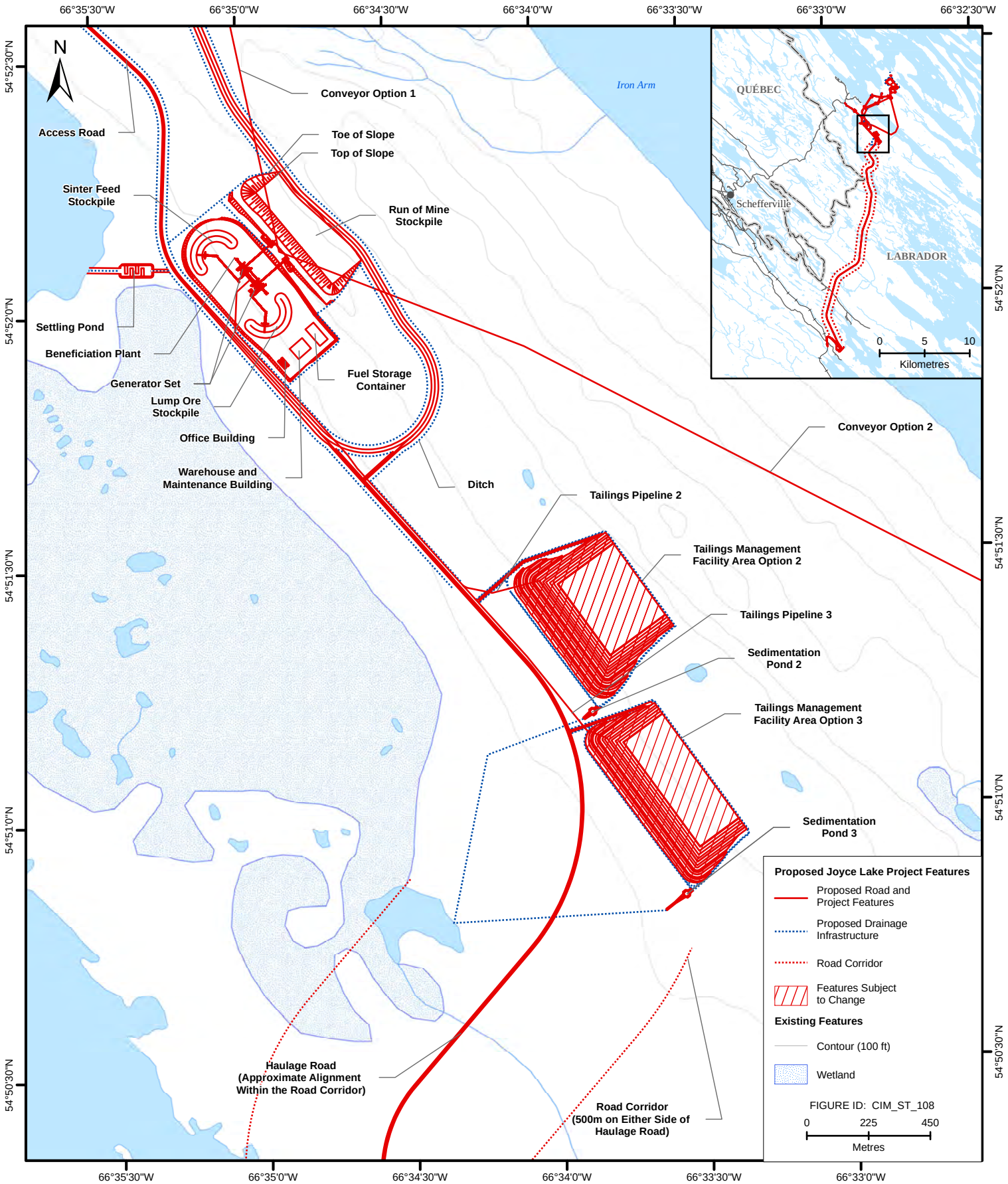
2.8.2.3 Beneficiation Plant

Beneficiation in Phase I of the Project will consist of a dry circuit with two crushing and two screening steps necessitating no water addition, allowing operation in cold weather. The Phase I process is shown in Figure 2-2. In Phase I, the Beneficiation Plant will be operated on a year round period. Only high grade ore will be processed during Phase I generating two different products: Lump Ore and Sinter Feed. During Phase I, the plant will not produce any tailings. The dry circuit equipment will be mobile to shorten transport from the mine.

For Phase II, a wet circuit will be added which will require the use of freshwater (see Section 2.8.2.7) and may include an iron content upgrading process. For Phase II, the Beneficiation Plant will be operated approximately 250 days per year during the warmer months. Processing details for Phase II have not yet been determined and are being studied in parallel with ongoing information coming in from exploration activities.

The following elements will be constructed in the Beneficiation Plant area:

- Beneficiation Plant yard – approximately 145,000 m^2;
- ROM ore stockpile pad to accommodate 1.5 Mt (approximately 50,000 m^2) to 3 Mt (approximately 85,000 m^2);
- overburden stockpile pad to accommodate approximately 3,500 m^2;
- trailer office and lunch room and worker refuge – approximately 5,000 m^2;
- storage container for small equipment and supplies;
- plant workshop – approximately 10,000 m^2;



CENTURY IRON MINES CORP.	FIGURE TITLE: **Beneficiation Plant Area**			Stassinu Stantec Limited Partnership
	CLIENT: **LABEC CENTURY IRON ORE INC.**			
CHECKED BY: **C. Shupe**	FIGURE ID: **FIGURE 2.2**	PROJECT NUMBER: **121810649**	FIGURE SOURCES: Project features provided by CIMA+ version 9 recieved 2013/02/11. Basemap information from NRCan CanVec database and Newfoundland and Labrador Department of Natural Resources.	

- water supply (see Section 2.8.2.7);
- warehouse for equipment and larger supplies – approximately 5,000 m^2;
- generator;
- TMF – approximately 250,000 m^2, including tailings ditch leading to the tailings storage area;
- fuel storage pad and system;
- fuel distribution pad and pump; and
- settling pond for pad/site runoff.

Figure 2-2 shows the layout of the Beneficiation Plant area. Gravel pads will be constructed for buildings including the modular plant. All structures will be temporary in nature, constructed from materials brought in by rail and truck, and assembled on-site. The settling pond will be engineered to accommodate the drainage and treat the water to meet regulated limits prior to release.

Power generation is discussed in Section 2.8.2.8. The power generator for the Beneficiation Plant will be installed next to the processing equipment to minimize installation and power loss.

2.8.2.4 Tailings Management Facility

Only high iron grade ore will be processed in Phase I and all material will be split between the two products. Therefore, no tailings management is anticipated to be necessary for Phase I.

In Phase II, reject material from the beneficiation process will be directed to the Tailings Management Facility (TMF) via a pipeline. Two options are currently being considered for a TMF, as shown in Figure 2-2. TMF Options 2 and 3 both lie along the ridge east of the Beneficiation Plant. TMF Option 1 is not currently being considered because it is unsuitable from an engineering and environmental standpoint.

- The preliminary design area for the TMF is approximately 250,000 m^2. This is approximately half of the volume anticipated in the Project Description and Provincial Registration (November 5, 2012). This reduction in size is due to Phase I now being a dry process with no tailings, resulting in a reduced volume requirement for the TMF.

Diversion ditching for surface runoff will be constructed around the TMF facilities, and this ditching will be maintained during the operation and maintenance stage of the mine. The TMF will be engineered to accommodate the reject material and treat overlying or process water to meet regulated limits prior to release. The nature of the tailings and tailings supernatant is currently under study and will be described in the EIS. The current plan is for subaerial tailings management, subject to the favourable outcome of geochemistry testing. Based on similar mining operations in the Schefferville vicinity, it is anticipated that the tailings supernatant will be inert, with metal and chemical levels that require minimal or no treatment to meet regulated limits. The likely water quality issue will be suspended solids or “red water” which is common to iron ore mines in western Labrador. The TMF will be designed to settle out

particulates and suspended solids to meet regulated limits at the discharge point. Water will be recycled back to the Beneficiation Plant process water tank.

2.8.2.5 Accommodation Camp

The accommodation camp will be operational year-round and will accommodate approximately one hundred and twenty-five workers (Figure 2-3). The mine workers will use it year-round, while the Beneficiation Plant and rail yard workers will use it during the months when the beneficiation plan is in operation. The accommodation camp will be built in a remote location along the access road to the Beneficiation Plant in order to minimize noise disturbance that may be associated with the beneficiation processes.

The following elements will be included in the accommodation camp area:

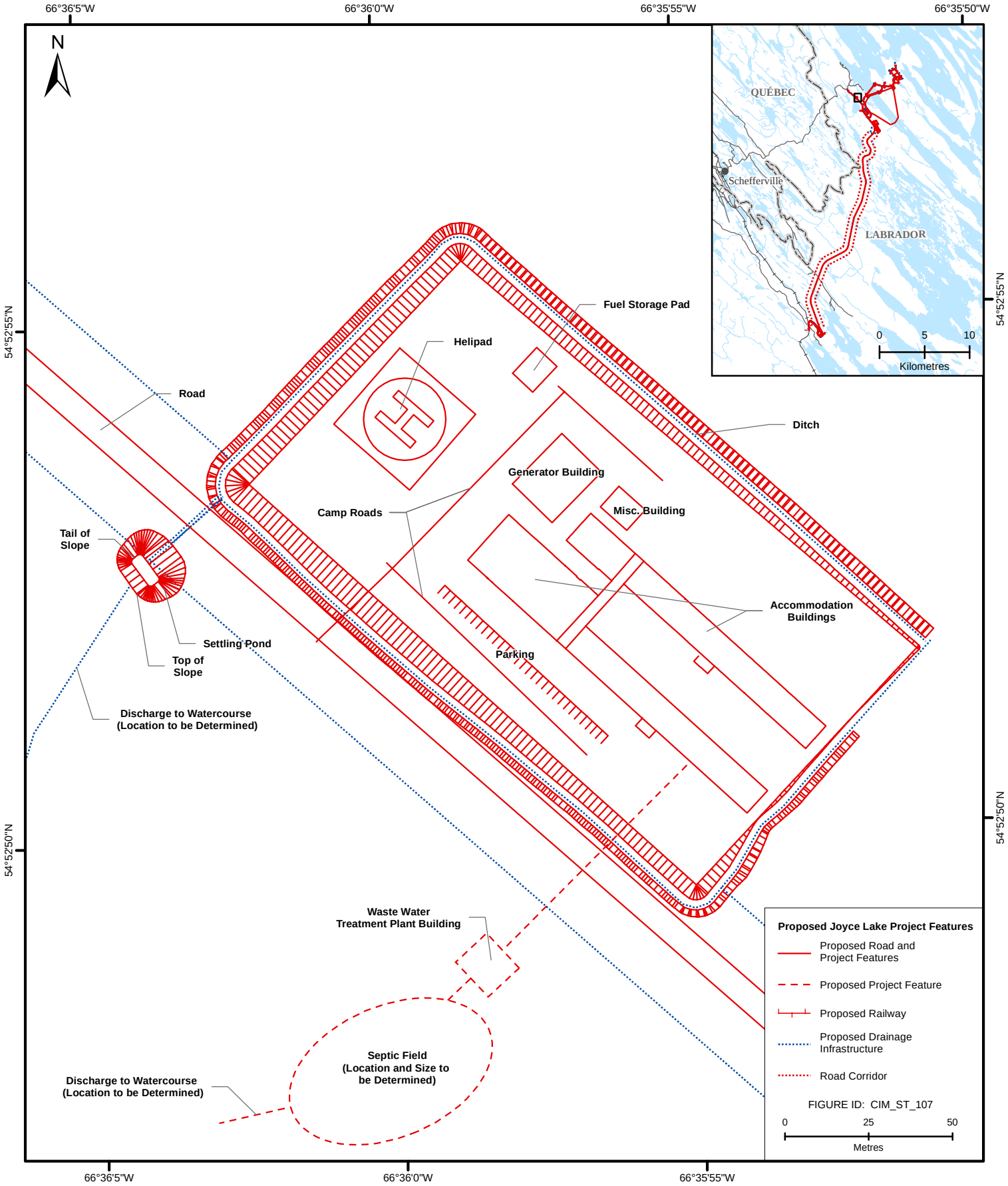
- dormitory building(s);
- kitchen building;
- generator with small fuel storage supply;
- domestic waste water treatment plant;
- drainage ditch around the pad; and
- settling pond.

A gravel pad will be constructed for the accommodations camp. Construction supplies and equipment will be shipped via rail and truck and assembled on site. Modular buildings will be used where possible to simplify the construction process.

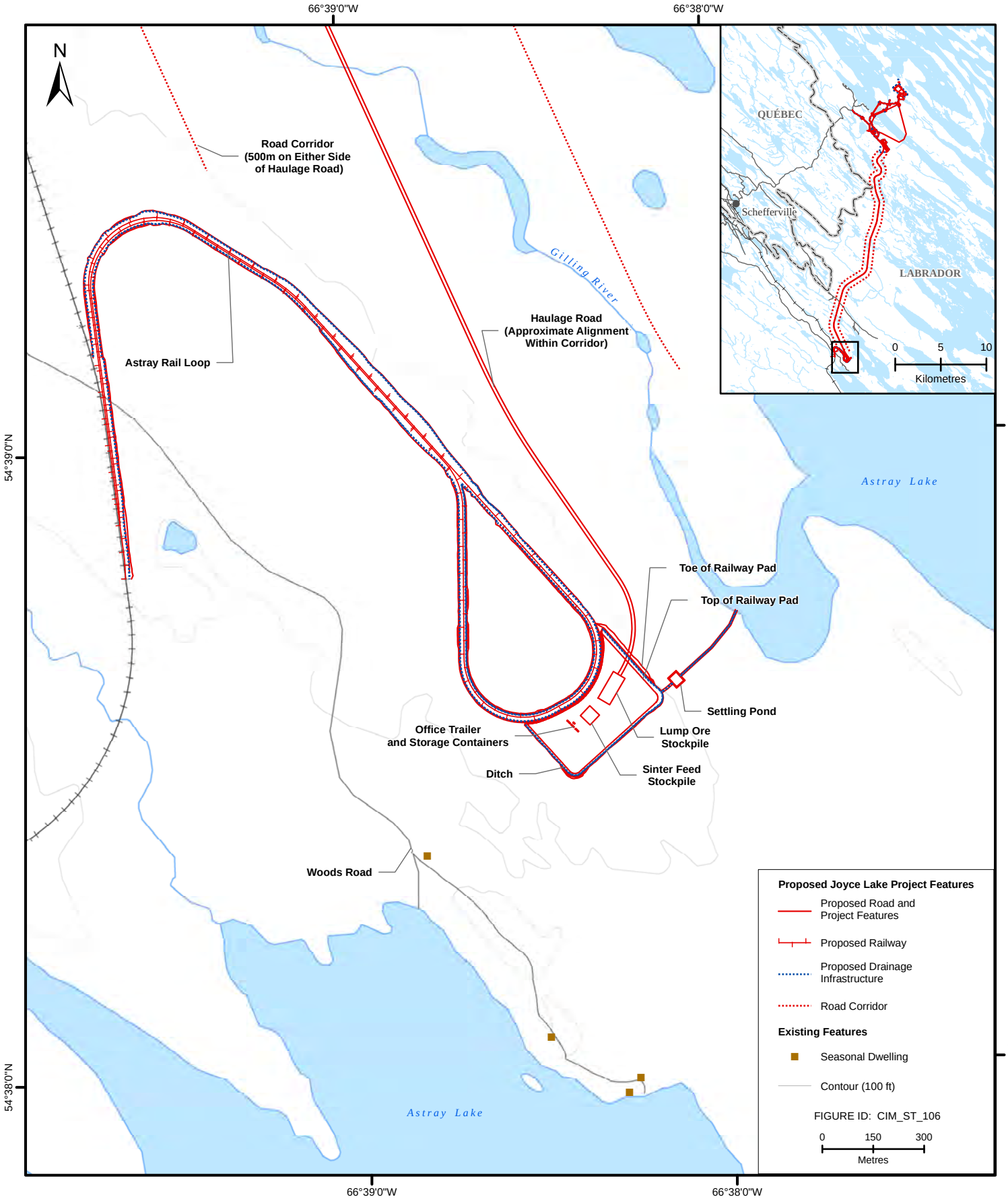
2.8.2.6 Rail Track, Yard, and Loop

The iron ore produced will be trucked from the Beneficiation Plant to a new rail yard approximately 28 km south of the plant, and north of Astray Lake, as shown in Figure 2-4. Product will be loaded onto train cars. A new approximately 6 km track loop will connect to the existing rail owned by Tshiuetin Rail Transportation Inc. and the loop will be constructed so as to align with the existing railway as much as possible, and thereby minimize its associated footprint. For Phase I (dry process), the train could be loaded on a year round period. For Phase II (wet process), the train will be loaded during the warmer months when the Beneficiation Plant is in operation. The ore stockpile areas in the loading yard will be sized to contain at least one month of production.

Each rail car will be loaded by wheel loaders and the new track loop will accommodate the loading of up to 240 rail cars. The rail yard site will include a field office (including lunch room and worker refuge), two storage containers for small equipment and supplies, a generator, and small fuel storage (providing fuel for up to three days).



CENTURY IRON MINES CORP.	FIGURE TITLE: **Accommodation Camp**			Stassinu Stantec Limited Partnership
	CLIENT: **LABEC CENTURY IRON ORE INC.**			
CHECKED BY: **C. Shupe**	FIGURE ID: **FIGURE 2.3**	PROJECT NUMBER: **121810649**	FIGURE SOURCES: Project features provided by CIMA+ version 9 recieved 2013/02/11. Basemap information from NRCan CanVec database and Newfoundland and Labrador Department of Natural Resources.	



CENTURY IRON MINES CORP.	FIGURE TITLE: **Rail Associated Infrastructure**			Stassinu Stantec Limited Partnership
	CLIENT: **LABEC CENTURY IRON ORE INC.**			
CHECKED BY: **C. Shupe**	FIGURE ID: **FIGURE 2.4**	PROJECT NUMBER: **121810649**	FIGURE SOURCES: Project features provided by CIMA+ version 9 recieved 2013/02/11. Basemap information from NRCan CanVec database and Newfoundland and Labrador Department of Natural Resources.	

The drainage water coming from the gravel pad for the rail yard will be collected by a perimeter ditch and directed to a settling pond. The settling pond will be engineered to accommodate the drainage and to meet regulated limits prior to release of water.

The following elements will be constructed for the rail yard:

- rail track with loop approximately 6 km long;
- pad for Stockpile No. 1: approximately 3,600 m^2;
- pad for Stockpile No. 2: approximately 1,600 m^2;
- trailer office, lunch room, and worker refuge – approximately 250 m^2;
- two storage containers – approximately 250 m^2 each;
- generator and small fuel storage supply;
- drainage ditch around the pad – approximately 8 km long; and
- settling pond.

2.8.2.7 Water Supply

There will be three types of water supply requirements for the Project.

- **Toilet Water Supply:** This water will be extracted from groundwater wells that are constructed locally and installed where required, such as near the mine, at the Beneficiation Plant, the accommodation camp, and the rail yard.
- **Potable Water Supply:** Water treatment units will be installed at the accommodation camp to treat groundwater from wells or surface water for the potable water supply, potable water and hot water tanks will be appropriately sized for peak requirements. Potable water treatment units will be also be installed at the mine site, beneficiation yard, and rail yard for workers to access during the work day.
- **Process and Fire Suppression Water Supply (Surface):** Mine and process plant freshwater make-up supply for Phase II will be extracted from Attikamagen Lake and stored in water reservoirs prior to use. Water will be reclaimed and recycled where possible from the TMF. Water will be kept pressurized at the pumping station for the Phase II Beneficiation Plant for fire suppression.

2.8.2.8 Power and Fuel Supply

All power required for the Project will be supplied by local generators which will run on diesel fuel. The central fuel storage for the Project will be in the beneficiation area. The mine site will also have fuel storage to supply the mine generator and the mining equipment. During the ice-free season the fuel

will be transported across Iron Arm to the mine site using the barge. The other Project sites (*i.e.,* accommodation camp, rail yard) will each have power generator(s) and a fuel supply for up to 3 days of generation. All ASTs will be equipped with secondary containment and installed as per the Gasoline and Associated Products (GAP) Regulations (2003).

Fuel will be transported to the site by rail from Sept-Îles. Fuel will be unloaded from rail cars into fuel trucks. Fuel for the Project will be transported from the central depot to the other Project locations via a dedicated fuel truck.

2.8.2.9 Operation and Maintenance

Operation and maintenance activities for the Project will be conducted in two phases. Phase I will consist of mining the high grade iron ore (DSO) that needs a minimum of beneficiation to produce iron ore for market. In Phase II, the lower grade ore will be stockpiled in order to be beneficiated to increase the iron ore content to the desired commercial grade.

For Phase I, mining activities will occur throughout the year. From April to November standard mining activities will occur and ore will be stockpiled. During the winter season, the mining activities will include moving the stockpiled ore by truck from the mine site to the Beneficiation Plant using the ice bridge to cross Iron Arm. In addition the ore product will be hauled over the new road to the new rail yard. The Beneficiation Plant will operate during the warmer months and the ore products will be hauled by truck over the new road to the new rail yard. Conveyance of equipment, supplies, and other materials across Iron Arm will be as described in Section 2.8.2.1.

For Phase II, a lower grade iron ore will be mined and this will require additional beneficiation processes to increase the grade for market. The options for additional beneficiation processes are currently being studied. Conveyance across Iron Arm of iron ore, equipment, supplies, and other materials will be as described in Section 2.8.2.1.

2.8.2.10 Open Pit

The mining operation will be performed using one pit. The single open pit will be mined primarily with drilling; blasting will be used as required. Loading of iron ore into haulage trucks will be accomplished using a shovel and wheel loader. The design for pit slopes is currently being determined.

Operation and maintenance requirements for the open pit mining are summarized as follows:

- **Control of precipitation and groundwater will be conducted using in-pit sumps.** Collected water will be pumped out of the pit to an engineered settling pond for treatment of suspended solids and residual chemistry to meet regulated limits prior to release to Attikamagen Lake.

- **Haulage road maintenance.** Winter snow clearing and traction control (gravel) will be required as well as summer dust suppression (water). Occasional grading and leveling of these roads will be required.

- **Access road maintenance.** Winter snow clearing and traction control (sand) will be required as well as summer dust suppression (water). Occasional grading and leveling of the access roads will be required.

- **Diversion ditching.** Surface runoff diversion ditching will require regular inspection and occasional maintenance. During maintenance, cleanout and grading, drainage water will be pumped to a settling pond prior to release.

- **Dust Suppression.** In addition to dust associated with access roads, dust will be suppressed at the open pit and other exposed areas as required.

2.8.2.11 Dewatering of Joyce Lake

Additional exploration drilling and resource modeling has determined that the target ore lies next to and extends underneath Joyce Lake. Extraction of this resource will be by open pit and construction of this pit will require dewatering of Joyce Lake. Hydrogeology studies will be undertaken in 2013 to determine the connectivity of groundwater in the target rock to surface water in Joyce Lake and to the water table for the surrounding watershed. Hydrogeological information will be used along with the pit construction design to develop a de-watering plan for Joyce Lake. Dewatering is anticipated to begin within one year of the start of pit construction and will likely continue throughout the life of the Project.

2.8.2.12 Overburden and Waste Rock Stockpiles

The total tonnage of overburden and waste rock estimated to be generated during operation of the mine is approximately 59.5 Mt (Table 2 of the attached letter dated February 20, 2013). Waste rock volumes are higher than were estimated in the Project Description and Provincial Registration (November 5, 2012) because the ore extends deeper, requiring a deeper and larger pit, based on additional exploration and resource modeling. An ascending construction sequence will be used to allow for rock placement and progressive rehabilitation to be completed in sections, with clearing and grubbing carried out only on the next section when waste is being placed.

Drainage around the pads will be collected in a perimeter ditch and directed to a settling pond. The settling pond will be engineered to accommodate the drainage and treat the water to meet regulated limits prior to release.

2.8.2.13 Run-of-Mine Ore Stockpile – Mine Site Area

The Run-of-Mine (ROM) stockpile would be a “live” stockpile with a maximum tonnage of approximately 750,000 t, an approximate volume of 300,000 m^3, and an approximate area of 90,000 m^2. Ore will be transported to the ROM stockpile via truck and transported by truck or conveyor (see Section 2.8.2.1) to the Beneficiation Plant for processing into product.

2.8.2.14 Process Description and Beneficiation Plant Design

The Phase I Beneficiation Plant is designed to process 2.5 Mt/yr. The production will ramp up from 1 Mt/y in 2015 to 2.5 Mt/yr in 2016 and 2017. For Phase I, the run-of-mine iron grade is already high

enough to be sold without any upgrading. The Phase I process aims at separating lump ore from sinter feed and all the material is recovered in the two products. There is no upgrading equipment and therefore there are no tailings produced. For Phase II, lower grade ore will be treated and a wet circuit, which may include upgrading equipment, will be added. Weight recovery for Phase II will be lower than for Phase I and tailings will be produced.

The Phase I process will consist of simple size segregation of the ore. The run-of-mine will have a cut-off grade of 57.4% iron and an average grade of 62.0% iron. The Beneficiation Plant will consist of two crushing steps and two screening steps on one single line. All equipment will be mobile. The plant production shown in Table 2 (of the attached letter dated February 22, 2013) is based on 365 days per year of operation with an overall availability of 80%.

The general process and plant design criteria are based on the following, as depicted in Figure 2-5:

- **Primary crushing:** The ROM ore will be fed to a grizzly screen with a 50 mm opening. Oversize material falls into the jaw crusher. The jaw crusher product will be 100% passing 105 mm and will fall onto the jaw crusher conveyor with the grizzly undersize material.

- **Primary screening:** Ore from the primary crushing unit will fall onto the primary screen feed conveyor towards the primary screen. The latter will have a cut-size of 31.5 mm, which is the maximum size for lump ore.

- **Secondary crushing:** Oversize material from the primary screen will fall into the cone crusher. The crusher will reduce the top size to 31.5 mm and its product will be conveyed back to the primary screen feed.

- **Secondary screening:** Undersize material from the primary screen will fall onto the secondary screen. The secondary screen will have a cut-size of 6.3 mm, which is the minimum size for lump ore. The oversize material will be conveyed to the lump ore stockpile and the undersize will be conveyed to the sinter feed stockpile.

No process water will be required for the dry circuit operation, which allows operating in cold weather. Lump iron grade is expected to be in the 62–64 % range, while sinter feed iron grade is expected to be in the 60–62 % range. Good management of the run-of-mine grade quality will be necessary to ensure consistent product grades. This will be accomplished by blending the feed to produce the target product ranges without resulting in any reject ore.

The wet circuit for Phase II will not have the same mobility as the Phase I dry circuit and will probably require permanent-like installations. Phase II will require the addition of process water and use of a TMF. Further process and equipment details for Phase II have not yet been determined, but it is expected that Phase II tailings will consist mainly of fines smaller than 600 µm with a high silica grade.

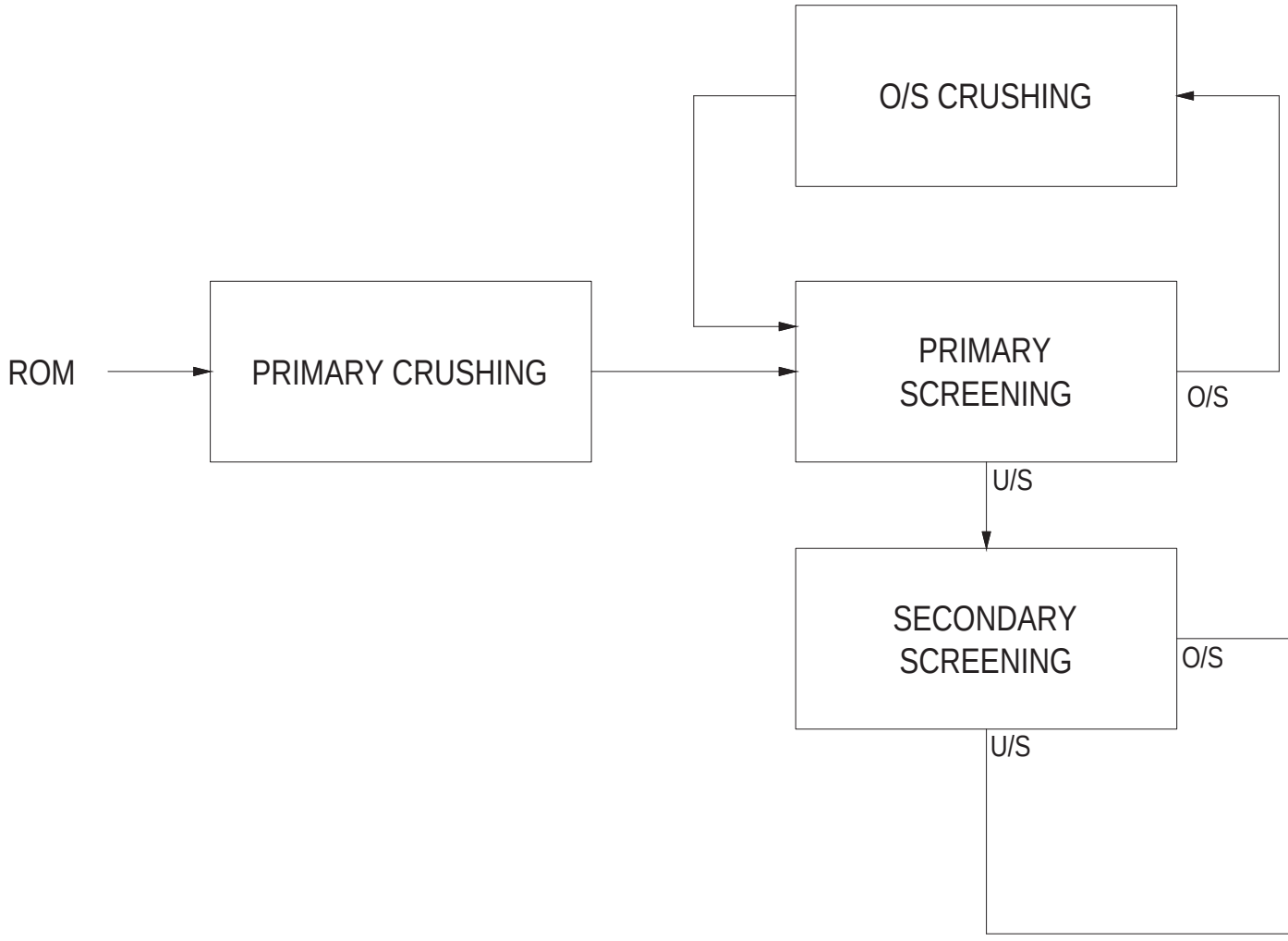


Figure 2-5

NOTES

LEGEND

NEW:

EXISTING:

ALTERNATE:

SEAL:

REV	DESCRIPTION	BY	DATE
R0	ISSUED FOR USE	M.G.	

REFERENCE DRAWINGS

DESIGNED:	D. BOUFFARD	2012-06-14
DRAWN:	C. PARENTEAU	2012-12-12
CHECKED:	D. BOUFFARD	
APPROVED:		
SCALE:	NOT TO SCALE	FORMAT B

CENTURY

SOUTEX

SOUTEX PROJECT: 2359

CLIENT PROJECT:
CENTURY IRON MINES CORPORATION
JOYCE LAKE DSO PROJECT

DRAWING TITLE:
JOYCE LAKE DSO
OPTION 1
BLOCK FLOW DIAGRAM

DRAWING NUMBER:	PAGE	REV
2359-BFD-001	1/1	R0

2.8.2.15 Explosives Storage

An appropriately permitted explosives storage facility will be located near the mine and away from other buildings. This facility will be installed, monitored, and maintained according to permit requirements by a licenced explosive vendor and contractor. All transportation of explosives will be compliant with applicable regulations.

2.8.2.16 Mining Equipment

The anticipated requirements for major mining equipment are listed in Table 2-5. Specific requirements for each equipment type will be determined as design progresses.

Table 2-5 Anticipated Major Mining Equipment Requirements

Equipment Type or Equivalent	
Wheel loader	Mechanic Truck
Haulage Truck - Cat-775	Pick-up Trucks
Excavator - PC-1250	Water Trucks
Drill - Cat-MD5125	Utility Excavator – Cat-345
Track Dozer - Cat-D8	Dewatering Pumps
Grader - Cat 14M	Mobile Pumps
Flatbed	Portable Generators
Fuel / Lube Truck	Light Plant

2.8.2.17 Beneficiated Ore Haulage

The beneficiated ore will be stockpiled beside the Beneficiation Plant into two different stockpiles: one for lump ore and one for sinter fines. These stockpiles will be reclaimed by wheel loaders and loaded in haulage trucks for transportation over the haulage road a distance of approximately 28 km to the rail yard. At the rail yard, the beneficiated ore will be stockpiled prior to loading by wheel loaders into rail cars for shipment south to the Port of Sept-Îles for eventual shipment to market.

2.8.2.18 Rail Component

The iron ore concentrate will be suitable for shipment in the standard 35 foot open gondola cars typically used in Labrador for iron ore rail service. Each train will consist of 240 gondola cars in accordance with standard QNSL train size for new clients. Each car will be capable of handling 108 t of iron ore concentrate.