

### Project Alternatives

Overview of Sighting Considerations



Transmission Interconnection Line	
Alternate Transmission Interconnection Line	
Industrial Facility	
Alternate Layouts for Industrial Facility	
<b>Transportation</b>	
Highway	
Road	
Unpaved Road	
<b>Utilities (line)</b>	
Existing Pipeline	
Existing Transmission Lines (NS Power)	
<b>Water Features</b>	
Mapped Stream	
Mapped Indefinite Stream	

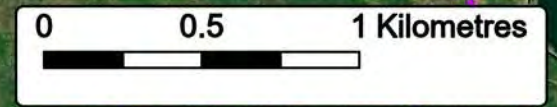


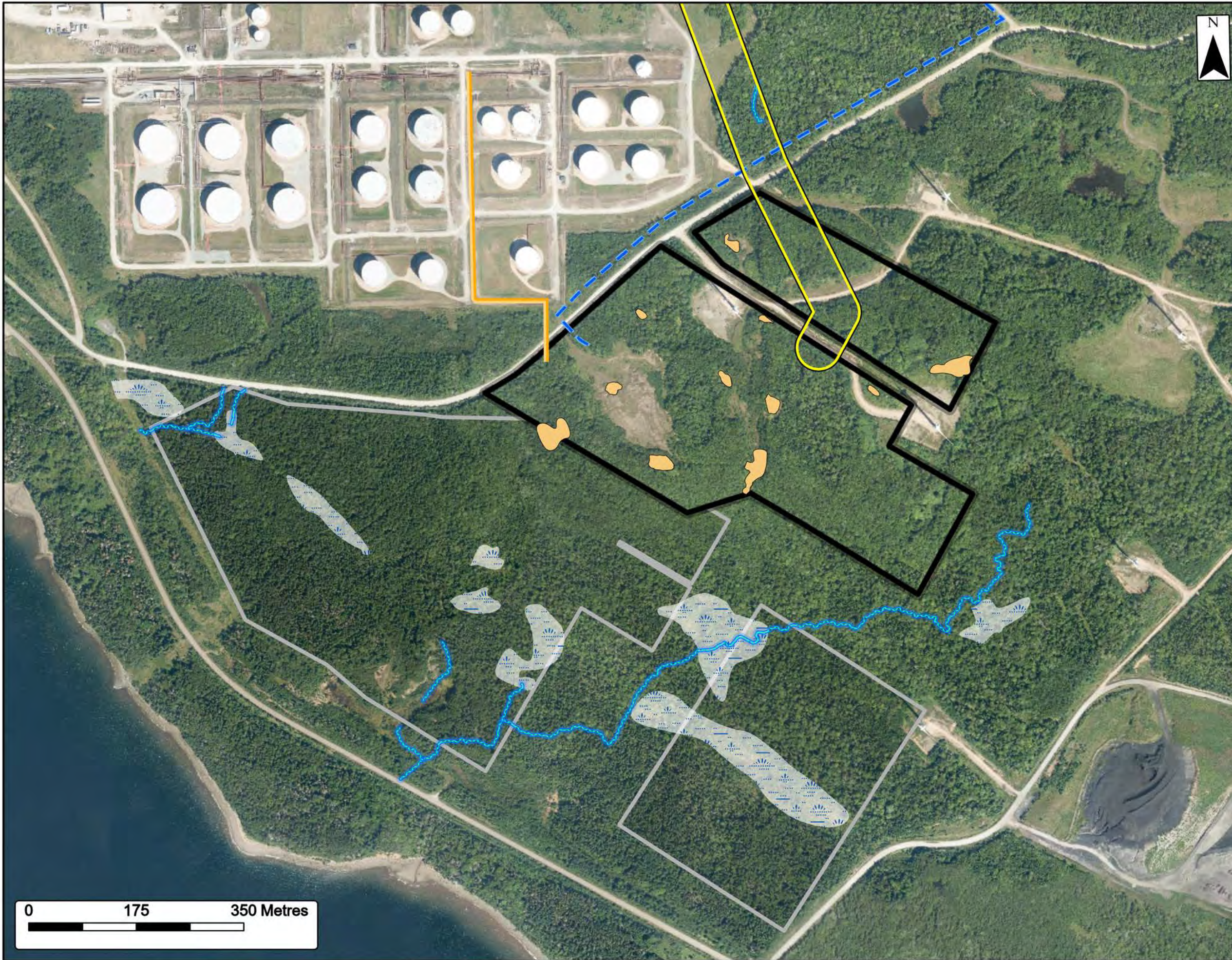
Coordinate System: NAD83 UTM Zone 20N1 Sources: ESRI Basemaps, GeoDNA, NSTD, HERE, Garmin, USGS, HRCan

Date:	Nov 2022	Project #:	22-8516
Scale:	1:24,000	Drawing #:	<b>1</b>
Drawn By:	P. Opra		
Checked By:	N. Myers		



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# Alternate Industrial Facility

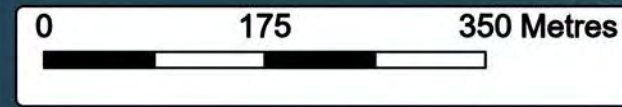


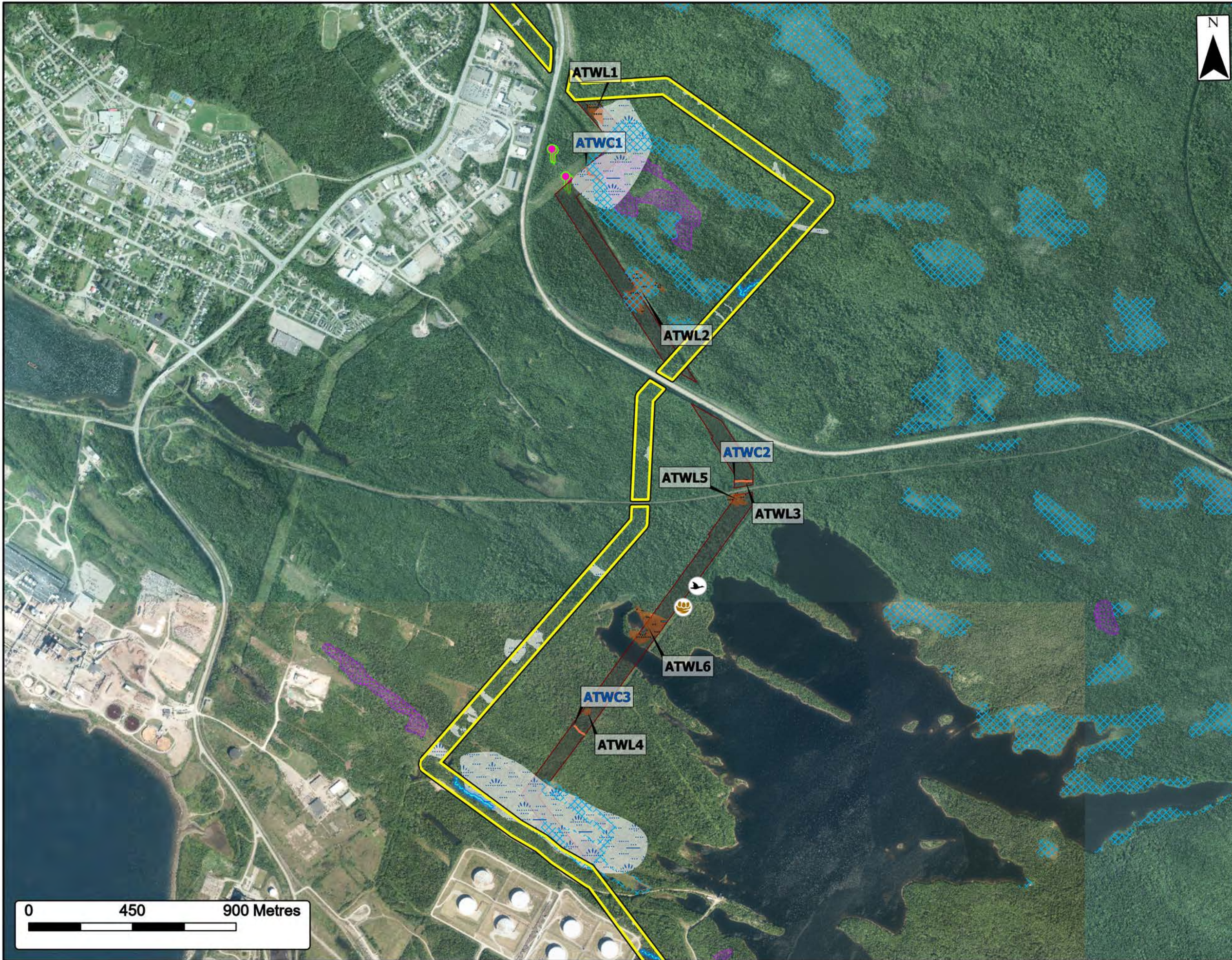
<b>Field Surveyed</b>	
Field Surveyed Watercourse (WC)	
Field Surveyed Wetland (WL)	
Human Influenced Drainage Feature	
<b>Project Components</b>	
Raw Freshwater Pipeline	
Approximate Ammonia Pipeline	
Transmission Interconnection Line	
Industrial Facility	
Alternate Layouts for Industrial Facility	



Coordinate System: NAD83 UTM Zone 20N  
 Sources: ESRI Basemaps, GeoNOVA, NSD, HERE, Garmin, USGS, HRCan, Service NS and Internal Services

Date:	Nov 2022	Project #:	22-8516
Scale:	1:6,000	Drawing #:	<b>2</b>
Drawn By:	P. Opra		
Checked By:	N. Myers		





# Alternate Transmission Interconnection Line



- Protected Flora - Southern Twayblade
- Potential Boreal Felt Lichen Habitat
- Wetland of Special Significance
- Field Surveyed**
- Active Osprey Nest
- Loon Activity
- Alternate Line Field Surveyed Watercourse (ATWC)
- Field Surveyed Watercourse (WC)
- Alternate Line Field Surveyed Wetland (ATWL)
- Field Surveyed Wetland (WL)
- Project Components**
- Alternate Transmission Interconnection Line
- Transmission Interconnection Line

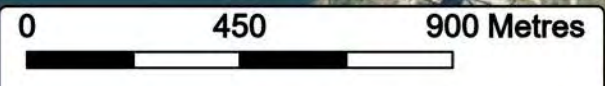


Coordinate System: NAD83 UTM Zone 20N1  
 Sources: ESRI Basemaps, GeoNova, NS1D, HERE, Garmin, USGS, IRCan, ACCDC, Service NS and Internal Services

Date: Nov 2022	Project #: 22-8516
Scale: 1:16,000	Drawing #: <b>3</b>
Drawn By: P. Opra	
Checked By: N. Myers	



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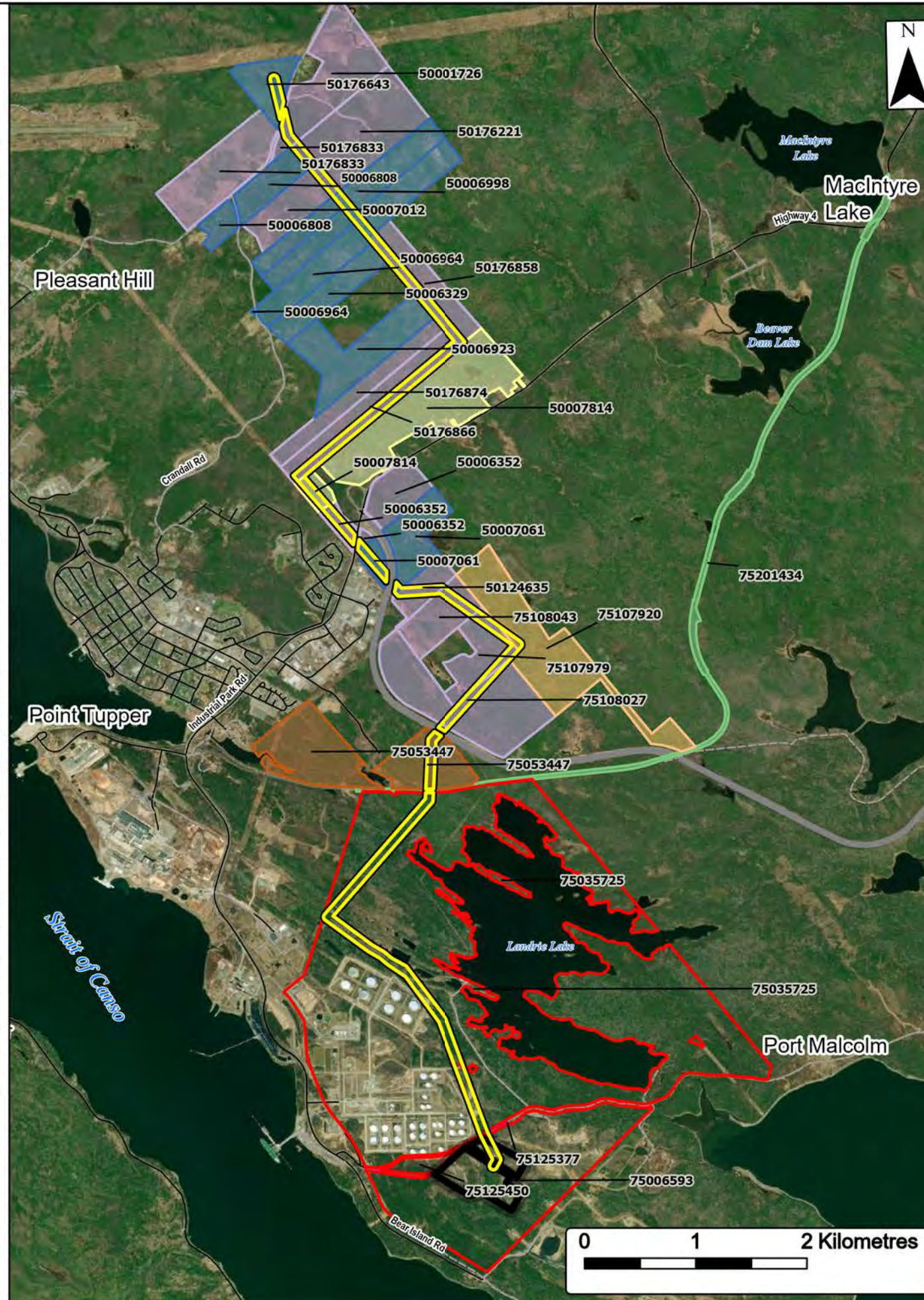


Overview of PIDs Included as Part of the Property Boundary

PID #	PID Ownership Information	Project Component
75125450	EverWind Terminals Canada Co., EverWind Terminals Canada Holdings Co., and Point Tupper Marine Services Co.	Industrial Facility
75006593	EverWind Terminals Canada Co., EverWind Terminals Canada Partnership, and Point Tupper Marine Services Co.	Industrial Facility
75201434	Cape Breton & Central Nova Scotia Railway Limited	Transmission Interconnection Line
50001726	Trade and Industry, Her Majesty the Queen in Right of the Province of Nova Scotia	Transmission Interconnection Line
50176221	Her Majesty the Queen in Right of the Province of Nova Scotia	Transmission Interconnection Line
50124635	Her Majesty the Queen in Right of the Province of Nova Scotia	Transmission Interconnection Line
75108043	Her Majesty the Queen in Right of the Province of Nova Scotia	Transmission Interconnection Line
75107979	Her Majesty the Queen in Right of the Province of Nova Scotia	Transmission Interconnection Line
75108027	Her Majesty the Queen in Right of the Province of Nova Scotia	Transmission Interconnection Line
50006352	Her Majesty the Queen in Right of the Province of Nova Scotia	Transmission Interconnection Line
50176833	Her Majesty the Queen in Right of the Province of Nova Scotia	Transmission Interconnection Line
50007012	Her Majesty the Queen in Right of the Province of Nova Scotia	Transmission Interconnection Line
50176858	Her Majesty the Queen in Right of the Province of Nova Scotia	Transmission Interconnection Line
50176874	Her Majesty the Queen in Right of the Province of Nova Scotia	Transmission Interconnection Line
50176866	Her Majesty the Queen in Right of the Province of Nova Scotia	Transmission Interconnection Line
75107920	Municipality of the County of Richmond	Transmission Interconnection Line
50176643	NS Department of Natural Resources and Renewables	Transmission Interconnection Line
75125377	NS Department of Transportation and Public Works	Transmission Interconnection Line
50007814	NS Department of Environment and Climate Change	Transmission Interconnection Line
50007814	NS Department of Environment and Climate Change	Transmission Interconnection Line
50007061	NS Department of Natural Resources and Renewables	Transmission Interconnection Line
50006998	NS Department of Natural Resources and Renewables	Transmission Interconnection Line
50006949	NS Department of Natural Resources and Renewables	Transmission Interconnection Line
50006808	NS Department of Natural Resources and Renewables	Transmission Interconnection Line
50006964	NS Department of Natural Resources and Renewables	Transmission Interconnection Line
50006329	NS Department of Natural Resources and Renewables	Transmission Interconnection Line
50006923	NS Department of Natural Resources and Renewables	Transmission Interconnection Line
75035725	Point Tupper Marine Services Co., EverWind Terminals Canada Co., EverWind Terminals Canada Holdings Co.	Transmission Interconnection Line
75053447	Richmond County-Port Hawkes Joint Dev Co	Transmission Interconnection Line

The table shows the current ownership of the PID, as listed.

Not all PID parcels are Crown land or NRR land in the map for the Transmission Interconnection Line corridor; please refer to the table for a comprehensive list.



Property Boundary  
Overview of PID Project Boundary Extent



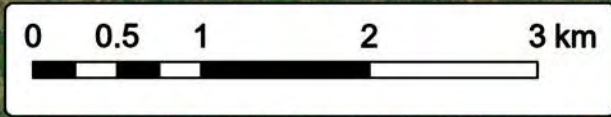
- PID**
- Cape Breton & Central Nova Scotia Railway Limited
  - Her Majesty the Queen in Right of the Province of Nova Scotia
  - Municipality of the County of Richmond
  - NS Department of Environment and Climate Change
  - NS Department of Natural Resources and Renewables
  - NS Transportation and Public Works
  - Richmond County-Port Hawkes Joint Dev Co
  - Point Tupper Marine Services Co., EverWind Terminals Canada Co., EverWind Terminals Canada Holdings Co.
- Project Components**
- Transmission Interconnection Line
  - Industrial Facility
- Transportation**
- Trans-Canada Highway
  - Highway
  - Road
  - Unpaved Road



Coordinate System: NAD83 UTM Zone 20N1 Sources: ESRI Basemaps, GeoNOVA, NSTD, HERE, Garmin, USGS, NRCAN

Date:	Nov 2022	Project #:	22-8516
Scale:	1:45,000	Drawing #:	<b>4</b>
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Checked By:	M. Savelle		





### Project Boundary

Overview of the Project Boundary Components

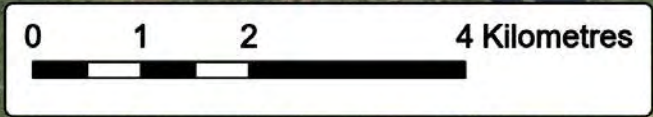
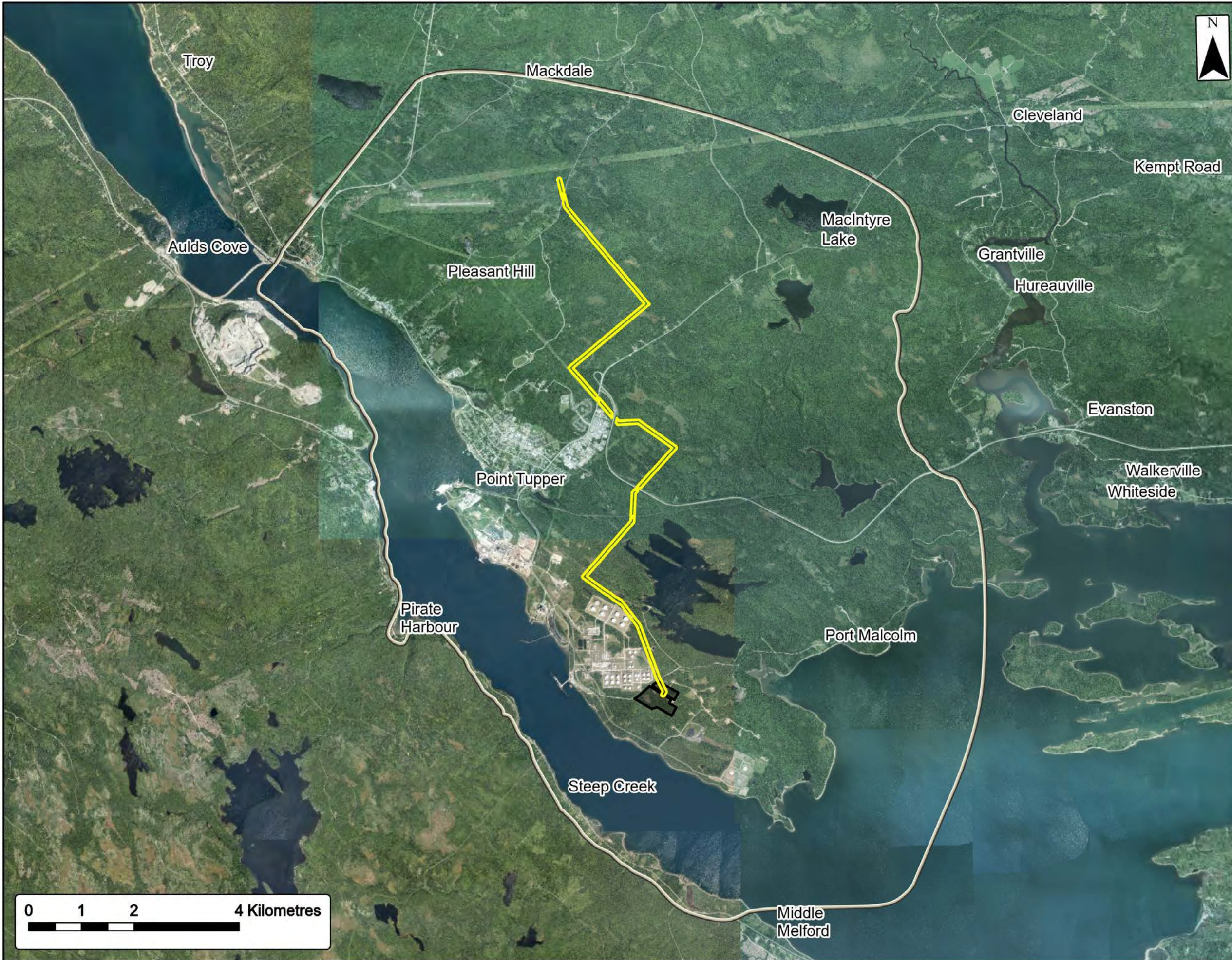
**Project Components**

Transmission Interconnection Line

Industrial Facility

Coordinate System: NAD83 UTM Zone 20N1		Sources: ESRI Basemaps, GeoNOVA, NISTD, HERE, Garmin, USGS, NRCAN	
Date:	Nov 2022	Project #:	22-8516
Scale:	1:45,000	Drawing #:	<b>5</b>
Drawn By:	P. Opra		
Checked By:	N. Myers		

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**Project Study Area**

Overview of Assessment Area



- Project Study Area
- Project Components**
- Transmission Interconnection Line
- Industrial Facility



Sources: ESRI BaseMaps, GeoNOVA, NSTD, HERE, Garmin, USGS, NRCAN, Service NS and Internal Services.

Date: Nov 2022	Project #: 22-8516
Scale: 1:70,000	Drawing #: <b>6</b>
Drawn By: P. Opra	
Checked By: N. Myers	



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### Industrial Facility (Zoomed Out) Overview of Components



#### Project Components

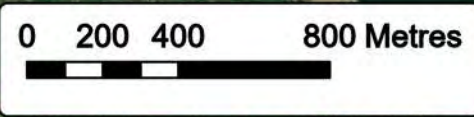
- LLWJ Pump Station
- Storage Flare
- Process Flare
- Approximate Ammonia Pipeline
- Raw Freshwater Pipeline
- Transmission Interconnection Line
- Industrial Facility

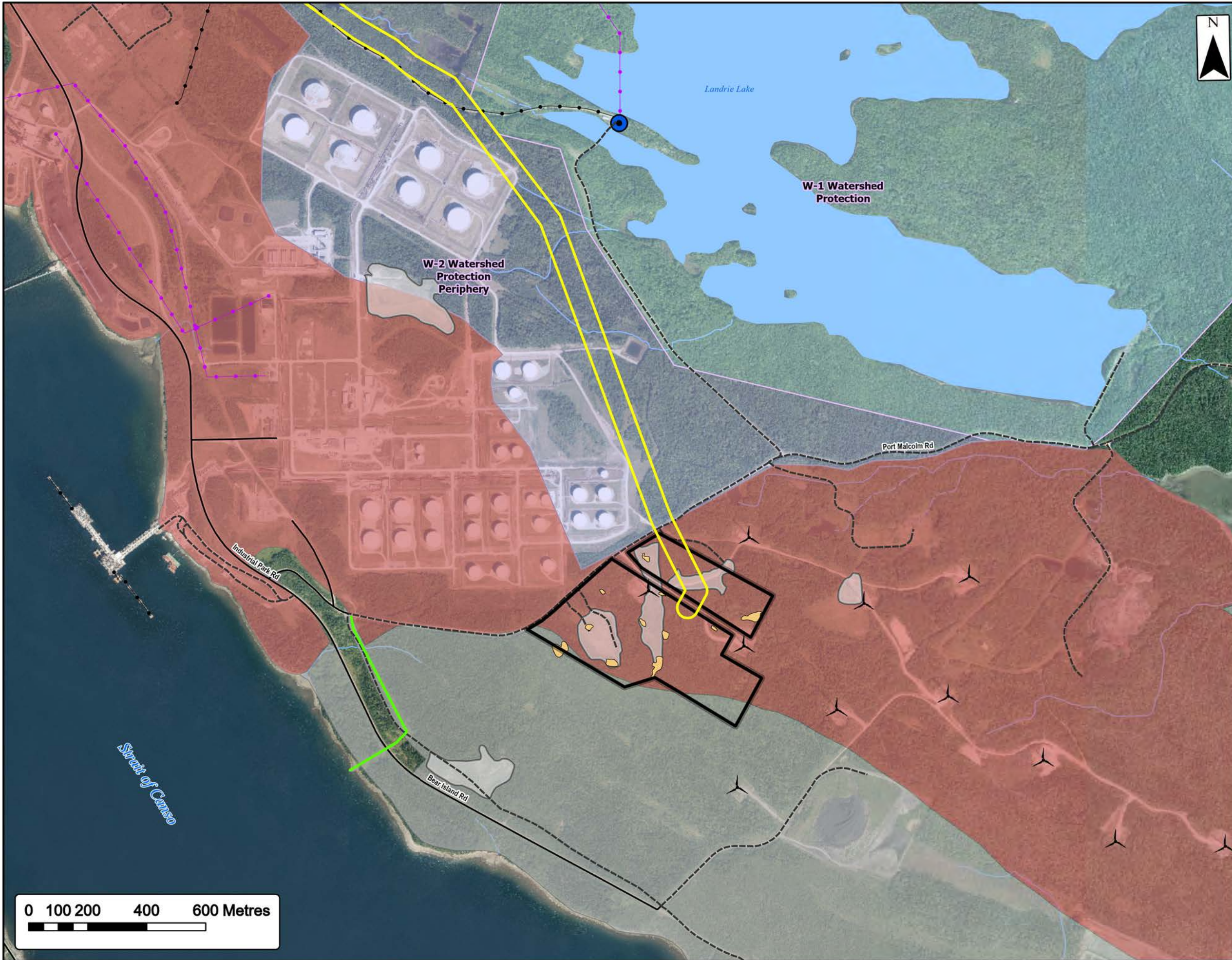
**PID**  
 Point Tupper Marine Services Co., EverWind Terminals Canada Co.,  
 EverWind Terminals Canada Holdings Co.



Coordinate System: NAD83 UTM Zone 20N1 Sources: ESRI Basemaps, GeoDNA, NSTD, HERE, Garmin, USGS, HRCAN

Date: Nov 2022	Project #: 22-8516
Scale: 1:20,000	Drawing #: <b>7</b>
Drawn By: P. Opra	
Checked By: F. Gascon	





# Historical Developments

## Overview of Existing Infrastructure



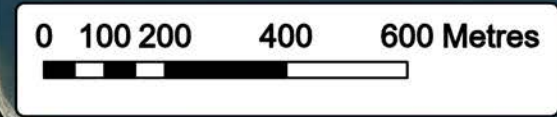
- Existing Wind Turbine
- LLWU Pump Station
- Approximate LNG Pipeline
- Borrow Pit
- Human Influenced Drainage Feature
- Watershed Protection**
- W-1 Watershed Protection
- W-2 Watershed Protection Periphery
- Approximate Zoning (West Richmond Plan Area)**
- I-2 Port Industrial
- I-3 Heavy Industrial
- Project Components**
- Transmission Interconnection Line
- Industrial Facility
- Transportation**
- Road
- Unpaved Road
- Existing Pipeline
- Existing Transmission Lines (NS Power)
- Water Features**
- Mapped Stream
- Mapped Indefinite Stream
- Mapped Lakes and Rivers



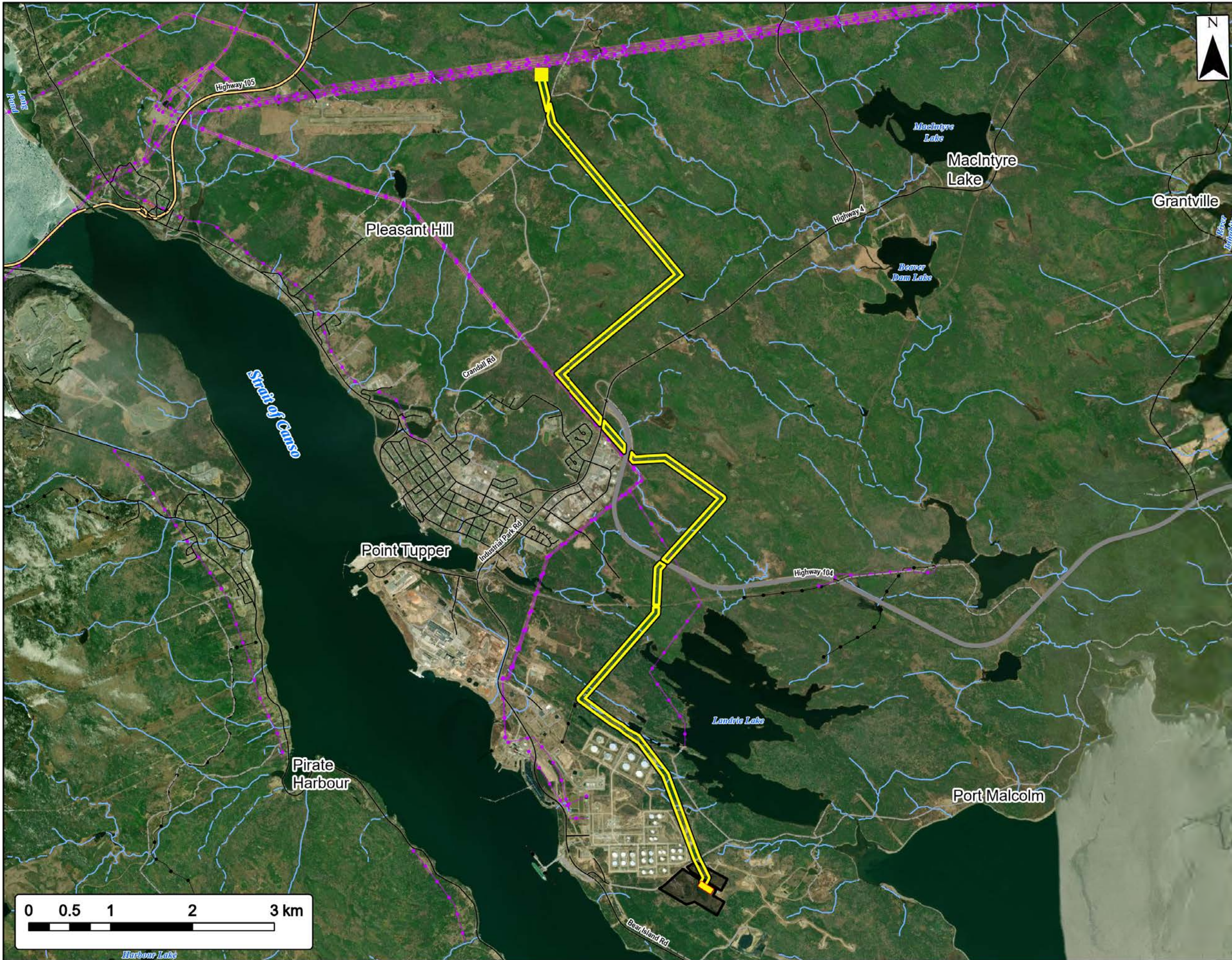
Sources: ESRI BaseMaps, GeoNOVA, NSTD, HERE, Garmin, USGS, NRCan, Service NS and Internal Services, Municipality of Richmond County

Coordinate System: NAD83 UTM Zone 20N

Date:	Nov 2022	Project #:	22-8516
Scale:	1:12,500	Drawing #:	<b>8</b>
Drawn By:	P. Opra		
Checked By:	N. Myers		







### Project Overview

Overview of the Transmission Interconnection Line and Industrial Facility



#### Project Components

- Northern Switching Station (NS Power)
- Southern Substation
- Transmission Interconnection Line
- Industrial Facility
- Transportation**
- Trans-Canada Highway
- Highway
- Road
- Unpaved Road
- Utilities (line)**
- Existing Pipeline
- Existing Transmission Lines (NS Power)
- Water Features**
- Mapped Stream
- Mapped Indefinite Stream

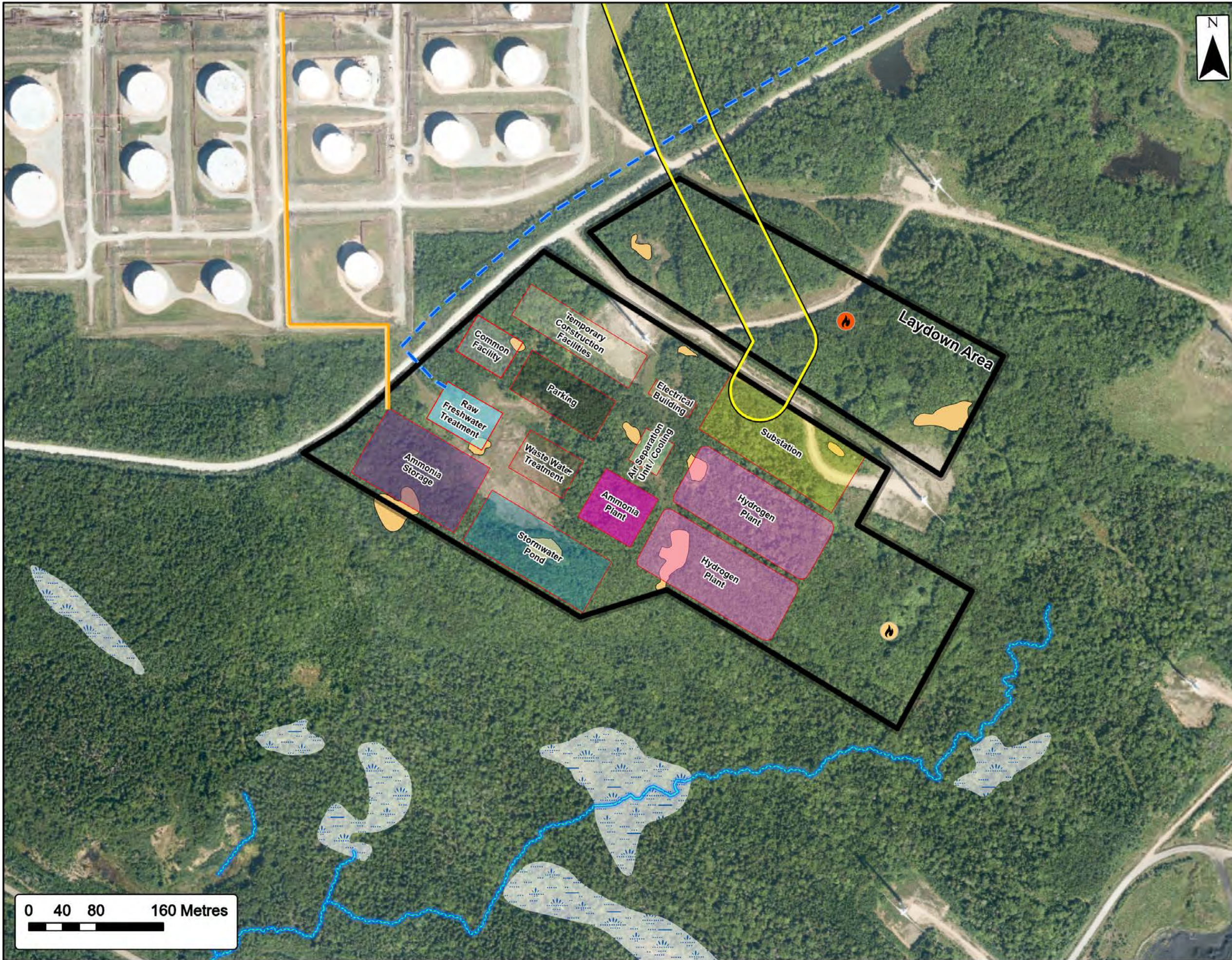


Coordinate System: NAD83 UTM Zone 20N Sources: ESRI Basemaps, GeoNOVA, NSTD, HERE, Garmin, USGS, NRCan

Date: Nov 2022	Project #: 22-8516
Scale: 1:45,000	Drawing #: <b>9</b>
Drawn By: P. Opra	
Checked By: N. Myers	



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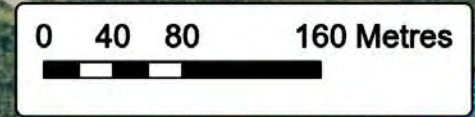


# Industrial Facility Overview (Zoomed In)

Overview of Components and Field Survey



- Field Surveyed**
- Field Surveyed Watercourse (WC)
  - Field Surveyed Wetland (WL)
  - Human Influenced Drainage Feature
- Project Components**
- Storage Flare
  - Process Flare
  - Approximate Ammonia Pipeline
  - Raw Freshwater Pipeline
  - Transmission Interconnection Line
  - Industrial Facility



Coordinate System: NAD83 UTM Zone 20N  
Sources: ESRI Basemaps, GeoNOVA, NSD, HERE, Garmin, USGS, NRCAN, Service NS and Internal Services.

Date:	Nov 2022	Project #:	22-8516
Scale:	1:4,375	Drawing #:	<b>10</b>
Drawn By:	P. Opra		
Checked By:	F. Gascon		





### Ecodistricts

Overview of Study Area Ecodistricts

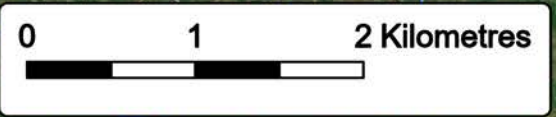


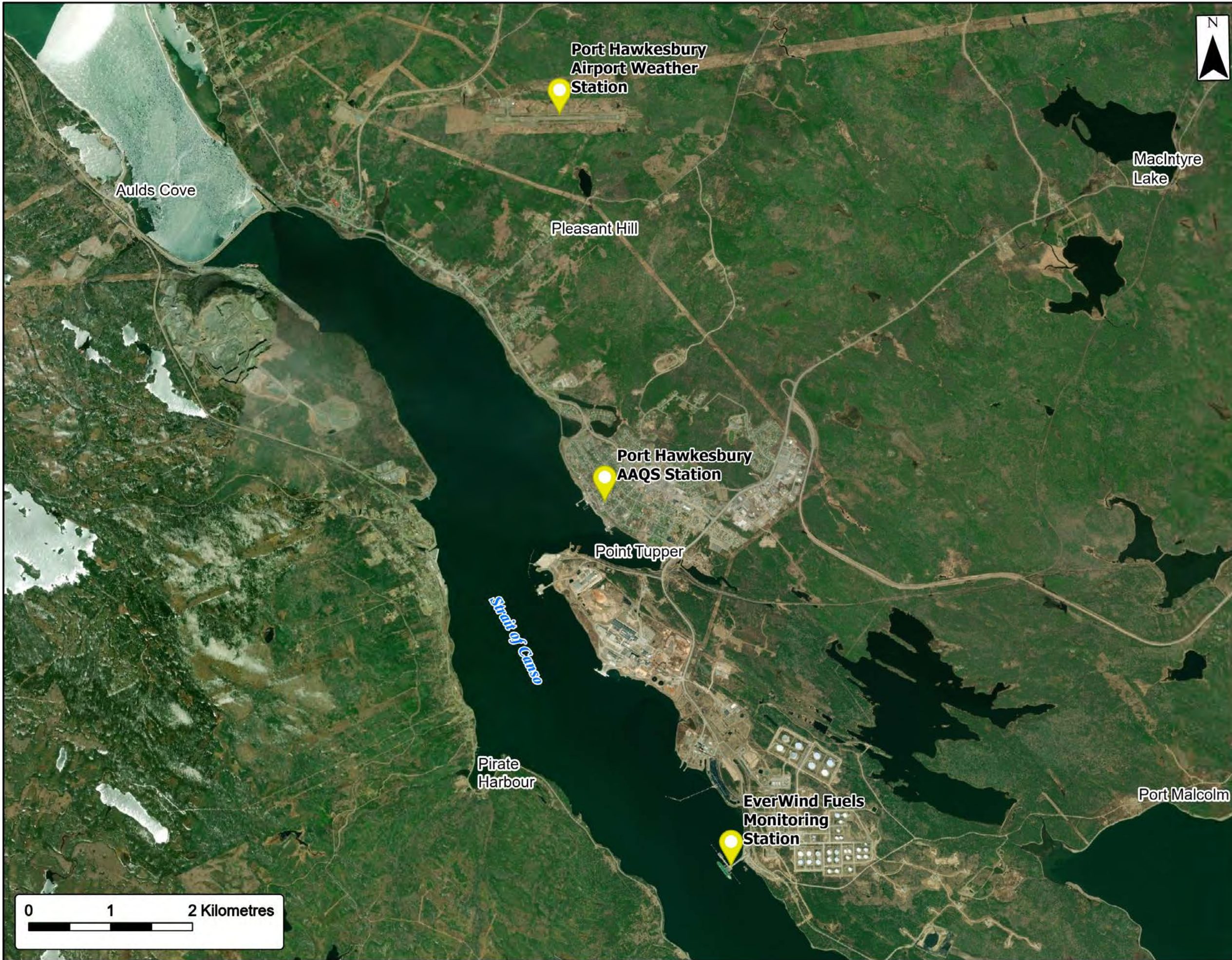
Ecodistricts	
Cape Breton Hills	
Bras d'Or Lowlands	
Cape Breton Coastal	
Project Components	
Transmission Interconnection Line	
Industrial Facility	
Transportation	
Trans-Canada Highway	
Highway	
Road	
Unpaved Road	
Water Features	
Mapped Stream	
Mapped Indefinite Stream	
Mapped Waterbodies	



Coordinate System: NAD83 UTM Zone 20N1 Sources: ESRI Basemaps, GeoNOVA, NSTD, HERE, Garmin, USGS, HRCAN


Date:	Nov 2022	Project #:	22-8516
Scale:	1:45,000	Drawing #:	<b>11</b>
Drawn By:	P. Opra		
Checked By:	M. Savelle		





**Monitoring Stations**  
 Overview of Air Quality and Weather Stations



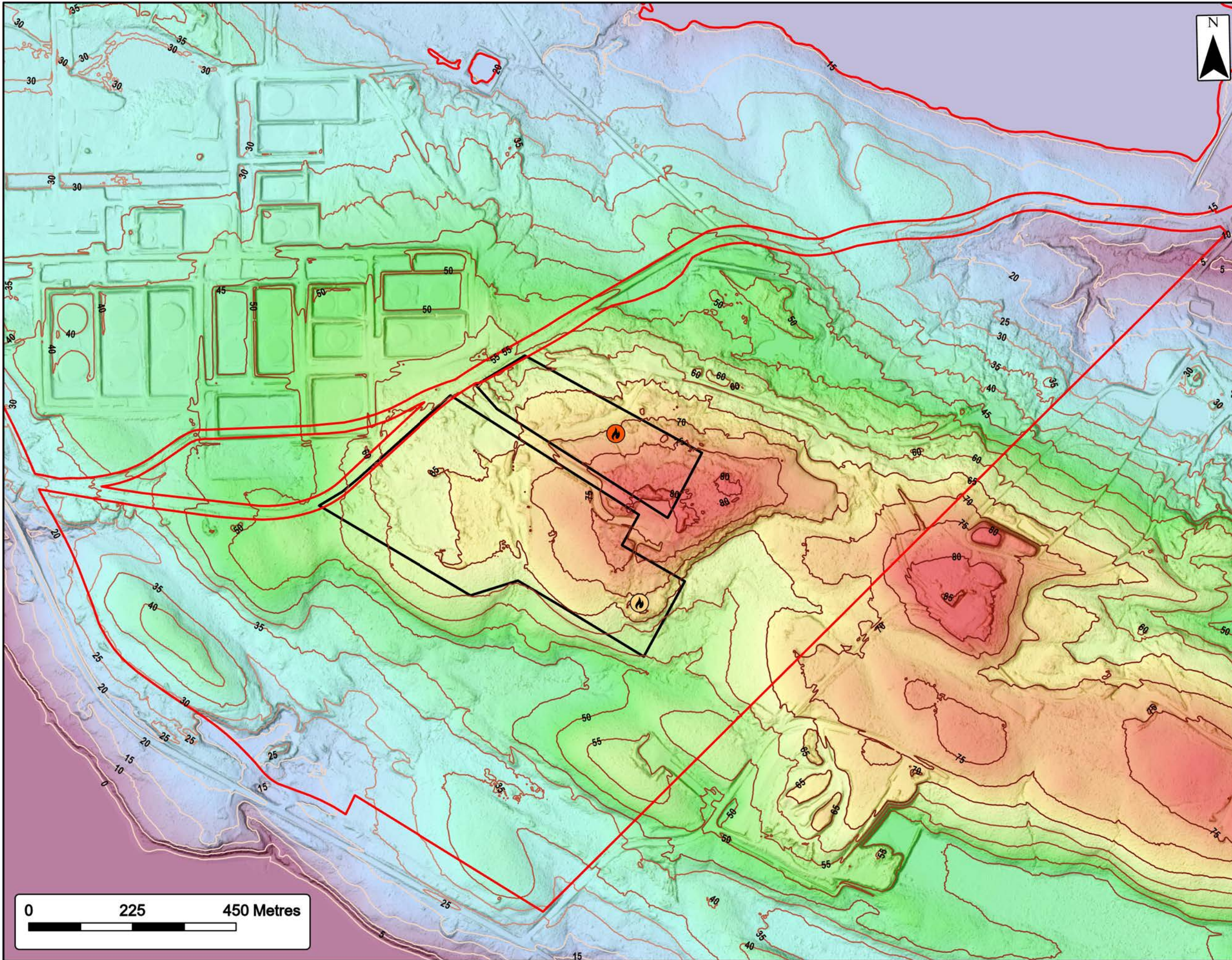
Monitoring Stations 



Coordinate System: NAD83 UTM Zone 20N Sources: ESRI Basemaps, GeoNOVA, NSTD, HERE, Garmin, USGS, NRCan

Date:	Nov 2022	Project #:	22-8516
Scale:	1:45,000	Drawing #:	<b>12</b>
Drawn By:	P. Opra		
Checked By:	M. Savelle		





# Industrial Facility Topography

Overview of Topography



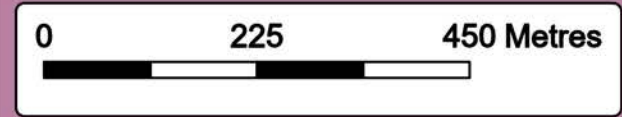
### Project Components

- Storage Flare
- Process Flare
- Industrial Facility

### PID

Point Tupper Marine Services Co., EverWind Terminals Canada Co., EverWind Terminals Canada Holdings Co.

### Elevation (Metres)



Coordinate System: NAD83 UTM Zone 20N1 Sources: ESRI Basemaps, GeoNOVA, NSTD, HERE, Garmin, USGS, NRCAN

Date:	Nov 2022	Project #:	22-8516
Scale:	1:8,000	Drawing #:	<b>13</b>
Drawn By:	P. Opra		
Checked By:	F. Gascon		





**Surficial Geology**  
Overview of Surficial Geology



**Surficial Geology By Unit**

Bedrock	
Silty Drumlin	
Silty Till Plain	
Stony Drumlin	
Stony Till Plain	
Not Defined	

**Project Components**

Transmission Interconnection Line	
Industrial Facility	

**Transportation**

Trans-Canada Highway	
Highway	
Road	
Unpaved Road	

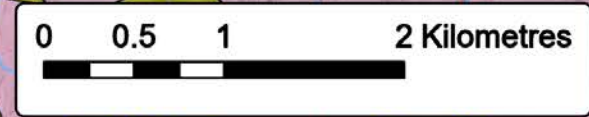
**Water Features**

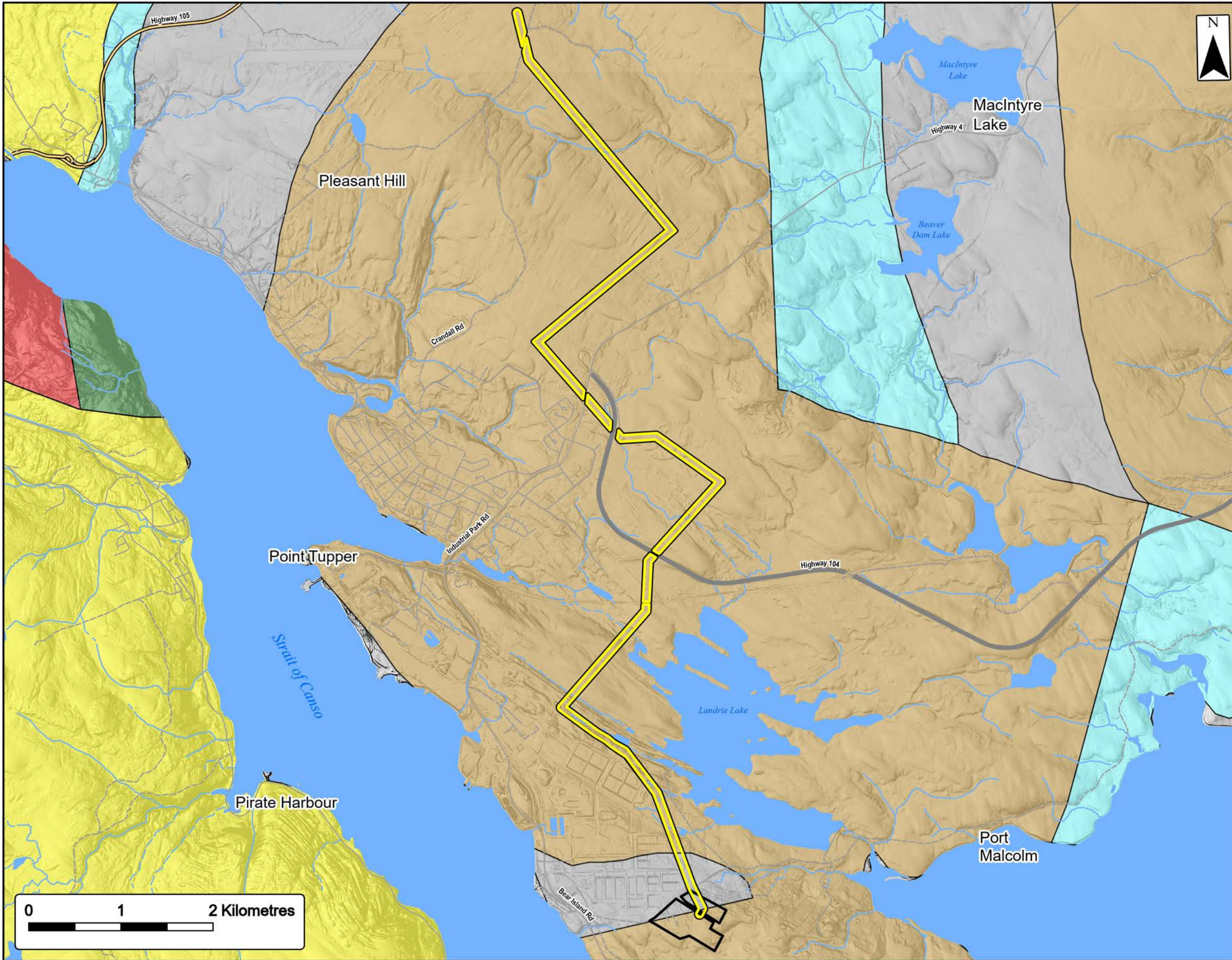
Mapped Stream	
Mapped Indefinite Stream	
Mapped Waterbodies	



Coordinate System: NAD83 UTM Zone 20N Sources: ESRI Basemaps, GeoNOVA, NSTD, HERE, Garmin, USGS, NRCAN, NSMR

Date:	Nov 2022	Project #:	22-8516
Scale:	1:42,000	Drawing #:	<b>14</b>
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Checked By:	M. Savelle		





**Bedrock Geology**  
Overview of Bedrock Geology

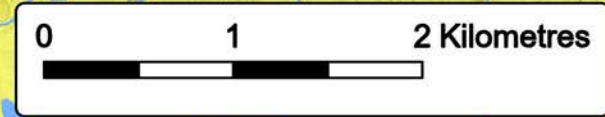


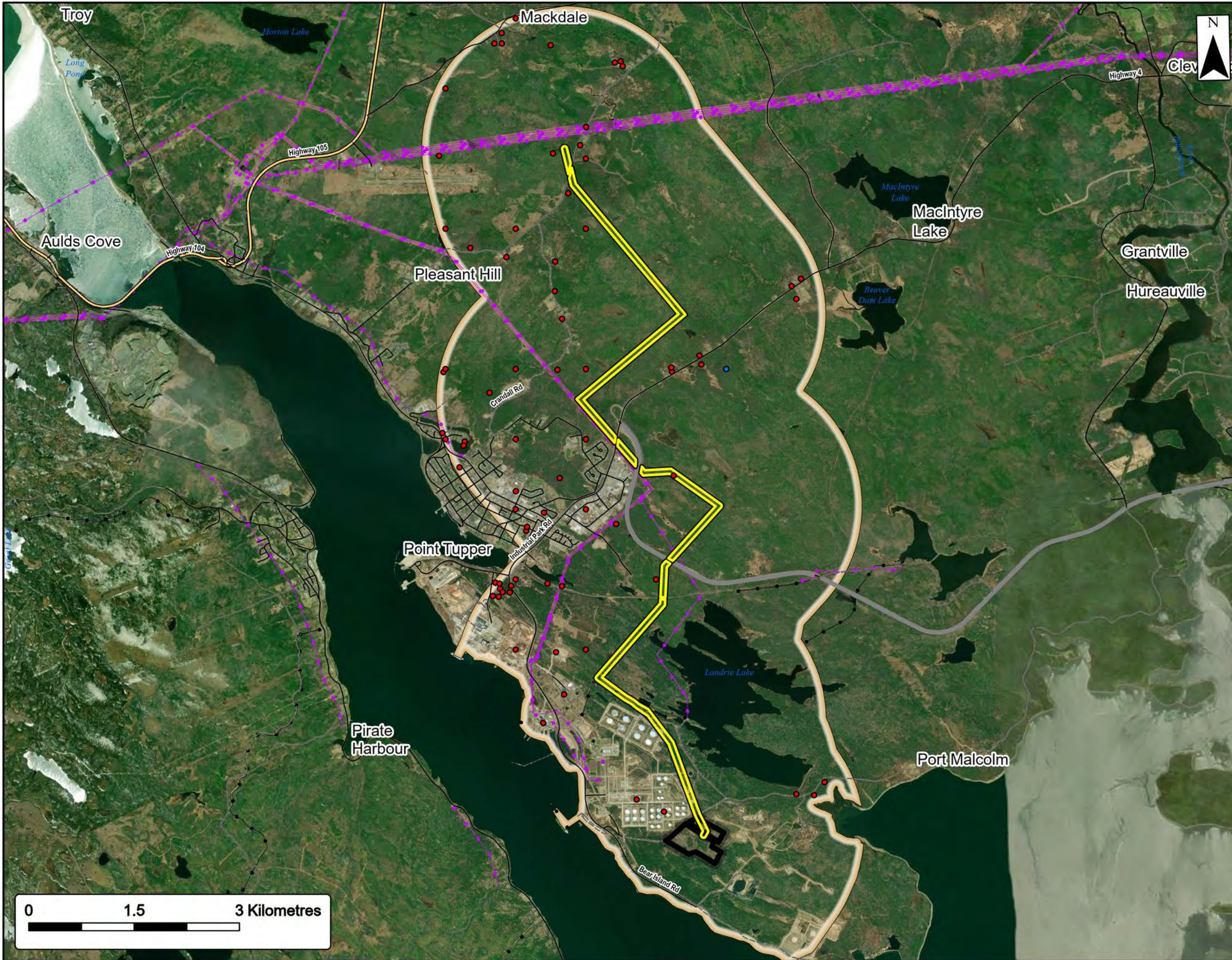
Bedrock Geology	
Cumberland Group	
Mabou Group	
Windsor Group: Cape Breton Island	
Horton Group	
George River Metamorphic Suite: undivided	
Proterozoic - Devonian granite	
Project Components	
Transmission Interconnection Line	
Industrial Facility	
Transportation	
Trans-Canada Highway	
Highway	
Road	
Unpaved Road	
Water Features	
Mapped Stream	
Mapped Indefinite Stream	
Mapped Waterbodies	



Coordinate System: NAD83 UTM Zone 20N  
Sources: ESRI Basemaps, GeoNOVA, NSTD, HERE, Garmin, USGS, HRCan, NSIRRR

Date: Nov 2022	Project #: 22-8516
Scale: 1:40,000	Drawing #: <b>15</b>
Drawn By: P. Opra	
Checked By: M. Savelle	





**Groundwater Well Locations**  
Wells within 2 km of Project Boundary

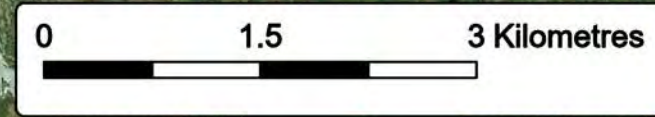


- Drilled Well ●
- Dug Well ●
- 2 Km Buffer (Study Area) ▭
- Project Components**
- Transmission Interconnection Line ▭
- Industrial Facility ▭
- Transportation**
- Trans-Canada Highway ▬
- Highway ▬
- Road ▬
- Unpaved Road - - -
- Utilities (line)**
- Existing Pipeline ●-●-●
- Existing Transmission Lines (NS Power) ●-●-●

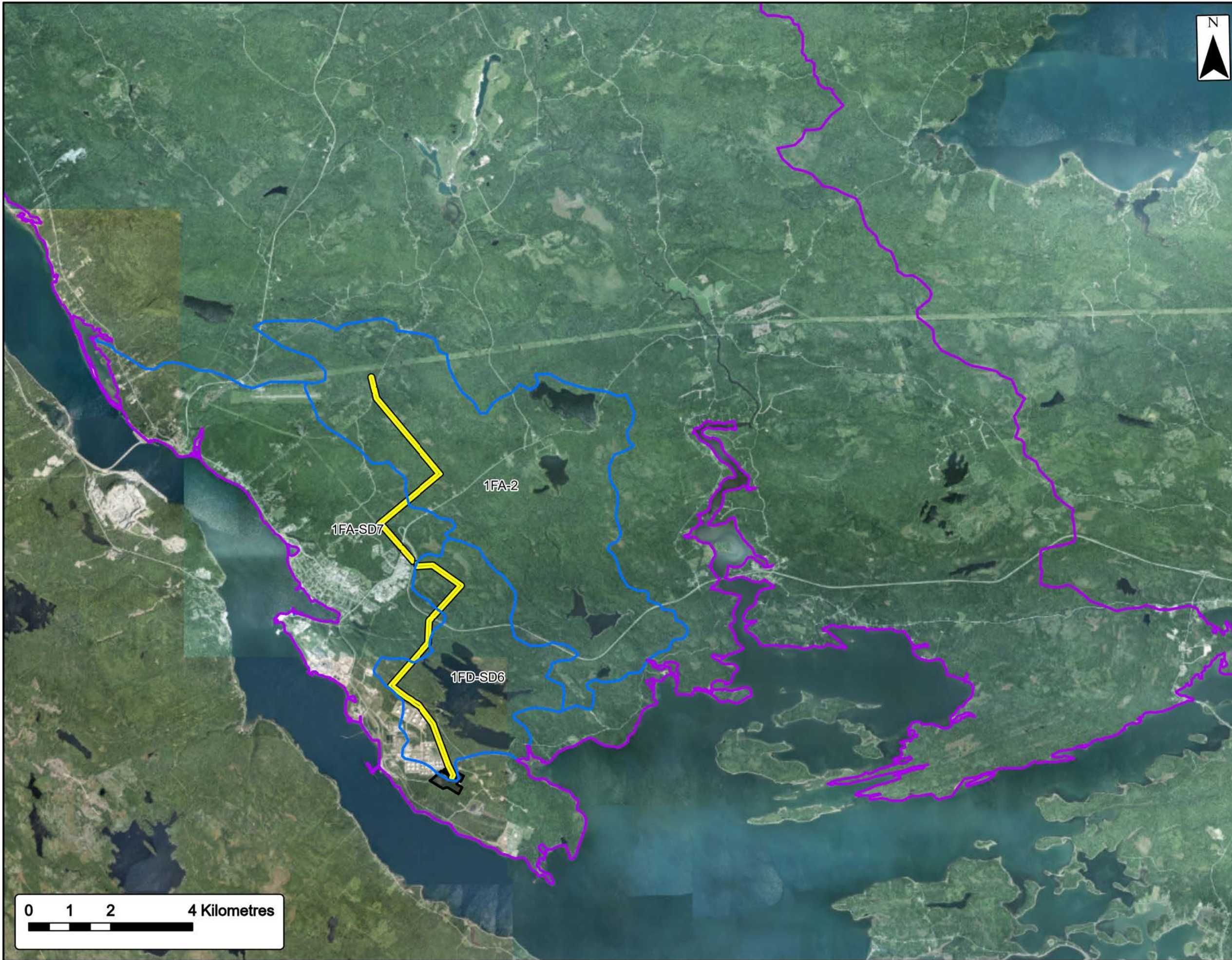


Coordinate System: NAD83 UTM Zone 20N1  
Sources: ESRI BaseMaps, GeoNOVA, NSITD, HERE, Garmin, USGS, NRCAN, NSHRR, Service NS and Internal Services

Date:	Nov 2022	Project #:	22-8516
Scale:	1:52,500	Drawing #:	<b>16</b>
Drawn By:	P. Opra		
Checked By:	M. Savelle		







### Primary Watershed Components

Overview of Primary and Secondary Watersheds



- Primary Watershed (1FA)
- Secondary Watershed (1FA-2, 1FA-SD7, 1FD-SD6)
- Project Components**
- Transmission Interconnection Line
- Industrial Facility

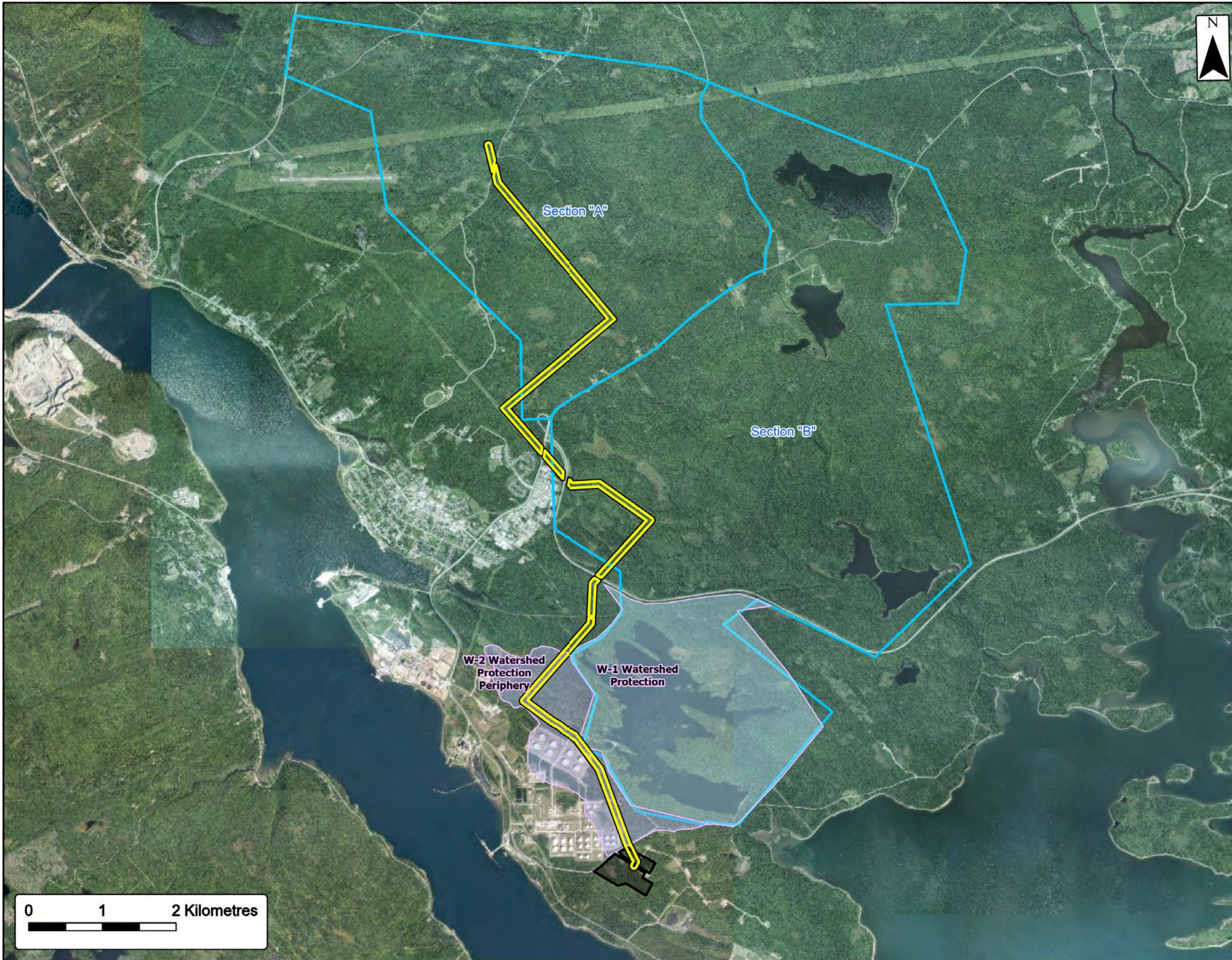


Sources: ESRI Basemaps, GeoNOVA, ISTD, HERE, Garmin, USGS, HRCan, Service NS and Internal Services

Date: Nov 2022	Project #: 22-8516
Scale: 1:90,000	Drawing #: <b>17</b>
Drawn By: P. Opra	
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**Local Protected Watersheds**  
 Overview of Landrie Lake Protected Watershed  
 and Port Hawkesbury Water Supply Area

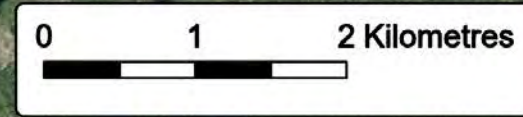


- W-1 Watershed Protection
- W-2 Watershed Protection Periphery
- Port Hawkesbury Water Supply Area
- Project Components**
- Transmission Interconnection Line
- Industrial Facility



Sources: ESRI BaseMaps, GeoNOVA, NSID, HERE, Garmin, USGS, NRCAN, Service NS and Internal Services

Date: Nov 2022	Project #: 22-8516
Scale: 1:50,000	Drawing #: <b>18</b>
Drawn By: P. Opra	
Checked By: M. Savelle	





### Watercourse Crossings

Overview of Culvert Locations and Water Flow

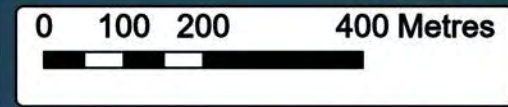


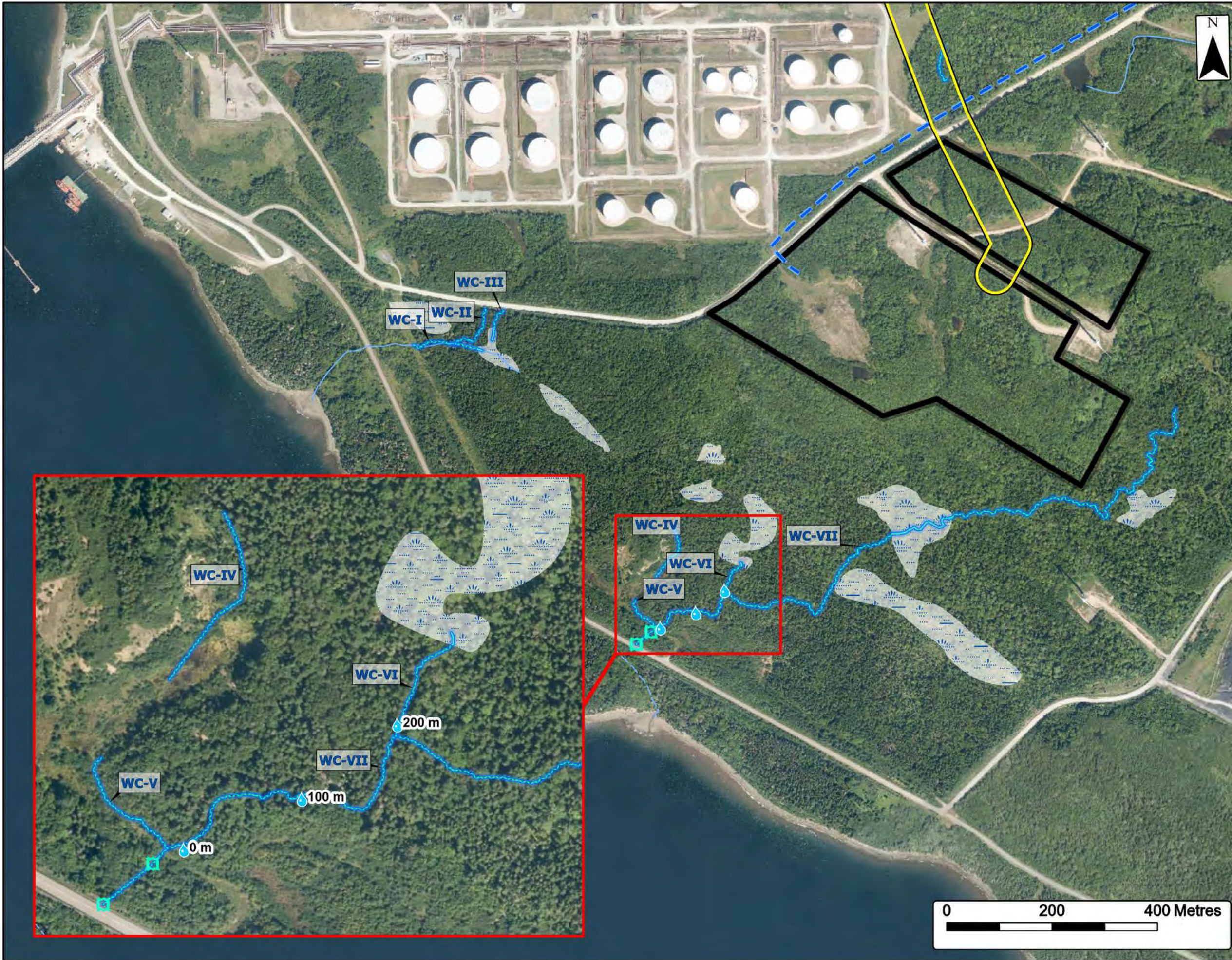
- Field Surveyed**
- Culvert
  - Field Surveyed Watercourse (WC)
  - Field Surveyed Wetland (WL)
- Project Components**
- LLWU Pump Station
  - Raw Freshwater Pipeline
  - Transmission Interconnection Line
  - Industrial Facility
- Water Features**
- Mapped Stream
  - Mapped Indefinite Stream



Coordinate System: NAD83 UTM Zone 20N  
 Sources: ESRI Basemaps, GeoNOVA, ISTD, HERE, Garmin, USGS, HRCan, Service FIS and Internet Services

Date:	Nov 2022	Project #:	22-8516
Scale:	1:9,500	Drawing #:	<b>19</b>
Drawn By:	P. Opra		
Checked By:	N. Myers		





# Water Quality Waypoints

Overview of Field Surveyed Waypoints



- Field Surveyed**
- Water Quality Waypoints
  - Culvert
  - Field Surveyed Watercourse (WC)
  - Field Surveyed Wetland (WL)
- Project Components**
- Raw Freshwater Pipeline
  - Transmission Interconnection Line
  - Industrial Facility
- Water Features**
- Mapped Stream
  - Mapped Indefinite Stream



Coordinate System: NAD83 UTM Zone 20N  
 Sources: ESRI Basemaps, GeoNOVA, ISTD, HERE, Garmin, USGS, NRCAN, Service NS and Internal Services.

Date:	Nov 2022	Project #:	22-8516
Scale:	1:7,000	Drawing #:	<b>20</b>
Drawn By:	P. Opra		
Checked By:	N. Myers		

