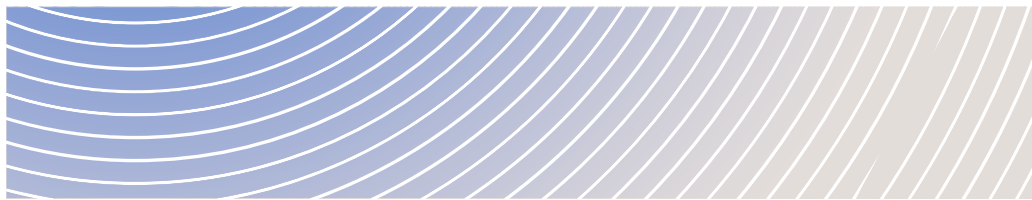




Analysis Report



WHETHER TO DESIGNATE THE **VIVIAN SAND PROCESSING FACILITY PROJECT AND THE VIVIAN SAND EXTRACTION PROJECT** IN MANITOBA PURSUANT TO THE *IMPACT ASSESSMENT ACT*

October 2020

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Purpose

The Impact Assessment Agency of Canada (the Agency) prepared this report for consideration by the Minister of Environment and Climate Change Canada (the Minister) in deciding whether to designate the Vivian Sand Processing Facility Project and the Vivian Sand Extraction Project pursuant to section 9 of the *Impact Assessment Act* (IAA).

Projects

Vivian Sand Processing Facility Project:

CanWhite Sands Corp. (the Proponent) is proposing the construction and operation of the Vivian Sand Processing Facility Project (the Facility Project), a new silica sand processing facility located within the Rural Municipality of Springfield, about 35 kilometres east of Winnipeg, Manitoba. As proposed, the Vivian Sand Processing Facility Project would produce over 1.3 million tonnes of silica sand per year, and be located on private land designated for aggregate/industrial activities and adjacent to existing CN Rail infrastructure. The project, which would include the construction of a wet plant, a dry plant and a rail load out, would receive trains on a weekly basis to allow for the transportation of the silica sand product to national and international markets.

The Proponent has submitted their Environment Act Proposal to Manitoba Climate and Conservation for the Facility Project and it is currently under review. This proposal¹ was considered in the Agency's analysis.

Vivian Sand Extraction Project:

The Proponent has indicated that it intends to submit an application to Manitoba Conservation and Climate under Manitoba's *Environment Act* for the construction and operation of the Vivian Sand Extraction Project (the Extraction Project), which would supply the Facility Project. The Proponent has indicated that extraction would involve temporary water well drill holes located on small sites for brief periods of time. Air would be injected into the drill holes to flow water and sand to the surface as a slurry. The slurry would be transported to the processing facility using a moveable slurry line, which would be re-located from site to site as the drilling rigs relocate. The Extraction Project would be using a novel process and the Proponent is undertaking studies to understand the process and its potential interactions with the environment.

¹ CanWhiteSands Vivian Sand Facility Environment Act Proposal is available on the Manitoba Sustainable Development Public Registry: <https://www.gov.mb.ca/sd/eal/registries/6057canwhite/index.html>

Context of Request

On Aug 18, 2020, the Minister received a request to designate the Facility Project and the Extraction Project from What the Frack Manitoba. The Minister and Agency have also received designation requests for the Facility Project and the Extraction Project on August 24 and September 8 and 28, 2020, from Brokenhead Ojibway Nation, Manitoba Metis Federation, Jon Gerrard MLA-River Heights, Manitoba, and Lisa Naylor MLA Wolseley, Manitoba, respectively. The requesters expressed similar concerns including about changes to the environment (groundwater, surface water, water quality/quantity) and their effects to fish and fish habitat and species at risk, cumulative effects, consultation efforts, impacts to the rights of Indigenous peoples, human health and socio-economic conditions and the use of novel technologies. The letters also requested that the Facility Project and the Extraction Project be considered as one project under the IAA.

The Agency requested advice and/or input from the proponent, federal authorities, Manitoba Conservation and Climate, and potentially affected Indigenous groups.

The proponent responded on September 11, 2020, with information about the Project, a response to the requesters' concerns, and its view that the Project should not be designated.

Advice on applicable legislative mechanisms and potential effects due to the Project was received from Environment and Climate Change Canada, Fisheries and Oceans Canada, Natural Resources Canada, Transport Canada, Employment and Social Development Canada, and Women and Gender Equality Canada. Manitoba Conservation and Climate also provided advice. The Agency also received and considered submissions from Indigenous groups including Brokenhead Ojibway Nation and Manitoba Metis Federation, stakeholders and the public, including the Manitoba Eco Network and additional submissions from What the Frack Manitoba and representatives.

Project Context

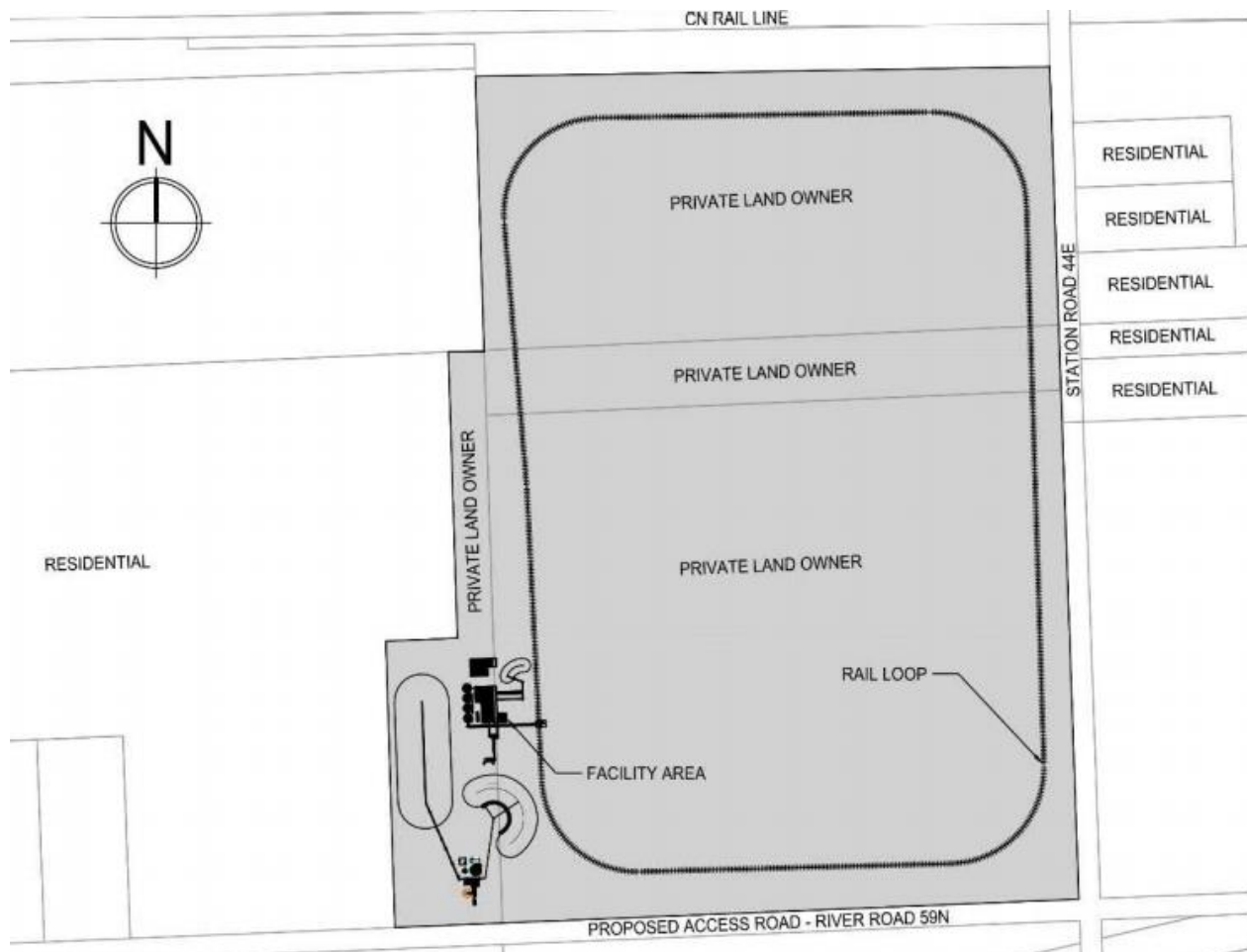
Project components and activities

Vivian Sand Processing Facility Project:

- A sand wash and dry facility that will include a 'Wet Plant', a 'Dry Plant' and the following associated components;
 - Two outdoor stockpiles of wet sand ready to be processed;
 - One outdoor sand reject pile associated with each the Wet Plant and Dry Plant;
 - Four dry sand product fully enclosed storage silos;
 - Ancillary structures, including permanent office, staff kitchen, washrooms, operator control centre, maintenance building and storage buildings;

- Rail loop track (approximately 3.5 km length, covering 47.1 ha in total) connecting with a rail load out for direct sand product loading to enclosed railcars, and for railcar storage; and
- A 5 m wide single-lane gravel access road approximately 1 km in length to the Project site, with 1 m wide shoulders on either side for passing.
- The processing facility is proposed to use 200 – 300 US gallons of water/day (757 – 1,136 L/day), which is the approximate daily usage of a household of four to six people.

Figure 1: Vivian Sand Processing Facility Project Map



[Source: CanWhite Sand Manitoba Environmental Act Proposal]

Key Components of the Vivian Sand Extraction Project:

The proponent has indicated that it would harvest sand through temporary, portable harvest sites, lasting around 5 days, which would involve the drilling of 25 cm sized vertical wells with immediate ongoing reclamation. The wells would be cemented in place, and a separate 15 cm extraction tube would be placed inside the wellbore to the formation. Air would be introduced via another smaller tube to the configuration to

extract solids and fluids from the formation. The Proponent has not provided a detailed account of key components of these wells, however, has indicated that the process will not require open pits, use of chemicals within the aquifer, acid rock drainage, surface discharge, truck traffic, or production or transportation dust. Each temporary harvest well that is abandoned after use will be required to comply to Manitoba's *Mines and Minerals Act*, Drilling Regulation, 1992. Less than 5% of the total resource would be extracted.

Once the sand has reached the surface, it will be placed into a temporary, movable water transportation loop with up to 15% sand by volume, and transported to the Vivian Sand Processing Facility. The sand would be removed from the slurry at the processing facility, and the water returned to the water transportation loop to transport more sand. The water loop would be comprised of high-density poly pipe and portable pumps. A map of the extraction area has not been provided to the Agency at this time.

Analysis of Designation Request

Authority to designate the Project

The *Physical Activities Regulations* (the Regulations) of the *Impact Assessment Act* (IAA) identify the physical activities that constitute designated projects. The Facility Project and the Extraction Project, as described in the information provided by the proponent, are a silica processing facility, and a novel silica extraction process. Neither of these are included in the Regulations.

Under subsection 9(1) of the IAA the Minister may, by order, designate a physical activity that is not prescribed in the Regulations. The Minister may do this, if, in the Minister's opinion, the physical activity may cause adverse effects within federal jurisdiction or adverse direct or incidental effects, or public concerns related to those effects warrant the designation.

Under subsection 9(2) of the IAA, before making the order, the Minister may consider the potential for a physical activity to have adverse impacts on the rights of the Indigenous peoples of Canada — including Indigenous women — recognized and affirmed by section 35 of the Constitution Act, 1982,

Under subsection 9(3) of the IAA, the Agency may require any person or entity to provide information with respect to any physical activity that can be designated under subsection 9(1).

The carrying out of the Facility Project or the Extraction Project has not substantially begun and no federal authority has exercised a power or performed a duty or function that would permit either project to be carried out, in whole or in part.²

² The Minister must not make the designation if the carrying out of the physical activity has substantially begun, or a federal authority has exercised a power or performed a duty or function in relation to the project (subsection 9(7) of IAA).

Given this understanding, the Agency is of the view that the Minister may consider designating the Facility Project and/or the Extraction Project pursuant to subsection 9(1) of IAA.

Potential adverse effects within federal jurisdiction

Vivian Sand Processing Facility Project:

The potential for adverse effects within federal jurisdiction, as defined in section 2 of IAA, would be limited through project design and by application of standard mitigation measures for the Facility Project. There are no federal lands in the vicinity of the Facility Project. The Project would be located on previously disturbed, privately owned land designated for aggregate/industrial activities and adjacent to existing CN Rail infrastructure.

The potential changes in the environment that would cause effects within federal jurisdiction from the Vivian Sand Processing Facility Project would be managed through existing legislative mechanisms. No adverse effects on federal lands are expected from the Facility Project. Environment and Climate Change Canada has advised that based on the Proponent's air dispersion modelling, concentrations of NO₂ have the potential to exceed the Canadian Ambient Air Quality Standards (CAAQS). Storage and handling of the product will also result in elevated levels of airborne and deposited particulate matter due to fugitive dust emissions. The proponent notes that exceedances of the Manitoba Ambient Air Quality Criteria would occur only 0.3% of the time that the Processing Facility is in operation, and only under worst-case scenario, and that they would be limited to within 20 to 70 metres from the CanWhite property boundary. There is no exceedance beyond the property boundary in any other direction or circumstance. It is expected that any effects related to air emissions would be managed through existing legislative mechanisms pursuant to Manitoba's *Environment Act*.

The Proponent's provincial Environment Act Proposal for the Facility Project indicates that it will generate approximately 34,324 tonnes CO₂e/year during dryer operations. Increases in greenhouse gas emissions (GHG) have the potential to affect climate change. Given the global nature of greenhouse gases and climate change, the Agency considers effects from their release to be transboundary in nature.

The proponent has indicated that there will be no discharge to natural waterways and the province of Manitoba has indicated that, if approved, the Facility Project would need to comply with potential conditions. Adverse effects on fish and fish habitat for the Vivian Sand Facility Project would be limited through project design, the application of standard mitigation measures and through existing legislative mechanisms pursuant to Manitoba's *Environment Act*, and compliance with the *Fisheries Act*.

The footprint of the Facility Project is 17 hectares and the landcover types likely support breeding habitat for many species of migratory birds. The Environment Act Proposal describes that vegetation clearing will be limited to the extent feasible and that vegetation clearing will take place outside of the spring and summer months to the maximum extent feasible to avoid disturbance to breeding birds and other spring breeding wildlife species. Vegetation clearing will not take place during the peak breeding bird season

(April 25 – August 15). These measures and compliance with the *Migratory Birds Convention Act, 1994* would mitigate potential effects to migratory birds.

ECCC has further advised that proposed vegetation clearing and land disturbance for the Facility Project may affect species at risk. These include the Golden-winged Warbler, Red-headed Woodpecker, and Little Brown Myotis. These three species are also listed under Manitoba's *The Endangered Species and Ecosystems Act*. Potential effects to habitat that may contain residences of Red-headed Woodpecker and maternal roosts of Little Brown Myotis may be present in portions of the Project site occupied by mature forest and large diameter trees, and these should be evaluated and avoided in specific planning, in consideration of information available in recovery strategy documents. The proponent has considered these species and other species of conservation concern in their provincial application. The Environment Act Proposal indicates that the Facility Project site has few mature trees that would be suitable for bat maternity cavity roost sites and that there are no hibernacula (winter shelter) present or likely. Potential impacts to species at risk are considered in the provincial regulatory process through consultation with the Wildlife and Fisheries Branch. Based on the information provided at this time describing the Facility Project, ECCC notes that SARA permits are unlikely to be required as the Processing Facility Project is not on federal lands and Project components are not anticipated to affect residences or individuals, or designated Critical Habitat.

With respect to the section 35 rights of Indigenous peoples, impact on the current use of lands and resources for traditional purposes may occur from the Vivian Sand Processing Facility Project as the Regional Project Area is within an area recognized by the Manitoba Metis Federation as an area for Metis Natural Resource Harvesting. The proponent has indicated that the Vivian Sands Processing Facility Project is located on previously disturbed, privately owned lands with restricted access limiting current use and there is low potential for the recovery of historic archeological or cultural heritage resources. Manitoba Conservation and Climate has advised that Requests for Crown Indigenous Consultation have been received and an initial assessment will be conducted to determine if the proposed development may adversely affect Indigenous peoples and their rights as protected under section 35 of the *Constitution Act, 1982*.

Annex I provides a summary table of the potential adverse effects, mitigation measures proposed by the proponent, and anticipated legislative mechanisms if the Facility Project proceeds.

Vivian Sand Extraction Project:

There is limited information available to assess whether the Vivian Sand Extraction Project has the potential to cause adverse effects within federal jurisdiction or adverse direct or incidental effects. The Extraction Project is still in the planning stages and will be using a novel process for which the Proponent is still undertaking engineering and environmental studies. There is significant public concern related to the potential effects to groundwater and surface water, including fish-bearing waters. Specific concerns within federal jurisdiction include the potential for transboundary effects to the aquifer, effects to federal lands (downstream effects to Brokenhead Ojibway Nation reserve lands), fish and fish habitat including fish species at risk, and to Indigenous peoples. The proponent has indicated that no impacts to the aquifer or to fish-bearing waters would occur, but has not provided supporting evidence. At this time, the locations are yet to be determined, so the potential impacts to species at risk cannot be assessed. Manitoba

Conservation and Climate has indicated that when the Extraction Project is proposed, all environmental impacts will be considered, including potential impacts to ground and surface waters.

Manitoba Conservation and Climate has stated that Indigenous consultation would be carried out for this project in order to understand potential impacts to Indigenous peoples and their rights as protected under section 35 of the *Constitution Act, 1982*. The Manitoba Metis Federation have raised concerns related to the potential for impacts to their physical and cultural heritage; use of lands and resources for traditional purposes and the practice of rights; historical and archaeological resources; and health, social, and economic conditions (food security). Brokenhead Ojibway Nation expressed similar concerns regarding impacts to their Treaty One rights, as well as concern that any impacts to the Brokenhead River would impact their reserve lands.

Annex I provides a summary table of the potential adverse effects, mitigation measures proposed by the proponent, and anticipated legislative mechanisms if the Extraction Project proceeds.

The Agency is of the view that, given the information available, it is unlikely that the Facility Project and the Extraction Project would interact cumulatively in areas of federal jurisdiction, beyond the impacts attributed to each project alone.

Potential adverse direct or incidental effects

Direct or incidental effects refer to effects that are directly linked or necessarily incidental to a federal authority's exercise of a power or performance of a duty or function that would permit the carrying out, in whole or in part, of a project, or to a federal authority's provision of financial assistance for the purpose of enabling that project to be carried out, in whole or in part.

Vivian Sand Processing Facility Project:

Approval from the Canadian Transportation Agency may be required for the Facility Project, as the Proponent has indicated that the railway spur component of the Vivian Sand Processing Facility is part of CN's network. The direct or incidental effects related to the described powers, duties or functions would be limited or addressed through the due diligence of the federal authority.

Vivian Sand Extraction Project:

As the details of the extraction process are not yet fully known and the locations are not yet selected, it is possible that the following federal powers, duties, or functions could be required:

- *Fisheries Act* authorization, administered by Fisheries and Oceans Canada in case of any releases into fish bearing waters.
- *A permit under the Species at Risk Act (SARA)*, administered by Environment and Climate Change Canada, for terrestrial wildlife species listed in Schedule 1 of SARA as Extirpated, Endangered or Threatened, for activities that affect any part of its critical habitat, or the residences of its individuals, where those prohibitions are in place.

Public concerns

The Minister must consider if the public concerns related to effects within federal jurisdiction warrant the designation of the Facility Project and Extraction Project.

The concerns expressed by the requester(s), from the general public, and Indigenous groups engaged by the Agency include:

- contamination of the Brokenhead River via runoff from the Project site(s) and accidental or intentional discharge of contaminants, including downstream effects to Brokenhead Ojibway Nation reserve lands and to Lake Winnipeg;
- species at risk (Chestnut Lamprey, listed as Special Concern under SARA), fish, and other aquatic organisms, and their habitats in the Brokenhead River;
- effects of the extraction project to the health and wellbeing of workers and nearby residents, including the risk of silicosis and the stresses associated with this concern;
- impacts to the health and well-being of the Manitoba Metis and Treaty One First Nations peoples, through air and water contamination, impacts on traditional activities and harvesting that negatively affects food security;
- effects to human health and the environment if the polyacrylamide used in the settling pond degrades or reacts to create toxins;
- lack of adequate consultation with Indigenous groups to date and lack of trust in the adequacy of future consultation;
- potential for impacts to Indigenous cultural heritage, historical and archaeological resources, given that the locations of the Extraction Project are not determined;
- new, unproven mining methods proposed for the extraction project;
- effect of the extraction project to local aquifer (Manitoba Formation), including water levels, sustainability of use, and composition including dissolved air and acid creation;
- feasibility of reclamation of the aquifer if it becomes contaminated;
- acid and heavy metal leaching and production of harmful byproducts resulting from the extraction process and composition of the silica sand being extracted to the aquifer and the surface;
- subsidence due to sand and water withdrawal from the extraction process, and the potential to cause ground and surface water contamination and sinkholes;
- lack of trust in the Proponent related to their history of regional operations, including concern related to closure of boreholes and exploratory activities;
- splitting of a project into parts for provincial assessment and cumulative effects;
- contribution of the Projects to climate change;
- financial viability of the Projects increasing likelihood of stranded environmental liabilities; and,
- potential for light, noise, and air quality impacts to reduce local property values.

The majority of public concerns relate to the Vivian Sand Extraction Project for which there is currently minimal available information from the Proponent. The Agency understands that these concerns are expected to be considered in the provincial environmental assessment or through other relevant legislation (see Annex I).

Annex I provides a summary table of the concerns expressed that relate to potential adverse effects within federal jurisdiction or adverse direct or incidental effects, the associated mitigation measures, if any, proposed by the proponent, and the related anticipated legislative mechanisms, as appropriate.

Potential adverse impacts on the rights of Indigenous peoples

The Agency understands that there is the potential for the Vivian Sand Extraction Project to cause adverse impacts on rights that are recognized and affirmed by section 35 of the *Constitution Act, 1982* (section 35 rights); existing legislative mechanisms would include opportunities for Indigenous consultation and to address impacts.

Potential adverse effects within federal jurisdiction, as described in Annex I, that could impact section 35 rights for the Vivian Sand Processing Facility Project are anticipated to be localized. Manitoba Conservation and Climate has indicated that an initial assessment will be conducted to determine if the proposed development may adversely affect Indigenous peoples. The Agency understands that extraction and processing would occur on previously disturbed, privately owned lands with restricted access. In addition, the Agency notes that *The Environment Act* licensing process for the Vivian Sand extraction process by Manitoba Conservation and Climate would require any outstanding issues identified by potentially affected Indigenous groups to be addressed through engagement and consultation.

The Agency also notes the positions of the Manitoba Metis Federation and the Brokenhead Ojibway Nation that they have not been meaningfully engaged to date in the Facility Project provincial environmental assessment and their concerns that the provincial Crown consultation on the Extraction Project assessment will be inadequate.

In conducting this analysis, the Agency considered potential impacts to and any comments received from:

- Anishinabe of Wauzhushk Onigum
- Black River First Nation
- Brokenhead Ojibway Nation (comments received)
- Buffalo Point First Nation
- Dakota Tipi
- Fort Alexander - Sagkeeng Anicinabe First Nation
- Grassy Narrows First Nation
- Hollow Water First Nation
- Iskatewizaagegan #39 Independent First Nation
- Long Plain First Nation
- Manitoba Metis Federation (comments received)
- Niisaachewan Anishinaabe Nation
- Northwest Angle No.33

- Peguis First Nation
- Roseau River Anishinabe First Nation Government
- Shoal Lake No.40
- Wabaseemoong Independent Nations

Regional and strategic assessments

There are no regional or strategic assessments pursuant to sections 92, 93 or 95 of IAA that are relevant to the Project.

Conclusion

Vivian Sand Processing Facility Project:

The Agency is of the view that the potential for adverse effects, as described in subsection 9(1) of IAA, would be limited through project design, the application of standard mitigation measures and through existing legislative mechanisms applicable to the Vivian Sand Processing Facility (Annexes I and II), including provincial consultation and oversight processes pursuant to the *Manitoba Environment Act*, and federal legislation (Annex II).

Further, the Agency considered the potential for the Project to cause adverse impacts on the rights that are recognized and affirmed by section 35 of the *Constitution Act, 1982* and understands that existing legislative mechanisms would include opportunities for Indigenous consultation and to address impacts.

Vivian Sand Extraction Project:

There is limited information available to assess the potential for the Vivian Sand Extraction Project to cause adverse effects within federal jurisdiction or adverse direct or incidental effects. Manitoba Conservation and Climate has stated that it intends to carry out a comprehensive review of environmental impacts when the Extraction Project is proposed for licensing under *The Environment Act*.

Further, the Agency considered the potential for the Project to cause adverse impacts on the rights that are recognized and affirmed by section 35 of the *Constitution Act, 1982* and is of the view that there is insufficient information available at this time to analyze the Project's potential to cause adverse impacts to rights.

Manitoba Conservation and Climate has stated that it intends to carry out Indigenous consultation as a part of *The Environment Act* licence application process for this project in order to understand potential impacts to Indigenous peoples and their rights.

ANNEX I

Annex I: Potential adverse effects within federal jurisdiction

Adverse Effect or Public Concern in Relation to Subsection 9(1) of the <i>Impact Assessment Act</i>	Summary of Requester Concerns, Effects and Mitigation Proposed by the Proponent and Advice from Federal Authorities (FA) and Provincial Experts	Relevant Legislative Mechanisms
<p>A change to fish and fish habitat, as defined in subsection 2(1) of the <i>Fisheries Act</i></p>	<p>Requester Concerns: Potential for intentional or accidental releases of wastewater or contamination via run-off to surface waters, including fish-bearing waters.</p> <p>Vivian Sand Facility Project: <u>FA perspective:</u> Fisheries and Oceans Canada advised that the Project may result in the harmful alteration, disruption or destruction of fish habitat and/or the death of fish and impacts to aquatic species at risk. As such, the project may require authorization under the <i>Fisheries Act</i> and/ or <i>Species at Risk Act</i>. If an authorization were issued, it would include conditions in relation to the aforementioned effects.</p> <p>ECCC has advised that the water quality assessment for the Processing Facility Project has limited information on erosion and sediment control, site water/runoff management, and acid rock drainage potential. The Environment Act Proposal (EAP) describes that processed sands piles and rejects piles will be stored on site in a wet state and will be actively wetted if necessary. The EAP does not provide any description of management or capture of runoff water from the piles. Runoff from the sand piles may contain elevated concentrations of metals and Total Suspended Solids (TSS) and may require management, but no capture of runoff has been described. ECCC also notes that the Proponent does not</p>	<p>Fisheries and Oceans Canada advised that should authorization under the <i>Fisheries Act</i> be required, it would include conditions to mitigate harmful effects to fish and fish habitat. Should a <i>Fisheries Act</i> Authorization under paragraph 35(2)(b) or paragraph 34.4(2)(b) be required for the project, Indigenous consultation would be required.</p> <p>Environment Act Licence, pursuant to Manitoba's <i>Environment Act</i> would set requirements to protect ground and surface water resources and their uses.</p>

Adverse Effect or Public Concern in Relation to Subsection 9(1) of the <i>Impact Assessment Act</i>	Summary of Requester Concerns, Effects and Mitigation Proposed by the Proponent and Advice from Federal Authorities (FA) and Provincial Experts	Relevant Legislative Mechanisms
	<p>indicate how process water would be disposed of or managed, only that water will be recycled within the system. At some point, recycled water will be laden with TSS and/or other contaminants and may require management but no management options have been described.</p> <p><u>Provincial Perspective:</u> Not Provided</p> <p><u>Proponent perspective:</u> The Proponent has indicated that no discharge to the surface will occur. The Proponent has indicated that the water within the facility will be fully recycled within a closed loop, and will not involve discharge of produced water. Their Environment Act Proposal states, "Project related impacts on fish and fish habitat are not anticipated due to the lack of fish habitat within the Project site and local area, and application of an Erosion and Sediment Control Plan."</p> <p><u>Agency Perspective:</u> The Facility project, as proposed, and in taking into consideration the proponent's clarification that surface discharge will not occur at any time, is not expected to have the potential for adverse effects to fish and fish habitat. The Agency further acknowledges that the provincial assessment is ongoing and expects that this will include assessment of the Erosion and Sediment Control Plan as well as wastewater management.</p> <p>Vivian Sand Extraction Project: <u>FA perspectives:</u> <i>Fisheries and Oceans Canada</i> advised that as proposed, the Project may result in the harmful alteration, disruption or destruction of fish habitat</p>	

Adverse Effect or Public Concern in Relation to Subsection 9(1) of the <i>Impact Assessment Act</i>	Summary of Requester Concerns, Effects and Mitigation Proposed by the Proponent and Advice from Federal Authorities (FA) and Provincial Experts	Relevant Legislative Mechanisms
	<p>and/or the death of fish and impacts to aquatic species at risk. As such, the project may require authorization under the <i>Fisheries Act</i> and/ or the <i>Species at Risk Act</i>. If an authorization were issued, it would include conditions in relation to the aforementioned effects.</p> <p><i>Natural Resources Canada:</i> There is insufficient information available on either project for NRCan to assess the potential adverse impacts to the Brokenhead River, and therefore fish and fish habitat and/or aquatic species, from groundwater withdrawals.</p> <p><i>Environment and Climate Change Canada</i> advised that there is not enough information to determine the extent of the potential impacts on water quality for the Extraction Project. Generally, the “drawdown” of a water table can have an impact on surface water quality by reducing the quantity of groundwater available to recharge surface water bodies. This, in turn, could reduce the total volume of water in nearby lakes or rivers and potentially increase the concentration of contaminants in those water bodies, thereby resulting in adverse effects on water quality.</p> <p>If acid generating rock is exposed to air and water, through the natural process of sulphide oxidation, water draining from areas of this exposed rock could acidify the aquatic receiving environment and thus have adverse effects on water quality. The proposed Extraction Project may expose potentially metal-leaching rock to air and water. Interaction between water, air and the exposed rock could then lead to the leaching of metals into the receiving environment and water bodies, resulting in adverse effects on water quality. It is understood by ECCC that nearby projects have pyrite present in the mined material, potentially leading to acid rock drainage and metal leaching issues. However, the EAP does not</p>	

Adverse Effect or Public Concern in Relation to Subsection 9(1) of the <i>Impact Assessment Act</i>	Summary of Requester Concerns, Effects and Mitigation Proposed by the Proponent and Advice from Federal Authorities (FA) and Provincial Experts	Relevant Legislative Mechanisms
	<p>provide a discussion of the potential for acid generation within the extracted sands as they are mined, stockpiled, and exposed to air and water.</p> <p><u>Provincial Perspective:</u> Manitoba Conservation and Climate has further advised that the Environment Act Proposal that will be submitted for the sand extraction process will include a complete assessment of potential environmental impacts and proposed mitigation measures, including an assessment of potential impacts to groundwater and surface water.</p> <p><u>Proponent perspective:</u> The Proponent has indicated that no discharge to the surface will occur. The Proponent has further indicated that no traditional mining activities will take place for the Vivian Sand Extraction Project and therefore there would be no open pits and no underground operations. No water would be discharged from any part of the process.</p> <p><u>Agency Perspective:</u> There is insufficient information available the Agency at this time to assess whether the Vivian Sand Extraction Project has the potential to cause a change to fish and fish habitat, as defined in subsection 2(1) of the <i>Fisheries Act</i>.</p>	
A change to endangered and threatened non-aquatic species listed in Schedule 1 of the <i>Species at Risk Act</i>	<p>Vivian Sand Facility Project:</p> <p><u>FA perspective:</u> <i>Environment and Climate Change Canada (ECCC):</i> Species at Risk that may be affected by proposed vegetation clearing and land disturbance for</p>	<i>Species at Risk Act</i>

Adverse Effect or Public Concern in Relation to Subsection 9(1) of the <i>Impact Assessment Act</i>	Summary of Requester Concerns, Effects and Mitigation Proposed by the Proponent and Advice from Federal Authorities (FA) and Provincial Experts	Relevant Legislative Mechanisms
(SARA) as Extirpated, Endangered or Threatened	<p>the Processing Facility Project (e.g., removal of 17 hectares of forest dominated by trembling aspen and willow and alder wet meadow) include Golden-winged Warbler, Red-headed Woodpecker, and Little Brown Myotis. Potential effects to habitat that may contain residences of Red-headed Woodpecker and maternal roosts of Little Brown Myotis, such as may be present in portions of the Project site occupied by mature forest and large diameter trees, and these should be evaluated and avoided in specific planning, in consideration of information available in recovery strategy documents.</p> <p>Based on the information provided at this time describing the Vivian Sand Processing Facility Project, ECCC notes that SARA permits are unlikely to be required as the Processing Facility Project is not on federal lands and Project components are not anticipated to affect residences or individuals, or designated Critical Habitat. ECCC will re-evaluate the need to issue a SARA permit if new information is presented that modifies these circumstances</p> <p><u>Provincial Perspective:</u> Not Provided</p> <p><u>Proponent perspective:</u> Approximately 17 hectares (ha) of naturally vegetated area is expected to be cleared within the Project site for Project construction, which is 15 times smaller than a section of farmland, which is 260 ha. Approximately 14% of the Project site has been previously cleared/disturbed. The types of naturally vegetated land cover that will be cleared (i.e., forest, meadow and willow/alder) are common within the regional area. No land cover considered rare for the regional area was observed in the Project site</p>	Manitoba's <i>The Endangered Species and Ecosystems Act</i>

Adverse Effect or Public Concern in Relation to Subsection 9(1) of the <i>Impact Assessment Act</i>	Summary of Requester Concerns, Effects and Mitigation Proposed by the Proponent and Advice from Federal Authorities (FA) and Provincial Experts	Relevant Legislative Mechanisms
	<p>during terrestrial reconnaissance of the Project site. Vegetation species at risk are not expected to occur within the Project site.</p> <p>Minimizing vegetation clearing to the extent feasible will limit adverse effects to wildlife habitat and will assist in mitigating noise from Project activities. Noise will also be minimized by the measures described above for the noise topic. Wildlife species present in the vicinity of the Project are anticipated to be accustomed (habituated) to some level of noise due to the presence of existing developments (e.g. aggregate quarries; CN rail line; Provincial Roads). Vegetation clearing will take place outside of the spring and summer months to the maximum extent feasible to avoid disturbance to breeding birds and other spring breeding wildlife species. Vegetation clearing will not take place during the peak breeding bird season.</p> <p>The Environment Act Proposal considers multiple species at risk federally and/or provincially and assesses the potential for impacts.</p> <p><u>Agency Perspective:</u></p> <p>The Facility Project may result in adverse effects to endangered and threatened non-aquatic species listed in Schedule 1 of the Species at Risk Act (SARA) as Extirpated, Endangered or Threatened, however these effects would be limited through project design, the application of standard mitigation measures and through existing legislative mechanisms pursuant to Manitoba's <i>Environment Act</i> and compliance with the <i>Migratory Birds Convention Act, 1994</i>, and the <i>Species at Risk Act</i>. The Agency understands that the Wildlife and Fisheries Branch is engaged through the Technical Advisory Committee during provincial assessments.</p> <p>Vivian Sand Extraction Project:</p>	

Adverse Effect or Public Concern in Relation to Subsection 9(1) of the <i>Impact Assessment Act</i>	Summary of Requester Concerns, Effects and Mitigation Proposed by the Proponent and Advice from Federal Authorities (FA) and Provincial Experts	Relevant Legislative Mechanisms
	<p><u>FA perspective:</u> Environment and Climate Change Canada (ECCC): In the absence of information describing the location and proposed activities associated with the related Vivian Sand Extraction Project, the nature and extent of potential effects cannot be determined. ECCC would require detailed information on the potential effects of the Facility Project and the Extraction Project, including locations and/or occurrences of species at risk, their use of habitat and critical habitat within the Project areas, and specific effects on federal land, before they can determine whether a SARA permit is required.</p> <p><u>Provincial Perspective:</u> Not Provided</p> <p><u>Proponent perspective:</u> The [silica] harvest process takes an estimated 5 days per well after which the wells are abandoned under the standards defined by the Manitoba's <i>Mines and Minerals Act</i>, Drilling Regulation, 1992, and the surface is immediately remediated. As the harvest sites are temporary and portable, the site returns to its natural state within weeks of CWS harvest completion. No traditional mining activities take place and therefore there are no open pits and no underground operations.</p> <p><u>Agency Perspective:</u> There is insufficient information available the Agency at this time to assess whether the Vivian Sand Extraction Project has the potential to cause a change to endangered and threatened non-aquatic species listed in Schedule 1 of the <i>Species at Risk Act</i> (SARA) as Extirpated, Endangered or Threatened.</p>	<p>ECCC will re-evaluate the need to issue a <i>Species At Risk Act</i> permit if new information is presented that modifies these circumstances and if project-specific information is provided related to the Vivian Sand Extraction Project. The Agency will provide ECCC with any information made available by the proponent.</p> <p>Manitoba's <i>Mines and Minerals Act</i>, and associated Regulations include mining and borehole requirements for drilling, reclamation and abandonment.</p>

Adverse Effect or Public Concern in Relation to Subsection 9(1) of the <i>Impact Assessment Act</i>	Summary of Requester Concerns, Effects and Mitigation Proposed by the Proponent and Advice from Federal Authorities (FA) and Provincial Experts	Relevant Legislative Mechanisms
<p>A change to migratory birds, as defined in subsection 2(1) of the <i>Migratory Birds Convention Act, 1994</i></p>	<p>Vivian Sand Facility Project: <u>FA perspective:</u> Environment and Climate Change Canada (ECCC): Certain species of migratory birds (e.g. Bank swallows, Common nighthawk) may nest in large piles of soil left unattended/unvegetated during the most critical period of breeding season. Other species that inhabit early successional habitat, such as Golden-winged Warbler, may be drawn to recently disturbed habitats in portions of active project areas and as a result be exposed to greater sensory disturbance or airborne contaminants during project operations.</p> <p><u>Provincial Perspective:</u> Not Provided</p> <p><u>Proponent perspective:</u> Areas to be cleared of vegetation will be minimized to the extent feasible and will be clearly marked to avoid clearing more than required. Vegetation clearing will take place outside of the spring and summer months to the maximum extent feasible to avoid disturbance to breeding birds and other spring breeding wildlife species. Vegetation clearing will not take place during the peak breeding bird season for this 'Zone B4' area: April 25 – August 15 (when 90% of bird species 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 14 – 24 and August 16 – 24; Government of Canada, 2018), as needed.</p>	<p><i>Migratory Birds Convention Act, 1994</i></p> <p>An Environment Act Licence under Manitoba's <i>The Environment Act</i> would include provisions to minimize adverse impacts on the environment, as well as set out requirements for land rehabilitation.</p>

Adverse Effect or Public Concern in Relation to Subsection 9(1) of the <i>Impact Assessment Act</i>	Summary of Requester Concerns, Effects and Mitigation Proposed by the Proponent and Advice from Federal Authorities (FA) and Provincial Experts	Relevant Legislative Mechanisms
	<p><u>Agency Perspective:</u> The Vivian Sand Facility Project may result in adverse effects to migratory birds however these effects would be limited through project design, the application of standard mitigation measures, compliance with the <i>Migratory Birds Convention Act, 1994</i>, and through existing legislative mechanisms pursuant to Manitoba's <i>Environment Act</i>.</p> <p>Vivian Sand Extraction Project: <u>FA perspective:</u> Environment Climate Change Canada (ECCC): In the absence of information describing the location and proposed activities associated with the related Vivian Sand Extraction Project, the nature and extent of potential effects cannot be determined. ECCC has advised that the activities linked to the construction, operation, and decommissioning of a traditional open-pit silica sand mine and associated infrastructure could have negative effects on migratory birds and their habitat. The construction, operation and decommissioning of mines and associated facilities may impact wildlife directly and indirectly through impacts to waterbodies and wetland habitat through changes in geomorphological processes (e.g., sedimentation processes, water quality). Changes to water quality and quantity can affect migratory birds, wildlife, and their habitat. Noise, vibrations and light from construction and operation activities may result in habitat disturbance, which can lead to avoidance of use. Attraction to lights at night or in poor visibility conditions during the day may cause birds to collide with lit structures or their 10 vertical support structures, resulting in injury or death. In other instances, birds can get</p>	

Adverse Effect or Public Concern in Relation to Subsection 9(1) of the <i>Impact Assessment Act</i>	Summary of Requester Concerns, Effects and Mitigation Proposed by the Proponent and Advice from Federal Authorities (FA) and Provincial Experts	Relevant Legislative Mechanisms
	<p>disoriented while circling a light source, and may deplete their energy reserves and either die of exhaustion or drop to the ground where they are at risk from predation.</p> <p><u>Provincial Perspective:</u> Not Provided</p> <p><u>Proponent perspective:</u> All activities will be carried out respecting regulatory guidelines that apply to migratory birds and no impact of any nature is anticipated to occur on migratory birds</p> <p><u>Agency Perspective:</u> There is insufficient information available the Agency at this time to assess whether the Vivian Sand Extraction Project has the potential to cause a change to migratory birds, as defined in subsection 2(1) of the <i>Migratory Birds Convention Act, 1994</i></p>	
<p>A change to the environment that would occur on federal lands</p>	<p>Requester Concerns: Potential impacts to water quality or quantity of the Brokenhead River could influence reserve lands downstream.</p> <p>Vivian Sand Facility Project: <u>FA perspective:</u> Not provided in relation to federal lands.</p> <p><u>Provincial Perspective:</u> Not Provided</p> <p><u>Proponent perspective:</u> No adverse environmental effects on federal lands are anticipated from the Vivian Sand Facility Project as there are no federal lands in the vicinity</p>	

Adverse Effect or Public Concern in Relation to Subsection 9(1) of the <i>Impact Assessment Act</i>	Summary of Requester Concerns, Effects and Mitigation Proposed by the Proponent and Advice from Federal Authorities (FA) and Provincial Experts	Relevant Legislative Mechanisms
	<p>of the Facility. The closest First Nation reserve lands to the Vivian Sand Silica Processing Project Site is the Brokenhead Ojibway Nation's Na-Sha-Ke-Penais Indian Reserve located 40 km northwest of the Project Site.</p> <p><u>Agency Perspective:</u> The Vivian Sand Facility Project is not likely to result in adverse effects on federal lands, if impacts to the Brokenhead River are not anticipated.</p> <p>Vivian Sand Extraction Project: <u>FA perspective:</u> Not provided in relation to federal lands.</p> <p><u>Provincial Perspective:</u> Not Provided</p> <p><u>Proponent perspective:</u> Not provided.</p> <p><u>Agency Perspective:</u> There is insufficient information available the Agency at this time to assess whether the Vivian Sand Extraction Project has the potential to cause a change to the environment on federal lands. The location(s) of the Extraction Project are not known to the Agency at this time.</p>	
A change to the environment that would occur in a province other than the one in which the project is being carried out or outside Canada	<p>Requester Concerns: Potential impacts to quality and/or quantity of the aquifer could result in transboundary effects. Potential contribution of greenhouse gases and air quality could have transboundary effects.</p> <p>Vivian Sand Facility Project: <u>FA perspective:</u></p>	Licences, permits and approvals required for the Project pursuant to the <i>Environment Act</i> , Manitoba Conservation and Climate would set requirements to

Adverse Effect or Public Concern in Relation to Subsection 9(1) of the <i>Impact Assessment Act</i>	Summary of Requester Concerns, Effects and Mitigation Proposed by the Proponent and Advice from Federal Authorities (FA) and Provincial Experts	Relevant Legislative Mechanisms
	<p>Environment and Climate Change Canada (ECCC) has advised that based on the Proponent's modelling, concentrations of NO₂ have the potential to exceed the Canadian Ambient Air Quality Standards (CAAQS). Storage and handling of the product will also result in elevated levels of airborne and deposited particulate matter due to fugitive dust emissions.</p> <p><u>Provincial Perspective:</u> Not Provided</p> <p><u>Proponent perspective:</u> The nearest provincial and international borders from the Vivian Sand Processing Facility are approximately 95 kilometres east and 100 kilometres south of the property, respectively. Air dispersion modelling predicted that exceedances of the Manitoba Ambient Air Quality Criteria would occur only 0.3% of the time that the Processing Facility is in operation (between one and five exceedances every five years), and only under the worst-case emissions scenario. The extent of any exceedance will be limited to within 20 m to 70 m (up to approximately 2/3 length of a football field) from the CanWhite property boundary. The point of this potential exceedance is more than 450 m from the nearest residence. There is no exceedance beyond the property boundary in any other direction or circumstance.</p> <p>The project is estimated to generate approximately 34,324 tonnes of CO₂e annually during dryer operations.</p> <p><u>Agency Perspective:</u></p>	<p>ensure that environmental effects are localized and mitigated within provincial jurisdiction.</p>

Adverse Effect or Public Concern in Relation to Subsection 9(1) of the <i>Impact Assessment Act</i>	Summary of Requester Concerns, Effects and Mitigation Proposed by the Proponent and Advice from Federal Authorities (FA) and Provincial Experts	Relevant Legislative Mechanisms
	<p>The Vivian Sand Facility Project has the potential to result in transboundary effects related to greenhouse gas emissions.</p> <p>Vivian Sand Extraction Project: <u>FA perspective:</u> Natural Resources Canada has advised that the quantity of groundwater withdrawn is uncertain due to the unknown amounts of groundwater to be lost or recycled in the mining and industrial processes.</p> <p>With regard to requester concerns that the Extraction Project could result in impacts to the aquifer, Natural Resources Canada advised that oxidative dissolution of sulphide minerals will release acidity, sulphate, and any metals hosted in the sulphide minerals. However, the kinetics of the oxidation reaction and textural availability of sulphide minerals must be considered for the specific sulphide minerals involved. Further, it is a concern in the case of the Vivian Sand Extraction project that there would be little to no buffering capacity in the aquifer to neutralize any acid generation from sulphide oxidation. As a starting point, a third party study should be completed to summarize the detailed geology of the proposed Vivian Sands project and collect samples from spatially and compositionally representative samples from the targeted geological units. Samples should be analyzed for acid base accounting, trace metal content, and metal leaching potential through short-term leach tests, and potentially mineralogy testing by QEMSCAN for modal mineralogy and textural analysis of sulphide minerals.</p> <p>Environment and Climate Change Canada has advised that when rock is flooded/submerged/saturated with water, it is unlikely to leach metals. It</p>	

Adverse Effect or Public Concern in Relation to Subsection 9(1) of the <i>Impact Assessment Act</i>	Summary of Requester Concerns, Effects and Mitigation Proposed by the Proponent and Advice from Federal Authorities (FA) and Provincial Experts	Relevant Legislative Mechanisms
	<p>noted that most sulphides are insoluble, and flooding prevents oxidation from transforming sulphides into more soluble compounds. In most cases, atmospheric oxygen is the oxidizing agent. Oxygen dissolved in water can also cause oxidation of pyrite but is limited because of its limited solubility. However, the question about whether introduction of dissolved air (oxygen) into the water in an aquifer could cause metal leaching would need more information in order to make that determination. The information would include: the size of the aquifer, whether there is large volume of water that will dilute any potential acid rock drainage/metal leaching effect; how deep the aquifer is, whether it in an oxidizing or reducing environment; the amount of materials already in place in the aquifer that have potential for acid rock drainage/metal leaching (whether the aquifer is already saturated with sulphides such that infusion of oxygen will trigger oxidation reaction of the pyrite); and whether the air coming in has other contaminants with it.</p> <p><u>Provincial Perspective:</u> Manitoba Conservation and Climate has advised that the Environment Act Proposal that will be submitted for the sand extraction process will include a complete assessment of potential environmental impacts and proposed mitigation measures, including an assessment of potential impacts to groundwater and surface water</p> <p><u>Proponent perspective:</u> The Proponent has indicated that a complete study on the silica harvesting and extraction process will be presented to public when available. This will occur as a part of the process for the <i>Environment Act</i> Licence Application for the Extraction Project.</p> <p><u>Agency Perspective:</u></p>	

Adverse Effect or Public Concern in Relation to Subsection 9(1) of the <i>Impact Assessment Act</i>	Summary of Requester Concerns, Effects and Mitigation Proposed by the Proponent and Advice from Federal Authorities (FA) and Provincial Experts	Relevant Legislative Mechanisms
	<p>There is insufficient information available the Agency at this time to assess whether The Vivian Sand Extraction Project has the potential to cause a change to the environment that would occur in a province other than Manitoba, or outside Canada, should impacts occur to the transboundary aquifer or through the production of emissions that contribute to climate change.</p>	
<p>With respect to the Indigenous peoples of Canada, an impact - occurring in Canada and resulting from any change to the environment - on physical and cultural heritage</p>	<p>Requester Concerns: Inadequate consultation efforts to understand potential impacts.</p> <p>Vivian Sand Facility Project: <u>FA perspective:</u> Not provided</p> <p><u>Provincial Perspective:</u> Requests for Crown Indigenous Consultation have been received and an initial assessment will be conducted to determine if the proposed development may adversely affect Indigenous peoples and their rights as protected under section 35 of the Constitution Act, 1982.</p> <p><u>Proponent perspective:</u> The Project Site is located within Treaty No. 1 area (Indian and Northern Affairs Canada, 2017). There are no First Nation reserve lands within the Local or Regional Project Area. The closest First Nation reserve lands to the Project Site is the Brokenhead Ojibway Nation's Na-Sha-Ke-Penais Indian Reserve surrounded by East St. Paul and located 40 km northwest of the Project Site.</p> <p><u>Provincial Perspective:</u></p>	<p>An Environment Act Licence would include provisions to minimize adverse impacts on the environment, as well as set out requirements for land rehabilitation.</p> <p>The licence application process includes consultation. Proponents are expected to address concerns raised by provincial ministries, Indigenous groups and the public.</p>

Adverse Effect or Public Concern in Relation to Subsection 9(1) of the <i>Impact Assessment Act</i>	Summary of Requester Concerns, Effects and Mitigation Proposed by the Proponent and Advice from Federal Authorities (FA) and Provincial Experts	Relevant Legislative Mechanisms
	<p><i>Manitoba Conservation and Climate:</i> Requests for Crown Indigenous Consultation have been received and an initial assessment will be conducted to determine if the proposed development may adversely affect Indigenous peoples and their rights as protected under section 35 of the <i>Constitution Act, 1982</i>.</p> <p><u>Agency Perspective:</u> The Vivian Sand Facility Project has the potential to result in impacts to the physical and cultural heritage of the Indigenous peoples of Canada.</p> <p>Vivian Sand Extraction Project: <u>FA perspective:</u> Not provided</p> <p><u>Provincial Perspective:</u> Crown Indigenous Consultation will be carried out for this project in order to understand potential impacts to Indigenous peoples and their rights as protected under section 35 of the <i>Constitution Act, 1982</i>.</p> <p><u>Proponent perspective:</u> When the proponent proceeds with the Extraction Project Environment Act Proposal, a public engagement process, including any Indigenous community interested in the Extraction Project and the Facility Project, will be carried out to inform and include input from potentially affected or otherwise interested communities.</p> <p><u>Provincial Perspective:</u> <i>Manitoba Conservation and Climate:</i> Crown Indigenous Consultation will be carried out for this project in order to understand potential impacts to</p>	

Adverse Effect or Public Concern in Relation to Subsection 9(1) of the <i>Impact Assessment Act</i>	Summary of Requester Concerns, Effects and Mitigation Proposed by the Proponent and Advice from Federal Authorities (FA) and Provincial Experts	Relevant Legislative Mechanisms
	<p>Indigenous peoples and their rights as protected under section 35 of the <i>Constitution Act, 1982</i>.</p> <p><u>Agency Perspective:</u> There is insufficient information available the Agency at this time to assess whether The Vivian Sand Extraction Project has the potential to result in an impact - occurring in Canada and resulting from any change to the environment - on physical and cultural heritage to the Indigenous peoples of Canada.</p>	
<p>With respect to the Indigenous peoples of Canada, an impact - occurring in Canada and resulting from any change to the environment - on current use of lands and resources for traditional purposes</p>	<p>Requester Concerns: Air and water quality impacts could adversely affect the current use of lands and resources by Metis and Treaty 1 peoples.</p> <p>Vivian Sand Facility Project: <u>FA perspective:</u> Not provided</p> <p><u>Provincial Perspective:</u> Requests for Crown Indigenous Consultation have been received and an initial assessment will be conducted to determine if the proposed development may adversely affect Indigenous peoples and their rights as protected under section 35 of the <i>Constitution Act, 1982</i>.</p> <p><u>Proponent perspective:</u> The Project is not expected to adversely impact the exercise of Indigenous or Treaty rights because:</p> <ul style="list-style-type: none"> - No fish or fish habitat will be affected by the Project; - The Project Site is private land, accessible only for the purposes of the Project; 	<p>The Environment Act Licence, pursuant to Manitoba's <i>Environment Act</i>, which would require the proponent to address concerns raised by potentially affected Indigenous groups.</p>

Adverse Effect or Public Concern in Relation to Subsection 9(1) of the <i>Impact Assessment Act</i>	Summary of Requester Concerns, Effects and Mitigation Proposed by the Proponent and Advice from Federal Authorities (FA) and Provincial Experts	Relevant Legislative Mechanisms
	<ul style="list-style-type: none"> - The residual environmental impact of the Project on vegetation beyond the Project Site is assessed to be negligible; and - The residual environmental impact of the Project on regional wildlife populations is assessed to be negligible. <p>The Regional Project Area is within an area recognized by the Manitoba Metis Federation as an area for Metis Natural Resource Harvesting (The Metis Economic Development Organization, 2018) which corresponds with the Manitoba Conservation and Climate Game Hunting Area (GHA) number 35 within which the Project Site is located (Manitoba Sustainable Development 2019).</p> <p><u>Agency Perspective:</u> The Vivian Sand Facility Project has the potential to result in impacts to the use of lands and resources for traditional purposes of the Indigenous peoples of Canada.</p> <p>Vivian Sand Extraction Project: <u>FA perspective:</u> Not provided</p> <p><u>Provincial Perspective:</u> Crown Indigenous Consultation will be carried out for this project in order to understand potential impacts to Indigenous peoples and their rights as protected under section 35 of the Constitution Act, 1982.</p> <p><u>Proponent perspective:</u> Not provided</p> <p><u>Agency Perspective:</u></p>	

Adverse Effect or Public Concern in Relation to Subsection 9(1) of the <i>Impact Assessment Act</i>	Summary of Requester Concerns, Effects and Mitigation Proposed by the Proponent and Advice from Federal Authorities (FA) and Provincial Experts	Relevant Legislative Mechanisms
	<p>There is insufficient information available the Agency at this time to assess whether The Vivian Sand Extraction Project has the potential to result in an impact - occurring in Canada and resulting from any change to the environment - on current use of lands and resources for traditional purposes of the Indigenous peoples of Canada.</p>	
<p>With respect to the Indigenous peoples of Canada, an impact - occurring in Canada and resulting from any change to the environment - on any structure, site, or thing that is of historical, archaeological, paleontological or architectural significance</p>	<p>Requester Concerns: Given the lack of information to date about the mineral extraction locations, the Manitoba Metis Federation has significant concerns that there are potential and irreversible impacts to our Metis cultural heritage, historical and archaeological resources through this Project.</p> <p>Vivian Sand Facility Project: <u>FA perspective:</u> Not provided</p> <p><u>Provincial Perspective:</u> Requests for Crown Indigenous Consultation have been received and an initial assessment will be conducted to determine if the proposed development may adversely affect Indigenous peoples and their rights as protected under section 35 of the Constitution Act, 1982.</p> <p><u>Proponent perspective:</u> The Proponent's on-site archaeological investigation found the Project Site to have a low potential for undiscovered heritage resources. Only one heritage resource site was found during the HRIA, which consisted of bison bones with evidence of human processing cut marks on the bones predating the 1870s. Prior to the HRIA being completed at the Project Site, there were no registered archaeological sites located within the Regional Project Area</p>	<p>The Environment Act Licence, pursuant to Manitoba's <i>Environment Act</i>, which would require the proponent to address concerns raised by potentially affected Indigenous groups.</p>

Adverse Effect or Public Concern in Relation to Subsection 9(1) of the <i>Impact Assessment Act</i>	Summary of Requester Concerns, Effects and Mitigation Proposed by the Proponent and Advice from Federal Authorities (FA) and Provincial Experts	Relevant Legislative Mechanisms
	<p><u>Agency Perspective:</u> The Vivian Sand Facility Project is not likely to result in impacts to a thing that is of historical, archaeological, paleontological or architectural significance to the Indigenous peoples of Canada.</p> <p>Vivian Sand Extraction Project: <u>FA perspective:</u> Not provided</p> <p><u>Provincial Perspective:</u> Crown Indigenous Consultation will be carried out for this project in order to understand potential impacts to Indigenous peoples and their rights as protected under section 35 of the Constitution Act, 1982.</p> <p><u>Proponent perspective:</u> Not provided</p> <p><u>Agency Perspective:</u> There is insufficient information available the Agency at this time to assess whether the Vivian Sand Extraction Project has the potential to result in an impact - occurring in Canada and resulting from any change to the environment - on any structure, site, or thing that is of historical, archaeological, paleontological or architectural significance to the Indigenous peoples of Canada.</p>	
Any change occurring in Canada to the health, social or economic conditions of the Indigenous peoples of Canada	Requester Concerns: Potential adverse effects to air and water quality could impact the health of Indigenous peoples through direct impacts or through consumption of traditional foods, including compromising food security (economic impact).	The Environment Act Licence, pursuant to Manitoba's <i>Environment Act</i> , which would require

Adverse Effect or Public Concern in Relation to Subsection 9(1) of the <i>Impact Assessment Act</i>	Summary of Requester Concerns, Effects and Mitigation Proposed by the Proponent and Advice from Federal Authorities (FA) and Provincial Experts	Relevant Legislative Mechanisms
	<p>Vivian Sand Facility Project: <u>FA perspective:</u> Not provided</p> <p><u>Provincial Perspective:</u> Requests for Crown Indigenous Consultation have been received and an initial assessment will be conducted to determine if the proposed development may adversely affect Indigenous peoples and their rights as protected under section 35 of the Constitution Act, 1982.</p> <p><u>Proponent perspective:</u> There is no credible pathway for any interaction between either project and the health, social or economic conditions of Indigenous peoples. Any conclusion to the contrary could be based only on misunderstandings</p> <p><u>Agency Perspective:</u> The Vivian Sand Facility Project has limited potential to result in adverse impacts the health, social or economic conditions of the Indigenous peoples of Canada, if impacts to air and water quality are localized or mitigated.</p> <p>Vivian Sand Extraction Project: <u>FA perspective:</u> Not provided <u>Provincial Perspective:</u> Crown Indigenous Consultation will be carried out for this project in order to understand potential impacts to Indigenous peoples and their rights as protected under section 35 of the <i>Constitution Act, 1982</i>.</p> <p><u>Proponent perspective:</u></p>	<p>the proponent to address concerns raised by potentially affected Indigenous groups.</p>

Adverse Effect or Public Concern in Relation to Subsection 9(1) of the <i>Impact Assessment Act</i>	Summary of Requester Concerns, Effects and Mitigation Proposed by the Proponent and Advice from Federal Authorities (FA) and Provincial Experts	Relevant Legislative Mechanisms
	<p>There is no credible pathway for any interaction between either project and the health, social or economic conditions of Indigenous peoples.</p> <p><u>Agency Perspective:</u> There is insufficient information available the Agency at this time to assess whether the Vivian Sand Extraction Project has the potential to result in any change occurring in Canada to the health, social or economic conditions of the Indigenous peoples of Canada.</p>	
Adverse direct or incidental effects	<p>Vivian Sand Facility Project: FA Perspective: <i>Canadian Transportation Agency:</i> If the railway spur in the Vivian Sand Processing Facility Project is part of CN's network, then pursuant to section 98 of the <i>Canada Transportation Act</i>, a company shall not construct a railway line without the approval of the Canadian Transportation Agency. However, more information is required. No other federal authority is expected to exercise a power, or perform a duty or function under another Act of Parliament that would permit the carrying out of the Vivian Sand Processing Facility Project.</p> <p>The Vivian Sand Extraction Process: <u>Agency Perspective:</u> There is insufficient information available to assess whether the Vivian Sand Extraction Project has the potential to cause adverse direct or incidental effects. No federal authority is expected to provide financial assistance to enable either Project to be carried out, in whole or in part. If it is determined at a later date that a <i>Fisheries Act</i> or <i>Species at Risk Act</i> authorization or permit is necessary, the relevant federal authority will</p>	<i>Canada Transportation Act</i>

Adverse Effect or Public Concern in Relation to Subsection 9(1) of the <i>Impact Assessment Act</i>	Summary of Requester Concerns, Effects and Mitigation Proposed by the Proponent and Advice from Federal Authorities (FA) and Provincial Experts	Relevant Legislative Mechanisms
assess the potential for any adverse effects and applicable mitigation or minimization of effects.		
Cumulative effects on areas of federal jurisdiction	<u>Agency Perspective:</u> Given the information available, it is unlikely that the Facility Project and the Extraction Project would interact cumulatively in areas of federal jurisdiction, beyond the impacts attributed to each project alone.	Not applicable

ANNEX II

Annex II: Potential Federal and Provincial Authorizations Relevant to the Project

Authorization	Description
<i>Environment Act</i> Licence issued by Manitoba Conservation and Climate	<p>An <i>Environment Act</i> licence would include provisions to minimize adverse impacts on the environment, as well as set out requirements for land rehabilitation.</p> <p>The licence application process includes consultation. Proponents are expected to address concerns raised by provincial ministries, Indigenous groups and the public. The <i>Environment Act</i> licencing would include assessment by all impacted departments including but not limited to; Manitoba Health, Mines Branch, Groundwater Management Section, Water Quality Management Section, Water Science and Watershed Management Branch, Forestry Branch, Wildlife and Fisheries Branch, Agriculture and Resource Development, Environmental Compliance and Enforcement, Lands Branch.</p> <p>The licence application for the Vivian Sand Processing Facility Project was initiated in July 2020.</p> <p>The proponent has indicated that they will submit a secondary application for the Vivian Sand Extraction Project.</p>
Canadian Transportation Agency approval under section 98 of the <i>Canada Transportation Act</i>	<p>If the railway spur in the Vivian Sand Processing Facility Project is part of CN's network, then pursuant to section 98 of the <i>Canada Transportation Act</i>, a company shall not construct a railway line without the approval of the Canadian Transportation Agency (CTA). The proponent has indicated that the railway spur is part of CN's network and is likely to require approval from the CTA.</p>
<i>Fisheries Act</i> Authorization	<p>A <i>Fisheries Act</i> paragraph 35(2)(b) Authorization will be required if the project is likely to cause the harmful alteration, disruption, or destruction to fish habitat and/or a <i>Fisheries Act</i> paragraph 34.4(2)(b) Authorization if the project is likely to result in the death of fish. The proponent should submit a Request for Review for DFO which outlines the specific impacts of the project on fish and fish habitat for review under the <i>Fisheries Act</i>.</p> <p>Fisheries and Oceans Canada also review projects for effects to listed aquatic species at risk, any part of their critical habitat or the residences of their individuals in a manner which is prohibited under sections 32, 33 and subsection 58(1) of the <i>Species at Risk Act</i>.</p>
<i>Species at Risk Act</i> Authorization	<p>For non-aquatic species listed in Schedule 1 of the <i>Species at Risk Act</i> (SARA) as Extirpated, Endangered or Threatened, a permit may be required from ECCC (e.g. under section 73 of SARA) for activities that affect a listed terrestrial wildlife species, any part of its critical habitat, or the residences of its individuals, where those prohibitions are in place. Such permits may only be issued: if all reasonable alternatives to the activity that would reduce the impact on the species have been considered and the best solution has been adopted; all feasible measures will be taken to minimize the impact of the activity on the species or its critical habitat or the residences of its individuals; and if the activity will not jeopardize the survival or recovery of the species.</p>

