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Anuriqjuak Nukkiksautiit Project

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Period of operation: from 0001-01-01 to 0001-01-01

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villell est prévu que le Projet proposé va produire environ 50 pourcent de la demande d'électricité de la communauté. L'énergie éolienne sera vendue à la QEC pour être intégrée au réseau électrique local par une convention d'achat d'énergie indépendant. La participation communautaire et les avantages financiers sont d'une importance essentielle pour le projet. Une étude terminée par NNC a exploré une variété de modèles de partage des avantages pour les projets d'énergie renouvelable. Un système adapté au Nunavut a été développé pour évaluer la capacité de la communauté locale de travailler dans le cadre des mécanismes différents de partage des avantages et à assumer le risque et la responsabilité associé. Le modèle de fonds d'amélioration de la communauté a été identifié comme l'approche recommandée pour le projet proposé, selon laquelle le concepteur du projet, NNC, conserve tous les risques et responsabilités pour les actifs du projet tout en s'assurant que la communauté conserve un avantage financier juste pendant la vie opérationnelle du projet. Le modèle de fonds d'amélioration de la communauté est guidé par des individus locaux dans la communauté et peut être utilisé pour des projets et développements locaux si désiré par la communauté. Le projet est dans les temps pour la phase de planification et de préparation du projet, y compris le développement de la conception, à être achevée en 2022-23. Il est prévu que la construction commencera en 2023 en attendant l'approbation réglementaire, y compris les autorisations du Nunavut Planning Commission (NPC) et le Nunavut Impact Review Board (NIRB), une convention d'achat d'énergie avec QEC, et des autres permis tels qu'un permis de développement, un permis d'eau du Nunavut Water Board (NWB) pour les traversées d'eau potentielles, et permis d'électricité. Le travail et la participation locales seront maximisés où possible pendant la phase de construction et la formation sera fourni. Il est prévu que jusqu'à 15 emplois locaux seront créés pendant la construction. La construction du projet devrait être achevée en 2024 si la construction commence en 2023. Le projet est attendu d'avoir une phase opérationnelle d'au moins 20 ans, avec l'objectif qu'il puisse être prolongé pour la solution énergétique permanente avec un entretien habituel et les remplacements d'équipement nécessaires. Il est prévu que jusqu'à trois emplois locaux seront créés pendant les opérations du projet, y compris des opérateurs locaux et des techniciens de maintenance. A la fin de la phase opérationnelle, des décisions seront prises concernant les opérations continuant du site éolien avec les éoliennes actuelles si encore fonctionnelles, des éoliennes nouvelles ou rénovées, et/ou d'autres équipements ou le démontage de l'opération et la restauration du site dans son état original en utilisant des technologies modernes. L'engagement du public et des parties prenantes a été intégré dans toutes les phases du projet, y compris la planification du projet à son début à partir de la conceptualisation du projet. Comme un développement dirigé et gouverné par les Inuits, sauvegarder le bien-être, les valeurs et les priorités des Sanikiluarmitut tient l'importance absolu. L'Accord du Nunavut a guidé le processus d'engagement pour assurer la participation des Sanikiluarmitut à la prise de décisions concernant l'utilisation de leurs terres et ressources locales. Un plan d'engagement des parties prenantes a été développé pour répondre aux demandes de mises à jour du projet accessibles et continues qui ont été identifiées par les résidents et les parties prenantes locales pendant les premiers engagements du projet. Les options de site du projet ont été établies en collaboration avec le public et les intervenants communautaires. Le site optimal a été déterminé par les zones identifiées par la communauté, des zones interdites, des routes et des sentiers existants, des zones écosensibles, des considérations topographiques et de l'utilisation traditionnelle des terres dans la région. Le site final s'était approuvé par la communauté. Le site se trouve à l'intérieur des limites municipales sur une terre non arpenté qui est administré par le commissaire du Nunavut. Dans le cadre du projet proposé, le site sera arpenté et titré au hameau. Les levés biophysiques, y compris des levés des oiseaux, de la végétation, des milieux aquatiques et des terres humides, ont commencé en 2019. Malgré la pandémie de COVID-19, tous les levés sauf un ont été réalisés. Le levé restant sera achevé à l'été 2022. Les levés ont intégré la participation locale. Une évaluation des impacts biophysiques a été réalisée pour évaluer l'impact potentiel que le projet pourrait avoir sur les composantes valorisées de l'écosystème (CVE) de l'environnement biophysique. L'évaluation recommandait des mesures atténuantes pour tout effet résiduel potentiel. Ces mesures d'atténuation seront intégrées à l'exécution du projet pendant la construction et l'exploitation. Les résultats de l'étude d'impact indiquent qu'il n'y a pas un impact significatif attendu sur l'environnement biophysique. Des enquêtes socio-économiques ont été menées pour déterminer les impacts potentiels du projet sur les composantes socio-économiques valorisées (CSEV). Des engagements et des entretiens avec le public et les parties prenantes locales ont eu lieu à partir de 2016 et toutes les préoccupations et questions soulevées ont été envisager dans l'évaluation de l'impact socio-économique. Diverses méthodes d'engagement ont été utilisées, notamment des réunions publiques, des entretiens individuels, des programmes radiophoniques et des forums sur les réseaux sociaux. Les impacts positifs et négatifs ont été évalués et des mesures d'amélioration et d'atténuation ont été recommandées. Ces mesures d'amélioration et d'atténuation ont été intégrées au plan d'exécution du projet et plusieurs sont déjà mises en pratique. Les résultats de l'étude d'impact socio-économique n'indiquent aucun impact significatif attendu sur l'environnement socio-

WTG Collector Line (North Branch)	Equipment installation	Municipal	The land the collector line is located on is Untitled Municipal Land and administered by the Commissioner of Nunavut. The collector line (north branch) will run between the northern turbine locations.	The Project location was selected in accordance with Nunavut Planning Commission's 2013 Sanikiluaq Land Use Planning Consultation Report to assure that the site location did not overlap with areas of cultural importance. a desktop review was conducted, and no cultural or archaeological areas of importance have been identified to be within or adjacent to the proposed Project footprint. Community input for site selection of the Project included considerations for avoidance of significant areas.	The nearest community is Sanikiluaq, the Project is approximately 5km South of the community. The collector line (north branch) will be located next to the turbines. There are two proposed areas in proximity to the Project site that are currently under development/consideration for designated protected areas: the Kinngaaluk Territorial Park and the Qikiqtait Protected Area.
WTG Collector Line (South Branch)	Equipment installation	Municipal	The land the collector line is located on is Untitled Municipal Land and administered by the Commissioner of Nunavut. The collector line (south branch) will run between the southern turbine locations.	The Project location was selected in accordance with Nunavut Planning Commission's 2013 Sanikiluaq Land Use Planning Consultation Report to assure that the site location did not overlap with areas of cultural importance. a desktop review was conducted, and no cultural or archaeological areas of importance have been identified to be within or adjacent to the proposed Project footprint. Community input for site selection of the Project included considerations for avoidance of significant areas.	The nearest community is Sanikiluaq, the Project is approximately 5km South of the community. The collector line (south branch) will be located next to the turbines. There are two proposed areas in proximity to the Project site that are currently under development/consideration for designated protected areas: the Kinngaaluk Territorial Park and the Qikiqtait Protected Area.
Turbine	Equipment installation	Municipal	The land the turbines are located on is Untitled Municipal Land and administered by the Commissioner of Nunavut.	The Project location was selected in accordance with Nunavut Planning Commission's 2013 Sanikiluaq Land Use	The nearest community is Sanikiluaq, the Project is approximately 5km South of the community. There are two proposed areas in proximity to the Project

				<p>Planning Consultation Report to assure that the site location did not overlap with areas of cultural importance. a desktop review was conducted, and no cultural or archaeological areas of importance have been identified to be within or adjacent to the proposed Project footprint. Community input for site selection of the Project included considerations for avoidance of significant areas.</p>	<p>site that are currently under development/consideration for designated protected areas: the Kinngaaluk Territorial Park and the Qikiqtait Protected Area.</p>
Collector Station	Equipment installation	Municipal	<p>The land the collector station is located on is Untitled Municipal Land and administered by the Commissioner of Nunavut. The collector station will be located near the turbine locations.</p>	<p>The Project location was selected in accordance with Nunavut Planning Commission's 2013 Sanikiluaq Land Use Planning Consultation Report to assure that the site location did not overlap with areas of cultural importance. a desktop review was conducted, and no cultural or archaeological areas of importance have been identified to be within or adjacent to the proposed Project footprint. Community input for site selection of the Project included considerations for avoidance of significant areas.</p>	<p>The nearest community is Sanikiluaq, the Project is approximately 5km South of the community. The collector station will be located next to the turbines. There are two proposed areas in proximity to the Project site that are currently under development/consideration for designated protected areas: the Kinngaaluk Territorial Park and the Qikiqtait Protected Area.</p>
Plant Expansion Works	Equipment installation	Municipal	<p>The land the plant expansion works are located on is Untitled Municipal Land and administered by the Commissioner of Nunavut. The plant expansion works will occur at the existing QEC plant and will involve the installation of an E-House</p>	<p>The Project location was selected in accordance with Nunavut Planning Commission's 2013 Sanikiluaq Land Use Planning Consultation Report to assure that the site location did not overlap with areas of cultural importance. a</p>	<p>The plant expansion works will occur within the community of Sanikiluaq, at the existing QEC plant. There are two proposed areas in proximity to the Project site that are currently under development/consideration for designated protected areas: the Kinngaaluk</p>

			substation and BESS as well as the infrastructure required to connect the new components to the existing plant.	desktop review was conducted, and no cultural or archaeological areas of importance have been identified to be within or adjacent to the proposed Project footprint. Community input for site selection of the Project included considerations for avoidance of significant areas.	Territorial Park and the Qikiqtait Protected Area.
Project Area Under Construction	Camp	Municipal	The camp, if deemed necessary, will be located on is Untitled Municipal Land and administered by the Commissioner of Nunavut.	The Project location was selected in accordance with Nunavut Planning Commission's 2013 Sanikiluaq Land Use Planning Consultation Report to assure that the site location did not overlap with areas of cultural importance. a desktop review was conducted, and no cultural or archaeological areas of importance have been identified to be within or adjacent to the proposed Project footprint. Community input for site selection of the Project included considerations for avoidance of significant areas.	The camp will likely be built within the community of Sanikiluaq. There are two proposed areas in proximity to the Project site that are currently under development/consideration for designated protected areas: the Kingaaluk Territorial Park and the Qikiqtait Protected Area.
Transmission Line	Equipment installation	Crown	The Transmission Line will require an easement on Crown Land. The site is currently unfragmented habitat. The transmission line will align closely with the site access road when possible to minimize impacted area.	The Project location was selected in accordance with Nunavut Planning Commission's 2013 Sanikiluaq Land Use Planning Consultation Report to assure that the site location did not overlap with areas of cultural importance. a desktop review was conducted, and no cultural or archaeological areas of importance have been identified to be	The nearest community is Sanikiluaq, the Project is approximately 5km South of the community. However, the transmission line will extend from the turbine locations to the QEC plant in the community. There are two proposed areas in proximity to the Project site that are currently under development/consideration for designated protected areas: the Kingaaluk Territorial Park and the Qikiqtait Protected Area.

Project accomodation types

Temporary Camp

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Δ ^c Δ ⁵⁶ CΔ ⁵⁶ <Δ ⁵⁶ CΔ<Δ ⁵⁶ Δ ⁵⁶	56 Δ ⁵⁶ Δ ⁵⁶ C56 C56 Δ ⁵⁶ < c	Δ ^c Δ ⁵⁶ C56 C56 Δ ⁵⁶ < c
10	Delivery from community water truck	Near project site & community

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Access Road	ᐱᑦᑕᑎᑦ ᐱᑦᑕᑎᑦ ᑎᑦᑎᑦᑎᑦ	Unknown	Combustible waste will be disposed of using the communities current waste disposal methods.	No additional treatment procedures are anticipated at this time.
Equipment installation	ᐱᑦᑕᑎᑦ ᐱᑦᑕᑎᑦ ᑎᑦᑎᑦᑎᑦ	Unknown	Combustible waste will be disposed of using the communities current waste disposal methods.	No additional treatment procedures are anticipated at this time.
Camp	ᐱᑦᑕᑎᑦ ᐱᑦᑕᑎᑦ ᑎᑦᑎᑦᑎᑦ	Unknown	Combustible waste will be disposed of using the communities current waste disposal methods.	No additional treatment procedures are anticipated at this time.
Access Road	ᐱᑦᑕᑎᑦ ᑎᑦᑎᑦᑎᑦ	Minimal	Hazardous waste will be disposed of in accordance with existing regulations. If not hazardous waste disposal is available in the community, hazardous waste will be removed and disposed.	Hazardous wastes will be disposed of in accordance with their specific SDS.
Equipment installation	ᐱᑦᑕᑎᑦ ᑎᑦᑎᑦᑎᑦ	Minimal	Hazardous waste will be disposed of in accordance with existing regulations. If not hazardous waste disposal is available in the community, hazardous waste will be removed and disposed.	Hazardous wastes will be disposed of in accordance with their specific SDS.
Access Road	ᐱᑦᑕᑎᑦ ᐱᑦᑕᑎᑦ ᑎᑦᑎᑦᑎᑦ	Unknown	Non-combustible waste will be disposed of using the communities current waste disposal methods.	No additional treatment procedures are anticipated at this time.
Equipment installation	ᐱᑦᑕᑎᑦ ᐱᑦᑕᑎᑦ ᑎᑦᑎᑦᑎᑦ	Unknown	Non-combustible waste will be disposed of using the communities current waste disposal methods.	No additional treatment procedures are anticipated at this time.

Additional Information

SECTION A1: Project Info

Environmental Surveys began in December of 2019 and continued into the summer of 2022. Surveys completed include avian and wildlife surveys. Additionally, a desktop geotechnical assessment was completed in 2021. The first section of the access road was selected due to the existing trail, however all environmental surveys will be considered for the final alignment of the turbine access road, which will extend from where the existing trail (upgraded to an access road) to the turbine locations. During construction, the road will be used to access the site. This will include all equipment detailed in the "Material Use" section of the application. During road and turbine pad construction, dump trucks will haul material, travelling the road multiple times per day. Frequent use by the other equipment listed will also occur during this period. During operation, use of the road for project activities will be limited to atv or pick up truck use for general inspection of the turbines, likely on a weekly or bi-weekly schedule. Use during operation could also include equipment access to replace turbine components or the access the site for maintenance needs. This will occur on an as-needed basis. The road will be available for public use. Maintenance required on the turbines will include the replacement of any necessary parts, scheduled maintenance to ensure safe and consistent operation, and oil and fluid changes. Maintenance on the road will include maintenance to any water crossings to ensure proper flow as well as regrading or the road when necessary. Maintenance on the collector and transmission lines will occur as necessary and could include replacement of components or general maintenance on the lines, transformers, or poles. The road will be in located within the Nunavut Settlement Area.

SECTION A2: Allweather Road

Existing site materials will be used Materials for the access road will come from the local quarry in Sanikiluaq. The materials used will include crushed stone from the quarry as well as overburden from the site. Construction of the road is planned for the summer of 2023. Roads will be constructed using standard practices, in accordance with civil designs and all relevant codes. Refuelling will occur in the community of Sanikiluaq. In addition to this, all refuelling will follow the mitigative measures detailed. The turbine access road will have three water crossings. One at the start of the access road near the community, one approximately 500 m before the access road branches onto the turbine access road, and one crossing will occur at the base of the hill the turbines are located on, approximately 500 m past the existing trail that will be upgraded. Currently, five culverts have been scheduled. Their locations will be subject to final civil designs and site conditions. The quarry that will be used is approximately 3 kilometers WSW from Sanikiluaq, The proposed speed limit for the project access road is a range between 15 and 40 km/h, depending on the road section. Dust management procedures for the project include but are not limited to:

- If possible, schedule activities when weather conditions (wind) are favourable
- Use water as dust suppressant
- The exits of the construction sites will be equipped with effective dirt traps
- Impose and enforce speed limits on access roads
- Do not load trucks with soil above the freeboard
- Minimize drop heights when loading trucks
- During operation allow vegetation disturbed in the lay down areas to grow back

SECTION A3: Winter Road

SECTION B1: Project Info

SECTION B2: Exploration Activity

SECTION B3: Geosciences

SECTION B4: Drilling

SECTION B5: Stripping

SECTION B6: Underground Activity

SECTION B7: Waste Rock

SECTION B8: Stockpiles

SECTION B9: Mine Development

SECTION B10: Geology

SECTION B11: Mine

SECTION B12: Mill

SECTION C1: Pits

SECTION D1: Facility

SECTION D2: Facility Construction

SECTION D3: Facility Operation

SECTION D4: Vessel Use

SECTION E1: Offshore Survey

SECTION E2: Nearshore Survey

SECTION E3: Vessel Use

SECTION F1: Site Cleanup

SECTION G1: Well Authorization

SECTION G2: Onland Exploration

SECTION G3: Offshore Exploration

SECTION G4: Rig

SECTION H1: Vessel Use

SECTION H2: Disposal At Sea

SECTION I1: Municipal Development

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The Belcher Islands are situated in southeastern Hudson Bay, about 170 km west of Richmond Gulf, Quebec. The landscape is topographically low-lying and barren, comprised of nearly a hundred islands that are predominantly rounded and undulating to flat. Sanikiluaq is located just south of western Eskimo Harbour on northwestern Flaherty Island - the largest of the Belcher islands. The elevation ranges from 2 to 31 m ASL (Google Earth, 2021). Information regarding surface and subsurface geology outlined in the following subsections was extracted from a geotechnical report completed during the project planning phase (Tetra Tech, 2020). The Project site is located along an exposed north-south trending bedrock ridge which consists mostly of basalt with some pyroclastic tuffs, minor sedimentary rocks, and a possible late mafic intrusion. The bedrock ridge includes patches of surficial material comprised of weathered rock up to boulder size, colluvium and organics, and infilled north-south trending elongated depressions (lineaments). The north-south trending depression at the southeast side of the ridge is a drainage path that includes a chain of small ponds possibly of thermokarst origin. Low-lying areas

may contain perennially frozen ice-rich organic material. Belcher Islands are located in Hudson Bay, within the Qikiqtani (Baffin) Region of NU, part of the Southern Arctic Ecozone according to the Ecological Classification System described in the National Ecological Framework for Canada (ESWG 1995). Groundcover in this Ecozone typically consists of dwarf birch, willow, ericaceous shrubs, cotton grass, lichen, and moss. Poorly-drained sites may have tussocks of sedge, cottongrass, and sphagnum moss. The Belcher Islands are made up of Middle Paleoproterozoic metasedimentary and metavolcanic rocks of the Belcher Group, forming a series of anticlines and synclines (Jackson 2013). These rocks form an anticline on Flaherty Island, upon which Sanikiluaq is situated. The south side of the community where the project site is located is shown to rest mostly on massive basalt, with some pyroclastic tuff, intrusions, iron formation, and gabbro mainly of the Eskimo Formation. The massive basaltic bedrock, anticipated to be covering most of the proposed project site, is considered very strong to extremely strong. It is anticipated that the uniaxial compressive strength of the rock mass onsite will be influenced by weathering and structural discontinuities (joints, faults, cleavage zones etc.). The exposed rock surfaces down to a depth of about 2 m to 3 m may be highly fractured, with discoloration and crumbly rock texture present in small, loose rock fragments surrounding jointed areas of the bedrock. Where vegetation may be present above fractures in the rock surface, infilling of the fractures with soil and organic material may be present. The Permafrost Map of Canada identifies Sanikiluaq as being in an area of extensive discontinuous permafrost (50% to 90% of land area) with little to no ice content (up to 10%). The active layer in Sanikiluaq is anticipated to range from about 2 m to 3 m in thickness, although thicker active layers could be present in the Project site since bedrock is exposed to the ground surface. It is anticipated that the mean annual ground temperature below a depth of about 6 m is probably in the order of about -1°C to -2°C for undisturbed sites, and may be even warmer near water bodies, at disturbed sites, or at sites near active thermokarst processes. There is potential for an increase in permafrost creep in ice-rich soils through climate change that could reduce the bearing resistance of the soils and possibly a thickening of the active layer. For shallow or deep foundations, a consequence could be increased settlement due to creeping or thawing of the permafrost and increased seasonal movements due to a thicker active layer. Such movements will not necessarily be uniform across the Project site, and there could be some significant differential movements even in a short distance as a result of thaw settlement or seasonal thawing and refreezing of high-ice content zones in the soil. The arctic climate and presence of permafrost does not allow access to groundwater. Climate change effects are increasing causing lower precipitation levels and damage to infrastructure (such as breakage of buried pipes in shifting permafrost). A water treatment facility sources surface water from Sanikiluaq Lake and distributes it via water trucks (Water Canada, 2021; NWB, 2015). Buildings / residents have individual indoor water tanks to receive water distributed by truck. Each building / home is equipped with a reverse osmosis system since there have been reports of high sodium levels, possibly a result of saltwater intrusion to the surface water (Nunvut Tunngavik, 2020). In 2016, Sanikiluaq residents were advised to not drink the water due to sodium levels. Boil water advisories due to the presence of total coliform bacteria are issued occasionally as well (Nunavut Department of Health, 2016). The Belcher Islands host NU's second and fourth largest carving stone producers, the active Qullisajaniavvik quarry and the abandoned Aqituniavvik quarry, respectfully (Beauregard and Ell, 2015). Excellent-quality artisan marble, locally referred to as 'argillite', is a competent, soft to medium-soft rock that Sanikiluaq carvers can shape and polish by hand. The deposit is well exposed, with only minor amounts of debris generated because most stone is suitable for carving. Sanikiluaq's Qullisajaniavvik quarry has reserves of at least 30 000 tonnes of artisan marble. Granular materials for construction are quarried as well (NWB, 2015). The hydrology of Sanikiluaq is highly influenced by seasonal changes in the climate. The high spring freshet flow occurs in late May to June, as the cumulative snow and ice over the winter melts. Flows decrease as the summer progresses into July and August. The hamlet of Sanikiluaq uses trucked drinking water distribution and waste collection services (Hayward, 2020). The Water Supply Facility draws freshwater from Sanikiluaq Lake to the south of the community. The proposed access road is located along a local watershed divide, primarily on exposed bedrock, which drains northeast to Sanikiluaq Lake. The construction of the access road will not require blasting. Water is treated and transferred to municipal trucks for distribution within the community. The sewage disposal facility consists of a natural ditch, located 2.9 km west of the hamlet, where the effluent is discharged from the lagoon to a wetland and then into the marine environment (NWB, 2015).

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Biological Species at Risk (SAR) (i.e., endangered, threatened, and of special concern) are of particular concern due to potential disturbance resulting from Project development. The federal SARA was established in June 2003 as a component of a three-part national strategy for the protection of wildlife SAR, which also includes commitments under the Accord for the Protection of Species at Risk and activities under the Habitat Stewardship Program for Species at Risk. The listing process begins with a species assessment that is conducted by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC). Based on a status report, species specialist subcommittees assess and assign the status of a wildlife species believed to be at some degree of risk. SARA uses the COSEWIC scientific assessment when making the listing decision. Once a species is added to Schedule 1, it benefits from all the legal protection afforded and the mandatory recovery planning required under SARA. The Act provides

federal legislation to prevent wildlife species from becoming extinct and to provide for their recovery. Under the Act, an ongoing process of monitoring, assessment, response, recovery, and evaluation will be undertaken to improve the species status and ecosystem. The prohibitions and offences portions of the Act came into effect in June 2004. The status of species protected under SARA can be found at the Species at Risk Public Registry (SARPR). COSEWIC and SARA categorize SAR into three main groups according to their assessed status: ♦ Endangered: A wildlife species facing imminent extirpation or extinction. ♦ Threatened: A wildlife species likely to become endangered if limiting factors are not reversed. ♦ Special Concern: A wildlife species that may become a threatened or an endangered species through a combination of biological characteristics and identified threats. Species at risk are governed territorially by the Nunavut Wildlife Act, via the Nunavut Wildlife Management Board. There are currently no species listed by Nunavut legislation that may intersect with the Project footprint, as discussed with James Elliot of the Nunavut Department of Environment's Land Use Planning. The BIA has compiled information regarding the habitat within the Project area, specifically within the proposed Project footprint. Available information on the known occurrence of floral and faunal SAR in the Project area was compiled and reviewed to determine their presence relative to the proposed infrastructure. Representatives for NatureServe Canada and the Nunavut Conservation Data Centre were contacted in October 2021 and were unable to provide a data report for the Region. Fauna of greatest concern in context of the Project are avian and bat populations, since these groups have potential to interact with the turbines. For birds and bats, the primary potential negative effect of wind farms is displacement due to disturbance, along with habitat loss, collision, and barrier effects. Displacement occurs during both the construction and operations phases of wind farms as a result of physical barriers (i.e., turbines); visual, noise and vibration impacts; as well as repeated vehicle movements related to maintenance (Drewitt and Langston, 2006). The pattern and scale of disturbance depends upon the species, life cycle stage, availability of alternate habitats, and siting of the wind turbines with respect to important habitat areas. Fatalities due to collision are also of concern, although mortality due to wind turbines is lower than other sources such as predation by household cats and collisions with anthropogenic structures such as windows, vehicles, and towers (Zimmerling et al., 2013; Blancher, 2013). Zimmerling et al. (2013) reported that mortality rates of birds at wind farms in Canada (8.4 birds per turbine per year) were not sufficient to cause population-level effects. Nonetheless, it is recognized that prior to wind farm construction, proper consideration must be given to ensure that important habitats and migration corridors are avoided to the extent possible. Both collectively and as individual units, wetland resources serve a variety of important ecological functions. Wetlands function in the maintenance of surface and groundwater resources and quality, as well as in the provision of wildlife habitat. The value of wetlands to society and their ecological value are derived from their biological productivity and biodiversity. Wetlands are generally characterized by hydrophytic vegetation and can vary from a closed peat bog to an open water body dominated by submergent vegetation. Sanikiluaq is located in the Sub-Arctic region, where the active layer of soil that thaws above the permafrost is very shallow and during the summer, wetlands appear all over the landscape (CWF, 2012). Almost all arctic wetlands are associated with permafrost, strongly influencing their development. The most predominant and widespread wetland types of the Low Arctic Region are fens and bogs (Tarnocai & Zoltai, 1988). Wetlands in this area are typically composed of willows, sedges, grasses, and mosses, where upland habitat is typically characterized by berries, white heather, grasses, and lichens (Hayward, 2020). By providing natural flood control, points of recharge and discharge of groundwater, acting as filters, and by trapping silt, wetlands play an important role in the hydrological cycle and generally enhance the water regime. Since they provide habitat for a wide variety of plants and animals, they may be highly productive and often exceed adjacent uplands in their standing crops, productivity, and biodiversity. In the past, wetlands have been viewed mainly in terms of development, such as agricultural land or peat resources. However, their ecological value is now more clearly understood. Ecological wetland values may include sustenance for waterfowl; sources of fish production; storage and slow release of water; erosion protection; and areas of aesthetic or recreational enjoyment. Sanikiluaq is in the Subarctic region of Canada. It is a comparatively low latitude site that is characterized by slightly higher precipitation and average summer air temperatures (Hayward, 2020). The landscape is predominantly barren and rocky tundra, with a short growing season comprised of mainly mosses, sedges, grasses, and flowering plants. Vegetation in this region is low growing to avoid wind and ice scouring, growing close together in clumps or mats (Aiken et al. 2007). Project activities will take place in proximity to lake, stream and wetland habitats located south of Sanikiluaq. The existing trail to be upgraded to an access road and ten turbine sites are located adjacent to watercourses that are likely to support several small fishes – including minnow species and Arctic Char parr (*Salvelinus alpinus*). Wood field staff conducted aquatic habitat assessments on watercourse crossings within the Site footprint and determined that the habitat is suitable to support fish communities. Fish community assessments were not conducted. Water quality parameters were collected at representative project crossings as well as selected upstream and downstream locations. Arctic charr and Lake Whitefish (*Coregonus clupeaformis*) play an important role as sustenance for Sanikiluarmit and are harvested from the freshwater lakes near the community. Although culturally and economically significant species are present in areas surrounding the Project site, no aquatic SAR are expected to use the watercourses within the Project area. The main watercourse within the Project area generally flows north towards Sanikiluaq Lake, with established access roads/trails along either side of the stream channel. The majority of stream substrate was observed as

polar bear meat, and fish in the summer, to be distributed among Sanikiluaq residents (A. Rumbolt, personal communication, February 26, 2022). Currently, a community freezer exists to help store traditional foods, however, due to high energy costs, this freezer is not being used. As a result, food storage is more difficult in the summertime (J. Heath, personal communication, February 21, 2022). Incidents of criminal violation have increased in Sanikiluaq between 2006 and 2017 by 99%. The rate of criminal violations was 11.6% higher per capita in Sanikiluaq compared to Nunavut. Mischief is the most common crime in the community making up of 24% of violations, assault follows at 21% of all violations. Sanikiluaq is the southernmost community in Nunavut, and is part of the Qikiqtani Region, one of three regions within the territory (QIA, 2022). The municipality is governed by a mayor and council. The position of mayor is currently held by Johnnie Cookie. The municipal offices are responsible for managing services within the community, which include departments for Finance, Recreation, Economic Development, Community Lands, Justice, and Alcohol and Drug Control (Hamlet of Sanikiluaq, 2009). The representative for Sanikiluaq residents at the territorial level is the Member of the Legislative Assembly (MLA) for Hudson Bay. The position is currently held by Daniel Qavvik who was elected in October 2021. The MLA is responsible for advocating for beneficial legislation and resources for constituents, including the Project (D. Qavvik, personal communication, February 21, 2022). The economy of Sanikiluaq is sustained by construction, social work, and traditional activities including hunting, fishing, hide tanning, and art (M. Rowan, personal communication, February 28, 2022). The Sanikiluaq Economic Development Plan (2019-2023) lists several economic development goals in the five-year action plan (NVision Insights, 2019). These include:

1. Increase community economic development planning capacity and ensure that the Community Economic Development Plan is implemented, and its initiatives communicated.
2. Increase income and employment in the community.
3. Maximize opportunities in the renewable resources sector.
4. Support and develop small businesses.
5. Stay updated on developments in the mining and tourism sector.

Many local economic opportunities have been impacted by the COVID-19 pandemic. During a visit to Sanikiluaq in February 2022, Sanikiluaq's Economic Development Officer, Michael Rowan, explained that economic opportunities have decreased, including tourism, construction, and social activities, which had previously sustained the economy (M. Rowan, personal communication, February 28, 2022). While commercial fisheries do not yet exist officially in Sanikiluaq, several initiatives are proposed to kickstart sustainable fisheries. To realize fishing as a business venture, locals have been working with the World Wildlife Fund-Canada (WWF) since 2015 to develop a sustainable ocean-based economy (also known as a blue economy). Some opportunity for exports include Icelandic scallops, sea urchins, and sea cucumbers. Additionally, harvests of the 4,500kg quota of Arctic Char are being prospected. In 2019, the community began collaborating with WWF, University of Quebec at Rimouski, and Memorial University in Newfoundland to study availability of the species near the Belcher Islands to assure sustainable harvesting (Chiasson, 2021). In 2021, the Qikiqtaaluk Corporation (QC) Fisheries department conducted baseline surveys in Sanikiluaq among other communities in Nunavut, on possible fish stock development in the region for commercial inshore fisheries (E. Mentink, personal communication, March 29, 2022). QC Fisheries has been using its research vessel, called "Ludy Pudluk", together with Inuit Traditional Knowledge, to better understand future prospects for this development. Four crew members are on the vessel; two members from the Marine Institute and two Inuit technical crew trainees from Nunavut. The vessel plans to continue research in Sanirajak and Iglulik in 2022, to collect more complete data for the whole of Nunavut (Nunavut News, 2021). In 2017, four communities including Sanikiluaq, Cape Dorset, Hall Beach, and Igloodik, formed the Qikiqtani Fisheries Alliance (QFA), whose priorities include:

- Harvesting fish commercially according to the Minister of the Department of Fisheries and Oceans, and following recommendations of the Nunavut Wildlife Management Board (NWMB).
- Investing in offshore fisheries and in community economic and social development projects.
- Developing other projects and infrastructure related to fisheries.
- Conducting studies and surveys to determine species present in local and nearby communities.
- Developing inshore and near-shore fisheries near Nunavut waters for harvests of species such as sea cucumber, scallops, clams, sea urchins, mussels, char, shrimp and/or crab. (NVision Insight, 2019)

Throughout these developments, the Qikiqtaaluk Corporation (QC) has been supporting the QFA in its establishment and is likely to play a more long-term management role in the activities. It is possible that should QFA obtain quota, QC will harvest QFA allocations through their wholly owned company Qikiqtaaluk Fisheries Corporation and will return royalty payments to the QFA for distribution to its members (NVision Insight, 2019). These activities are an example of fishery developments growing in the region. In 2021, the Government of Nunavut received \$3.2 million from the federal government to invest in the fisheries development project. With the funding, Sanikiluaq's HTA is planning to invest in a fishing vessel, processing plant, and a new community freezer for storage. One third of stored produce could be exported to other communities outside of Nunavut. In addition, with the growth of their blue economy, employment opportunities are expected to expand. For example, between Sanikiluaq, Arviat, and Kinngait, 35 new jobs are expected to become available in the industry (Rogers, 2021). Energy in Sanikiluaq, like the rest of Nunavut, is derived 100% from diesel fuel. This fuel is used both for electricity and heating. Diesel fuel is shipped to Sanikiluaq in the summer months from Montreal, in sea containers (M. Rowan, personal communication, February 28, 2022), and stored in tank facilities in the community (QEC, n.d.). Because of its remote location, Sanikiluaq is not connected to a regional power transmission grid system and relies solely on its own energy transmission system. The Qulliq Energy Corporation (QEC) is the only utility providing electricity and district heating to Sanikiluaq and the rest of Nunavut. QEC currently has 25 power plants operating

in 25 Nunavut localities. Because of seasonal changes in demand, QEC power plants typically have multiple generators allowing some or all to be online depending on demand. This is an example of how the system is able to adapt to the unique conditions in the harsh Nunavut climate (QEC, n.d.). QEC has stated on its website the intention to move toward wind in the Nunavut region (QEC, n.d.a). With the proposed transition to wind-powered electricity in Sanikiluaq, QEC could significantly decrease its dependence on diesel fuel for electricity production, by 50%. Mineral exploration decreased by almost half in Nunavut within the first year of the COVID-19 pandemic (CIRNAC Nunavut Regional Office, 2020). To date, the primary quarrying activity in Sanikiluaq is the local gravel pit which is owned by the Hamlet of Sanikiluaq, and currently employs four workers on a seasonal basis. Gravel extracted from the pit is used for local infrastructure projects, such as the construction and maintenance of local roads (M. Rowan, personal communication, February 28, 2022). In 2012, mining prospectors had considered the development of iron mining on the Haig Inlet of Flaherty Island, 22 km south of Sanikiluaq. In 2012, Canadian Orebodies began exploratory drilling for the proposed Haig Inlet Iron Project, to confirm the estimated amount of 230 million tons of iron ore deposits. The islands were considered a beneficial location where the Hudson Bay tidewaters would allow resources to be shipped globally without the use of trains (Hemlo Explorers, 2012). The property is 14,180 hectares large, with 2,680 hectares being Inuit-owned land. Presently, 64 drill sites exist, and although Canadian Orebodies maintain their mining claims in the region, prospecting activities ceased shortly after exploratory drilling began, due to low resource demand and community opposition. (Chaisson, 2021; Hemlo Explorers, personal communication, Feb. 15, 2022). Artists in Sanikiluaq are known to produce soapstone art, baskets from lyme grass, and eider down clothing and blankets (Hamlet of Sanikiluaq, 2022). Other products sold in auctions around Canada include animal hides such as polar bear (K., personal communication, February 23, 2022). Before the COVID-19 pandemic, several art rooms existed in Sanikiluaq where vendors could sell and create art. However, since 2020, this has been removed to align with COVID-19 safety restrictions (M. Quittusuk, personal communication, February 28, 2022). Soapstone has been locally extracted and used for artwork by Sanikiluaq residents. Sanikiluaq has a unique type of soapstone called argillite. This type of stone is only found on the Belcher Islands and is known for its depth and colours ranging from near black to vibrant green (Hudson Canada, n.d.). Local artists are able to extract their own soapstone at local quarries, or access previously extracted soapstone from several sea containers. Soapstone reserves are especially important in the winter when access to the quarries become difficult after snowfall (A. Rumbolt, personal communication, February 26, 2022). Exports of carvings throughout Canada occurred in the past but are not common today. Exports of raw soapstone were considered by Sanikiluaq residents in the past, but due to sustainability concerns, it was decided to retain extracted soapstone for local use only (A. Rumbolt, personal communication, February 26, 2022). Currently, the major seller of soapstone carvings is Canadian Arctic Products (CAP) which buys the carvings from the Mitiq Co-op. However, current lack of demand has led to minimal sales. Another purchaser of local art is the Inns North Amaulik Hotel, which sells and displays local art (NVision Insight, 2019). Due to current hotel construction activities, this sales venue is also temporarily unavailable. The Arctic Eider Society is currently planning a research centre which is to include cultural facilities to support the production of traditional clothing and art, as well as a space to share tools for these purposes. The centre is expected to open in the fall of 2022 (J. Heath, personal communication, February 27, 2022). Several tourism opportunities exist in Sanikiluaq, such as canoeing, kayaking, fishing, bird and wildlife watching, scenery viewing, snowmobiling and all-terrain vehicle riding, skiing and igloo camping in the winter, and hiking and camping in the summer (Hamlet of Sanikiluaq, 2022a). Nevertheless, tourism is uncommon due to the remoteness of Sanikiluaq. Consequently, the services are rarely used, and much less sustain community livelihoods. Travel is also expensive for tourists; most flights are operated by Calm Air from Winnipeg which runs twice a week and costs approximately \$1,000 to \$2,000 round-trip. Depending on demand, flights are also available from Montreal to Sanikiluaq through Air Inuit (Hamlet of Sanikiluaq, 2022; Air Inuit, 2022), and a pilot project is currently also providing flights from Iqaluit until August 2022 (McKay, 2022). Moreover, accommodations are limited in Sanikiluaq. One Inns North Amaulik Hotel currently exists in the municipality. It is under renovation and will be available for use in the summer of 2022. The previous Amaulik Hotel offered six rooms each of which can accommodate two guests per night. The new hotel will provide 12 suites, and an additional conference centre, dining room and kitchen (Co-op manager, personal communication, March 18, 2022). Impacts to employment from the Project is an important consideration, as current employment opportunities are limited due to the small size and remote location of Sanikiluaq. Currently, the top employers in Sanikiluaq are the Government of Nunavut and the Hamlet of Sanikiluaq which provide positions mainly related to health care, education, and social services (Statistics Canada, 2017a; M. Rowan, personal communication, February 28, 2022). In 2016, the unemployment rate in the community was 28.3%, which was 8.3% higher than in 2006. The majority of individuals were employed in the health and education sector (95 individuals), followed by other services (60 individuals), wholesale and retail (35 individuals), manufacturing and construction (20), and business service (15). Table 4.8 provides workforce characteristics for Sanikiluaq (Statistics Canada, 2007, 2017a). In 2016, unemployment in Sanikiluaq was 6.8% higher than in Nunavut and 20.6% higher than the national average. National unemployment rates tend to be higher among men than women and this is also true for Nunavut and Sanikiluaq; however, the percent margin between men and women is the largest in Sanikiluaq as men were 16.8% less likely to be employed (Statistics Canada, 2017, 2017a). According to Sanikiluaq's Income Support Coordinator,

Martha Quittusuk, employment levels have decreased since 2020 as a result of the COVID-19 pandemic. As of February 2022, approximately 300 Sanikiluaq residents of working age (18-59) are on income support (M. Quittusuk, personal communication, February 28, 2022). This accounts for approximately 56.6% of the total of 530 residents who are working age in Sanikiluaq, according to the 2016 census data (this number may vary slightly as the Statistics Canada working age is 15-64, and the population date differs). Median income of individuals in Sanikiluaq increased from \$14,364 in 2006 to \$18,368 in 2016. When considering the rate of inflation of the Canadian dollar, \$14,364 in 2006 would be \$16,863 in 2016 (Bank of Canada, 2022), which implies that the median income increased by 8.9%. Median income increased substantially among women moving from \$13,216 to \$25,579 annually but decreased among men moving from \$15,264 to \$9,493 annually. Three quarters (75.2%) of Sanikiluaq's income comes from the market, which includes earnings from employment, investments, and private pension income, with the rest coming from government transfers (24.8%). A greater portion of women's income comes from government transfers (28.7%) compared to men (18.2%) in Sanikiluaq. Nuiyak School is a kindergarten and primary school for approximately 200 children supported by 25 staff. The curriculum is primarily in Inuktitut until grade 4 when the language is transitioned to 75% English. Students at Nuiyak School can participate in extracurricular activities throughout the year, including sports and student council (NTIP, 2022). Paatsaali High School is located next to Nuiyak School, and has about 177 students (NTIP, 2022a). It is important to note that as with other activities, COVID-19 has had a major impact on schools in Sanikiluaq. Currently, the elementary school and high school run at half capacity, to prevent potential spread of the virus. Classes are split in half with children from families grouped together and students attending school half weeks at this time. According to the Nuiyak School principal, many parents have withdrawn their students from school completely to prevent possible contraction of COVID-19. Currently, approximately 20% of students are attending school based on family decisions to protect their children from possible contraction of COVID-19 (A. Crabb, personal communication, February 25, 2022). Nunavut currently has one post-secondary institution, the Nunavut Arctic College (NAC). NAC has five campuses and community learning centers located in all 25 communities. There is a community learning center located in Sanikiluaq. Residents generally prefer to stay in their community, which limits the use of post-secondary institutions outside of Sanikiluaq (D. Thomas, personal communication, February 25, 2022). Often, if students choose to attend post-secondary school, they most commonly attend NAC. As of February 2022, three students are attending the local learning centre for its Office Administration program. This program has been running for the last two years with two students attending in the previous 2020/2021 cohort. Currently the learning centre is aiming to combine both cohorts to develop a two-year diploma program, instead of a one-year certificate program. Other programs have existed in the past, such as a translation program and a Nunavut Teachers Education Program. Each year, the learning Centre undergoes a needs assessment in which NAC decides which program will be taught in the community. Another popular program that exists on the main NAC campus in Iqaluit, is the Environmental Technology Program. This program takes two years to complete and has had several graduates from Sanikiluaq in the past (D. Thomas, personal communication, February 25, 2022). Between 2006 and 2016, the percentage of Sanikiluaq residents aged 15 and above with a high school diploma increased by 9.5%, from 27.5% to 37%. In 2006, 30.2% of women and 20% of men graduated high school, and in 2016, these numbers increased to 40% and 37.3% respectively. The slightly lower rate of graduation by men may be attributed to their cultural role in providing traditional foods to the community. With hunting activities being a major part of community lifestyle, some males in Sanikiluaq do not see a purpose in continuing education and prefer to pursue hunting, and at times, commercial harvesting activities for income generation (HTA meeting, personal communication, February 23, 2022). Most people in Sanikiluaq that complete high school further their education (72% of men and 54.5% of women) through either trades, apprenticeship, or university programs. While more men further their education in trades and apprenticeships, a greater percentage of women graduate from university. The number of women with a bachelor's degree or higher increased slightly between 2006 and 2016 from 7% to 7.3% and decreased in men from 4.4% to 3% (Statistics Canada, 2007, 2017a). Nunavut has the lowest rates of certificate diploma and degree attainment out of any province or territory in Canada. In 2016, 49% of Nunavut residents above the age of 15 completed high school or an equivalent, whereas the national average was 81.7%. High school completion is even lower in Sanikiluaq with a 37% completion rate. Rates of furthering education are also lower in Nunavut and Sanikiluaq than the national average. Nearly one in five (18.5%) Sanikiluaq residents, 24% of Nunavut residents, and 31.9% of all Canadians have furthered their education through trades, apprenticeship, college, and other non-university programs. For university programs, 4.2% of Sanikiluaq residents, 11% of Nunavut residents and 23.3% of all Canadians have completed a bachelor's degree (Statistics Canada, 2017, 2017a). Statistics comparing education attainment in Sanikiluaq, Nunavut, and Canada, can be found in Figure 4.6. Sanikiluaq has several businesses which offer services to residents. Some prominent businesses include the Mitiq Co-operative Association Limited, which owns the retail store, convenience store, a fueling station, hotel and restaurant (currently under construction), and provides cable television services (providing dish, installment and repair services; members choose their own provider), and on occasion, distributes Inuit carvings (Co-op, 2022). Other businesses include the Northern Store, which provides groceries, an ATM machine, and Canada Post office. Sanikiluaq also has two construction companies, Kawtaq Construction Ltd. and Gary's Construction, that are available to work on future infrastructure projects (A. Rumbolt personal communication, February 25, 2022; M.

Rowan, personal communication, February 28, 2022). The construction companies have particularly high capacity in drivers and loaders; however, specialized services occasionally require external experts to come to Sanikiluaq (A. Rumbolt, personal communication, March 9, 2022). Another organization which may offer business opportunities to support infrastructure projects is the Arctic Eider Society, which owns a crane that can be rented out for future infrastructure projects. Additionally, the Arctic Eider Society is in the process of developing a research centre powered by green energy and is looking for collaboration opportunities to make this possible (J. Heath, personal communication, February 28, 2022). Sanikiluaq (Inuit residents of Sanikiluaq) have broad and deep knowledge of the environments in which they live and travel, and of the natural processes within these environments. Inuit Qaujimagatunngit (IQ) refers to this knowledge base and includes the relations and responsibilities that Inuit have to the environment, one another, and their communities. IQ is culturally distinct knowledge passed down from generation to generation over thousands of years that has allowed Inuit to thrive on their lands and waters, while remaining adaptable to the high level of variability experienced in the Arctic environment. IQ is continually evolving and incorporating new information, and includes knowledge of weather and climate, natural history of plants and animals, water, snow, and ice conditions and dynamics, stars and northern lights. In addition, it includes practices and world views that demonstrate respect for biotic and abiotic elements of the environment, the practices and skills involved in successful land-based activities, and interpersonal conduct and responsibility to community. With respect to sustenance, IQ allows Inuit to access a diversity of nutritious food from a wide range of species, while ensuring the sustainability of local resources which is particularly important given the high price of food in Sanikiluaq. Sanikiluaq harvest a diversity of seasonally available plant and animal species throughout the year. The most commonly harvested and consumed species are ringed seal, bearded seal, common eider, and benthic animals including mussels, sea urchins, sea cucumbers, clams, and starfish (McDonald, Arragutainaq, & Novalinga, 1997). Labour related to traditional activities tends to be divided by gender with partnered men and women acting as a “working unit” with men responsible for the hunting, and women responsible for the household activities, gathering, fishing, and hunting small game (Quintal-Marineau, Wenzel, 2019). With the rise of the mixed wage/subsistence economy in the twentieth and twenty-first centuries, these roles shifted slightly, with wage employment becoming an important part of Nunavummiut women’s identity and women attaining higher levels of education, demonstrating a preference for permanent, full-time wage engagement, and having fewer opportunity conflicts (Quintal-Marineau, Wenzel, 2019). From the available employment data and research conducted in the community, this pattern holds true in Sanikiluaq. Harvesting in the Belcher Islands follows seasonal weather patterns with specific environmental patterns marking the turn towards the colder months at the end of August or beginning of September, including the migration of birds, beluga, and seal, walrus moving inshore, and changes in vegetation colour (McDonald et al., 1997). The spring is marked by the arrival of warm air, often followed by a return to colder temperatures and accompanied by freeze-thaw cycles of accumulated snow that can make feeding on resources under the snow difficult for animals like caribou, reindeer, fox, Arctic hare, and ptarmigan (McDonald et al., 1997). The Belcher Islands host a variety of terrestrial and marine species. Sanikiluaq harvest a diversity of these terrestrial and marine species for subsistence purposes across the Belcher Islands, and up to 50 km north and west on the sea ice in the winter months towards the King George and Sleeper Islands (QIA, 2013). Sea ice provides a platform that allows for hunting certain species, including seals at breathing holes, and beluga at leads in the ice that form in the spring (QIA, 2013). Sanikiluaq does not have a quota for beluga whale, and will harvest 30-100 whales per season with additional muktuk (the skin and blubber layer) being sold to other communities that have a quota. In addition to harvesting for subsistence, some species, like eider, reindeer, polar bear, fox, and hare, are also harvested for clothing material. Eider duck harvesting is of particular importance to the community. Eider ducks are harvested by the community for skins and feathers which are used to make clothing, while also being used for subsistence purposes. This practice is unique amongst Inuit, and first occurred around 1880 when the local caribou herd disappeared when ice covered their feeding grounds (Qikiqtani Truth Commission, 2013). The down used by eider ducks to construct their nests is also gathered by the community once the ducklings have fledged and is used for insulating clothing. Reindeer were introduced to the islands in 1978 as a replacement for the caribou that had disappeared 100 years prior (Travel Nunavut, 2021). In addition to eider ducks, several other bird species are harvested including merganser, Canada geese, and ptarmigan. Eggs are also harvested from some species, mainly geese and gull eggs. Reindeer are harvested to a limited extent in the winter as needed when other subsistence species are scarce. Several marine mammal species are harvested by the community for subsistence and material, including ringed seal, bearded seal, beluga whale, and walrus. Each of these species provides food and material for hunters, and are often distributed throughout the community, especially in the case of the larger beluga and walrus, which are considered “community foods” (McDonald et al., 1997). Land and marine use activities, including harvesting and research projects, are managed at the local level by the Hunters and Trappers Association (HTA) led by a board comprised of Elders and community members. The Arctic Eider Society (AES) operates collaboratively with the HTA to lead research and conservation efforts in Sanikiluaq focusing on the eider duck and its particular importance to the community. A community conservation officer is stationed at the environmental office, and is responsible for enforcement of environmental laws, as well as for sampling and data collection to support territory-level environmental monitoring, such as tooth sampling of harvested polar bears (J. Qittusuk, personal communication, February 21, 2020). The

environment around Sanikiluaq provides abundant marine resources, but the unique landforms of the Belcher Islands also include an abundance of freshwater ecosystems, including the 113-kilometer long Kasegalik Lake, named after the unusual freshwater black seal that inhabits its waters (QIA, 2013). Sanikiluaq harvest several freshwater and marine species through the ice and with nets after breakup, including Arctic char, Arctic cod, whitefish, and sculpin (QIA, 2013). Numerous sea bottom animals are also harvested, including mussels, sea urchins, sea cucumbers, clams, and starfish (McDonald et al., 1997). In the 2010s, the Sanikiluaq HTA worked with several agencies to assess the feasibility of a commercial shellfishery to diversify and support the economy of Sanikiluaq. Research into the fishery established that two species in particular were suitable for commercialization, the Iceland scallop (*Chlamys islandica*) and Northern Bay mussels (*Mytilus trossulus*) (Deslauriers, 2021a). These studies are ongoing and are considering other species, including sea cucumbers and urchins, as species of commercial interest. Trapping was noted to be limited in the community to less than five members for recreational/personal purposes (A. Rumbolt, personal communication, February 25, 2022). The only species that are trapped are Arctic foxes. Sanikiluaq harvest some of the limited plant species that grow on the Belcher Islands. Lyme grass is harvested and used for basket weaving. These baskets are used for storage and gathering purposes and are also produced as art for sale. Berries are gathered throughout the spring and summer months, namely cranberries in the spring, as well as crowberry, cloudberry, blueberry, and bearberry. Plants that are harvested include Greenland lousewort. Numerous marine plants are harvested including some seaweeds, such as sea beach sandwort, kelp, and wracks (McDonald et al., 1997). The harvesting of minerals is of particular importance to Sanikiluaq. The community is renowned for its carvings from local stone, including argillite, and soapstone. These minerals are quarried from several sites in the Belcher Island archipelago, including soapstone or argillite on Tukarak Island (Qikiqtani Inuit Association, 2022). These quarries local to Sanikiluaq support a thriving carving community, with many active carvers. The soapstone quarries are separate from the aggregate quarries used by the town. The importance of these minerals to the community led to the Mitiq Co-op, which was created in 1968 to stake a mineral claim to protect the principal soapstone deposit on the islands and to operate a warehouse and handling facility (QIA, 2013). Carvings are also sold by individual artists directly as they are available. Disruptions to the supply of suitable stone from the quarries due to COVID-19 restrictions limited the production of carvings for some artists in 2021. Sanikiluaq's visual arts, including carving and sewing, are an important component of Sanikiluaq's cultural heritage, with up to 22% of Sanikiluaq's labour force being employed in the visual arts at times (Travel Nunavut, 2022). Dorset and Thule sites and ancestral Sanikiluaq habitation and land use areas exist across the archipelago, although there have been little to no systematic archaeological surveys or studies conducted (Travel Nunavut, 2022). To date, no archaeological surveys or studies have been conducted on the Project site or access road. There are two proposed areas in proximity to Sanikiluaq and the Project site that are currently under development/consideration for designated protected areas. Kinngaaluk Territorial Park, located on the peninsula adjacent to the northwest end of Sanikiluaq is proposed as an area for cultural activities and subsistence harvesting (see Figure 4.9). The park also creates opportunities for tourism through guiding and outfitting. Qikiqtait Protected Area is proposed as a pan-Belcher Island Archipelago conservation area. The Sanikiluaq-led initiative under the Qikiqtait Inuit Association (QIA) is aimed at promoting the "conservation economy" of the area, by protecting resources and identifying opportunities for the community to benefit through sustainable use and received \$5.5 million in funding to lay the groundwork in 2019 from the Canada Nature Challenge Fund (Straightupnorth.ca, 2020). The initiative seeks to promote infrastructure development, Inuit-led governance, Inuit stewardship, and local fisheries in order to foster the blue economy in the region (QIA, 2020). The Arctic Eider Society (AES) is a non-profit organization based in Sanikiluaq. The organization delivers community-based programs "that build capacity and self-determination across three pillars: community driven research, education and outreach, and stewardship" (AES, 2022). The organization was formed to research the impacts of Hydro Quebec dams on the marine ecosystems, and in particular the populations of eider ducks that the community relies on for food and material for parkas. The organization has since expanded to continue research on eider ducks and the broader marine environment around Sanikiluaq, as well as to promote and support the "eider economy" amongst Sanikiluaq which refers to harvesting, processing and sewing eider skins, and does not assume monetary exchange. Research on the eider duck includes the impacts of climate change on species, as well as conducting outreach programs to distribute eider skins and down, and to provide instruction for producing eider skin and down parkas. This includes funding for harvesters, purchasing eider skins and down, and facilitating knowledge transfer of eider skin processing, and parka sewing techniques and skills. The AES has also collaboratively developed the Indigenous Knowledge Social Network, referred to as SIKU (see-coo), a community based social network and data gathering online/digital application that allows harvesters to record their trips on the land, document environmental and ecological conditions, including sea ice conditions, and record data about harvested wildlife. The SIKU application has been popular with the community with hundreds of data points having been recorded and uploaded to the database. The application is also beneficial for analyzing and comparing the return on investment of time, effort, and money by individual harvesters, providing valuable data that can be used to improve harvester support programs and protected area planning for Kinngaaluk and Qikiqtait Protected Areas (J. Heath, personal communication, February 28, 2022). Arctic Eider Society Research Centre The AES has funded and is building a research centre in Sanikiluaq due to be completed in fall 2022. The centre

includes offices for the local Hunters and Trappers Association, a lab, accommodations for researchers, a garage for equipment and snowmobiles, a tool repository for community use, and space for eider duck economy-related teaching and preparation. The building is designed to be highly energy efficient, with above average insulation and some solar power. The AES has indicated their desire to purchase a percentage of wind energy capacity from the Project in order to run the centre fully with renewable energy, which would make it the territory's first net-zero building. There are several challenges to overcome to achieve this goal, including coordinating with the local utility for the use of energy infrastructure, buying electricity through the utility at a fixed rate, or bypassing the utility entirely. The AES has expressed that it would be simplest to purchase power at an agreed rate with the utility, or to purchase a turbine for installation at the wind farm and use the existing or developed electricity infrastructure. The AES indicated that if they were able to purchase a turbine or an agreement with the utility that resulted in excess power being available to them, they would donate the additional power to run the community freezer. The community freezer was built in 2016 but has since proven to be too expensive for the community to operate at current electricity rates and has not been used. Studies indicate that community freezers can help to improve access to country foods and food security in northern communities, and the freezer in Sanikiluaq would likely do the same for the community (Organ et al., 2014, Chan et al., 2006). The auctioning of polar bear hides is an important source of income for harvesters. The polar bear hunt operates under a quota system that provides an allocation of bears for communities to harvest each year. Bears are harvested traditionally for meat and material for clothing, but harvesters can choose to prepare full hides which can be sold at auction. Price varies based on the size and quality of the hide, but harvesters can expect to receive a minimum of \$3,000 for a hide that is at least 10 ft in length and of good quality (J. Qittusuk, personal communication, February 26, 2022). In previous years, harvesters could receive an advance for the hides, and receive the difference once the hides were auctioned; however, advances were not offered in the 2022 season due to a lower demand for hides in general. Hides can still be sold at auction, which provides an important source of income for harvesters (K., personal communication, February 23, 2022). Sanikiluaq may harvest bears subject to the quota limits, and while non-Inuit residents of Sanikiluaq may also harvest bears, they must first apply for a harvesting licence and species authorization tag. Quotas have been used for 40 years in Sanikiluaq, with a flexible quota system developed and used since 2005 under a Memorandum of Understanding (MOU) between the Government of Nunavut and Sanikiluaq. The flexible quota system allows credits to be carried forward from previous years, with a 2:1 male to female sex harvesting ratio (Sanikiluaq Hunters and Trappers, 2016). In 2013, the Nunavut Planning Commission (NPC) conducted a series of community meetings with Sanikiluaq residents to identify land with cultural importance to help inform the Nunavut Land Use Plan. From these meetings, maps were generated that showed historical campsites, cabins, sod houses, Thule sites, archaeological sites, and burial grounds across the Belcher Islands. According to these maps, the selected site location and its adjacent footprint show no archaeological or cultural grounds (NPC, 2013). However, the maps were hand-drawn and are difficult to read. Therefore, to confirm the results of the NPC meeting, a desktop review was conducted, and no cultural or archaeological areas of importance have been identified to be within or adjacent to the proposed Project footprint. Community input for the site selection of the Project included considerations for avoiding culturally and archaeologically significant sites. Sanikiluaq is situated on the Belcher Island system, which is comprised of a number of unique landforms and geological formations. Some of the geological formations within the Belcher Island group contain important paleontological resources. The Kasegalik and McLeary formations within the Belcher Supergroup contains microfossils from organisms from the Precambrian period, dating to 1.9 billion years ago, which represent some of the earliest known examples of cyanobacteria fossils found in Canada (Hofmann, 1976). Information was gathered primarily through Census Canada data, as well as through primary research conducted in-community. Health Services The Sanikiluaq Health Centre and the Community Well-Being Program provide health services to Sanikiluaq residents. The new health centre's primary objectives are to provide acute, chronic, and emergent care, while the Community Well-Being Program provides preventative services for the community. Preventative services include:

- Pre-natal nutrition program.
- Exercise program (currently on hold due to COVID-19).

(Hamlet of Sanikiluaq, 2009; M. Rowan, personal communication, February 28, 2022). The Sanikiluaq Health Centre is equipped with an emergency room, birthing room, an X-ray room, a pediatric room, and negative pressure rooms which can be used to prevent spread of disease and are adapted to pandemic circumstances. The health centre also includes a COVID-19 testing station, several general treatment rooms, a mental health clinic, a permanent pre-natal clinic, and a kitchen for health care staff. Currently, there are no blood transfusions available at the health centre (J. Kelly-Wilson, personal communication, February 28, 2022). The Sanikiluaq Health Centre was recently opened (February 15, 2022) to replace the old health centre, built in 1984 which required structural updates and increased capacity to serve Sanikiluaq's growing population (Nunavut Bureau of Statistics, 2018). While the old facility provided capacity for a population of 500, the new facility now has enough space to better accommodate the current population of over 800 residents. Staff capacity has not changed since the change to the new building (J. Kelly-Wilson, personal communication, February 28, 2022). Instead, the new facility allows different departments to have their own units with offices and treatment facilities, which allow more services to be provided by existing practitioners at the same time (Sharma, 2020). The current health centre receives approximately 80-100 patients per month and, according to the head nurse, capacity within the facility has been

manageable, although more nurses would always be welcome (J. Kelly-Wilson, personal communication, February 28, 2022). Additional medical specialists, such as dentists and optometrists, visit the community every two months. A physician who makes referrals and prescribes medications visits the community five days each month (J. Kelly-Wilson, personal communication, February 28, 2022). The health centre is not equipped to treat serious emergencies and/or surgeries. For such services, patients are flown to Winnipeg to receive treatment. This can take up to 24 hours, and only stable patients are able to be taken by plane to Winnipeg (J. Kelly-Wilson, personal communication, February 28, 2022). Ambulance services are not officially available, but the health Centre collaborates with the RCMP and the Fire Department to transport patients when needed. The governments of Manitoba and Nunavut share an agreement that allows Nunavut residents to receive treatments that are not provided in their local health units (Office of the Auditor General of Canada, 2017). A Community Well-being Coordinator provides educational and preventative measures for chronic health issues in the community, which includes information sharing, as well as nutrition and exercise programs. The health centre is open Monday to Friday from 8:00am to 4:30pm. Nurses are also in the health centre on weekends if treatment is needed. The old health centre is currently being used for other social services and office space. The Community Well-Being (CWB) index measures well-being for communities across Canada. It has four components: education, labour force activity, income, and housing (ISC, 2019). It is a useful metric for the purposes of this study as it provides a quantitative measure of several socio-economic components that can be compared across communities. Inuit communities in Nunavut have relatively low CWB indices compared to non-Indigenous Canadians. For example, in 2016, Inuit communities' CWB score was 19% lower, their education score was 22% lower, their labour score was 11% lower, their income score was 10% lower, and their housing score was 35% lower compared to non-Indigenous Canadians (ISC, 2019). Sanikiluaq's CWB indices are lower than those of other communities in Nunavut, with a 7% lower CWB score, a 6% lower education index, a 7% lower labour index, an 8% lower income score, and a 4% lower housing score (ISC, 2019). Physical health in Sanikiluaq has remained relatively stable in the last ten years. 2016 was the year with the least recorded activity at the health centre with a total of 4,936 visits, averaging 13.5 per day. 2016 had a much lower average number of visits compared to previous years; for example, the health center received 32% fewer visits compared to 2015. Averaging every year surveyed between 2003 and 2016, the health centre, on average, would receive 21 patients per day (Nunavut Department of Health, 2018). Community health centre visits are not measures of disease incidence or prevalence. Instead, visits may indicate demand on local health care services. The total of all the categories does not add up to 100% as patients visiting the hospital for numerous reasons were counted under each relative category. Percentages were then calculated by dividing the number of cases in each category by the total number of visits. Upon further communication with a Sanikiluaq Health Centre nurse, current health visitations as of February 2022, include the following:

- Alcohol and drug use;
- Domestic abuse;
- Bad nutrition (from Western diet), often seen as gall bladder issues;
- Skin issues due to inadequate living conditions; and,
- Dental issues.

(J. Kelly-Wilson, personal communication, February 28, 2022). Statistics regarding the state of Sanikiluaq residents' mental health are unknown; however, locals have spoken to media sources regarding the need for increased mental health resources. Sanikiluaq's former MLA, Allan Rumbolt, stated in an interview regarding the new health centre that he hoped the new centre would provide better services. According to Rumbolt, there is always a great need for more mental health in the community, similarly to other northern communities (Sharma, 2020). Another Sanikiluaq resident who ran in the 2021 Nunavut MLA election also stated in an interview that mental health was one of the biggest issues in the constituency and that, "the biggest issues for Nunavut in this election [2021] are mental health and addictions, which could be improved with more housing" (George, 2021). In an effort to reduce addiction, the community has an alcohol and addictions department with a local counsellor (Hamlet of Sanikiluaq, 2022). Currently alcohol is prohibited in the community, making it illegal to transport it by flight or boat. In 2019, the community held a local plebiscite regarding lifting the alcohol ban to allow it in small quantities; however, the vote failed with 63% of people voting in support of prohibition (Grandmaison, 2019). Sanikiluaq has faced several issues related to the state of drinking water. In June of 2016, residents were advised to not drink the water due to high levels of sodium. The water was deemed sufficient for bathing and cooking, but residents were required to collect bottled water from the community hall for drinking purposes. In August of 2016 however, a boil water advisory was announced due to e-coli contamination. Residents were advised to no longer use the water for cooking, bathing, or brushing teeth without boiling it first and were still required to collect drinking water from the community hall (Arkus, 2016). In late 2016, the community managed to clear the water of e-coli and installed reverse-osmosis units in each home to remove the salt from the water to make it potable. These reverse osmosis systems are still used community-wide, and the Nunavut government posts official reminders for residents to only consume water from the reverse osmosis systems (Sommerville, 2021). While reverse osmosis makes the water consumable by filtering sodium, it also removes minerals with essential health benefits (Kozisek, 2005). Water that is filtered in a factory setting is restabilized with nutrients including fluoride, magnesium, and calcium, however home systems do not. According to an article published by the World Health Organization (WHO), "studies show that higher water magnesium is related to decreased risks for Cardiovascular Disease (CVD) and especially for sudden death from CVD. It has also been suggested that intake of water low in magnesium may be associated with a higher risk of motor neuronal disease, pregnancy disorders, sudden death in infants, and some types of cancer. Recent studies suggest that the intake of

injury sustained, cause of injury, and species. Native plant regeneration will be promoted to allow natural revegetation. Inspect and clean imported equipment for invasive species. Inspect borrow areas for presence of invasive species prior to use. Dust abatement and prevention measures shall be implemented. Complaint registry to be developed for traffic, noise, and other Project concerns. Limit traffic to regular working hours. The routing of truck traffic through the hamlet will be controlled during all activities. Repairs to public roads to be implemented should the need arise. All Project vehicles will be properly maintained and muffled to reduce noise emissions. The Contractor will make daily inspections of tires, brakes, lights, mirrors, fluids, hydraulic and fuel systems on machinery, and leaks will be repaired immediately. If parts are not immediately available, equipment will be removed from service until repaired. All leaks will be reported to the GN Department of Environment and the Canadian Coast Guard at 1-800-565-1633. Where feasible a protective buffer zone will be established for wetlands and watercourses where construction equipment will not enter. Erosion control measures are to be implemented and maintained. All staging areas will be located 100 m outside any wetland/watercourse. Clearing, Grubbing, and Excavation. Minimize air emissions through proper planning. All heavy construction equipment will be equipped to reduce air emissions. Water will be applied as a dust suppressant as needed to prevent fugitive emissions. The speed limit will be reduced. Idling of vehicles will be limited. Do not load trucks with soil above the freeboard. Minimize drop heights when loading trucks. Disturbed soil will be stabilized as soon as possible. Clearing and grubbing will be restricted to areas necessary to carry out the Project. A nest search will be conducted prior to clearing and grubbing activities occurring within the regional avian nesting period (1 May to 15 August). Any active nests will be protected with a species-appropriate buffer until the young have vacated the nest. For species that re-use nests for multiple years (e.g., some raptors), vacant nests will be relocated outside the clearing/grubbing zone. Native plant regeneration will be promoted in any areas that are cleared but not built upon (i.e., roadside ditches, temporary laydown areas, etc.). Use native plants or no vegetation at all around turbines. Materials cleared from the sites (brush, soil, etc.) should not be dumped into otherwise unaffected land. All construction equipment should be in good working order. Keep work area clean of food scraps and garbage and transport waste to an approved landfill on a regular basis. Maintain appropriate spill response equipment. Vehicles will yield the right-of-way to wildlife. Do not harass or disturb wildlife. Alterations to existing natural drainage patterns will be minimized. For construction activities required during the sensitive nesting season the following measures will be implemented: Clearing activities will be scheduled in consideration of critical habitat features (e.g., wetland areas) identified during the preconstruction field survey. The proponent will instruct the management team and contractors on the MBCA, the importance of habitat, the significance of the nesting period, and measures to be implemented to minimize any disturbance to birds/nests. Construction workers will be informed of the potential for SAR to be present and will be instructed on measures to take if a SAR is observed. If a migratory bird nest is discovered within the active work zone, work in the area should cease until CWS is contacted for guidance. A buffer of an appropriate size may be required until young have fledged from the area. Environmentally sensitive areas (i.e., wetlands and watercourse) will be staked out prior to work operations so that these areas are protected. A buffer zone will be established on each side of a wetland/watercourse. Activity to be limited within watercourse and wetland buffer zones. Implement erosion/sedimentation mitigation measures of wetlands/watercourses when necessary. No waste or debris into wetlands/watercourses or buffer zone. No heavy equipment or motorized vehicles will enter wetlands/watercourses. Work to be completed in shortest duration possible. The on-site Petroleum, Oil, Lubricants (POL) storage container shall be located on level terrain, at least 100 m from any water body or wetland. No POL storage will occur in sensitive areas (e.g., near wetlands, watercourses, or wells) or associated buffer zone. Fuelling must be done at least 50 m from a wetland or waterbody. Servicing of equipment will not be allowed within 100 m of a wetland, watercourse, or drainage ditch. Culverts shall be appropriately sized to accommodate peak flow volumes and maintain aquatic connectivity of watercourses. Due to the nature of the bedrock, bridges should be placed to protect aquatic habitat where culverts are not a viable option. Standard methodology and construction practices should be followed for culvert/bridge installations to mitigate potential impacts. No chemicals will be used to wash equipment. Equipment wash water will be diverted into a settling pond for control and treatment, and effluent will be treated and recycled for reuse. Building Construction and Turbine Assembly. See mitigation measures for clearing, grubbing and excavation. Minimize area disturbed. Use access roads for equipment movement. Place and maintain proper erosion/sedimentation measures. During foundation laying, form oil may be used sparingly to allow forms to separate from concrete following curing. Washing of chutes on-site will occur at a designated location. No chemicals will be used in the washing of concrete trucks or forms on-site. Poles will be placed no closer than 15 m from any watercourse, and wetlands will be avoided where possible. If a watercourse or wetland cannot be spanned, untreated poles (wood, fibreglass, or steel) will be used. Accidents and Malfunctions. Replace hazardous materials with less harmful ones when possible. Incorporate preventative and response measures into construction practices. Provide environmental awareness training. Maintain appropriate spill response equipment. Report all spills to applicable authorities, including the GN 24-hour spill report line at 1-867-920-8130. Inspect equipment to ensure equipment and vehicles have no obvious leaks. Do not refuel vehicles on-site. Store all hazardous materials outside of a 30 m buffer around wetlands and watercourses. Maintain and update an inventory of hazardous materials on-site. Train workers to adhere to safe driving rules in order to prevent traffic accidents. Public

notification of an increase in construction traffic• Report all incidents of injured or dead wildlife to the on-call Conservation Officer in Sanikiluaq at 1-867-266-8098Wind Turbine Operation and Maintenance • Control visits to the area by both workers and public• Keep workers from entering undisturbed habitat areas where no work is done• Encourage public to refrain from visiting access roads during breeding season (early May – mid-August)• Prevent perching and nesting on turbines• Do not create areas of high prey density during habitat restoration and maintenance• Use native plants or no vegetation at all around turbines• Use the minimum allowable amount of lighting (i.e., minimum intensity and number of flashes per minute), using white colour aviation lighting in accordance with Transport Canada guidelines• Use LED lights, as they emit no light during the “off-phase” of the flash• Avoid or shield strong lights such as sodium vapour lights• Implement post-construction monitoring program• Create aesthetic balance in the design• Use light grey color, non-reflective, not shiny steel• Arrange turbines in clusters• Minimize lighting on the turbines• Minimize Project footprint, implement erosion control and dust abatement• Repair turbines as soon as it is safe and practicable to do so• Clean turbines• Remove excess materials and litter• Avoid posting commercial signs

Cumulative Effects

With an increase in the number of non-local workers for Project construction, there is a risk that accidents and emergencies could increase placing strain on the limited capacities in health services and emergency response in Sanikiluaq to manage these issues. Mitigation measures include sharing health and safety plans with the local Health Centre, ensuring strict adherence to all WSCC requirements when on site, consulting with Sanikiluaq HTA if there is a concern of polar bears in the area and hiring a bear monitor if needed. Lastly, contractors will be required to provide training, during project orientation, to the workforce on safety, specifically contextual to the climate and weather conditions. The residual cumulative effect on health services and emergency response is negative as potential for these effects cannot be fully mitigated. The short timeframe in which there could be a peak in non-local construction workers (June to September 2023) and the relatively low proportionate size of the peak workforce to the Sanikiluaq population mean it is unlikely that additional emergency response and health services will be retained by the Hamlet of Sanikiluaq in this period. The effect is therefore considered negative, local (in Sanikiluaq), short-term as it occurs during construction. The frequency of the potential impacts is accidental since accidents and crime/security or incidents requiring health or emergency response could occur, but rarely in the construction phase. The potential impact is reversible following construction. The magnitude and likelihood of the potential impact is considered low. The confidence of this assessment is moderate since there is no information about the actual size of the construction workforce for the NHC housing office and the number of non-local workers for the Project is dependent on local human resource availability, decisions made by the turbine manufacturer, and interest in local training. The residual cumulative impact on health and emergency services is therefore considered not significant. Capacity issues related to health and emergency services, particularly in the first year of construction, will be monitored in a socio-economic management plan. The Project has the potential to increase dust and exhaust emitted from vehicles and heavy equipment during Project construction causing sensory disturbances for construction workers as a result of air emissions, noise, and visual disturbances. Due to the municipality's 4.5km distance from the construction site, relatively small workforce and reversibility of the effect to residual impact was considered low and not significant. With the added 10 construction workers for the NHC housing office, which is located within Sanikiluaq, there is possible sensory disturbances possible within the community in the June to October 2023 timeframe. Mitigation measures for sensory disturbance include adhering to speed limits and restricting idling, when possible, having a contractual obligation for contractor(s) to employ best practices to reduce dust such as not overloading trucks and minimizing drop height of trucks during construction, requiring contractors to provide safety equipment to construction workers including masks when working in high-dust and emission zone, limiting construction vehicles from passing through high-populated locations, when possible and following the contractor's Health and Safety Plan. These residual cumulative effects are estimated to be experienced locally within Sanikiluaq, on a short-term, periodic basis, and the impacts are deemed reversible at the end of September 2023. The magnitude of the residual effect is predicted to be low, with a high likelihood and high level of confidence. The final effect is anticipated to be not significant, due to the reversibility and low magnitude of the effect. It is recommended that sensory disturbance, particularly in the first year of construction, be monitored in a socio-economic management plan. With the introduction of up to 21 temporary non-local construction workers from both projects in Sanikiluaq during construction (June to September 2023) there is potential for the workers to transmit viruses (such as COVID-19) or other diseases to Sanikiluaq residents. This could result in health crises that are not easily managed given current, limited health care provision in the community. To further avoid virus and disease transmission, mitigation measures for this potential effect include developing a Code of Conduct for employees and contractors that provides guidance and policies on appropriate and inappropriate worker behaviour and community interactions. Additional mitigation measures include enforcing and monitoring safety measures taken against the spread of COVID-19 as recommended and regularly updated by Health Canada. With these additional mitigation measures in place, the residual effect on virus/disease transmission is expected to be negative since there is still a risk for diseases to enter the community

from non-local workers and visitors and not all individual behaviours can be managed. The geographic extent of the effect is local within Sanikiluaq and is short-term in duration (during construction). The frequency of the effect is isolated since it is confined to the construction phase and is reversible with the completion of construction. If effectively managed, the impact could be low and but likely. The confidence in this assessment is moderate. The significance of the cumulative effect on virus/disease transmission is considered not significant. Given the likelihood of the effect and the limited health care services available, it is recommended that cumulative impacts of the two projects, particularly in the first year of construction, be monitored in a socioeconomic management plan. Similarly, to the predicted cumulative impacts on virus/disease transmission due to the number of non-local construction workers interacting with residents, the risk of introducing drugs and alcohol into the community is also increased. Sanikiluaq is a dry community, and, although there is airport screening, drugs and alcohol use is persistent in the community. The Hamlet of Sanikiluaq has a drug and alcohol counsellor, and related issues are on the top of those addressed at the health centre. Drug violation rates are relatively low and decreased in the 2006 - 2017 census period dropping from 3% in 2006 to 2% in 2017. The Project effects were considered not significant due to its reversibility following the construction phase. To reduce this risk, mitigation measures include ensuring Project contractor(s) has, and enforces, a zero tolerance policy for drugs and alcohol, while in Sanikiluaq and the development of a Code of Conduct for employees and contractors that provides guidance and policies on appropriate and inappropriate worker behaviour and community interactions. The potential residual effect is considered negative as the risk cannot be fully mitigated however, with mitigations enforced, is not expected to change existing conditions negatively or positively. The residual cumulative effect is considered neutral. It is recommended that drug and alcohol use, particularly in the first year of construction, be monitored in a socio-economic management plan. There is a potential for barriers to employment for women, LGBTQ+ or racial minorities as a result of gender and racial stereotypes and work inequalities arising from a predominantly male-dominated workforce. Due to the general male-dominated trades sector, minorities in Sanikiluaq may feel intimidated about applying for a job with the Project or to construct the NHC housing office. Additionally, workplace harassment as a result of gender and racial discrimination may also be an issue. In addition, language barriers between local and non-local workers may create a barrier for employment of local residents if the work site language is English or French. These cumulative effects could occur cumulatively in the June to September 2023 timeframe and affect an estimated 9 to 16 employment opportunities for local people (depending on interest in training and skills available within the community). Mitigation measures include providing and promoting equal opportunity hiring policies and ensuring Code of Conducts, policies and all health and safety documentation and signage are dual language. The potential residual effect is local in geographic extent, on a long-term, continuous basis, and is reversible if non-compliant employees are fired. The potential residual effect is also deemed to be low in magnitude and high in likelihood, with a medium level of confidence. The potential residual effect is deemed to be not significant. Given the likelihood of the effect, it is recommended that cumulative impacts of the two construction projects, particularly in the first year of construction, be monitored in a socio-economic management plan.

15	point	Turbine
16	point	Turbine
17	point	Turbine
18	point	Turbine