

Phase I Environmental Site Assessment – Naotkamegwanning First Nation

Final Report

Whitefish Bay 32A, Yellow Girl Bay 32B, and Sabaskong Bay 32B First Nations Reserve Lands,
Kenora District, ON

July 31, 2025

Prepared for:
Naotkamegwanning First Nation
Prepared by:

Stantec Consulting Ltd.

Project/File:
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Executive Summary

Stantec Consulting Ltd. (Stantec) was retained by Naotkamegwaning First Nation (NFN) to complete a Phase I Environmental Site Assessment (Phase I ESA) of the lands, which make up NFN: Whitefish Bay 32A, Yellow Girl Bay 32B, and Sabaskong Bay 32C, in Kenora District, Ontario (hereafter referred to as the “Reserve Lands” or the “Sites”). Work was completed in accordance with Canadian Standards Association (CSA) Standard Z768-01 *Phase I Environmental Site Assessment* (CSA Standard) and the Project Terms of Reference (TOR). The work was completed to identify Areas of Potential Environmental Concern (APECs) and Areas of Environmental Concern (AECs) related to potentially contaminating activities (PCAs) warranting further investigation through completion of a Phase II Environmental Site Assessment (Phase II ESA).

Stantec understands a Record of Site Condition (RSC) is not required at this time in accordance with Ontario Regulation 153/04 (O.Reg.153/04) as there is no intention to change the current land use to a more sensitive land use. As such, the Phase I ESA presented herein does not provide sufficient information to satisfy an RSC in accordance with O.Reg. 153/04.

Due to the size of the area under investigation, the Reserve Lands listed above were subdivided into four Sites, with Whitefish Bay 32A divided into two areas (Whitefish Bay 32A (east) and Whitefish Bay 32A (west)). Whitefish bay 32A (east) was further subdivided into eight sub-Sites based on community accessible areas of interest identified by the NFN in the TOR. The four Sites, and eight sub-Sites investigated consisted of the following:

NFN Lands	Stantec Site #	Site Description
Whitefish Bay 32A (east)	Site 1	Whitefish Bay 32A (east) – lands of Whitefish Bay 32A southeast of Lobstick Bay of the Lake of the Woods
	Site 1a	Former Landfill (Federal Contaminated Sites Inventory [FCSI] 00006555)
	Site 1b	Current Landfill (FCSI 00006524)
	Site 1c	Emergency Management Services (EMS), Store, Seniors Centre, and Fish Plant
	Site 1d	Former Pawitik General Store (FCSI 00006309), Health Center, Band Office, Police Station, Water Treatment Plant, Ontario Works, and Filler Up Gas Bar
	Site 1e	Community Garage, Arena, and Post Office
	Site 1f	Community Centre, Baibombah Anishinabe Secondary School (BASS), Headstart Educational Office, Education Office, Shawendaasowin Child & Family Services Office (SCFSO), and Alternative Education Office
	Site 1g	Daycare, Bird's Nest (Family Store), and Woman's Shelter
	Site 1h	Sewage Treatment Facility
Whitefish Bay 32A (west)	Site 2	Whitefish Bay 32A (west) – lands of Whitefish Bay 32A north of Lobstick Bay of the Lake of the Woods.
Yellow Girl Bay 32B	Site 3	Lands encompassed by Yellow Girl Bay 32B
Sabaskong Bay 32C	Site 4	Lands encompassed by Sabaskong Bay 32C



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Throughout the Phase I ESA, Stantec identified the following aboveground storage tanks (ASTs) and underground storage tanks (USTs):

Tank No.	Location (UTM Coordinates)*	Tank Type / Construction	Product Use	Condition (Presence)****	Size of Tank (litres)	Date of Installation	Previous Tests	Type of Tank Protection	Leaks Reported	Source of Information
1	Between 2112 and 2114 West End Drive (428893, 5472802)	AST	Diesel	Good (Present)	624 L	2021 - 2023	Unknown	Concrete pad	No records	Visual
2	West of 1603 Main Drive (430074, 5472900)	AST	Diesel	Good (Present)	624 L	2021 - 2023	Unknown	Concrete pad	No records	Visual
3	West of the Alternative Education Office (430405, 5473069)	AST	Diesel	Good (Present)	624 L	2021 - 2023	Unknown	Concrete pad	No records	Visual
4	South of 246 Main Drive (429454, 5472806)	AST	Diesel	Good (Present)	624 L	2021 - 2023	Unknown	Concrete pad	No records	Visual
5	Decommissioned Helipad (430931, 5472749)	AST	Unknown	Unknown (Not Present)	Unknown	Unknown	Unknown	Unknown	No records	Visual
6	West of Decommissioned Helipad (430800, 5472739)	AST	Unknown	Unknown (Present)	Unknown	Unknown	Unknown	Unknown	No records	Visual
7	Throughout residential properties** (multiple locations)	AST	Heating oil	Unknown (Potentially)	Unknown (Tanks observed were ~910L)	Unknown	Unknown	Unknown	No records	Visual
8	Eastern side of EMS building (429708, 5472822)	AST, Steel	Gasoline	Moderate (Present)	2,320 L	2012	Unknown	Concrete pad	No records	Visual
9	Water Treatment Plant (northwest) (429887, 5472749)	AST	Diesel	Good (Present)	1,000 L	Unknown	Unknown	Concrete pad	No records	Visual



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Tank No.	Location (UTM Coordinates)*	Tank Type / Construction	Product Use	Condition (Presence)****	Size of Tank (litres)	Date of Installation	Previous Tests	Type of Tank Protection	Leaks Reported	Source of Information
10	Filler Up Gas Bar (northwest) (429970, 5472851)	AST	Gasoline	Moderate (Present)	~3,000 L	Unknown	Unknown	None	No records	Visual
11	Filler Up Gas Bar (northwest) (429965, 5472855)	AST	Gasoline	Unknown (Not Present)	Unknown	Unknown	Unknown	Unknown	No records	Interview
12	West side of Former Pawitik General Store (429914, 5472781)	UST	Heating oil	Unknown (Unconfirmed)	Unknown	Unknown	Unknown	Unknown	No records	Historical Records and Interview
13	North of Former Pawitik General Store (429936, 5472791)	UST	Unknown	Unknown (Unconfirmed)	Unknown	Unknown	Unknown	Unknown	No records	Historical Records and Interview
14	North of Former Pawitik General Store (429936, 5472791)	UST	Unknown	Unknown (Unconfirmed)	Unknown	Unknown	Unknown	Unknown	No records	Historical Records and Interview
15	East of Former Pawitik General Store*** (429948, 5472782)	AST/UST	Gasoline	Poor (Not Present)	15,000 L	Unknown	Unknown	Unknown	No records	Historical Records and Interview
16	North of Post Office*** (429885, 5472906)	AST/UST	Gasoline	Poor (Present)	15,000 L	Unknown	Unknown	None	No records	Visual and Interview
17	Northwest corner Arena (429792, 5473053)	AST	Heating oil	Poor (Present)	910 L	Unknown	Unknown	None	No records	Visual
18	Southwest of Arena (429838, 5472938)	AST	Diesel	Moderate (Present)	2,320 L	Unknown	Unknown	Concrete blocks	No records	Visual
19	Southwest of Arena (429838, 5472933)	AST	Diesel	Moderate (Present)	2,000 L	2012 - 2017	Unknown	Concrete blocks	No records	Visual
20	Southwest of Arena (429839, 5472930)	AST	Diesel	Moderate (Present)	2,000 L	2012 - 2017	Unknown	Concrete blocks	No records	Visual



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Tank No.	Location (UTM Coordinates)*	Tank Type / Construction	Product Use	Condition (Presence)****	Size of Tank (litres)	Date of Installation	Previous Tests	Type of Tank Protection	Leaks Reported	Source of Information
21	Northeast of Community Garage (429871, 5472890)	AST, Steel	Diesel	Poor (Present)	2,273 L	2011	Unknown	Wood ties	No records	Visual
22	BASS Mechanical Room (430530, 5473040)	AST	Heating oil	Unknown (Not Present)	Unknown	Unknown	Unknown	Unknown	No records	Visual and Interview
23	South side of SCSFO (430586, 5473102)	AST	Heating oil	Unknown (Not Present)	Unknown	Unknown	Unknown	Unknown	No records	Visual and Interview
24	South side of Education Authority Office (430536, 5473103)	AST	Heating oil	Unknown (Not Present)	Unknown	Unknown	Unknown	Unknown	No records	Visual and Interview
25	Southern wall of Women's Shelter (430449, 5473498)	AST	Heating oil	Unknown (Not Present)	Unknown	Unknown	Unknown	Unknown	No records	Visual
26	North of Wastewater Treatment Plant (430802, 5473444)	AST	Diesel	Good (Present)	624 L	2021 - 2023	Unknown	Concrete pad	No records	Visual
27	Southeast of Highway 71 and Reed Narrows (427567, 5476060)	AST, Steel	Unknown	Poor (Present)	~2,000 L	Unknown	Unknown	None	No records	Visual

Note(s):

* Universal Transverse Mercator (UTM) coordinates are projected to NAD1983 UTM Zone 15N and presented as (Easting, Northing). Each location was recorded with a handheld GPS subject to accuracy variations dependant on the number of satellites visible at the time of recording. Accuracy can range from 5 m to 30 m.

** At the request of NFN, individual residential properties were not investigated in detail. As a result, potentially contaminating activities including ASTs and USTs that may currently or formerly be present on residential properties were not considered to contribute to APECs. Tank No. 7 has been included in the table above to communicate Stantec's understanding that ASTs are present throughout the residential properties and ASTs on residential properties have not been thoroughly inventoried at the request of NFN.

*** Stantec understands that AST 15 and AST 16 are the same AST. When the AST was removed from the Former Pawitik General Store, it was placed on the north side of the Post Office.

**** The presence/absence of ASTs/USTs throughout the Reserve Lands is based on the observations made during the on-site assessment conducted between May 26 and May 29, 2025.



The Phase I ESA consisted of a review of historical records, interviews with individuals knowledgeable about each of the Sites, a site reconnaissance, and evaluation of information and reporting. Based on the results of the Phase I ESA, the following conclusions were made. Where appropriate, recommendations have also been provided.

APEC/AEC# [Site #] (Figure Reference)	Location [FCSI#] (On-site/Off-site)	Potential Concern	Description (UTM coordinates for point sources)*	Contaminants of Potential Concern ¹	Media Potentially Impacted	Recommendations
APEC 1 [Site 1] (Figure 3.1.3)	Southern portion of Site 1 – near to the Whitefish Bay Dam (On-site)	Lumber Industry Related Activities and Historical Waste Dumping	- Reported historical dumping of waste upstream and downstream of Whitefish Bay Dam. - Historical lumber production activities, including possible sawmill operations, near Whitefish Bay Dam. (430997, 5472514)	VOCs, PCBs, PHC F1 to F4, PAHs, metals and inorganics	Soil and groundwater, surface water, and sediment	Completion of a Phase II ESA to assess the soil, sediment, surface water and groundwater quality in the vicinity of the former sawmill operations and waste dumping. Stantec recommends the Phase II ESA consist of the advancement of four boreholes completed as monitoring wells, and collection of four soil and groundwater samples for laboratory analysis of the COPC. In addition, the Phase II ESA could consist of the collection of four surface water and sediment samples for laboratory analysis of the COPC. Note, sediment and surface water sampling near to Whitefish Bay Dam may fall under a different jurisdiction and engagement with provincial entities may be required to complete the investigation.
AEC 2 [Site 1] (Figure 3.1.3)	Southern portion of Site 1 – near to the Whitefish Bay Dam (On-site)	Previously Identified Impacts	Elevated concentrations of total organic carbon, nickel and copper reported in sediment samples (1995 CH2MHill Phase II). (430997, 5472514)	Metals and inorganics	Surface water, and sediment	Completion of a Phase II ESA to assess the surface water and sediment quality up/downstream of Whitefish Bay Dam in the vicinity of the previously identified impacts. The Stantec recommends the Phase II ESA consist of the collection of four surface water and sediment samples for laboratory analysis of the COPC. Note, sediment and surface water sampling near to Whitefish Bay Dam may fall under a different jurisdiction and engagement with provincial entities may be required to complete the investigation. Note, Stantec recommends completing the proposed Phase II ESA investigation to investigate APEC 1 and AEC 2 concurrently due to AEC/APEC overlap. Collecting data to address APEC 1 and AEC 2 simultaneously would result in cost savings which has been presented in the Phase II ESA cost estimate reported under separate cover.
APEC 3 [Site 1] (Figure 3.1.3)	Eastern portion of Site 1 – surrounding the Decommissioned Helipad (On-site)	Aircraft Operation	- Helipad present since at least 1970 (date of decommissioning unknown). (430931, 5472749) - Possible fuel and chemical handling in the immediate vicinity. - Possible grounding line associated with a former aboveground storage tank (AST) (Tank No. 5) observed during Site visit. (430931, 5472749)	PHC F1 to F4, BTEX, PAHs, and metals and inorganics	Soil and groundwater	Completion of a Phase II ESA to assess soil and groundwater quality in the vicinity of the helipad. Stantec recommends the Phase II ESA consist of the advancement of three boreholes completed as monitoring wells and the collection of three soil and groundwater samples for laboratory analysis of the COPC.
APEC 4 [Site 1] (Figure 3.1.3)	Eastern portion of Site 1 – west of the Decommissioned Helipad (On-site)	Fuel Storage	One AST (Tank No. 6) of unknown contents and size was observed dumped west of the Decommissioned Helipad. (430800, 5472739)	PHC F1 to F4, BTEX, PAHs, and metals and inorganics	Soil and groundwater	Completion of a Phase II ESA to assess soil and groundwater quality in the vicinity of Tank No. 6 west of the Decommissioned Helipad. Stantec recommends the Phase II ESA consist of the advancement of two boreholes completed as monitoring wells and the collection of two soil and groundwater samples for laboratory analysis of the COPC.
APEC 5 [Site 1a] (Figure 3.2.2)	Within the Former Landfill (On-site)	Waste Disposal and Waste Management	- Former Landfill established in the late-1960's. - Dumping noted in historical reports until at least 1994. - Appliances, diesel heaters, automobile parts, oil cans, drums, and general household waste observed during 2025 site visit.	VOCs, SVOCs, PHC F1 to F4, PCBs, PAHs, metals and inorganics	Soil and groundwater	Completion of a Phase II ESA to investigate soil and groundwater quality in the vicinity of the Former Landfill. Stantec recommends the Phase II ESA consist of the advancement of eight boreholes completed as monitoring wells and five shallow boreholes (or test pits) and the collection of 12 soil samples and eight groundwater samples for laboratory analysis of the COPC.
AEC 6 [Site 1a] (Figure 3.2.2)	Surrounding the Former Landfill [FCSI#00006555]	Previously Identified Impacts	Total Petroleum Hydrocarbons (TPH), pH, and metal impacted soil and groundwater was identified (1995	PHC F1 to F4, PAHs, BTEX, metals and inorganics	Soil and groundwater	Completion of a Phase II ESA to investigate soil and groundwater quality in the vicinity of the Former Landfill. The Phase II ESA could consist of the advancement of eight boreholes completed as monitoring wells and five



APEC/AEC# [Site #] (Figure Reference)	Location [FCSI#] (On-site/Off-site)	Potential Concern	Description (UTM coordinates for point sources)*	Contaminants of Potential Concern ¹	Media Potentially Impacted	Recommendations
	(On-site)		CH2MHill Phase II). (429169, 5473023), (429181, 5473098) FCSI database (#00006555) listing includes TPH and PAH impacted soil and metals impacted groundwater.			shallow boreholes (or test pits) and the collection of 12 soil samples and eight groundwater samples for laboratory analysis of the COPC. Note, Stantec recommends completing the proposed Phase II ESA investigation to investigate APEC 5 and AEC 6 concurrently due to AEC/APEC overlap. Collecting data to address APEC 5 and AEC 6 simultaneously would likely result in cost savings which has been presented in the cost estimate accompanying the report presented herein.
APEC 7 [Site 1b] (Figure 3.3.2)	Within and east of the Current Landfill (On-site)	Waste Disposal and Waste Management Landfill leachate	- Current Landfill established in the late-1970s. - Not constructed for long-term use and no engineering studies have been completed. - Landfill leachate observed to daylight near Scum Bay. - Petrochemicals, solvents, PCB-containing light ballasts, mercury-containing fluorescent bulbs, batteries, per- and polyfluoroalkyl substances (PFAS), appliances, etc. were observed. - Fish habitat loss reported by community elders.	VOCs, SVOCs, PHC F1 to F4, PCBs, PAHs, metals and inorganics, 1,4 Dioxane, dioxins/furans, and PFAS	Soil, groundwater, surface water, and sediment	Completion of a Phase II ESA to investigate soil, groundwater, surface water and sediment in the vicinity of the Current Landfill. Stantec recommends the Phase II ESA consist of the advancement of 12 boreholes completed as monitoring wells and six shallow boreholes (or test pits) and collection of sediment and surface water samples. A total of 18 soil samples, 12 groundwater samples, four surface water samples, and four sediment samples would be collected and submitted for laboratory analysis of the COPC.
AEC 8 [Site 1b] (Figure 3.3.2)	Surrounding the Current Landfill [FCSI#00006524] (On-site)	Previously Identified Impacts	- PHC impacts in soil and pH and “true colour” impacts in groundwater (1995 CH2MHill Phase II). (429473, 5473512), (429441, 5473427), (429547, 5473388) - FCSI database (# 00006524) listing includes PAH, PHC and other inorganic impacts in soil.	PHC F1 to F4, BTEX, PAHs, metals and inorganics	Soil and groundwater	Completion of a Phase II ESA to investigate soil, groundwater, surface water and sediment in the vicinity of the Current Landfill. Stantec recommends the Phase II ESA consist of the advancement of 12 boreholes completed as monitoring wells and six shallow boreholes (or test pits) and collection of sediment and surface water samples. A total of 18 soil samples, 12 groundwater samples, four surface water samples, and four sediment samples would be collected and submitted for laboratory analysis of the COPC. Note, Stantec recommends completing the proposed Phase II ESA investigation to investigate APEC 7 and AEC 8 concurrently due to AEC/APEC overlap. Collecting data to address APEC 7 and AEC 8 simultaneously would likely result in cost savings which has been presented in the cost estimate accompanying the report presented herein.
APEC 9 [Site 1c] (Figure 3.4.2)	East side of the EMS building (On-site)	Fuel Storage	- Tank No. 8 observed on the eastern side of the EMS building. (429708, 5472822) - Staining was observed between the EMS building and Tank No. 8. (429704, 5472820) - A potential oil-water separator observed inside the EMS building. (429700, 5472818) - A potential oil-water separator observed inside the EMS building. (429693, 5472819)	VOCs, PHC F1 to F4, PAHs, metals and inorganics	Soil and groundwater	Completion of a Phase II ESA to investigate soil and groundwater quality in the vicinity of the EMS building, the potential oil-water separator and Tank No. 8. Stantec recommends the Phase II ESA consist of the advancement of three boreholes completed as monitoring wells and the collection of three soil and groundwater samples for laboratory analysis of the COPC. .
APEC 10 [Site 1c] (Figure 3.4.2)	West side of the Seniors Center (On-site)	Chemical Storage Staining/Stressed Vegetation	Chemical storage and observed staining near to the shed located on the west side of the Seniors Center. (429783, 5472690)	VOCs, PHC F1 to F4, PAHs, metals and inorganics	Soil and groundwater	Completion of a Phase II ESA to investigate soil and groundwater quality in the vicinity of the stressed vegetation/staining. Stantec recommends the Phase II ESA consist of the advancement of one borehole and the collection of one soil sample for laboratory analysis of the COPC.
APEC 11 [Site 1c] (Figure 3.4.2)	Surrounding the Fish Processing Plant (On-site)	Waste Disposal and Waste Management Fill material of unknown environmental quality	- Possible fill material of unknown environmental quality from possible former building foundations and building fires. (429869, 5472673) - Waste and debris observed around the Fish Plant building and east of the Fish Plant building driveway.	VOCs, SVOCs, PHC F1 to F4, PCBs, PAHs, metals and inorganics	Soil and groundwater	Completion of a Phase II ESA to investigate soil and groundwater quality in the vicinity of the Fish Plant. Stantec recommends the Phase II ESA consist of the advancement of four boreholes completed as monitoring wells and the collection of four soil and groundwater samples for laboratory analysis of the COPC.



APEC/AEC# [Site #] (Figure Reference)	Location [FCSI#] (On-site/Off-site)	Potential Concern	Description (UTM coordinates for point sources)*	Contaminants of Potential Concern ¹	Media Potentially Impacted	Recommendations
			Debris included cars, car parts, refrigeration units, and unmarked chemical barrels.			Stantec recommends the cleanup and removal of the waste/debris within APEC 10 prior to the completion of the Phase II ESA. A detailed waste/debris inventory should be generated, and waste/debris should be transported to a licensed waste facility for disposal.
APEC 12 [Site 1d] (Figure 3.5.2)	Near the Former Pawitik General Store (On-site)	Fuel Storage Fill material of unknown environmental quality Commercial Autobody Shop	- Possible fill material of unknown environmental quality from the former building foundation of the Former Pawitik General Store. - Underground storage tank (UST) Tank No. 12 west of former Pawitik General Store – unknown construction and volume. (429914, 5472781) - Tank No. 15 formerly present east of the former Pawitik General Store (429948, 5472782) - Tank No. 13 and 14 north of the former Pawitik General Store. (429936, 5472791) - Potential presence of an oil-water separator. (429888, 5472764) - Presence of multiple derelict vehicles between the Band Office and the Police Station.	VOCs, PHC F1 to F4, PAHs, metals and inorganics	Soil and groundwater	Completion of a Phase II ESA to investigate soil and groundwater quality in the vicinity of the former oil-water separator, USTs and ASTs (Tank Nos. 12 – 15) understood to be associated with the Former Pawitik General Store, derelict vehicle storage and in the vicinity of the former building foundation. Stantec recommends the Phase II ESA consist of the advancement of ten boreholes completed as monitoring wells and the collection of ten soil and groundwater samples for laboratory analysis of the COPC.
AEC 13 [Site 1d] (Figure 3.5.2)	Near the Former Pawitik General Store [FCSI#00006309] (On-site)	Previously Identified Impacts Fuel Storage	- Elevated TPH concentrations in soil reported (1995 CH2MHill Phase II). (429918, 5472774) - FCSI database #00006309 listing includes PHC impacted soil.	PHC F1 to F4, PAHs, BTEX, metals and inorganics	Soil and groundwater	Completion of a Phase II ESA to investigate soil and groundwater quality in the vicinity of the known soil impacts identified by CH2MHill in 1995. Stantec recommends the Phase II ESA consist of the advancement of three boreholes completed as monitoring wells and the collection of three soil and groundwater samples for laboratory analysis of the COPC. Note, Stantec recommends completing the proposed Phase II investigation to investigate APEC 11 and AEC 12 concurrently due to AEC/APEC overlap. Collecting data to address APEC 11 and AEC 12 simultaneously would likely result in cost savings which has been presented in the cost estimate accompanying the report presented herein.
APEC 14 [Site 1d] (Figure 3.5.2)	Surrounding the Water Treatment Plant (On-site)	Fuel Storage Water Treatment Plant Chemical Storage Commercial Autobody Shops	- Diesel AST (Tank No. 9) and generator in northwest corner of the Water Treatment Plant. (429887, 5472749) - Staining and evidence of leaks noted around generator and Tank No. 9. (429890, 5472752) - Chemical storage including: poly-aluminum chloride, sulfuric acid, sodium hypochlorite, sodium hydroxide, citric acid, and sodium bisulfite, among others.	VOCs, PHC F1 to F4, PAHs, metals and inorganics	Soil and groundwater	Completion of a Phase II ESA to investigate soil and groundwater quality in the vicinity of the generator/AST (Tank No. 9), chemical storage, and industrial operations associated with the Water Treatment Plant. T Stantec recommends the Phase II ESA consist of the advancement of four boreholes with two boreholes completed as monitoring wells and the collection of four soil samples and two groundwater samples for laboratory of the COPC.
APEC 15 [Site 1d] (Figure 3.5.2)	West side of the Filler Up Gas Bar (On-site)	Fuel Storage	- Filler Up Gas Bar observed in 1970 aerial photograph. - AST (Tank No. 10) present on the northwestern portion of the property. (429970, 5472855) - Historical presence of a former AST (Tank No. 11) located west of the AST currently present and associated with the Filler Up Gas Bar. (429965, 5472855) - Staining observed in the vicinity of the AST and piping. (429970, 5472855)	VOCs, PHC F1 to F4, PAHs, metals and inorganics	Soil and groundwater	Completion of a Phase II ESA to investigate soil and groundwater quality in the vicinity of the current and former ASTs (Tank Nos. 10 and 11) associated with the Filler Up Gas Bar. Stantec recommends the Phase II ESA consist of the advancement of six boreholes with four boreholes completed as monitoring wells and the collection of six soil samples and four groundwater samples for laboratory analysis of COPC. Stantec recommends the owners of the Filler Up Gas Bar assess the compliance requirements associated with the commercial operation of Tank No. 10.
APEC 16	North of the Arena	Waste Disposal and Waste Management	Scrap metal, appliances and bulky items are stored north of the Arena and the area is utilized as a temporary	VOCs, glycols, SVOCs, PHC F1 to	Soil and groundwater	Completion of a Phase II ESA to investigate the soil and groundwater quality in the vicinity of the temporary landfill/transfer area north of the Arena and in



APEC/AEC# [Site #] (Figure Reference)	Location [FCSI#] (On-site/Off-site)	Potential Concern	Description (UTM coordinates for point sources)*	Contaminants of Potential Concern ¹	Media Potentially Impacted	Recommendations
[Site 1e] (Figure 3.6.2)	(On-site)		landfill/transfer station while upgrades are completed at the Current Landfill. - Presence of a heating oil AST (Tank No. 17). (429792, 5473053) - Various wastes, appliances, and waste pails/storage containers of various chemicals (calcium thiosulphate, hypochlor 12, and hydrochloric acid) and potential floor sealer were observed during 2025 site visit.	F4, PCBs, PAHs, metals and inorganics, 1,4 Dioxane, dioxins/furans, and PFAS.		the vicinity of the Tank No. 17. Stantec recommends the Phase II ESA consist of the advancement of four boreholes completed as monitoring wells and the collection of four soil and groundwater samples for laboratory analysis of the COPC. Stantec recommends the cleanup and removal of the waste/debris within APEC 19 prior to the completion of the proposed Phase II ESA. A detailed waste/debris inventory should be generated, and waste/debris should be transported to a licensed waste facility for disposal.
APEC 17 [Site 1e] (Figure 3.6.2)	In the immediate vicinity of the Arena (On-site)	Glycol Use Elevators/Lifts	- Bulk storage of ethylene glycol was observed to be present within and immediately east of the Arena. (429869, 5472998) - A hydraulic elevator located in the Arena. (429847, 5472975) - Automotive fluids, batteries and motor/hydraulic oil storage was observed within the Arena. (429812, 5473035) - Glycol cooling lines underneath the Arena reported to require repair, potential leakage of glycol below the Arena.	Glycols, PHC F1 to F4, BTEX, PAHs, metals and inorganics.	Soil and groundwater	Completion of a Phase II ESA to investigate the soil and groundwater quality in the vicinity of the chemical storage, hydraulic elevator and historical spills/releases. Stantec recommends the Phase II ESA consist of the advancement of four boreholes with two completed as monitoring wells and the collection of four soil samples and two groundwater samples for laboratory analysis of the COPC. Stantec recommends the cleanup and removal of the waste/debris within APEC 20 prior to the completion of the proposed Phase II ESA. A detailed waste/debris inventory should be generated, and waste/debris should be transported to a licensed waste facility for disposal.
APEC 18 [Site 1e] (Figure 3.6.2)	Surrounding the Community Garage (On-site)	Vehicle Maintenance Fuel Storage Commercial Autobody Shops Waste Disposal and Waste Management	- Community Garage used for vehicle storage, vehicle maintenance, storage/handling of automotive fluids. - Diesel AST (Tank No. 21) at the northeast corner of the Community Garage. (429871, 5472890) - A drain that could have potentially been connected to an oil-water separator and has been filled with soil was observed in the northern portion of the Community Garage. (429867, 5472886) - Staining was observed on the gravel ground surface south of the diesel AST (Tank No. 21) and on the south side of the Community Garage, between the entrance of the Community Garage and Main Drive. (429878, 5472886), (429873, 5472863)	VOCs, PHC F1 to F4, PAHs, and metals and inorganics.	Soil and groundwater	Completion of a Phase II ESA to investigate the soil and groundwater quality in the vicinity of the diesel AST (Tank No. 21), staining, and storage of oil/waste oil surrounding the Community Garage. Stantec recommends the Phase II ESA consist of the advancement of four boreholes completed as monitoring wells and two shallow boreholes (or test pits) and the collection of six soil samples and four groundwater samples for the laboratory analysis of the COPC. Stantec recommends the cleanup and removal of the waste/debris within APEC 15 prior to the completion of the proposed Phase II ESA. A detailed waste/debris inventory should be generated, and waste/debris should be transported to a licensed waste facility capable for disposal.
APEC 19 [Site 1e] (Figure 3.6.2)	Southwest of the Arena (On-site)	Fuel Storage	- Waste storage/dumping, storage of soil, construction staging in area west of Arena and south of the Community Garage, noted in aerial photographs. - Observed staining. (429829, 5472925) - Construction laydown area contained three diesel ASTs (Tank Nos. 18 – 20) and a re-fueling area north of the Community Garage and west of the Arena, staining observed. (429838, 5472938), (429838, 5472933), (429839, 5472930)	VOCs, PHC F1 to F4, PAHs, and metals and inorganics.	Soil and groundwater	Completion of a Phase II ESA to investigate the soil and groundwater quality in the vicinity of the ASTs (Tank Nos. 18 – 20), staining, and construction laydown area west of the Arena. Stantec recommends the Phase II ESA consist of the advancement of four boreholes with three completed as monitoring wells and the collection of four soil samples and three groundwater samples for laboratory analysis of the COPC. Stantec recommends the cleanup and removal of the waste/debris within APEC 17 prior to the completion of the proposed Phase II ESA. A detailed waste/debris inventory should be generated, and waste/debris should be transported to a licensed waste facility for disposal.
APEC 20 [Site 1e] (Figure 3.6.2)	North of the Post Office (On-site)	Fuel Storage Waste Disposal and Waste Management	- Empty gasoline AST (Tank No. 16) observed north of the Post Office, black staining noted on exterior of the AST. (429885, 5472906) - Debris observed to be stored north of the Post Office.	VOCs, PHC F1 to F4, PAHs, and metals and inorganics.	Soil and groundwater	Completion of a Phase II ESA to investigate the soil and groundwater quality in the vicinity of the debris and the AST (Tank No. 16) located north of the Post Office. Stantec recommends the Phase II ESA consist of the advancement of three boreholes completed as monitoring wells and the



APEC/AEC# [Site #] (Figure Reference)	Location [FCSI#] (On-site/Off-site)	Potential Concern	Description (UTM coordinates for point sources)*	Contaminants of Potential Concern ¹	Media Potentially Impacted	Recommendations
						collection of three soil and groundwater samples for laboratory analysis of the COPC. Stantec recommends the cleanup and removal of the waste/debris within APEC 16 prior to the completion of the proposed Phase II ESA. A detailed waste/debris inventory should be generated, and waste/debris should be transported to a licensed waste facility capable for disposal.
APEC 21 [Site 1e] (Figure 3.6.2)	West of the Arena (On-site)	Importation of Fill Material of Unknown Quality	Fill of unknown environmental quality stored west of the Arena, north of the construction laydown area.	VOCs, SVOCs, PHC F1 to F4, PCBs, PAHs, metals and inorganics.	Soil	Stantec recommends the cleanup and removal of the fill material of unknown quality within APEC 18 prior to the completion of the proposed Phase II ESA. The fill material of unknown quality should be sampled for waste characterization purposes and transported to a licensed waste facility for disposal. Following the removal of the fill material Stantec recommends the completion of a Phase II ESA to investigate the soil quality beneath the stockpiled fill of unknown quality observed west of the Arena. Stantec recommends the Phase II ESA consist of the advancement of four boreholes (or test pits) and the collection of four soil samples for laboratory analysis of the COPC.
APEC 22 [Site 1f] (Figure 3.7.2)	In the Immediate vicinity of BASS (On-site)	Fuel Storage Glycol heating system and spills/releases	- PCB containing light ballasts, historically documented in school (1995 CH2MHill Phase II ESA). - Former heating oil AST (Tank No. 22) was located in the mechanical room of BASS. (430530, 5473040) - Glycol spills/releases reported within the basement of BASS. (430482, 5473023), (430542, 5473037) - No remediation efforts have been completed to date.	PCBs, glycol, VOCs, PHC F1 to F4, PAHs, metals and inorganics	Soil and groundwater	Completion of a Phase II ESA investigation to assess soil and groundwater quality in the vicinity of the former AST (Tank No. 22), throughout the basement of BASS, and surrounding BASS. Stantec recommends the Phase II ESA consist of the advancement of eight boreholes completed as monitoring wells and the collection of eight soil and groundwater samples for laboratory analysis of the COPC.
APEC 23 [Site 1f] (Figure 3.7.2)	In the immediate vicinity of the BASS Garage (On-site)	Fuel Storage	- BASS Garage was observed to be storing oil, waste oil, and gasoline during 2025 site visit. - Staining observed next to floor drains in the BASS Garage that went directly to the soil below the foundation. (430554, 5473112) - Staining observed on the driveway south of the BASS Garage. (430554, 5473121)	VOCs, PHC F1 to F4, PAHs, metals and inorganics.	Soil and groundwater	Completion of a Phase II ESA investigation to assess soil and groundwater quality in the vicinity of the chemical storage and staining observed at the BASS Garage. Stantec recommends the Phase II ESA consist of the advancement of three boreholes completed as monitoring wells and the collection of three soil and groundwater samples for laboratory analysis of the COPC.
APEC 24 [Site 1f] (Figure 3.7.2)	In the immediate vicinity of SCSFO (On-site)	Fuel Storage	AST (Tank No. 23) was formerly located on the south side of the SCSFO. (430586, 5473102)	PHC F1 to F4, BTEX, PAHs, metals and inorganics.	Soil and groundwater	Completion of a Phase II ESA investigation to assess soil and groundwater quality in the vicinity of the former AST (Tank No. 23) south of the SCSFO building. Stantec recommends the Phase II ESA consist of the advancement of two boreholes with one completed as a monitoring well and the collection of two soil samples and one groundwater sample for laboratory analysis of the COPC.
APEC 25 [Site 1f] (Figure 3.7.2)	In the immediate vicinity of the Education Authority Office (On-site)	Fuel Storage	AST (Tank No. 24) was formerly located on the south side of both the Education Authority Office. (430536, 5473103)	PHC F1 to F4, BTEX, PAHs, metals and inorganics.	Soil and groundwater	Completion of a Phase II ESA investigation to assess soil and groundwater quality in the vicinity of the former AST (Tank No. 24) south of the Education Authority Office. Stantec recommends the Phase II ESA consist of the advancement of two boreholes with one completed as a monitoring well and the collection of two soil samples and one groundwater sample for laboratory analysis of the COPC.
APEC 26 [Site 1g] (Figure 3.8.2)	South side of the Women's Shelter (On-site)	Fuel Storage	Potential vent/fill pipes observed on the southern exterior wall of the Women's Shelter during 2025 site visit. Potential historical presence of a heating oil AST (Tank No. 25). (430449, 5473498)	VOCs, PHC F1 to F4, PAHs, metals and inorganics	Soil and groundwater	Completion of a Phase II ESA investigation to assess soil and groundwater quality in the vicinity of the former heating oil AST (Tank No. 25). Stantec recommends the Phase II ESA consist of the advancement of one borehole



APEC/AEC# [Site #] (Figure Reference)	Location [FCSI#] (On-site/Off-site)	Potential Concern	Description (UTM coordinates for point sources)*	Contaminants of Potential Concern ¹	Media Potentially Impacted	Recommendations
						completed as a monitoring well and the collection of one soil and groundwater sample for laboratory analysis of the COPC.
APEC 27 [Site 1h] (Figure 3.9.2)	In the immediate vicinity of the Wastewater Treatment Plant (On-site)	Sewage Treatment	- Unidentified chemicals including 'degreaser' were observed to be stored at the Wastewater Treatment Plant during 2025 site visit. (430811, 5473444) - Staining of the concrete surface near to pails of unidentified chemicals was noted. (430796, 5473438)	VOCs, SVOCs, PHC F1 to F4, PCBs, PAHs, metals and inorganics	Soil	Completion of a Phase II ESA investigation to assess soil quality in the vicinity the chemical storage at the Wastewater Treatment Plant. Stantec recommends the Phase II ESA consist of the advancement of two boreholes and the collection of three soil samples for laboratory analysis of the COPC.
APEC 28 [Site 1h] (Figure 3.9.2)	South of the Wastewater Treatment Plant (On-site)	Sewage Treatment Fill of Unknown Quality	Fill of unknown quality and a sewage sludge holding pond were observed to be located south of the Wastewater Treatment Plant during the 2025 site visit.	VOCs, SVOCs, PHC F1 to F4, PCBs, PAHs, metals and inorganics	Soil and groundwater	Completion of a Phase II ESA investigation to assess soil and groundwater quality in the vicinity of the sludge holding pond and fill material at the Wastewater Treatment Plant. Stantec recommends the Phase II ESA consist of the advancement of three boreholes completed as monitoring wells and the collection of three soil and groundwater samples for laboratory analysis of the COPC.
APEC 29 [Site 2] (Figure 3.10.2)	West of the Lumber Distribution Center along the northern boundary of Site 2 (Off-site)	Waste Disposal and Waste Management	Sioux Narrows Township Landfill located approximately 200 m north and upgradient from the northern boundary of Site 2.	VOCs, SVOCs, PHC F1 to F4, PCBs, PAHs, metals and inorganics, PFAS, Dioxins/furans, and 1,4 Dioxane	Soil, groundwater, sediment, and surface water	Completion of a Phase II ESA to investigate soil and groundwater quality in the vicinity of the dumping/landfilling activities and downgradient of the Sioux Narrows Township Landfill. Stantec recommends the Phase II ESA consist of the advancement of three boreholes completed as monitoring wells and the collection of three soil samples, three groundwater samples, two surface water samples, and two sediment samples for laboratory analysis of the COPC.
APEC 30 [Site 2] (Figure 3.10.2)	Approximately 430 m southeast from the intersection of Highway 71 and Reed Narrows (On-site)	Fuel Storage	AST (Tank No. 27) of unknown contents with odours was observed along with other dumped materials in a forested area at the time of the 2025 site visit. (427567, 5476060)	VOCs, PHC F1 to F4, PAHs, metals and inorganics	Soil and groundwater	Completion of a Phase II ESA to investigate soil and groundwater quality in the vicinity of the AST (Tank No. 27) and dumping/landfilling activities. Stantec recommends the Phase II ESA consist of the advancement of three boreholes completed as monitoring wells and the collection of three soil and groundwater samples for laboratory analysis of the COPC. Stantec recommends the cleanup and removal of the waste/debris and AST within APEC 29 prior to the completion of the proposed Phase II ESA. A detailed waste/debris inventory should be generated, and waste/debris should be transported to a licensed waste facility for disposal.
APEC 31 [Site 2] (Figure 3.10.2)	Approximately 75 m west of the intersection of Lobstick Bay Road and Reed Narrows (On-site)	Waste Disposal and Waste Management	Household landfill/waste dumping area was observed on the north side of Reed Narrows, approximately 75 m west of the intersection of Lobstick Bay Road and Reed Narrows. (427820, 5475974)	VOCs, SVOCs, PHC F1 to F4, PCBs, PAHs, metals and inorganics	Soil and groundwater	Completion of a Phase II ESA to investigate soil and groundwater quality in the vicinity of the dumping/landfilling activities. Stantec recommends the Phase II ESA consist of the advancement of two boreholes with one completed as a monitoring wells and the collection of two soil samples and one groundwater sample for laboratory analysis of the COPC. Stantec recommends the cleanup and removal of the waste/debris within APEC 30 prior to the completion of a Phase II ESA. A detailed waste/debris inventory should be generated, and waste/debris should be transported to a licensed waste facility for disposal.

Note(s):
¹ Contaminants of Potential Concern (COPC) include polychlorinated biphenyls (PCBs), petroleum hydrocarbon fraction 1 to 4 (PHC F1 to F4), volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), benzene, toluene, ethylbenzene and xylenes (BTEx), polycyclic aromatic hydrocarbons (PAHs), per- and polyfluoroalkyl substances (PFAS), and metals and inorganics, 1,4-dioxane, glycol, dioxins/furans.
* Universal Transverse Mercator (UTM) coordinates are projected to NAD1983 UTM Zone 15N and presented as (Easting, Northing). Each location was recorded with a handheld GPS subject to accuracy variations dependant on the number of satellites visible at the time of recording. Accuracy can range from 5 m to 30 m.



Phase I Environmental Site Assessment – Naotkamegwanning First Nation
Executive Summary
July 31, 2025

Based on the age of the Store, Fish Plant, Band Office, Water Treatment Plant, Ontario Works Building, Filler Up Gas Bar, Community Garage, Arena, Post Office, BASS, Education Authority Office, SCSFO, Alternative Education Office, Wastewater Treatment Plant, and Cabins 1 to 6, it is possible that hazardous building materials (e.g., ACMs, lead-based materials, etc.) may be present. Stantec recommends the completion of a designated substances survey (DSS) to qualify if hazardous building materials are present in the buildings listed above.

At the request of NFN, individual residential properties were not investigated in detail. As a result, potentially contaminating activities that may currently or formerly be present on residential properties were not considered to contribute to APECs and have not been included in the table above or report.

Based on the findings of this Phase I ESA, a Phase II ESA is recommended to further investigation potentially contaminating activities identified above. A high-level order of magnitude cost estimate has been provided under separate cover to accompany the recommendations outlined herein. The cost associated with the completion of a DSSs, additional assessment of potential APECs on the residential properties, and the removal of waste/debris has not been included in the cost estimate.

The statements made in this Executive Summary are subject to the project Limitations & Sign Off and are to be read in conjunction with the remainder of the report.

