
5. Engagement Program and Community Outreach

The engagement program and community outreach conducted by AECOM in 2018 on behalf of CPS included a TEK study (Section 5.1) and a public information session (Section 5.2). Additionally, CPS has engaged with local communities regarding the proposed Project since 2014 (Section 5.3).

5.1 Traditional Ecological Knowledge (TEK)

A TEK Study was held at the Hollow Water First Nations Band Office on October 25, 2018. The TEK session included a mapping exercise with eight respected local Elders. A walk through of representative land cover areas within the Project Site was completed with three respected Elders to identify the presence of medicinal plants. Results of the TEK study and information shared during the medicinal plant identification walk within the Project Site are provided in **Appendix G1**.

In summary, the Elders identified that the most common and traditional resource uses that occur within the Project Site is some limited trapping (Hollow Water First Nation Community Trapline), rabbit snaring for food and blueberry picking. Elders identified historic and current trails within the Project Site, including the past location of a historic sleigh road that was used to travel between Hollow Water First Nation and adjacent communities, south to Manigotagan. The walk with three Elders, including a respected 'medicine man', within representative land cover areas within the Project Site identified 12 plants that were used for the preparation of traditional medicines that are all common to the Project Site and Regional Project Area.

Feedback regarding the proposed Project was also shared by respected Elders participating in the TEK. The Elders shared their concerns about the proposed Project and also their thoughts on potential benefits the Project may potentially bring to the community.

The main concern expressed by respected Elders was the disturbance of the land and native plant re-growth (e.g., blueberries) that would result from Project development. Another concern raised was about the road conditions, safety on the roads for kids and Elders that walk in the area, and potential for contents to fall from the trucks onto the roads. Mitigation measures to address loss of vegetation and potential effects of increased truck traffic are provided in Sections 6.4.1 and 6.7, respectively.

The main benefit the respected Elders thought could potentially be realized as a result of Project development was increased employment and training opportunities for their youth. With little economic base locally, the Elders recognize that the Project would provide economic opportunities for the local communities. The Elders emphasized the potential for economic opportunities for women. Training skilled operators and truck drivers so they gain a certification that will allow them to gain employment in other industries was identified as a potential opportunity associated with the Project that was also identified by the Elders.

Results of a previous regional TEK study that includes information on Traditional Use of the Project Site Area in relation to the Regional Project Area is provided in Sections 4.6.4; 4.6.7 and **Appendix G2** (East Side Road Authority 2009).

5.2 Public Information Session

A public information session was held in the community of Seymourville at the Seymourville Hall on November 28, 2018. The event was advertised in the Winnipeg Free Press on November 21 and 24, 2018. Representatives from CPS and AECOM were available to guide participants through the storyboards and answer questions asked by participants.

The public information session was drop-in format and was designed to provide the public with the opportunity to:

- Review Project information;
- Discuss the Project with Project representatives from CPS and AECOM; and
- Provide their feedback and share any concerns regarding the proposed Project.

The public information session was well-attended, with 47 participants that signed-in, and additional participants that preferred not to sign-in.

5.2.1 Communication Materials

The public information session included storyboards describing the proposed Project, environmental investigations, the TEK study, HRIA study and the environmental approvals process. The event notice published in the Winnipeg Free Press, storyboards, brochure hand-out and a blank comment sheet that were available at the public information session are provided in **Appendix J**. Comment sheets were provided to gather feedback from participants.

5.2.2 Public Input Received

A total of 30 comment sheets were received from the attendees at the public information session. To protect the privacy of the attendees, copies of the comment sheets are not provided in this report; however, a sample comment sheet can be found in **Appendix J**. The following subsections summarize the comments received.

5.2.2.1 Comments on How People Heard about the Event

Attendees were asked how they heard about the Public Information Session, through the newspaper, word of mouth, or Facebook. Results are provided in **Figure 5-1**.

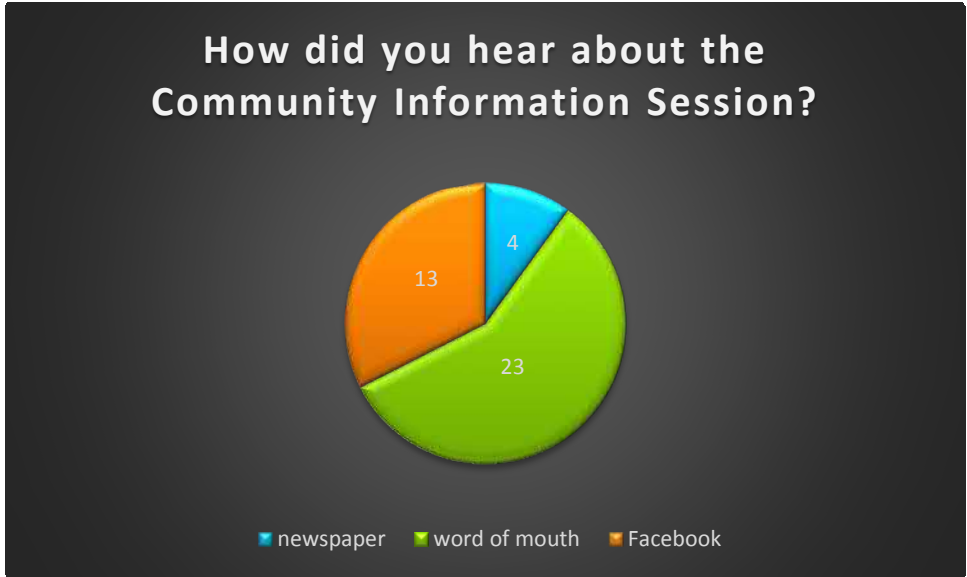


Figure 5-1: How did you hear about the Community Information Session?

Note: Respondents had the option of selecting more than one answer

5.2.2.2 Land Use

Respondents had the opportunity to select more than one answer when asked if they use the Local Project Area for the following land uses: hunting, fishing, traditional land use, resource gathering, trapping, or recreational use (**Figure 5-2**). The most common land use was recreational land use indicated by 21 out of 30 respondents. The next most common land use was hunting (12 out of 30 respondents) followed evenly by fishing, traditional land use, and resource use gathering (indicated by 10 respondents each). Trapping had the least amount of responses, with only 5 out of 30 respondents indicating using the Local Project Area for trapping.

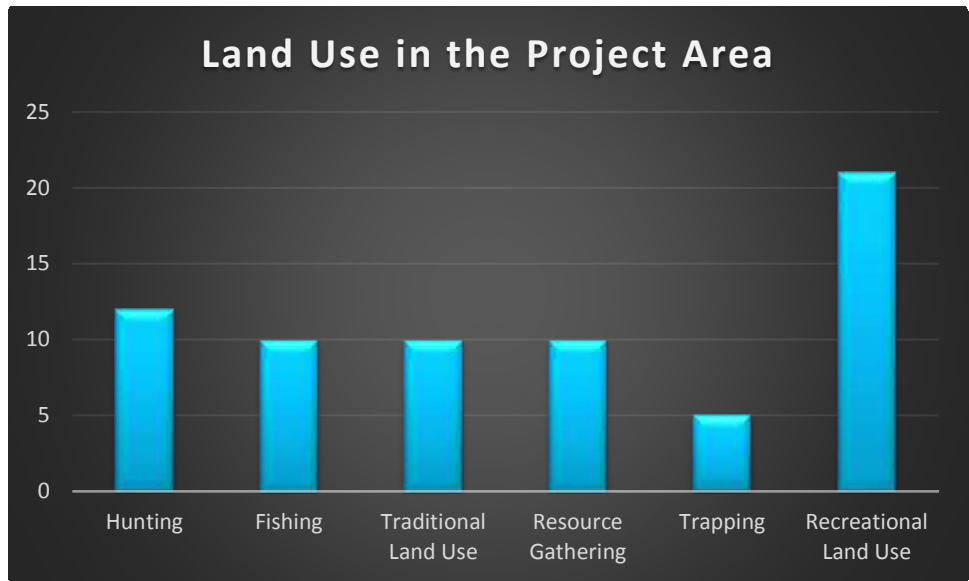


Figure 5-2: Land Use in the Local Project Area

5.2.2.3 *Environmental Concerns*

Respondents were asked to select their top three environmental concerns of the list indicated in **Figure 5-3**. Respondents had the option of selecting more than one answer. Most respondents selected their top three concerns, while others selected more than three concerns. The top three concerns indicated were water quality (18 of 30 respondents), air pollution/noise (16 of 30 respondents) and traditional land use (14 of 30 respondents).

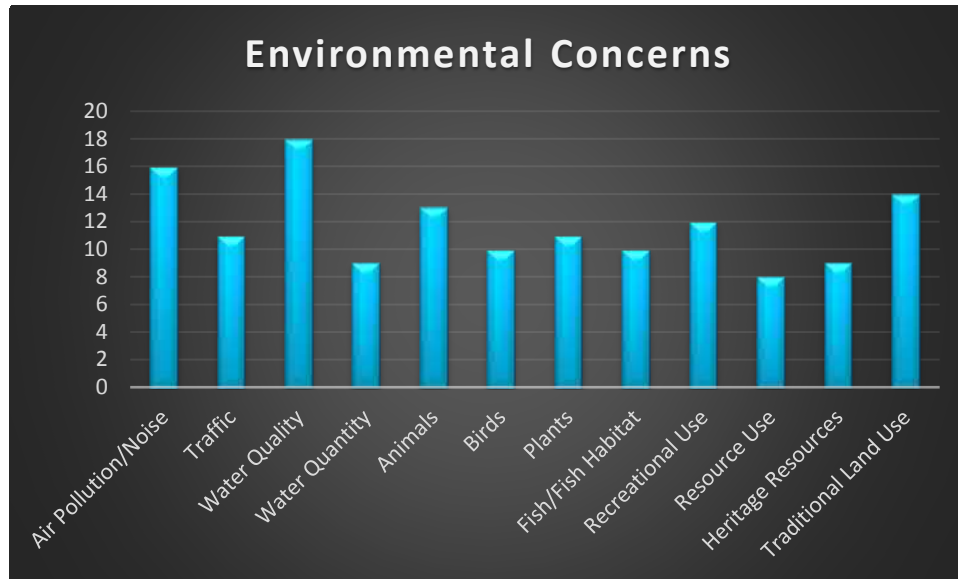


Figure 5-3: Environmental Concerns

5.2.2.4 *Project Related Interests Moving Forward*

Respondents were asked if they have any specific interests related to the Project going forward (**Figure 5-4**). Respondents were quite interested in employment and contract opportunities, as well as business opportunities (hand written on the comment sheets).

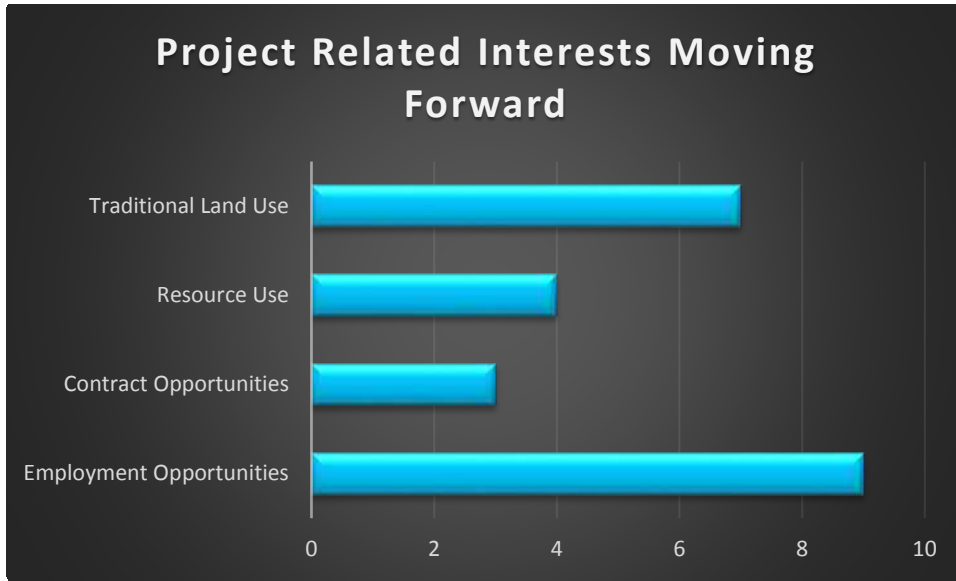


Figure 5-4: Project Related Interests

5.2.2.5 *Project Support*

Figure 5-5 below indicates the percentage of respondents that indicated they were supportive, unsupportive, or undetermined about the Project based on the 30 comment forms that were submitted during the event. An extra category indicated comments that were not relevant to the Project.

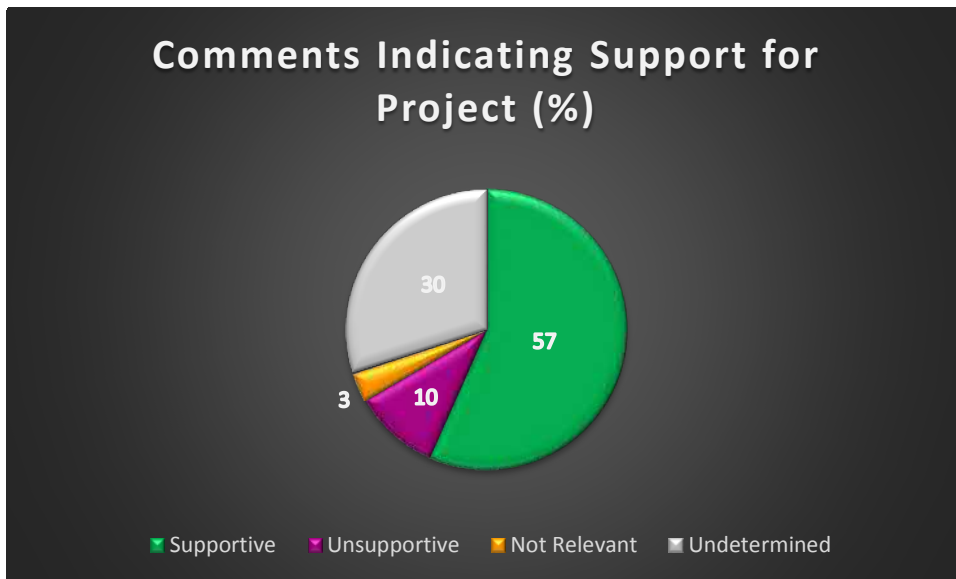


Figure 5-5: Comments Indicating Support for the Project

Note: AECOM has interpreted those who indicated interest in employment and contract opportunities as being generally supportive of the Project.

A total of 57% of respondents, or 17 out of 30, indicated general support for the Project. Supportive comments included:

- "Fully Supportive" "Trust you will stick to hiring local first and have the assistance to support new workers to get over the ups & downs"
- "All for this project" "It will be good for the communities and surrounded area's for the job opportunities"
- "Go for it!" "We need to keep the young generation staying home. To many families have to move away hunting for work. This is a great opportunity for everyone. Positive attitude and everyone wins"
- "Appreciate the initiative and direction of the information"
- "It would be fun working for Claim Post"
- "Good Opportunity for jobs (business's) for the area" "Would like to see mostly local people employed"
- "In my honest opinion, I'd say this project would benefit everybody as a community"
- "The area really needs employment since the paper shut down in Pine Falls. There is no future for our children - they have to leave to find work"

A total of 10% of respondents, or 3 out of 30, were unsupportive of the Project. Comments not in support of the Project included:

- "Would like to see it stay the same, for recreation, trapping for the kids to learn"
- "I entirely disagree with the idea of the mine". "The jobs outweigh the cancer risks and water. I'd rather have a healthy environment and a healthy family than a job".
- "Don't destroy our land please".

5.2.2.6 Additional Comments and Questions

Attendees were asked if they had any additional comments or feedback on the Project. Comments that have not been included in the sections above include:

- "Just be honest and truthful for our land and area Thanx"
- "You mentioned no impact to local water table yet you will use well water to replenish evaporation. What are the depths of your wells as most have very little recovery"
- "There is a lot of talk about how the mine will operate but no technical support. Is there technical evidence to support long-term sustainability and safety of groundwater? Is there a closure plan? I need to see geotech and hydrogeo work and results to show what effects operation will have on groundwater regime. Investigation and monitoring to support this work needs to run at least one full year for seasonal variability with multiple types and lengths of dump tests throughout the year to support conclusions and actions.
- "Is dewatering necessary during open pit excavation? What effects would dewatering excavation have on perched groundwater and granite aquifer? Any potential for contamination or effects on quality or quantity of groundwater? Pumping?"
- "Is there potential that open pits remain submerged once operations are done? Potential for risk? Safe side slopes? Drawdown cone? Surficial soils/ overburden. Minimum buffer between excavations/ operations and adjacent property lines? Minimum one km."
- " (1) Traffic on 304 # of vehicles – degradation of 304 x gravel limitations
- (2) Water treatment often usage and water usage source.
- (3) Air quality due to silica sand in the air - prior to closed plant
- (4) Noise levels and proximity to communities and buffer zones"
- "When project is in full operation, will employees be taxed?"
- "Corporate social responsibility intakes?"

- “Why has there not been any wildlife monitoring programs brought forward? And I hope this is not consultation”

Other questions included questions on Crown Consultation, when the Manitoba Metis Federation will be contacted, and an unrelated comment to not allow “fracking”.

5.3 Additional Community Outreach

CPS has engaged with local communities regarding various aspects of the Project during no less than 60 meetings (**Appendix K**). This proactive community outreach initiative by CPS has resulted in Letters of Support for the Project from the local communities of Seymourville, Manigotagan, Aghaming and Hollow Water First Nation (**Appendix L**). CPS has also entered into an Economic Participation Agreement with Hollow Water First Nation, on November 22, 2018, that provides for various economic and social benefits and opportunities, including employment, contracting and training initiatives (**Appendix M**). With respect to the Economic Participation Agreement with CPS, Hollow Water First Nation has acknowledged in a letter dated December 6, 2018 to Manitoba Sustainable Development that the Project operation activities will be taking place within Hollow Water First Nation’s Home Block lands (**Appendix M**). Additionally, CPS and the governments of the Incorporated Community of Seymourville and the Community of Manigotagan have agreed in principal on the essential terms of separate Participation Agreements, and are currently finalizing documentation for these agreements.

6. Environmental Assessment and Mitigation Measures

This section identifies the potential Project effects on the biophysical and socioeconomic environmental components, describes mitigation measures to avoid or minimize potential Project effects and determines the residual adverse impacts remaining after the application of mitigation measures. The scope of this environmental assessment regarding spatial and temporal boundaries and the environmental components to be assessed has been described in Section 3.

6.1 Effects Assessment Methods

As indicated in Section 3.3 and in accordance with Environment Act Proposal Report Guidelines (Manitoba Sustainable Development 2018a) the scope of this environmental assessment has been focused on biophysical and socioeconomic environmental components that may be potentially affected by the Project. **Table 6-1** identifies the biophysical and socioeconomic components that may be potentially affected by the Project due to the potential for interactions with the Project activities and components. Potential interactions were identified based on:

- Professional judgement;
- An understanding of project components, construction methods, operation processes and the assumption that standard environmentally responsible construction techniques and operating procedures will be applied in the course of project construction, operation and decommissioning/closure; and
- Input received from local and Indigenous communities, the public, stakeholders and communications with regulators (Section 5).

Table 6-1: Environmental Component Potential Interactions with the Project

ACTIVITY	BIOPHYSICAL COMPONENTS										SOCIO-ECONOMIC COMPONENTS				
	Physical			Aquatic		Terrestrial			Atmospheric		Heritage Resources	Land and Resource Use	Human Health and Well-being	Indigenous and Treaty Rights**	Aesthetics
	Topography	Soil	Groundwater	Surface Water Quality	Fish and Fish Habitat*	Vegetation	Wildlife	Protected Species and Spaces*	Air Quality (particulates, noise)	Climate / Greenhouse Gases					
CONSTRUCTION															
Mobilizing construction equipment, materials and crew to and from Project site including development of construction access road		X				X	X		X	X	X	X			X
Clearing, grubbing and leveling	X	X				X	X	X	X	X	X	X			X
Stockpiling excavated materials and organics/soil	X	X				X	X		X	X	X	X			X
Disposing of large woody debris (trees)	X	X					X		X	X	X	X			X
Drilling groundwater wells	X	X	X			X	X		X	X	X	X			
Construction of wash and dry facility and associated infrastructure	X						X		X	X		X			X
Construction of land drainage ditching directed to active quarry pit for pumping to sand wash plant at the Project Site as required	X	X		X		X	X		X	X	X	X			X
Construction of main access road and powerline right-of-way	X	X				X	X		X	X	X	X			X
Disposing of miscellaneous construction wastes		X											X		
OPERATION and MAINTENANCE															
Mobilizing operations and maintenance equipment, materials and crew to and from Project site							X		X	X		X			
Mining silica sand from quarry sites	X						X		X	X	X	X			
Transporting sand to wash and dry facility							X		X	X		X			
Sand washing and drying processes including groundwater use			X												
Transportation of silica sand to distribution depot in Winnipeg							X		X	X		X	X		
Disposing miscellaneous operation and maintenance wastes		X											X		
DECOMMISSIONING/CLOSURE															
Mobilizing decommissioning/closure equipment, materials and crew to and from Project site							X		X	X		X			
Back-filling spent sand quarries with excavated and stockpiled material	X						X		X	X		X			
Spreading organics/soil and revegetating previously disturbed areas	X	X				X	X		X	X		X			X
Demolishing structures and disposing of and recycling of waste materials		X					X		X	X			X		

* Although fish and fish habitat occur in the Project Regional Area, no fish habitat occurs within the Project Site area. Therefore, Project related activities not anticipated to interact with fish or fish habitat. Protected spaces such as parks and other protected areas do not occur within the Project Site area.

** The Project activities are not anticipated to adversely impact Indigenous and Treaty Rights (Section 6.6.6).

The framework for determining environmental impacts of the Project on environmental components includes the following:

- Determine potential adverse effects of the Project on environmental components;
- Apply mitigation measures to avoid or minimize potential adverse effects;
- Determine the residual environmental impacts, which are those adverse environmental effects that remain after the application of mitigation measures; and
- Evaluate the residual environmental impacts based on defined effects evaluation criteria.

The criteria used to evaluate residual environmental impacts are defined in **Table 6-2**, noting that the defined criteria is used as a general guide and may be modified to more appropriately evaluate impacts to environmental components that require a more qualitative evaluation such as 'Aesthetics' or 'Human Health and Well-being'.

Table 6-2: Environmental Effects Assessment Criteria

CRITERIA TERM	DEFINITION			
Magnitude of Effect:	Refers to the estimated percentage of population or resource that may be affected by activities associated with the construction, operation and decommissioning/closure of the Project. Where possible and practical, the population or resource base has been defined in quantitative or ordinal terms (e.g., hectares of soil types, units of habitat). Magnitude of effect has been classified as less than (<) 1%, 1% to 10%, or greater than (>) 10% of the population or resource base.			
	Where the magnitude of an effect was determined as virtually immeasurable or represented a potential change that was within the natural variation of population or resource levels, the effect was considered Negligible. An exception to this is regarding human health effects where, for example adverse health issues due to the Project and affecting 1% of the population would still be considered major			
	Negligible (immeasurable)	Minor (<1%)	Moderate (1 to 10%)	Major (>10%)
Direction of Effect:	Refers to whether an effect on a population or a resource is considered to have a positive, adverse or neutral effect			
	Positive	Adverse	Neutral	
Duration of Effect:	Refers to the time it takes a population or resource to recover from the effect. If quantitative information was lacking, duration was identified as short term (<1 year), Moderate term (1 to 10 years) and long term (>10 years)			
	Short term (<1 year)	Moderate (1 to 10 years)	Long term (>10 years)	
Frequency:	Refers to the number of times an activity occurs over the Project phase and is identified as once, rare, intermittent or continuous			
	Once	Rare	Intermittent	Continuous
Scope of Effect:	Refers to the spatial area potentially affected by the effect and categorized as Project Site, Local Project Area or Regional Project Area as defined in Section 3.2. Where possible, quantitative estimates of the resource affected are provided			
	Project Site	Local Project Area	Regional Project Area	
Reversibility:	Refers to if an adverse effect is likely to be reversed after completion of the activity or Project decommissioning/closure			
	Reversible		Irreversible	

The significance of residual environmental impacts is commented on where applicable regulatory criteria exist such as a regulatory threshold (e.g. surface water quality guidelines are exceeded due to Project activities). In the absence of such regulatory thresholds, an overall characterization of the impact is provided, taking into consideration the assessment criteria as described above in **Table 6-2**.

Environmental effects that may be caused as a result of accidents and malfunctions are discussed separately in Section 6.9.

6.2 Physical Environment

6.2.1 Geology/Topography

Magnitude of Effect: Moderate

Direction of Effect: Adverse

Duration of Effect: Long term

Frequency: Intermittent

Scope of Effect: Project Site

Reversibility: Irreversible

The geology and topography of the Project Site will be affected by Project activities such as clearing, levelling, construction of laydown areas, construction of infrastructure, sand quarry cell development, cell stripping, sand extraction, and potentially blasting (if required for access road construction). The following mitigation measures will be implemented to avoid or minimize Project effects on geology and topography:

- Where applicable, existing roads and trails will be utilized to minimize disturbance to the natural topography.
- As part of the quarry methodology, progressive reclamation procedures including quarry backfilling will occur concurrently with advancement of quarrying to return topography to pre-construction conditions to the extent feasible.
- Levelling and grading will occur upon quarrying completion in a given quarry cell in efforts to return the landscape to elevations typical to the surrounding area.

With the application of the above described mitigation measures, impacts on geology and topography have been assessed as being moderate considering sand is being removed from the Project Site and will not be replaced (i.e., impacts to the geology will be irreversible/permanent). However, backfilling of quarry cells with stockpiled excavated materials and re-contouring of the land to conform with the surrounding area will result in minor residual impacts to the Project Site topography.

6.2.1.1 Overall Impact to Geology / Topography

Overall, the impact on geology and topography resulting from the Project is assessed to be moderate. While measurable disturbances will be imposed on natural geologic and topographic features, disturbances will be limited to the Project Site area.

6.2.2 Soils

6.2.2.1 Soil Erosion

Magnitude of Effect: Minor

Direction of Effect: Adverse

Duration of Effect: Long term
Frequency: Intermittent
Scope of Effect: Project Site
Reversibility: Reversible

Several activities required for the advancement of this Project have the potential to cause soil erosion, including clearing, levelling, construction of transportation and wash/dry facility infrastructure and stockpiling soil and excavated quarry overburden. Soil erosion can potentially increase during high wind and precipitation events, which are expected to be most frequent during the quarrying months of May to September. Soil erosion due to the aforementioned construction activities in addition to natural climate effects may affect other environmental components, such as air quality, water quality and vegetation. To mitigate the effects of soil erosion, the following measures will be incorporated:

- Soil will be stockpiled for the minimum time period feasible before soil will be redistributed annually over sand depleted quarry cells during the annual quarry progressive rehabilitation process.
- Surrounding forested land cover will minimize the potential for soil erosion and where required, soil stockpiles will be covered to mitigate soil erosion.
- Cell stripping will take place during fall and winter months. It is anticipated that average weather trends, such as frozen ground and snow cover, will minimize soil erosion.
- Quarrying and stripping activities will be halted during events of high rain, wind and runoff to minimize the potential for soil erosion.
- The contractor will be required to implement an Erosion and Sediment Control Plan approved by CPS that will include standard erosion and sedimentation control methods such those implemented by Manitoba Infrastructure for the construction of provincial roads, highways and associated roadbed material quarries.

With the application of the above mitigation measures, the potential for soil erosion and associated adverse impacts to the surrounding environment are anticipated to be minor and restricted to the Project Site.

6.2.2.2 *Soil Compaction and Mixing of Soil Horizons*

Magnitude of Effect: Moderate
Direction of Effect: Adverse
Duration of Effect: Long term
Frequency: Intermittent
Scope of Effect: Project Site
Reversibility: Irreversible

Activities described in Section 6.2.2.1 also pose a negative effect on soil compaction and mixing of soil horizons. Despite efforts to reuse excavated quarry stockpile material as backfill and relying on sequential quarrying techniques, mixing of soil horizons as well as imperfect soil compaction is inevitable. However, redistribution of stockpiled organic soil and progressive reclamation efforts will contribute to suitable soil conditions for revegetation, which will assist in the eventual distribution of soil layers towards a more natural stratification. It is for this reason that soil compaction and mixing of soil horizons have been assessed as a moderate impact to the Project Site.

6.2.2.3 Overall Impact to Soil

Overall, processes of clearing, levelling, stockpiling, creating laydown areas and (if necessary) blasting for road construction will disturb the existing soil. It is primarily through progressive reclamation efforts that the effects on the soil within the Project Site will be reduced which will minimize adverse environmental effects related to soil disturbance. In addition, soil impacts are restricted to the Project Site. Therefore, overall Project related impacts to soil have been assessed as minor within the Project Site.

6.2.3 Groundwater

Magnitude of Effect: Minor

Direction of Effect: Adverse

Duration of Effect: Long term

Frequency: Intermittent

Scope of Effect: Project Region

Reversibility: Reversible

Resource processing will require 1,817 m³/hour (8,000 US gpm) of water which will be continuously recycled in a closed-loop sand wash system (Section 2.9). Aquifer and groundwater investigations are currently underway to determine whether the required consumption is sustainable within the regional aquifer. Due to the absence of potential acid-generating rock and non-reactive silica sand within the quarry areas to be excavated, the probability of acid / heavy metal contamination of groundwater is negligible. Quarry excavation activities will not penetrate the deeper bedrock formation above which the sand layer is located. Therefore, with the current available information, the risk of impacting deeper bedrock aquifer is considered low. Hydrogeological investigations of the Project site will be conducted, starting in January 2019, to provide additional information regarding the potential risk to impacting the deeper bedrock aquifer.

The following measures are expected to mitigate groundwater withdrawal effects and potential for groundwater contamination:

- Process water will be recycled in a closed-loop system for reuse, which reduces the quantity of water required from groundwater;
- Quarry operations will not penetrate the bedrock layer which would potentially affect the regional aquifer;
- Process water will be obtained from a combination of water wells within the Project Site and water seepage within the active quarry cell to the maximum extent feasible;
- Process water will be obtained from an alternative licenced water source if on-going water monitoring studies demonstrate an unacceptable risk to groundwater quantity or quality.

With the application of the above mitigation measures, and utilization of groundwater sustainable rates as determined by ongoing hydrogeological testing and monitoring, impacts to groundwater are predicted to be minor. Considering there will not be a continuous and unsustainable drawdown on the regional groundwater aquifer for Project processes, the aquifer is expected to recharge. Therefore, effects to the regional aquifer can be managed through continuous regional monitoring and also assisted through natural groundwater recharge processes (i.e. rain and snow melt).

6.3 Aquatic Environment

6.3.1 Surface Water Quality

Magnitude of Effect: Minor
Direction of Effect: Neutral
Duration of Effect: Short term
Frequency: Continuous
Scope of Effect: Project Site
Reversibility: Reversible

Residual effects from road construction and clearing, levelling, compacting, and construction of Project infrastructure has the potential to increase surface water runoff within the Project Site and Local Project Area. Removal of existing vegetation also poses a risk to the surface water quality as more sediment will be exposed to surface water drainage, potentially resulting in sediment laden runoff water. The following mitigation measures will be implemented to avoid or minimize potential effects on surface water quality:

- Construction of culverts along Project access roads, as required, will assist in directing runoff flow and maintaining natural drainage pathways through low areas such as bogs.
- Project Site ditching will contain water runoff from disturbed areas and will direct runoff water to a sump pit in the active quarry cell for use in the sand wash plant for process water.
- As per Section 2.5.1, wastewater from washroom, shower and cafeteria facilities will be directed to a septic holding tank, to be pumped out by a licensed local contractor for proper disposal, as a means to prevent potential contamination of local waterbodies with potentially harmful substances.
- The fuel depot will be constructed as per regulatory procedures and will include appropriate spill prevention measures to mitigate environmental contamination to surface water in the unlikely event of a spill.

With the application of the above described mitigation measures, the impacts on surface water are assessed as minor.

6.3.2 Fish and Fish Habitat

Due to the lack of fish habitat within the Project Site and application of an Erosion and Sediment Control Plan as indicated in Section 6.2.2.1, Project related impacts on fish and fish habitats are not anticipated.

6.4 Terrestrial Environment

6.4.1 Vegetation

Magnitude of Effect: Moderate
Direction of Effect: Adverse
Duration of Effect: Long term
Frequency: Intermittent
Scope of Effect: Project Site
Reversibility: Reversible

A total of 353 hectares of clearing are expected to take place within the Project Site to construct Project infrastructure, including access roads and powerline right-of-way and quarrying requirements for the life of the Project. The estimated Project footprint area is provided in **Table 6-3**.

Table 6-3: Estimated Project Footprint Area

Project Components		Area (ha)
Permanent Components		
Wash and Dry Facility and Associated Infrastructure		15
Main Access Road Right-of-Way (estimated 60 m wide x 6 km long)		36
Powerline Right-of-Way (estimated 30 m wide x 6 km long)*		18
Construction and Emergency Use Access Road Right-of-Way (estimated 60 m wide x 1.5 km long)		9
Annually Disturbed Quarry Area		
Active Quarry Site Area (maximum disturbed area in any given year with previous year active areas under rehabilitation)		5
Total Disturbed Footprint Area in any given year of the life of Project (54 years)		83
Total Footprint Area during life of Project (including all sequentially used and progressively rehabilitated quarry areas, i.e. 5 ha x 54 years)		353

*Adjacent to Main Access Road Right-of-Way

The total amount of cleared area represents 15% of the 2,289 ha of CPS quarry lease areas (**Figure 1-1**) within the Regional Project Area. The majority of the land cover that will be cleared is trembling aspen dominant mixedwood forests which are common within the Regional Project Area (Section 4.3.1). The following mitigation measures will be implemented to avoid or minimize potential effects of clearing on vegetation:

- Vegetation clearing will be minimized to the extent feasible (e.g., through the use of existing roads and trails, and other previously disturbed areas) and will be clearly marked to avoid clearing more than required.
- Usable and merchantable timber will be cut and stacked at the Project Site, for no more than one year, for local use as firewood, and/or potential auction for merchantable timber
- Areas disturbed during Project construction, not required for Project operations will be revegetated.
- Quarry areas will be revegetated annually with the extent of annually active quarry area being clearing and undergoing extraction activities limited to an average of 5 ha during the life of the Project.
- Previously disturbed areas will be revegetated using an approved native seed mixture and native plantings as required.
- Revegetated areas will be monitored annually to determine the progress and success of revegetation efforts. If revegetation efforts are not progressing sufficiently, adaptive management techniques will be employed to improve revegetation progress.

Despite the clearing required for this Project, clearing impacts on vegetation have been assessed as moderate due to the reclamation procedures, including revegetation, which will progressively take place with advancement of new quarrying to return the landscape to pre-construction conditions to the extent feasible. CPS anticipates quarrying an average of 5 ha annually (Section 2.2). As quarrying in each

quarry cell is completed, stockpiled topsoil will be replaced over the backfilled quarry cell, the area will be re-contoured to the surrounding landscape and the area will be reseeded and planted with native species (typically two-year old saplings), shrubs and grasses at the appropriate time of year to facilitate revegetation.

Vegetation within the Project Site can also be harmed due to dust deposition on the surface of plants, which may prevent adequate photosynthesis and other life functions of vegetation (Farmer 1993). Dust will be generated during the construction, operation and closure phases of the Project as follows:

- During the construction phase, dust generation will result from the construction of building infrastructure, clearing, levelling and road blasting (if required);
- During the operation phase of the Project, quarrying activities described in Section 2.2 will contribute to dust emissions; and
- During the closure phase, dust deposition will be generated from cleanup and removal of existing facilities in addition to final quarry closure procedures.

Effects of dust deposition are assessed to be minor due to the following mitigation measures to be implemented:

- The silica sand wash and dry facility, including all conveyors and transfer points, will be enclosed and under negative pressure to allow fines to be collected in a bag house fabric filter dust collection system to contain dust.
- Sand transport trucks will utilize paved roads rather than gravel roads that can generate dust;
- Appropriate speed limits will be posted throughout the Project Site to minimize the potential for dust generation.
- Sand truck transport loads will be completely contained with a waterproof sealed load cover which will mitigate dispersion of sand fugitive dust during transport;
- Revegetation upon quarrying completion for each successive quarry cell to control exposure time of stockpiled materials and prevent wind from distributing fine particles; and
- Ceasing work outdoors during high wind events.

With the application of the above mitigation measures, overall Project impacts to vegetation are assessed as moderate.

6.4.2 Wildlife

Magnitude of Effect: Moderate

Direction of Effect: Adverse

Duration of Effect: Long term

Frequency: Intermittent

Scope of Effect: Local Project Area

Reversibility: Reversible

Project activities that disrupt the natural environment, such as vegetation clearing and quarrying, will have the most impact on wildlife species known to inhabit the Local and Regional Project Areas. The Project Site is currently disturbed to a moderate extent through the previous creation of roads, trails, exploratory drilling activities and previous small quarry and tree cutting operations (Section 4.3.1). Therefore, the additional annual Project footprint of 83 ha and associated human disturbance is expected to have a moderate cumulative effect on wildlife in the Local Project Area. While reclamation efforts will contribute to regrowth of wildlife habitats, wildlife species that prefer mature forests will be displaced from the cleared areas longer than species that prefer early successional vegetation. Early successional

vegetation regrowth in previously disturbed areas and under the proposed powerline are expected to provide an increase in browse availability for moose (Hill 2003). However, although moose may be attracted to the Project Area due to an increase in available browse, the current suspension of licenced moose hunting in the Regional Project Area (Manitoba Sustainable Development 2017g) is anticipated to limit the incidence of moose harvesting by people.

Noise generated during Project construction, operation and closure phases will contribute to a temporary decline in wildlife populations within the Project Site area due to noise disturbance effects on animal behaviour (US National Park Service 2018). Noise generated within the Project Site area boundary is expected to dissipate to within the Manitoba Guidelines for Sound Pollution (Manitoba Environmental Management Division 2000) limits primarily due to the attenuation effect of: the natural surrounding forest cover; depth of quarry cells; and active quarry berms as required (**Appendix F**).

Light pollution emanating from the Project wash and dry facility and active quarry cell can also disturb wildlife and alter natural wildlife behaviour (e.g. Dominoni 2017). An increase in vehicle traffic in the Regional Project Area as a result of Project construction and operation activities is also anticipated to increase the risk of vehicle collisions with wildlife.

The following measures will be applied to minimize potential adverse effects to wildlife resulting from Project activities:

- Vegetation clearing will be minimized to the extent feasible (e.g., through the use of existing roads and trails and other previously disturbed areas).
- Vegetation clearing will take place during winter months to the maximum extent feasible to avoid disturbance to breeding birds and other spring breeding wildlife species.
- Vegetation clearing, including quarry overburden stripping and stockpiling will not take place during the peak breeding bird season for this ['Zone C5'](#) area: April 30 – August 11 (when 80% of species nesting in the area are known to nest); pre-clearing nest searches will be conducted no more than 5 days prior to clearing during the 'shoulder' nesting season outside of this 'peak' nesting timeframe (i.e., April 20 – 29 and August 12 – 31; Government of Canada 2018).
- Areas disturbed during Project construction, not required for Project operations, will be revegetated.
- Each annual quarry cell will undergo progressive rehabilitation and revegetation annually with an average of 5 ha, and no more than 20 ha, of quarry area cleared and undergoing extraction activities during any given year during the life of the Project.
- Previously disturbed areas will be revegetated using an approved native seed mixture and native plantings as required.
- The wash and dry facility will be an enclosed building which will minimize sand processing noise and mitigate fugitive dust within the Project Site area.
- Additional noise mitigation as proposed in Section 6.5.2 will be applied.
- Fully-shielded directional lighting fixtures will be used to focus light specifically to work areas and the wash and dry facility location to minimize the dispersal of light to the surrounding Project Site area.
- The overburden material will be stripped with a dozer and stockpiled adjacent to the active cell to mitigate noise levels as required.
- Workers will be required not to feed or harass wildlife.
- Access roads to the Project Site will be gated which will minimize opportunities to access the Project Site area for hunting purposes.
- Appropriate speed limits will be posted throughout the Project Site to minimize the potential for wildlife collisions.

- Wildlife warning signage will be posted in areas determined to have a high risk of wildlife collision with traffic.

With the application of the above mitigation measures, Project impacts to the Regional Project Area wildlife populations are assessed as moderate. The Project is not anticipated to have a measurable effect on wildlife populations within the Lac Seul Upland Ecoregion.

6.4.3 *Species of Conservation Concern*

Magnitude of Effect: Minor to Moderate

Direction of Effect: Adverse

Duration of Effect: Long term

Frequency: Once

Scope of Effect: Local Project Area

Reversibility: Reversible

Of the species of conservation concern that potentially occur in the Regional Project Area (Section 4.3.3; **Appendix D**) and may be adversely affected by Project activities, no species of conservation concern is expected to experience a substantial decrease in regional populations as a result of Project activities. This is primarily due to the limited amount of cleared vegetation/habitat that will be required for the Project (Section 6.4.1), prevalence of similar cover types within the Regional Project Area, and the application of measures as indicated in Section 6.4.2 to mitigate adverse effects of the Project on wildlife in general. Therefore, the Project impacts to regional populations of species of conservation concerns are assessed as minor to moderate, depending on the species of conservation concern and their habitat preferences.

6.4.4 *Overall Impact to Terrestrial Environment*

When taking into account the various Project activities potentially affecting the terrestrial environment as well as the mitigation and Project closure procedures to be implemented which will reduce the effects of the Project on the environment, the overall impact to the terrestrial environment is assessed as moderate within the Regional Project Area.

6.5 **Atmospheric Environment**

6.5.1 *Air Quality*

Magnitude of Effect: Minor to Moderate

Direction of Effect: Adverse

Duration of Effect: Long term

Frequency: Continuous

Scope of Effect: Project Regional Area

Reversibility: Reversible

Air dispersion modeling was conducted to estimate the expected impacts on air quality resulting from Project activities (**Appendix E**). The Project operations were assessed in accordance with the Draft Guidelines for Air Quality Dispersion Modelling Manitoba (MCWS, November 2006) using AERMOD to predict maximum ground-level concentrations, as well as maximum predicted concentrations at selected nearby sensitive receptors, of the following:

- Nitrogen Dioxide (NO₂);
- Carbon Monoxide (CO);

- Particulate Matter (PM₁₀ and PM_{2.5}); and
- Sulfur Dioxide (SO₂).

Model results were compared with the Manitoba Ambient Air Quality Criteria (MAAQC, 2005). Predicted maximum concentrations of SO₂ and CO were below the associated MAAQC across the modelling domain.

The model predicted exceedances of the MAAQC for particulate matter (PM₁₀ and PM_{2.5}) that are associated with the Project Site operations as well as trucking activities. Predicted model results adjacent to modelled dust-generating activities was predicted to be many times above the MAAQC and predicted model results at sensitive receptors were between 2x and 5x the MAAQC. This prediction considered the dust mitigation measures as listed in Section 6.4.1.

The model also predicted exceedances of the MAAQC for NO₂ associated with the internal combustion by-products of equipment operation. These exceedances are limited to an area adjacent to these emission sources and model predictions of NO₂ concentrations at sensitive receptors are below the MAAQC.

Measures that will be applied to minimize potential Project effects to air quality include the following:

- The silica sand wash and dry facility, including all conveyors and transfer points, will be enclosed and under negative pressure to allow fines to be collected in a bag house fabric filter dust collection system to minimize dust projection.
- Sand truck transport loads will be completely contained with a waterproof sealed load cover which will mitigate dispersion of silica sand fugitive dust during transport.
- Sand transport trucks will utilize paved roads rather than gravel roads that can generate dust;
- Emissions will be minimized by regularly maintaining equipment and vehicles and minimizing idling of vehicles
- Power use for the long-term operation of the project will be obtained from hydro-power via a planned powerline which will minimize the need for power from diesel generators.

CPS will also conduct regular air quality monitoring during the Project operation phase (Section 8.3). Information regarding the final project layout and operations details, and air quality data collected, will be used to update the preliminary draft air quality dispersion modeling results provided in **Appendix E**. The results of on-going air quality monitoring will be compared to the MAAQC, and air quality monitoring report conclusions will consider the latest information on potential adverse effects of silica dust exposure (e.g., The Heartland Institute 2017).

Based on the above air dispersion modeling results, assumptions as outlined in the detailed report (**Appendix E**), and application of the above mitigation measures, the impacts of the Project on air quality in the Project Regional Area are assessed as minor for the air quality parameters modeled with the exception of particulate matter which is assessed as moderate under the worst-case scenario conditions that were estimated in the air dispersion model for this Project (**Appendix E**).

Impact assessment information for greenhouse gas (GHG) emissions is summarized in Section 6.5.3.

6.5.2 Noise

Magnitude of Effect: Moderate

Direction of Effect: Adverse

Duration of Effect: Long term
Frequency: Continuous
Scope of Effect: Project Local Area
Reversibility: Reversible

A Noise Impact Assessment was completed for this Project to predict the potential noise generated by Project activities at the nearest residence (**Appendix F**). The wash and dry facility, which will be a completely enclosed building, will be located over 2 km from the nearest residence. Although the Project Site is located within an elevated landscape (Section 4.1.2) surrounded by lower-elevation areas within which the nearest residences are located, the surrounding forest consisting primarily of dense mature forest (Section 4.3.1) is anticipated to adequately attenuate noise from the wash and dry facility. Noise generated from quarry operations will also be attenuated to a limited degree by the surrounding mature forest land cover. Additionally, noise will be attenuated by the surrounding 'walls' within the active quarry cell which will be from 10 m to 30 m deep.

In addition to the noise attenuation effect of the forest vegetation surrounding the Project Site, the following measures will be implemented to reduce noise generated from Project activities:

- The overburden material will be stripped with a dozer and stockpiled adjacent to the active cell to mitigate noise levels as required.
- The wash and dry facility will be an enclosed building which will minimize sand processing noise within the Project Site area.
- Strobe reverse backup lights will be used at night for heavy machinery / trucks rather than auditory backup warning alarms / beepers.
- Usage of active heavy equipment will be offset so that multiple heavy equipment types will not be scheduled to be in use concurrently.
- Additional noise attenuation mitigation such use of noise shrouds, noise curtains and other temporary noise barriers around noisy equipment and active construction/operation sites will be investigated where needed.
- Chutes and dumpers will be lined to reduce noise impact where needed.
- Construction equipment and vehicles will be kept well maintained and will be fitted with mufflers, and other noise mitigation equipment as required.
- Unnecessary idling and revving of engines will be avoided.

In consideration of the above measures to minimize noise levels due to Project operations and predicted results of the Noise Impact Assessment (**Appendix F**), it is anticipated that noise levels will be adequately attenuated. Due to the uncertainty inherent in predictive modeling of expected noise levels at receptors within the Local Project Area, impacts of noise are assessed as moderate. CPS will engage with the local community to determine feasible solutions to adaptively manage noise levels resulting from Project activities should complaints be brought to the attention of CPS.

6.5.3 Climate/Greenhouse Gases

Magnitude of Effect: Minor
Direction of Effect: Adverse
Duration of Effect: Long term
Frequency: Continuous
Scope of Effect: Beyond the Project Regional Area
Reversibility: Irreversible

To estimate the annual emissions of greenhouse gases (GHG), emissions of carbon dioxide (CO₂), methane (CH₄) and Nitrous Oxide (N₂O) were estimated from onsite activities associated with the Project operation (**Appendix E**). Estimated GHG emissions associated with Project equipment are summarized in **Table 6-4**.

Table 6-4: Greenhouse Gas Annual Emissions (CO₂e)

Equipment	Equipment Count*	CO ₂ (tonnes/year)	CH ₄ (tonnes/year)	N ₂ O (tonnes/year)	CO ₂ e (tonnes/year)
Dozer	1	586	0.057	0.026	596
Loader	1	46	0.0045	0.00204	46.7
Dump Truck	2	221	0.0215	0.00980	225
Rotary Dryer	1	230	0.28	0.67	436
Haul Trucks	54	24,835	2	1	25,223
Total per Annum					26,526

*Equipment operating at any one time.

The following measures to minimize the production of GHG emissions will be applied:

- Emissions will be minimized by regularly maintaining equipment and vehicles and minimizing idling of vehicles
- Vehicles and equipment will meet required emission standards.
- Power use for the long-term operation of the project will be obtained from hydro-power via a planned powerline which will minimize the need for power from GHG-emitting diesel generators.

Overall, the project is estimated to generate 26,526 tonnes of CO₂e annually with the application of the above mitigation measures, which is 0.13 % of the reported emissions in 2017 which were 20.9 Mt CO₂e from Manitoba, and 704 Mt CO₂e from Canada. Therefore, the impact of the Project on Greenhouse Gas contributions to the atmosphere is assessed as minor.

6.5.4 Overall Impact on Atmospheric Environment

With the application of mitigation measures described in Sections 6.5.1 and 6.5.3, the overall impacts to the atmospheric environment are assessed as minor. Due to the uncertainty inherent in predictive modeling of expected noise levels at receptors within the Local Project Area (Section 6.5.2), the overall impacts of noise are assessed as moderate. As indicated in Section 6.5.2, CPS will engage with the local community to determine feasible solutions to adaptively manage noise levels resulting from Project activities should complaints be brought to the attention of CPS.

6.6 Socioeconomic Environment

6.6.1 Labour Force and Employment

Magnitude of Effect: Moderate

Direction of Effect: Positive

Duration of Effect: Long term

Frequency: Continuous

Scope of Effect: Project Regional Area

Reversibility: Reversible

According to the labour force and education/training statistics provided in Section 4.6.2, there will be potentially employable people in the Local and Regional Project Areas having the skills, training and experience required for Project employment positions. Considering that the populations within the Local and Regional Project Areas are on average younger than the Province of Manitoba (Section 4.6.1.1), there will also be large number of youth that will be potentially trainable and employable in the future as Project staff throughout the life of the Project.

CPS has already retained several Indigenous community members in the pre-development exploration activities associated with the Project. Initiatives that CPS is proposing to assist the local communities and youth with potential employment on the Project include:

- Advertising Project-related employment opportunity positions within local communities;
- Initiating a training program, including 'certified' training skills, for interested local community members in advance of Project construction;
- Preferentially hiring appropriately-skilled local community members; and
- Providing youth at the local Wanipigow School with mentorship opportunities through school visits, site tours, and internships.

Employment opportunities will be a positive, moderate and long-term and continuous benefit for the Regional Project Area.

6.6.2 Infrastructure and Services

6.6.2.1 Transportation

Magnitude of Effect: Minor

Direction of Effect: Negative/Positive

Duration of Effect: Long term

Frequency: Continuous

Scope of Effect: Project Regional Area

Reversibility: Reversible

The Local Project Area roads that will be used by heavy truck traffic during Project construction, operation and closure phases are not paved and will be susceptible to degradation from the increased truck traffic. Increased Project-related truck traffic on local roads, especially at intersections, can potentially result in impacts to existing traffic flow. However, results of a Traffic Impact Assessment concluded that the current level of service will be maintained during full Project operations for intersections of the Project main access road at the Hollow Water Road, and for the Hollow Water Road at PR 304 (Section 6.7; **Appendix N**).

To mitigate potential adverse effects of heavy truck traffic on local roads due to Project construction and operation, CPS plans to:

- Pave and maintain the segment of the Hollow Water Main Road leading from the Project Site entrance to PR 304, and the currently unpaved section of PR 304 from Hollow Water Main Road to Manigotagan to the appropriate Manitoba Infrastructure roadway standards, and pending obtaining required permits from Manitoba Infrastructure, to accommodate heavy truck traffic.
- Continue discussions with Manitoba Infrastructure to determine the most appropriate intersection location of the Main Access Road with Hollow Water Main Road and any improvements that may be warranted to PR 304 to accommodate heavy truck traffic.

With the application of the above measures, the existing segments of Project Site area roads that will be used for Project truck traffic will be improved from the current condition. Potential impacts to traffic flow along the roadways used by Project vehicles are assessed as minor.

6.6.2.2 *Emergency Services*

Magnitude of Effect: Minor
Direction of Effect: Neutral/Adverse
Duration of Effect: Long term
Frequency: Continuous
Scope of Effect: Regional Project Area
Reversibility: Reversible

Emergency services (i.e., fire, policing and ambulance) in the Local Project Area have the potential to be utilized more often. To mitigate potential adverse effects of the Project on Regional Project Area emergency services, CPS will:

- Have an Emergency Response Plan that will be available on-site during Project construction and operation that will clearly outline appropriate emergency response protocol;
- An on-site groundwater well and water holding tank will be dedicated to emergency fire suppression; and
- CPS will notify Local and Regional Project Area emergency services when Project construction and operation will begin.

With the application of the above measures, the Project impacts on regional emergency services are anticipated to be minor.

6.6.2.3 *Community Services*

Magnitude of Effect: Moderate
Direction of Effect: Positive
Duration of Effect: Long term
Frequency: Continuous
Scope of Effect: Local Project Area
Reversibility: Reversible

Cellular and Wi-Fi services are not currently available in the Project Site area. CPS is planning to work with communications providers to investigate options to provide these services to the local communities which will be very beneficial to the Local Project Area.

Operation of the wash and dry facility will require a substantial amount of water that will need to be sustainably sourced. Adverse effects on the local community water supplies due to water demands associated with the Project are not anticipated due to application of the following measures:

- Process water for the Project will be sustainably sourced from groundwater wells drilled on-site, with supplemental water trucked to the Project Site as needed from licenced local or regional sources capable of sustaining water demands of the Project closed-loop system water recycling process.
- Potable water for Project workers will be sourced from local communities treated water system and trucked to the Project Site if sustainable, or potable water will be sourced from commercial drinking water companies.

- CPS will upgrade the Seymourville water treatment facility to accommodate Project water needs, including increased water demand from employees housed in the community, as required.

The potential to overload local wastewater treatment facilities with Project wastewater will be mitigated by the following:

- Sand processing process water will be recycled back into the wet plant; therefore process waste water will not be generated (Section 2.3.2).
- Wastewater from washroom and shower facilities along with the cafeteria will be directed to a septic holding tank that will be pumped out by a licensed local contractor on an as-needed basis and will be disposed at a local wastewater treatment facility (Section 2.5.1).
- CPS will upgrade the Seymourville wastewater treatment facility/lagoon to accommodate Project wastewater treatment needs, including increased wastewater treatment demand from employees housed in the community, if necessary.

Solid waste will be transported by a licensed local contractor to be disposed at a local licenced landfill to an amount that would be sustainable for the local landfill. Otherwise, solid waste will be transported to, and distributed among, alternative regional licenced landfill sites.

The Project may also initiate the opportunity for entrepreneurship and local partnerships as the need for local community services that would be beneficial for both the local communities and the Project. Examples of services and supplies that would be need for the Project that could be supplied by local and/or regional community services include: uniform and laundry services; shop supplies; janitorial services; fuel, oil and grease supply; grounds keeping and snow removal; small tools and equipment supply; trash removal; office supplies; potable water services; Project road maintenance; catering; health, safety supplies; shipping and expediting.

In consideration of the benefits to the Local Project Area from planned installation of cellular and Wi-Fi services, and opportunity for the establishment of local business to supply required goods and services, there is anticipated to be an overall moderate positive impact to community services.

6.6.3 Land and Resource Use

6.6.3.1 Hunting and Trapping

Magnitude of Effect: Moderate

Direction of Effect: Adverse

Duration of Effect: Long term

Frequency: Continuous

Scope of Effect: Project Site

Reversibility: Reversible

It is predicted that the Project would reduce hunting potential, and trapping success along the local Community Trapline, as a result of wildlife displacement from habitat loss due to Project-related vegetation clearing, sensory disturbance (e.g., noise and human presence), and increased wildlife mortality from vehicle collisions. Additionally, there will be changes in access to traditional hunting and trapping areas. It is anticipated these impacts will be long-term due to construction and operation of the quarry. Results of TEK studies have indicated that both hunting and trapping occur more frequently within the Regional Project Area as compared to the Project Site area (Section 5.1).

Consideration of potential adverse impacts to trapping are addressed in the Economic Participation Agreement with Hollow Water First Nation (**Appendix M**) and will be addressed in pending Participation Agreements with the Incorporated Community of Seymourville and the Community of Manigotagan, both of which have agreed in principal on the essential terms of agreement. Adverse effects to trappers will also be regularly monitored by the Community Oversight Committee. Also, considering the more frequent use of other regional areas for trapping and hunting activities, the impact on hunting and trapping is assessed as moderate.

6.6.3.2 *Berry and Plant Gathering*

Magnitude of Effect: Minor

Direction of Effect: Adverse

Duration of Effect: Long term

Frequency: Continuous

Scope of Effect: Project Site

Reversibility: Reversible

Project-related activities and construction will occur within the Project Site in some areas that are traditionally used for blueberry gathering and medicinal plant gathering, although these activities also occur within the Regional Project Area (**Appendix G**). Therefore, some plants used by the community will be affected by Project construction and operations as a result of removal by clearing for the Project footprint and/or dust deposition during construction and operation activities such as during clearing and grubbing activities and quarrying activities (Section 6.4.1).

The results of the TEK Study and Project Site walk with a local Elder experienced in traditional plant medicines indicated that blueberry and medical plant species were common throughout the region and the Project would have a minimal impact on the collection of edible and traditional medicinal plants (Section 5.1). Quarry sites will average 5 ha in size and will be sequentially rehabilitated each year during Project operations which will allow local plant species, including berries and medicinal plants, to become re-established. Other mitigation measures that will be implemented to avoid or minimize adverse effects on vegetation are provided in Section 6.4.1.

With the application of the above described mitigation measures, the impacts on berry and plant gathering are assessed as minor.

6.6.4 *Recreation and Tourism*

Magnitude of Effect: Negligible to Minor

Direction of Effect: Positive

Duration of Effect: Long term

Frequency: Continuous

Scope of Effect: Local and Regional Project Areas

Reversibility: Reversible

The Project Site area is not located within an area that is used for tourism. During the TEK study (**Appendix G1**), the respected Elders did not indicate that the Project Site was frequented for recreation purposes. Therefore, the Project is not anticipated to have adverse impacts on recreation or tourism in the Local Project Area. With increased employment opportunities in the local and regional communities, there is the potential for recreational activities to increase in the Local and Regional Project Areas with an increase in disposable income.

6.6.5 Human Health and Well-being

Magnitude of Effect: Minor to Moderate

Direction of Effect: Adverse/Positive

Duration of Effect: Long Term

Frequency: Continuous

Scope of Effect: Local and Regional Project Areas

Reversibility: Reversible

Project activities have potential to adversely impact human health and well-being through:

- Increased truck traffic;
 - Emissions from trucks affecting air quality; and
 - Higher potential for traffic accidents;
- Dust and noise generated by Project activities;
- Light pollution from Project activities;
- Potential effects on groundwater;
- Reduced access to trapping, hunting and berry/plant gathering areas; and
- Disruption to natural areas which is contrary to Indigenous traditional teachings and respect for the land.

Mitigation measures that will be implemented to avoid or minimize adverse Project effects to human health and well-being from the above Project-related potential effects are those measures that will be implemented to avoid or minimize adverse effects on vegetation (Section 6.4.1), wildlife (Section 6.4.2), groundwater (Section 6.2.3), air quality (Section 6.5.1), climate (Section 6.5.3), infrastructure and services (Section 6.6.2), local land and resource use (Section 6.6.3) and heritage resources (Section 6.6.7).

Through the implementation of these measures, impacts to human health and well-being as linked to potential adverse effects on the above mentioned environmental components, are assessed as minor to moderate depending on the individual's dependence/exposure to the above activities or environmental components.

Benefits to human health and well-being related to the Project would be associated with:

- Increased employment, training and mentoring opportunities;
 - Leading to increased income that can be used to enhance human health and well-being (e.g., recreational activities; purchasing healthy foods).
- CPS worker wellness programs; and
- CPS is committed to working with service providers to investigate options to provide cellular and Wi-Fi services to the local communities.

Additionally, CPS is proposing the following initiatives in Local Project Area that will enhance Project-related benefits:

- Development of an Agriculture Research Station at the Project Site in spring of 2019 to investigate:
 - Methods for successful native lowland berry transplanting;
 - Berry production, including review of possible varieties;
 - Feasibility of greenhouse season extension; and
 - Experimenting with four-season food production to help generate interest in creating a local source of fresh vegetable production.
- Initiating 'Workforce Development' plans including:

- Mentoring program;
- On-going support and coaching for workers;
- Worker wellness program; and
- Job fair and community workforce inventory, which will start in December 2018 to prepare for training programs to begin in 2019.

These potential benefits of the Project to human health and well-being are assessed as being moderate.

6.6.6 Effects on Indigenous and Treaty Rights

Aboriginal and Treaty Rights protected under Section 35 of the *Constitution Act, 1982*, are essentially communal rights. The proponent respects that the duly elected Council of Hollow Water First Nation is the body that speaks for the communally held rights of its people. As such, CPS has engaged with the duly elected government of Hollow Water first Nation as well as its Elders and community members as a whole, in order to create a dialogue about the Project, its potential impacts, and mitigation and accommodation measures that could be incorporated into its plans for the Project or into economic participation agreements. Collective local support has been expressed for the Project, during its exploration phase, in the form of Memorandums of Understanding between CPS and the Seymourville and CPS and Hollow Water First Nation. Additionally, letters of support have been issued for the Project by the local communities of Seymourville, Manigotagan, Aghaming and Hollow Water First Nation (**Appendix L**). CPS has also entered into an Economic Participation Agreement with Hollow Water First Nation, on November 22, 2018, that provides for various economic and social benefits and opportunities, including employment, contracting and training initiatives (**Appendix M**). With respect to the Economic Participation Agreement with CPS, Hollow Water First Nation has acknowledged in a letter dated December 6, 2018 to Manitoba Sustainable Development that the Project operation activities will be taking place within Hollow Water First Nation's Home Block lands (**Appendix M**). Additionally, CPS and the governments of Seymourville and Manigotagan have agreed in principal on the essential terms of separate Participation Agreements, and are currently finalizing documentation for these agreements.

The Project Site is not within a Traditional Territory of any other Regional Project Area First Nation including the Little Black River, Sagkeeng and Bloodvein First Nations. Considering this Project does not utilize water from, or discharge water to, Lake Winnipeg, resources associated with Lake Winnipeg that First Nations depend on, those identified First Nations within the Regional Project Area (Little Black River, Sagkeeng and Bloodvein First Nations) will not be affected.

In summary, the Project is not anticipated to impact the Indigenous and Treaty Rights of First Nations beyond Hollow Water First Nation.

6.6.7 Heritage Resources

Magnitude of Effect: Minor
Direction of Effect: Adverse
Duration of Effect: Long Term
Frequency: Continuous
Scope of Effect: Project Site
Reversibility: Irreversible

Activities related to Project construction and operations that disturb the land may have the potential to disturb or destroy heritage resources (e.g., unknown archaeological sites). Project activities that disturb the land include clearing and grubbing to prepare the site for construction of the wash and dry facility and

related infrastructure and development of the access roads and powerline to the Project Site. Development of sequential sand quarry sites during Project operation can also disturb or destroy heritage resources that may be present.

Results of a HRIA conducted within the Project Site area from November 1 to 8, 2018, indicated that no archaeological artifacts or features were identified (**Appendix I**). However, through information gathered during TEK studies (**Appendix G**), and other discussions with community Elders, there is still the potential that archaeological artifacts or features may be discovered during Project activities.

The following mitigation measures will be implemented to avoid or minimize potential effects of clearing on known and unknown heritage resources:

- A 100 m clearly marked buffer area where no Project activity can occur will be established around the nearest known heritage resource to the Project Site, which is a new Catholic cemetery at the north-eastern edge of the Project Site (Section 4.6.7).
- A Cultural and Heritage Resources Protection Plan will be developed and reviewed with Project heavy equipment operators prior to the initiation of Project construction and prior to the initiation of new annual quarry excavations.
- Before annual quarry cells are cleared and excavated, an Operational Oversight Committee consisting of representatives from the local communities of Hollow Water First Nation, the Incorporated Community of Seymourville and Manigotagan will be invited by CPS to conduct a site visit to determine if any potential heritage resources may be present.
- If heritage resources are discovered within the Project Site, work will be stopped, Historic Resources Branch and lead representatives from the above-mentioned local communities will be advised, and the discovered historic resources will be recorded by an archaeologist and adequately protected and/or blessed in a traditional ceremony as required.

With the application of the above described mitigation measures, the impacts on heritage resources are assessed as minor.

6.6.8 Overall Impact on the Socioeconomic Environment

The overall socioeconomic environment will be affected both positively and negatively by Project effects. The key positive effect, one that CPS and the communities are most interested in, is the potential for employment and training opportunities for local and regional Indigenous communities. Response from the community (Section 5) has indicated that the potential for employment and training for the community and youth will have a positive impact during the life of the Project and beyond as learned skills and employment experience can be applied elsewhere.

To enhance socioeconomic benefits of the Project and involve the local communities in strategic and tactical decision-making and engagement regarding the Project, CPS and Hollow Water First Nation will jointly be establishing the following 'Advisory Councils':

- Elders Committee
 - That will meet no less than twice per year to provide long-term strategic guidance to CPS regarding the Project.
- Operational Oversight Committee
 - That will meet no less than quarterly to review and approve third-party compliance data, quarrying plans, and restoration and rehabilitation activities. This committee will also be responsible for annual investigation of the area to be disturbed for the coming year.
- Business Strategy Advisory Board

- This Board will provide guidance regarding the business relationships, partnering relationships and potential joint ventures with CPS.

Overall, the positive socioeconomic impacts of the proposed Project are anticipated to be moderate.

The primary potential adverse socio-economic effect of the Project is increased truck traffic along local roads. Mitigation measures that will be implemented to avoid or minimize adverse effects of Project truck traffic to local roads and human health and well-being are provided in Sections 6.5; 6.6.2.1; and 6.7.

Overall, the adverse socioeconomic impacts of the Project are expected to range from minor to moderate.

6.7 Traffic

Results of a traffic assessment study has indicated that the current level of service will be maintained during full Project operations for intersections of the Project main access road at the Hollow Water Road, and for the Hollow Water Road at PR 304 (**Appendix N**).

The following measures are proposed to mitigate potential adverse effects of increased traffic on existing roadways:

- CPS will be paving and maintaining local unpaved road segments used by sand transport trucks, as needed;
- CPS will be discussing with Manitoba Infrastructure other improvements that may be required to roadways used by Project sand transport trucks to/from Winnipeg; and
- Alternative transport routes for, all or a portion of, Project related truck traffic will be considered in discussion with Manitoba Infrastructure, as required.

With the application of the above measures and implementation of Manitoba Infrastructure determinations for required roadway improvements and traffic redirection, as needed, the potential adverse impacts of increased traffic are anticipated to be mitigated to the extent feasible.

6.8 Aesthetics

The active quarry cell, quarry cells in the process of rehabilitation/revegetation, sand wash and dry facility, and ancillary infrastructures will not be visible from public roads. The change to aesthetics in the Project Site area that will be visible to the public will include the new intersections of the Project main access road and powerline right-of-ways and the construction/emergency access road leading to the quarry and plant infrastructure areas, which is currently an access trail. Therefore, changes in the aesthetics of the Local and Regional Project Areas which are normally viewed on a daily basis by the public and local communities are not anticipated to be substantially changed.

6.9 Accidents and Malfunctions

To minimize the probability of accidents and malfunctions, all phases of the proposed Project will be conducted in accordance with applicable regulatory requirements. The following sections provide additional details on precautionary measures that will be implemented by CPS to further minimize the potential for accidents and malfunctions to occur.

6.9.1 Worker Health and Safety

Worker protection in Manitoba is regulated through standards, procedures and training under the *Workplace Safety and Health Regulation, M.R. 219/2015*. Safety equipment and personal protective equipment will be supplied to employees and workers. All contractors and visitors will be subject to site specific environmental health and safety orientation for all phases of the Project.

6.9.2 Spills and Leaks

Environmental effects may occur due to fuel and chemical spills from diesel fuel, lubricants, oils and hydraulic fluids. An accidental release of hazardous materials and/or equipment fluids could occur from improper storage and handling procedures. Accidental releases have the potential to affect air, surface water, groundwater and soils, with consequential effects on vegetation, aquatic resources and possibly human health and safety.

The following standard procedures will be employed to prevent spills from occurring during Project activities:

- Diesel tanks used on-site will be self-contained aboveground storage tank(s);
- When servicing requires drainage or pumping of lubricating oils or other fuels from equipment, a groundsheet of suitable material and size will be spread on the ground to catch all fluid in the event of a leak or spill. An adequate supply of suitable absorbent material and any other supplies and equipment necessary to immediately clean up spills will also be available;
- Storage and disposal of liquid wastes and filters from equipment maintenance, and residual material from spill clean-up will be contained in an environmentally safe manner and in accordance with existing regulations;
- Waste oils, fuels, and other hazardous wastes will be handled in a safe manner. Staff will be required to transport, store and handle all such substances as recommended by the suppliers and/or manufacturers and in compliance with applicable federal, provincial and municipal regulations. Manitoba Sustainable Development will be notified immediately if a reportable spill occurs;
- Fuels, oils or other hazardous materials will be stored only in designated areas;
- Storage sites will be inspected regularly for compliance;
- Personnel on-site will be trained in how to deal with spills, including knowledge of how to properly deploy site spill kit materials which will be available on-site;
- Service and repairs of equipment will only be performed by trained personnel;
- Vehicles and equipment will be maintained to minimize leaks. Regular inspections of hydraulic fuel systems on machinery will be completed on a routine basis; when detected, leaks will be repaired immediately; and
- Fuel and chemical handlers will be trained and qualified and appropriate emergency response measures will be in place and readily available.

With the implementation of the above mitigation measures as necessary and assuming the implementation of safe work practices, the risk of spills is considered to be appropriately mitigated.

6.9.3 Fires and Explosions

The presence of mechanical equipment, fuels and other hazardous materials creates a potential for fires and explosions. Such incidents can harm on-site personnel, cause equipment damage and lead to a release of contaminants, resulting in consequent effects to other environmental components (air, surface water, groundwater, plants, wildlife, aquatic resources and aesthetics). Potential socio-economic effects may occur if a production process shut-down is required in the event of a large accident such as incidents that may require evacuation or disruption of traffic.

Necessary precautions will be taken to prevent fire hazards at the Project Site; including but not limited to:

- Removal of flammable waste on a regular basis and disposal at a licenced disposal facility;
- Workers will be provided with appropriate fire prevention training;
- Appropriate fire extinguishers will be available on the Project Site. Such equipment will comply with and be maintained to the manufacturers' standards and employees will be appropriately trained in their use;
- Storage, transportation and use of hazardous materials, including flammable waste, will be in compliance with regulatory requirements;
- On-site fire prevention/response equipment will be checked on a routine basis and in accordance with local fire safety regulations to maintain proper working order;
- CPS will have a dedicated groundwater well and water storage tank on-site for fire suppression protection which will be regularly inspected for compliance;
- Greasy or oily rags or materials subject to spontaneous combustion will be deposited and stored in appropriate receptacles. This material will be removed from the Project Site on a regular basis and be disposed of at licenced waste disposal facility; and
- Smoking will be restricted to designated areas.

With the measures outlined above, and assuming implementation of safe work practices, the risk of fires and explosions is assessed to be appropriately mitigated.

6.9.4 Transportation Accidents

An increase in traffic has the potential to increase the likelihood for transportation accidents. Transportation accidents can consequently result in the release of pollutants to the environment such as fuel and oils, or materials that the vehicles colliding are transporting (e.g., silica sand; construction wastes). Such accidental releases to the environment could potentially result in secondary effects on other environmental components (e.g., groundwater contamination through seepage, decline in surface water quality through runoff) or tertiary effects on vegetation (e.g., decline of growth potential due to soil contamination), wildlife, aquatic resources and human health. Potential socioeconomic effects may occur if road shutdowns are required in the event of a large accident (traffic interruption could disrupt business and activity if people are not able to commute to work).

The following measures will be employed to reduce the risk of transportation accidents:

- The traffic flow around the Project Site (quarrying, loading of silica sand, deliveries, and pick-ups) will be designed to mitigate potential accidents/traffic back-up entering the Project Site.
- Appropriate speed limits will be posted throughout the Project Site to minimize the potential for on-site transportation accidents.

- On-site transportation accidents resulting in spills will be managed in accordance with CPS's site-specific environmental management procedures and regulatory requirements.
- Personnel retained to drive and operate vehicles and construction equipment will have a valid appropriate-Class Manitoba Driver's License with a copy provided to CPS personnel.
- Speed limits on access roads, local road and Provincial Highways will continue to be implemented. Signage and speed limits on the PR 304 and PTH 59 are regulated by the Province of Manitoba.

The above noted measures are assessed to appropriately mitigate the potential risk of transportation accidents during all phases of the Project.

6.9.5 Power Failure

During all Project phases, there is the potential for environmental effects due to a power failure. Site power may be lost due to a powerline failure, fire/explosion and/or severe weather.

Backup power for all critical infrastructure and equipment will be supplied to the Project Site via diesel generators (Section 2.10).

The supply of backup power is anticipated to appropriately mitigate the potential risks of a power failure during all Project phases.

6.10 Summary of Environmental Effects and Mitigation Measures

Table 6-5 summarizes potential environmental effects of the proposed Project and the design features, standard operating procedures and other mitigation measures that will be implemented.

Table 6-6 summarizes potential accidents and malfunctions and measures to reduce the risk of such occurrences.

With the application of proposed mitigation measures, adverse environmental impacts of the Project are expected to be sufficiently mitigated. CPS is also committed to developing a Closure Plan (Section 7) and implementing environmental monitoring and follow-up measures to verify that implemented mitigation measures are adequate to sufficiently protect the environment (Section 8).

Table 6-5: Summary of Environmental Assessment and Mitigation Measures

Environmental and Social Component	Project Phase	Sources of Potential Effects	Summary of Measures *	Residual Adverse Impact
PHYSICAL ENVIRONMENT				
Geology / Topography	Construction	Clearing, leveling, trenching for water drainage, stockpiling materials during site preparation and construction of access roads, and establishment of associated laydown areas.	Where applicable, existing roads and trails will be utilized to minimize disturbance to the natural topography. An approved Erosion and Sediment Control Plan will be implemented for all phases of the Project.	Moderate
	Operation	Establishment of silica sand quarries.	As part of the quarry methodology, progressive reclamation procedures including quarry backfilling will occur concurrently with advancement of quarrying to return topography to pre-construction conditions to the extent feasible.	
			Levelling and grading will occur upon quarrying completion in a given Extraction Block in efforts to return the landscape to elevations typical to the surrounding area.	
Closure	Sequential annual infilling and revegetation of quarry cells; removal of Project infrastructure and rehabilitation of disturbed areas.	Additional mitigation measures will be detailed in a Closure Plan and submitted to Manitoba Sustainable Development as a requirement under the project licencing process. The Closure Plan will outline detailed mitigation and monitoring requirements for reclamation of the Project Site.		
Soil Erosion, Compaction, and Mixing of Soil Horizons	Construction	Clearing, leveling, trenching for water drainage, stockpiling materials during site preparation and	Soil will be stockpiled for the minimum time period feasible before soil will be redistributed annually over sand depleted quarry cells during the annual quarry progressive rehabilitation process.	Minor
			Surrounding forested land cover will minimize the potential for soil erosion and where required, soil stockpiles will be covered to mitigate soil erosion.	

Environmental and Social Component	Project Phase	Sources of Potential Effects	Summary of Measures *	Residual Adverse Impact
		construction of access roads, and establishment of associated laydown areas.	An approved Erosion and Sediment Control Plan will be implemented for all phases of the project.	
	Operation	Establishment of silica sand quarries.	Cell stripping will take place during fall and winter months. It is anticipated that average weather trends, such as frozen ground and snow cover, will minimize soil erosion.	
			Quarrying and stripping activities will be halted during events of high rain, wind, and runoff to minimize the potential for soil erosion.	
	Closure	Sequential annual infilling and revegetation of quarry cells; removal of Project infrastructure and rehabilitation of disturbed areas.	Additional mitigation measures will be detailed in a Closure Plan and submitted to Manitoba Sustainable Development as a requirement under the project licencing process. The Closure Plan will outline detailed mitigation and monitoring requirements for reclamation of the Project Site.	
Groundwater	Operation	Withdrawing quantities of water that exceed capacity of aquifer and potentially affect groundwater quality.	Process water will be recycled in a closed-loop system for reuse, which reduces the quantity of water required from the aquifer.	Minor
			Quarry operations will not penetrate the bedrock layer which would potentially affect the regional aquifer.	
			Process water will be obtained from water seepage within the active quarry cell to the maximum extent feasible.	
			Process water will be obtained from an alternative licenced water source if on-going water monitoring studies demonstrate an unacceptable risk to groundwater quantity or quality.	
AQUATIC ENVIRONMENT				
Surface Water Quality	Construction, Operation, and Closure	Clearing, leveling, trenching for water drainage, stockpiling materials during site preparation and construction of access roads, establishment of	Construction of culverts along Project access roads, as required, will assist in directing runoff flow and maintaining natural drainage pathways through low areas such as bogs.	Minor
			Wastewater from washroom, shower, and cafeteria facilities will be directed to a septic holding tank, to be pumped out by a licensed local contractor for proper disposal, as a means to prevent potential contamination of local waterbodies with potentially harmful substances.	

Environmental and Social Component	Project Phase	Sources of Potential Effects	Summary of Measures *	Residual Adverse Impact
		associated laydown areas, establishment of silica sand quarries, and removal of Project infrastructure and rehabilitation of disturbed areas.	<p>Project Site ditching will contain water runoff from disturbed areas and will direct runoff water to a sump pit in the active quarry cell for use in the sand wash plant for process water.</p> <p>The fuel depot will be constructed as per regulatory procedures and will include appropriate spill prevention measures to prevent environmental contamination to surface water in the unlikely event of a spill.</p> <p>An approved Erosion and Sediment Control Plan will be implemented for all phases of the project.</p>	
Fish and Fish Habitat	Construction, Operation and Closure	Not applicable.	Not applicable (lack of fish habitat within the Project Site).	Not applicable
TERRESTRIAL ENVIRONMENT				
Vegetation	Construction, Operation and Closure	Clearing, leveling, trenching for water drainage, stockpiling materials during site preparation, and construction of access roads; deposition of dust associated with Project activities (e.g. haul trucks on roads).	<p>Vegetation clearing will be minimized to the extent feasible (e.g., through the use of existing roads and trails, and other previously disturbed areas) and will be clearly marked to avoid clearing more than required.</p> <p>Usable and merchantable timber will be cut and stacked at the Project Site, for no more than one year, for local use as firewood, and/or potential auction for merchantable timber.</p> <p>Areas disturbed during Project construction, not required for Project operations will be revegetated.</p> <p>Quarry areas will be revegetated annually with the extent of annually active quarry area being clearing and undergoing extraction activities limited to an average of 5 ha during the life of the Project.</p> <p>Previously disturbed areas will be revegetated using an approved native seed mixture, and native plantings as required.</p> <p>Revegetated areas will be monitored annually to determine the progress and success of revegetation efforts. If revegetation efforts are not progressing sufficiently, adaptive management techniques will be employed to improve revegetation progress.</p> <p>Additional mitigation measures will be detailed in a Closure Plan and submitted to Manitoba Sustainable Development as a requirement under the</p>	Moderate

Environmental and Social Component	Project Phase	Sources of Potential Effects	Summary of Measures *	Residual Adverse Impact
			<p>project licencing process. The Closure Plan will outline detailed mitigation and monitoring requirements for reclamation of the Project Site.</p> <p>The sand wash and dry facility, including all conveyors and transfer points, will be enclosed and under negative pressure to allow fines to be collected in a bag house fabric filter dust collection system to contain dust.</p> <p>Sand transport trucks will utilize paved roads rather than gravel roads that can generate dust.</p> <p>Sand transport trucks will utilize paved roads rather than gravel roads that can generate dust.</p> <p>Sand truck transport loads will be completely contained with a waterproof sealed load cover which will mitigate dispersion of sand fugitive dust during transport.</p> <p>Revegetation upon quarrying completion for each successive quarry cell to control exposure time of stockpiled materials and prevent wind from distributing fine particles.</p> <p>Ceasing work outdoors during high wind events.</p>	
Wildlife	Construction, Operation, and Closure	Clearing, leveling, trenching for water drainage, stockpiling materials during site preparation and construction of access roads, establishment of associated laydown areas, establishment of silica sand quarries, removal of Project infrastructure and rehabilitation of disturbed areas, and increased traffic as a result of project proceedings.	<p>Vegetation clearing will be minimized to the extent feasible (e.g., through the use of existing roads and trails, and other previously disturbed areas).</p> <p>Vegetation clearing will take place during winter months to the maximum extent feasible to avoid disturbance to breeding birds and other spring breeding wildlife species.</p> <p>Vegetation clearing will not take place during the peak breeding bird season for this 'zone C5' area: April 30 – August 11 (when 80% of species nesting in the area are known to nest); pre-clearing nest searches will be conducted no more than 5 days prior to clearing during the 'shoulder' nesting season outside of this 'peak' nesting timeframe (i.e., April 20 – 29 and August 12 – 31; Government of Canada 2018).</p> <p>Areas disturbed during Project construction, not required for Project operations, will be revegetated.</p> <p>Each annual quarry cell will undergo progressive rehabilitation and revegetation annually with an average of 5 ha, and no more than 20 ha, of quarry area cleared and undergoing extraction activities during any given year during the life of the Project.</p>	Moderate

Environmental and Social Component	Project Phase	Sources of Potential Effects	Summary of Measures *	Residual Adverse Impact
			<p>Previously disturbed areas will be revegetated using an approved native seed mixture, and native plantings as required.</p> <p>The wash and dry facility will be an enclosed building which will minimize sand processing noise and mitigate fugitive dust within the Project Site area.</p> <p>Fully-shielded directional lighting fixtures will be used to focus light specifically to work areas and the wash and dry facility location to minimize the dispersal of light to the surrounding Project site area.</p> <p>The overburden material will be stripped with a dozer and stockpiled adjacent to the active cell to mitigate noise levels as required.</p> <p>Workers will be required not to feed or harass wildlife.</p> <p>Access roads to the Project Site will be gated which will minimize opportunities to access the Project Site area for hunting purposes.</p> <p>Appropriate speed limits will be posted throughout the Project Site to minimize the potential for wildlife collisions.</p> <p>Wildlife warning signage will be posted in areas determined to have a high risk of wildlife collision with traffic.</p>	
Species of Conservation Concern	Construction, Operation	Clearing, leveling, trenching for water drainage, stockpiling materials during site preparation, and construction of access roads, establishment of associated laydown areas, and establishment of silica sand quarries.	<p>Limited amount of cleared vegetation/habitat.</p> <p>Prevalence of similar cover types within the Regional Project Area.</p> <p>Additional measures as listed in Wildlife section above.</p>	Minor to moderate
ATMOSPHERIC ENVIRONMENT				
Air Quality	Construction, Operation and Closure	Generation of greenhouse gases from Project equipment.	<p>Emissions will be minimized by regularly maintaining equipment and vehicles and minimizing idling of vehicles.</p> <p>Power use for the long-term operation of the project will be obtained from hydro-power via a planned powerline which will minimize the need for power from diesel generators.</p>	Minor to Moderate

Environmental and Social Component	Project Phase	Sources of Potential Effects	Summary of Measures *	Residual Adverse Impact
		Dust generation from construction traffic along the main roads and temporary trails, and during other Project activities.	<p>Dust mitigation measures will be applied as outline for the Vegetation section above.</p> <p>If required, dust suppression activities, such as the use of approved dust control agents, will be undertaken on temporary access trails.</p>	
Noise	Construction, Operation and Closure	Noise from wash and dry facility and sources of noise from heavy equipment such as bulldozers and excavators.	<p>The overburden material will be stripped with a dozer and stockpiled adjacent to the active cell to mitigate noise levels as required.</p> <p>The wash and dry facility will be an enclosed building which will minimize sand processing noise within the Project Site area.</p> <p>Strobe reverse backup lights will be used at night for heavy machinery / trucks rather than auditory backup warning alarms / beepers.</p> <p>Usage of active heavy equipment will be offset so that multiple heavy equipment types will not be scheduled to be in use concurrently.</p> <p>Additional noise attenuation mitigation such use of noise shrouds, noise curtains and other temporary noise barriers around noisy equipment and active construction/operation sites will be investigated where needed.</p> <p>Chutes and dumpers will be lined to reduce noise impact where needed.</p> <p>Construction equipment and vehicles will be kept well maintained and will be fitted with mufflers, and other noise mitigation equipment as required.</p> <p>Unnecessary idling and revving of engines will be avoided.</p>	Moderate
Climate / Greenhouse Gases	Construction, Operation, and Closure	Use of heavy machinery, equipment, vehicles, and any additional tools or equipment that consumes fuel.	<p>GHG emissions will be minimized by regularly maintaining equipment and vehicles and minimizing idling of vehicles.</p> <p>Power use for the long-term operation of the project will be obtained from hydro-power via a planned powerline which will minimize the need for power from GHG-emitting diesel generators.</p>	Minor
SOCIOECONOMIC ENVIRONMENT				
Labour Force and Employment	Construction, Operation and Closure	Clearing, leveling, trenching for water drainage, stockpiling materials during site preparation and	<p>Advertising Project-related employment opportunity positions within local communities.</p> <p>Initiating a training program, including 'certified' training skills, for interested local community members in advance of Project construction.</p> <p>Preferentially hiring appropriately-skilled local community members.</p>	Not applicable (moderate positive residual impact)

Environmental and Social Component	Project Phase	Sources of Potential Effects	Summary of Measures *	Residual Adverse Impact
		construction of access roads, establishment of associated laydown areas, establishment of silica sand quarries, and removal of Project infrastructure and rehabilitation of disturbed areas – all activities for which personnel are required.	Educating youth at the local Wanipigow School through school visits and presentations regarding the potential training and employment opportunities that are potentially available.	
Transportation	Operation and Closure	Local Project Area roads that will be used by heavy truck traffic during the operation and closure phases have the potential to damage the existing condition of local roads, which may potentially limit traffic access while required road repairs are underway.	Pave and maintain the segment of the Hollow Water Main Road leading from the Project Site entrance to PR 304, and the currently unpaved section of PR 304 from Hollow Water Main Road to Manigotagan to the appropriate Manitoba Infrastructure roadway standards, and pending obtaining required permits from Manitoba Infrastructure, to accommodate heavy truck traffic. Continue discussions with Manitoba Infrastructure to determine the most appropriate intersection location of the Main Access Road with Hollow Water Main Road, and any improvements that may be warranted to PR 304 to accommodate heavy truck traffic.	Minor negative/ positive residual impact
Emergency Services	Construction, Operation, and Closure	More frequent utilization of emergency services due to project activities, which increases the chances of injury.	Have an Emergency Response Plan that will be available on-site during Project construction and operation that will clearly outline appropriate emergency response protocol. An on-site groundwater well and water holding tank will be dedicated to emergency fire suppression. CPS will notify Local and Regional Project Area emergency services when Project construction and operation will begin.	Minor
Community Services		Provision of cellular and Wi-Fi services to the	Process water for the Project will be sustainably sourced from groundwater wells drilled on-site, with supplemental water trucked to the Project Site as	

Environmental and Social Component	Project Phase	Sources of Potential Effects	Summary of Measures *	Residual Adverse Impact
	Construction, Operation, and Closure	Local Project Area, increased water and wastewater demands, increased solid waste production, initiation of entrepreneurship opportunities.	<p>needed from licenced local or regional sources capable of sustaining water demands of the Project closed-loop system water recycling process.</p> <p>Potable water for Project workers will be sourced from local communities treated water system and trucked to the Project Site if sustainable, or potable water will be sourced from commercial drinking water companies.</p> <p>Potable water for Project workers will be sourced from local communities treated water system and trucked to the Project Site if sustainable, or potable water will be sourced from commercial drinking water companies.</p> <p>CPS will upgrade the Seymourville water treatment facility to accommodate Project water needs, including increased water demand from employees housed in the community, if necessary.</p> <p>Silica sand processing process water will be recycled back into the wet plant; therefore process waste water will not be generated.</p> <p>Wastewater from washroom and shower facilities along with the cafeteria will be directed to a septic holding tank that will be pumped out by a licensed local contractor on an as-needed basis and will be disposed at a local wastewater treatment facility.</p> <p>CPS will upgrade the Seymourville wastewater treatment facility/lagoon to accommodate Project wastewater treatment needs, including increased wastewater treatment demand from employees housed in the community, if necessary.</p> <p>Solid waste will be transported by a licensed local contractor to be disposed at a local licenced landfill to an amount that would be sustainable for the local landfill. Otherwise, solid waste will be transported to, and distributed among, alternative regional licenced landfill sites.</p> <p>The Project may also initiate the opportunity for entrepreneurship as the need for local community services that would be beneficial for both the local communities and the Project (e.g. uniform and laundry services; shop supplies; janitorial services; fuel, oil and grease supply; grounds-keeping and snow removal; small tools and equipment supply; trash removal; office supplies; potable water services; plant road maintenance; catering; health, safety supplies; shipping and expediting).</p>	Not applicable (moderate positive residual impact)

Environmental and Social Component	Project Phase	Sources of Potential Effects	Summary of Measures *	Residual Adverse Impact
Hunting and Trapping	Construction, Operation, and Closure	Clearing, leveling, trenching for water drainage, stockpiling materials during site preparation and construction of access roads, establishment of associated laydown areas, establishment of silica sand quarries, removal of Project infrastructure and rehabilitation of disturbed areas, and increased traffic as a result of project proceedings.	Consideration of potential adverse impacts to trapping are addressed in the Economic Participation Agreement with Hollow Water First Nation and will be addressed in pending Participation Agreements with the Incorporated Community of Seymourville and the Community of Manigotagan, both of which have agreed in principal on the essential terms of agreement. Adverse effects to trappers will also be regularly monitored by the Community Oversight Committee.	Moderate
			Additional measures as outlined in Wildlife .	
Berry and Plant Gathering	Construction, Operation, and Closure	Clearing, leveling, trenching for water drainage, stockpiling materials during site preparation and construction of access roads, establishment of associated laydown areas, establishment of silica sand quarries, removal of Project infrastructure and rehabilitation of disturbed areas.	Quarry cells will be sequentially rehabilitated each year during Project operations which will allow local plant species, including berries and medicinal plants, to become re-established.	Minor
			Additional measures as outlined in Vegetation .	

Environmental and Social Component	Project Phase	Sources of Potential Effects	Summary of Measures *	Residual Adverse Impact
Recreation and Tourism	Construction, Operation, and Closure	Increased employment opportunities in the local and regional communities.	With increased employment opportunities in the local and regional communities, there is the potential for recreational activities to increase in the Local and Regional Project Areas with an increase in disposable income.	Not applicable (moderate positive residual impact)
Human Health and Well-being	Construction, Operation, and Closure	Increased truck traffic, reduced access to trapping, hunting, and berry/plant gathering areas, disruption to natural areas which is contrary to Indigenous traditional teachings and respect for the land.	Refer to above mitigation measures that will be applied regarding the Physical Environment; Terrestrial Environment and Atmospheric Environment .	Moderate
		Increased employment and training opportunities, increased availability of communications technology.	CPS will be initiating 'Workforce Development' plans including: - Mentoring program; - Ongoing support and coaching for workers; - Worker wellness program; and - Job and community workforce inventory.	Not applicable (moderate positive residual impact)
Effects on Indigenous and Treaty Rights	Construction, Operation, and Closure	All aspects and activities related to the Project may adversely impact individuals' Indigenous and Treaty Rights under Section 35 of the <i>Constitution Act, 1982</i> .	Collective local support has been expressed for the Project, during its exploration phase, in the form of Memorandums of Understanding between CPS and the Seymourville and CPS and Hollow Water First Nation. Additionally, letters of support have been issued for the Project by the local communities of Seymourville, Manigotagan, Aghaming and Hollow Water First Nation (Appendix L). CPS has also entered into an Economic Participation Agreement with Hollow Water First Nation, on November 22, 2018, that provides for various economic and social benefits and opportunities, including employment, contracting and training initiatives (Appendix M). With respect to the Economic Participation Agreement with CPS, Hollow Water First Nation has acknowledged in a letter dated December 6, 2018 to Manitoba Sustainable Development that the Project operation activities will be taking place within Hollow Water First Nation's Home Block lands (Appendix M). Additionally, CPS and the governments of Seymourville and Manigotagan have agreed in principal on the essential	None anticipated. Although each Indigenous individual may have an opinion regarding if his/her Indigenous and Treaty Rights under Section 35 of the <i>Constitution Act, 1982</i> will be adversely impacted by the Project, Aboriginal and Treaty Rights protected under Section 35 of the <i>Constitution Act, 1982</i> , are essentially

Environmental and Social Component	Project Phase	Sources of Potential Effects	Summary of Measures *	Residual Adverse Impact
			terms of separate Participation Agreements, and are currently finalizing documentation for these agreements. The Project Site is not within a Traditional Territory of any other Regional Project Area First Nation including the Little Black River, Sagkeeng and Bloodvein First Nations.	communal rights. The proponent respects that the duly elected Council of Hollow Water First Nation is the body that speaks for the communally held rights of its people.
Heritage Resources	Construction and Operation	Clearing, leveling, trenching for water drainage, stockpiling materials during site preparation and construction of access roads, establishment of associated laydown areas, and establishment of silica sand quarries.	A 100 m clearly marked buffer area where no Project activity can occur will be established around the nearest known heritage resource to the Project Site, which is a new Catholic cemetery at the north-eastern edge of the Project Site.	Minor
			A Cultural and Heritage Resources Protection Plan will be developed and reviewed with Project heavy equipment operators prior to the initiation of Project construction and prior to the initiation of new annual quarry excavations.	
			Before annual quarry cells are cleared and excavated, lead representatives from the local communities of Hollow Water First Nation, the Incorporated Community of Seymourville and Manigotagan will be advised so that respected Elders from the communities can be invited by community lead representatives and CPS to conduct a site visit to determine if any potential heritage resources may be present.	
			If heritage resources are discovered within the Project Site, work will be stopped, Historic Resources Branch and lead representatives from the above-mentioned local communities will be advised, and the discovered historic resources will be recorded by an archaeologist and adequately protected and/or blessed in a traditional ceremony as required.	
Aesthetics	Construction and Operation	Project activities will alter the viewscape.	Changes in the aesthetics of the Local and Regional Project Areas which are normally viewed on a daily basis by the public and local communities are not anticipated to be substantially changed.	Negligible

*Additional mitigation measures are proposed in the Closure Plan (**Section 7**) and submitted to Manitoba Sustainable Development as a requirement under the project licencing process. **Section 7** outlines detailed mitigation and monitoring requirements for reclamation of the Project Site.

Table 6-6: Summary of Potential Accidents and Malfunctions and Measures to Mitigate Risk of Occurrence

Risks Associated with Accidents and Malfunctions	Project Phase	Possible Consequences	Measures to Reduce Risk of Occurrence	Conclusion
Worker Health and Safety	Construction, Operation and Closure	Risk of workplace accidents affecting worker health.	Worker protection in Manitoba is regulated through standards, procedures, and training under the Workplace Safety and Health Regulation, M.R. 219/2015.	Risk is assessed to be appropriately mitigated
			Safety equipment and personal protective equipment will be supplied to employees and workers.	
			All contractors and visitors will be subject to site specific environmental health and safety orientation for all phases of the Project.	
Spills and Leaks	Construction, Operation and Closure	Spills and leaks from diesel fuel, lubricants, oils, hydraulic fluids, and other hazardous materials can have adverse effects to air quality, water quality, groundwater quality, wildlife, plants and human health and safety.	Diesel tanks used on-site will be self-contained aboveground storage tank(s).	Risk is assessed to be appropriately mitigated
			When servicing requires drainage or pumping of lubricating oils or other fuels from equipment, a groundsheet of suitable material and size will be spread on the ground to catch all fluid in the event of a leak or spill. An adequate supply of suitable absorbent material and any other supplies and equipment necessary to immediately clean up spills will also be available.	
			Storage and disposal of liquid wastes and filters from equipment maintenance, and residual material from spill clean-up will be contained in an environmentally safe manner and in accordance with existing regulations.	
			Waste oils, fuels, and other hazardous wastes will be handled in a safe manner. Staff will be required to transport, store, and handle all such substances as recommended by the suppliers and/or manufacturers and in compliance with applicable federal, provincial, and municipal regulations. Manitoba Sustainable Development will be notified immediately if a reportable spill occurs.	
			Fuels, oils, or other hazardous materials will be stored only in designated areas.	
			Storage sites will be inspected regularly for compliance.	
			Personnel on-site will be trained in how to deal with spills, including knowledge of how to properly deploy site spill kit materials which will be available on-site.	
			Service and repairs of equipment will only be performed by trained personnel.	

Risks Associated with Accidents and Malfunctions	Project Phase	Possible Consequences	Measures to Reduce Risk of Occurrence	Conclusion
			<p>Vehicles and equipment will be maintained to minimize leaks. Regular inspections of hydraulic fuel systems on machinery will be completed on a routine basis; when detected, leaks will be repaired immediately.</p> <p>Fuel and chemical handlers will be trained and qualified, and appropriate emergency response measures will be in place and readily available.</p>	
Fires and Explosions	Construction, Operation and Closure	Accidental fires and explosions from mechanical equipment, fuels, and other hazardous materials may result in loss of equipment and infrastructure, worker health and safety risk, and deterioration or loss of natural habitat.	<p>Removal of flammable waste on a regular basis and disposal at a licenced disposal facility.</p> <p>Workers will be provided with appropriate fire prevention training.</p> <p>Appropriate fire extinguishers will be available on the Project Site. Such equipment will comply with and be maintained to the manufacturers' standards, and employees will be appropriately trained in their use.</p> <p>Storage, transportation and use of hazardous materials, including flammable waste, will be in compliance with regulatory requirements.</p> <p>On-site fire prevention/response equipment will be checked on a routine basis and in accordance with local fire safety regulations to maintain proper working order.</p> <p>CPS will have a dedicated groundwater well on-site for fire suppression protection which will be regularly inspected for compliance.</p> <p>Greasy or oily rags or materials subject to spontaneous combustion will be deposited and stored in appropriate receptacles. This material will be removed from the Project Site on a regular basis and be disposed of at licenced waste disposal facility.</p> <p>Smoking will be restricted to designated areas.</p>	Risk is assessed to be appropriately mitigated
Transportation Accidents	Construction, Operation and Closure	Vehicular collisions (human health and safety, traffic disruption, road closure, release of contaminants) and	<p>The traffic flow around the Project Site (quarrying, unloading of silica sand, deliveries, and pick-ups) will be designed to mitigate potential accidents/traffic back-up entering the Project Site.</p> <p>An appropriate speed limit will be posted throughout the Project Site to minimize the potential for on-site transportation accidents.</p> <p>On-site transportation accidents resulting in spills will be managed in accordance with CPS' site-specific environmental management procedures and regulatory requirements.</p>	Risk is assessed to be appropriately mitigated

Risks Associated with Accidents and Malfunctions	Project Phase	Possible Consequences	Measures to Reduce Risk of Occurrence	Conclusion
		wildlife collisions (loss of wildlife, human health and safety, road closures).	Personnel retained to drive and operate vehicles and construction equipment will have a valid appropriate-Class Manitoba Driver's License with a copy provided to CPS personnel. Speed limits on access roads, local road, and Provincial Highways will continue to be implemented. Signage and speed limits on the Provincial Road 304 and PTH 59 are regulated by the Province of Manitoba.	
Power Failure	Construction, Operation and Closure	Loss of power potentially leading to equipment malfunctions and accidents.	Backup power for all critical infrastructure and equipment will be supplied to the Project Site via diesel generators (Section 2.10).	Risk is assessed to be appropriately mitigated

7. Closure Plan

At the request of Manitoba Sustainable Development, a Closure Plan will be developed and submitted to Manitoba Sustainable Development for this Project accordance with the Manitoba Mine Closure Regulation 67/99 General Closure Plan Guidelines, although this Project is proposed to be licenced under *The Environment Act*. For this reason, the cost estimate associated with a required Closure Plan under *The Mines and Minerals Act* has not been provided at this time, but will be provided on request from the applicable regulatory agency.

7.1 Site Decommissioning

The decommissioning of the Project will be conducted in accordance with a Closure Plan and will generally include the following:

- Removal of buildings, and foundations as applicable;
- Removal and disposal of miscellaneous infrastructure (e.g., powerlines, generators);
- Removal of surface and excavation equipment;
- Removal of propane, fuel and oil tanks, as applicable;
- Testing and remediation of contaminated soils, as required;
- Full decommissioning of quarry cells;
- Re-grading and contouring of previously disturbed areas; and
- Revegetation of disturbed areas to restore the landscape to native conditions to the extent feasible.

As observed at previous mine and quarry closures in the region, the growth of grasses and mosses is expected within the first few years following closure. The establishment of shrubs and trees is expected to be evident within 5 to 10 years following closure.

7.2 End Use

At the Project end of life, the Project Site will be returned to a natural state to the extent possible, with no known plans for residential, commercial or industrial development on the site at this time.

8. Monitoring and Follow-up

Monitoring programs involve collection and analysis of data to identify changes or trends over time. Results from monitoring programs inform effectiveness of mitigation measures that are implemented for environmental protection and are used to check compliance with environmental standards and regulations. Monitoring programs assist in identifying if follow-up actions are required to adequately protect the environment. Follow-up actions may include application of adaptive management options such as changes to mitigation efforts and/or techniques. Proposed monitoring programs for this Project are described in Sections 8.1 to 8.4.

8.1 Success of Revegetation Efforts

A revegetation monitoring program will be implemented to determine the effectiveness of revegetation techniques used on previously disturbed land as described in Section 6.4.1 and to determine if follow-up reseeded or replanting is required. The monitoring program will include quarterly monitoring during the growing season each year of the Project until the seedlings appear to be established. Quarterly monitoring will continue for each sequentially closed quarry cell and during the Project closure phase for a minimum of six years as recommended in Manitoba Government's General Closure Plan Guidelines (Manitoba Growth, Enterprise and Trade 2017) to determine if the revegetated areas are self-sufficient. Successful revegetation will be one of the factors considered by Manitoba Sustainable Development to determine when the Project Site has been sufficiently 'closed' in accordance with a Closure Plan (Section 7; Section 8.4).

8.2 Groundwater Monitoring

As part of the pre-construction exploration activities under the CPS quarry leases, CPS will be establishing a number of groundwater test wells in January 2019 to gather adequate information on the potential for Project process water to be sustainably sourced from groundwater. Assuming that pre-construction groundwater testing indicates that some quantity of groundwater can be sustainably used for Project operations, select groundwater test wells will remain in place throughout operation and groundwater quality and quantity will continue to be monitored during the construction and operation phases in accordance with Environment Act Licence requirements.

8.3 Air Quality Monitoring

During the Project operation phase, CPS will establish air quality monitoring stations within the Project Site and the vicinity of potential receptors closest to the Project activities. Air quality reports will be submitted to Manitoba Sustainable Development at the frequency required by Manitoba Sustainable Development. Should air quality issues arise that require mitigation, CPS will engage with Manitoba Sustainable Development to determine appropriate adaptive management to resolve issues as required.

8.4 Closure Plan Review

A proposed Closure Plan (Section 7) will be developed for review and approval by Manitoba Sustainable Development, as requested, under the Project licensing process. The proposed Closure Plan will outline detailed mitigation and monitoring activities that will be implemented to rehabilitate the Project Site during

the closure phase of the Project. Pending Manitoba Sustainable Development review of a proposed Closure Plan, the Closure Plan may be revised to reflect changes or additional requirements that may be needed. As part of a Closure Plan submission, closure cost estimates and financial assurances are required and will be submitted by CPS to Manitoba Sustainable Development as part of the Project licensing process.

9. Conclusion

The success of the Project would be a substantial benefit to the Local and Regional Project Area communities in terms of employment, and potential business opportunities related to the services that will be required for the Project. During peak production, require 75 employees for Project operations with up to 50 truck drivers required to transport silica sand to Winnipeg for distribution. In particular, the Indigenous communities in the vicinity of the Project Site would especially benefit from CPS's planned employment training, mentoring and well-being initiatives associated with this Project.

Although there will be some limited vegetation clearing associated with the initial development and operation of the Project within the Project Site (approximately 83 ha), the quarry cell area that will be disturbed in any given year will average 5 ha (maximum of 20 ha per year), with previous quarry cells progressively rehabilitated annually in sequence. It is anticipated that the activities set out in a Closure Plan that will be provided to Manitoba Sustainable Development will restore the Project footprint to as close to a natural condition as feasible at the end of the Project life. Considering the Project Site does not have rare or particularly sensitive land cover and the existing land cover is common within the Lac Seul Upland Ecoregion within which the Project is located, long-term adverse effects to vegetation and regional wildlife populations, including species at risk populations, are not anticipated. There is no fish habitat within the Project Site; therefore, adverse impacts to fish or fish habitat are not anticipated.

Groundwater resources at the Project Site are being investigated and will be monitored to determine the sustainability of the groundwater resource for use in the sand wash plant process and associated ancillary uses. To mitigate groundwater withdrawal effects, process water will be recycled in a closed-loop system for reuse which reduces the quantity of water required from the aquifer. If required, a 3 m tall x 30.5 m diameter water storage tank will be constructed to retain water required for project processes if the amount of process water required needs to be supplemented from a source other than the regional aquifer. Process water will be obtained from alternative licenced water sources if on-going water monitoring studies demonstrate an unacceptable risk to groundwater quantity or quality. No process waste water will be generated, and therefore no effluent discharged to the aquatic environment.

Noise generated from Project quarrying and sand processing activities is expected to be adequately attenuated from the nearest human receptors by the surrounding densely forested area, combined with the completely enclosed wash and dry facility, depth of the active quarry site, and berms of overburden at quarries as required. Noise disturbances to wildlife are expected to be moderate in the vicinity of Project construction and operation activities, but are not expected to measurably affect wildlife populations within the Lac Seul Upland Ecoregion within which the Project is located. Air quality during Project operations will be monitored with regular reports issued to Manitoba Sustainable Development. Should air quality issues arise that require mitigation, CPS will engage with Manitoba Sustainable Development to determine appropriate adaptive management to resolve issues as required.

Truck traffic will be substantially increased in the Regional Project Area as the sand is transported from the Project Site to Winnipeg for distribution to national and international markets over the life of the Project. CPS's commitment to paving the Project main access road and paving the currently unpaved sections of Hollow Water First Nation main road and PR 304 used by haul trucks will largely mitigate impacts to the condition of existing local roads, and will mitigate the potential for dust generation. The main access road to the Project Site will be designed to required safety standards. CPS will work with

Manitoba Infrastructure to determine safe intersection options and upgrades to the Hollow Water First Nation main road, and PR 304, as required.

The results of a Heritage Resource Impact Assessment conducted in November 2018 has indicated that no heritage resources were discovered within the Project Site and there is not a high potential for undiscovered heritage resources to be disturbed as a result of Project activities.

CPS's Engagement Program, including a TEK study, has indicated that although some traditional activities such as trapping and plant use (e.g., berry picking) does occur within the Project Site, the local communities have generally expressed support for the Project. Letters of support have been issued for the Project by the local potentially impacted communities, including the Seymourville, Manigotagan, Aghaming and Hollow Water First Nation. CPS entered into an Economic Participation Agreement with Hollow Water First Nation, on November 22, 2018, that provides for various economic and social benefits and opportunities, including employment, contracting and training initiatives. Additionally, CPS and the governments of The Incorporated Community of Seymourville and the Community of Manigotagan have agreed in principal on the essential terms of separate Participation Agreements, and are currently finalizing documentation for these agreements. Therefore, the Project is not expected to substantially and adversely impact the social or economic culture of Indigenous communities, or infringe upon the exercise of Indigenous or Treaty Rights protected under Section 35 of the *Constitution Act, 1982*.

In summary, and with the application of the proposed mitigation measures and monitoring plans outlined in this report, adverse residual environmental impacts resulting from the Project are anticipated to be sufficiently mitigated.

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