

Appendix C

STRUM CONSULTING / 2020b. WETLAND, WATERCOURSE, RARE SPECIES AND HABITAT ASSESSMENT. L8001 AND L8005 TRANSMISSION LINES AMHERST TO ONSLOW, NOVA SCOTIA



**WETLAND, WATERCOURSE, RARE SPECIES,
AND HABITAT ASSESSMENT
L8001 And L8005 Transmission Lines
Amherst to Onslow, Nova Scotia**

December 9, 2020



Taking Charge™



December FF, 2020

Mr. Dan Thompson
Nova Scotia Power Incorporated
1223 Lower Water Street
Halifax, NS B3J 3S8

Dear Mr. Thompson,

Re: Wetland, Watercourse, Rare Species, and Habitat Assessment
L8001 and L8005 Transmission Lines, Amherst to Onslow, Nova Scotia

Attached is the Wetland, Watercourse, Rare Species, and Habitat Assessment report prepared for the L8001 and L8005 Transmission Lines, Amherst to Onslow project.

We trust this to be satisfactory at this time. Once you have had an opportunity to review this correspondence, please contact us to address any questions you may have.

Thank you,

A handwritten signature in blue ink that reads "Heather Mosher".

Heather Mosher, MSc.
Environmental Scientist
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A handwritten signature in blue ink that reads "Scott Dickey".

Scott Dickey, MREM
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EXECUTIVE SUMMARY

Strum Consulting was retained to complete wetland delineations, watercourse assessments, habitat assessments, and rare species assessments along the right of ways (RoWs) for the existing L8001 transmission line and the proposed L8005 transmission lines. The assessments consisted of both desktop and field-based components.

Wetland delineation identified 230 areas of wetland habitat and 79 watercourses within the RoWs for the two powerline corridors. Additionally, four vascular plant species of conservation interest were found during the assessment, all of which are associated with wetland habitat.

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1.0 INTRODUCTION

Nova Scotia Power Inc. (NSPI) is proposing the construction of new transmission line running from the Onslow substation to the New Brunswick border near Amherst, Nova Scotia (the Project). The proposed new L8005 Transmission Line will run in its own right-of-way (ROW) adjacent to the existing L8001 Transmission Line.

Strum Consulting was retained to complete wetland delineations, watercourse assessments, habitat assessments, and rare species assessments along the ROWs for the existing L8001 transmission line and the proposed L8005 transmission lines. The assessments consisted of both desktop and field-based components. This report will provide information to aid in the design and construction of the proposed L8005 Transmission Line and support environmental permitting for the Project.

1.1 Study Area

The Study area consists of the entire ROW of the existing L8001 transmission line and the proposed L8005 transmission Line (Drawing A1, Appendix A). The transmission line begins at the Nova Scotia-New Brunswick border near the town of Amherst, Cumberland County, and finishes at the Onslow substation, in Onslow, Colchester County, and is approximately 96 km long.

2.0 DESKTOP REVIEW

A background information review of wetlands, watercourses, habitats, protected areas, restricted and limited use lands, and species of conservation interest (SOCl) was completed for the Study Area prior to completing field surveys.

2.1 Methodology

2.1.1 Wetlands and Watercourses

Prior to conducting the wetland surveys, a desktop review was completed to identify areas within the L8001 and L8005 ROWs that had high potential for wetland habitat and watercourses to exist. The following resources were used:

- Satellite and Aerial Photography;
- NS Wet Areas Mapping Database (WAM) (NSDLF 2017);
- NS Department of Lands and Forestry Wetland Inventory (NSDLF 2018b);
- NS Significant Species and Habitats Database (NSDLF 2018a);

2.1.2 Habitat Assessment

A habitat type assessment was completed for the lands within the Proposed L8005 ROW to identify the types of habitat present. The following databases were used for the habitat assessment:

- Nova Scotia Significant Species and Habitat Database (NSDLF 2018a); and
- NS Department of Lands and Forests (NSDLF) Forestry Inventory Mapping (NSDLF 2020).

Additionally, the Restricted and Limited Use Lands (NSDNR 2012b) database was consulted to identify additional managed or protected areas within 5 km of the Project site.

2.1.3 Rare Species

An ACCDC data request was completed for the length of L8005 ROW to identify vascular plant and fauna SOCI within 100 km of the Project. For the purposes of this assessment, SOCI include the following:

- Species listed as 'Endangered', 'Threatened' or 'Special Concern' under SARA or COSEWIC;
- Species listed as 'Endangered', 'Threatened' or 'Vulnerable' under the NS Endangered Species Act (NS ESA);
- Species with a Provincial General Status Rank of 'At Risk', 'May be at Risk', or 'Sensitive' (NSDLF); or
- Species with a Subnational Rarity Rank (S-Rank) of 'S1', 'S2', or 'S3' (ACCDC).

SOCI with recorded sightings within 5 km of the Study area were compared against available habitat, determined from the habitat assessment, to be developed into a priority species list that may be observed within the Study Area.

2.2 Desktop Review Results

2.2.1 Wetlands and Watercourses

The desktop review identified numerous areas of potential wetland habitat, watercourses, and waterbodies within the L8001 and L8005 ROWs. Wet areas mapping indicated areas with a high potential of wetland habitat or watercourses near Amherst, Greenville Station, and between Debert and Onslow (Drawings A2-1 to A2-12, Appendix A).

The wetland inventory identified numerous areas of varying wetland habitat in the vicinity of and within the L8001 and L8005 ROWs (Drawing A3-1 to A3-12, Appendix A). Areas with a higher concentration of wetlands occur near Amherst, Little River, and Greenville Station.

The 10k topographic database identified numerous watercourses that intersect the L8001 and L8005 ROWs (Drawing A2, Appendix A). Areas with a higher concentration of mapped watercourses intersecting the ROWs occur near Belmont, Wentworth, and Greenville Station. Larger named watercourses that intersect the ROWs include Missaguash River, MacLellans Brook, McElmon Brook, Purdy Brook, Doyle Brook, River Philip, Pugwash River, Big Lake Brook, Crowley Brook, West Branch Wallace River, Snider Brook, Village Brook, Folly River, East Branch Folly River, Pine Brook, Totten Brook, Debert River, Lighbody Brook, Staples Brook, Chiganois Brook, and Baird Brook.

2.2.2 Habitat Assessment

The Nova Scotia Significant Species and Habitat Database was consulted to identify protected and ecologically sensitive areas within 10 km of each Study Area (Drawing A4-1 to A4-12, Appendix A). The following protected areas were indicated within 5 km of the Study Area:

- Three records that are classified as ‘Deer Wintering’, which relate to known over-wintering habitat for White-tailed deer (*Odocoileus virginianus*);
- Two records that are classified as ‘Migratory Bird’, which relate to unclassified waterfowl habitat related to the East Amherst and Missaguash marshes;
- Eight records that are classified as ‘Other Habitat’, which relate to Bald Eagle (*Haliaeetus leucocephalus*), talus habitat at NW Folly Lake and Smith Brook-Wentworth Valley, and the River Philip estuary;
- Four records that are classified as ‘Species at Risk’, which relate to Wood Turtle (*Glyptemys insculpta*) habitat and Saddle Island; and
- Three records that are classified as ‘Species of Concern’, which relate to karst topography at the Black Lake area and the Delicate lamp mussel (*Lampsilis ochracea*).

The Nova Scotia Restricted and Limited Use database identifies the following additional features that occur within 5 km of the Study Area (Table 1) (Drawings A4-1 to A4-12, Appendix A).

Table 1. Restricted and Limited Land Use Lands within 5 km of the Study Area.

Feature Name	Location	Distance to Study Area
Chignecto Isthmus Wilderness Area	Amherst	3 km
Chapman House Monument National Historic Site	Fort Lawrence	4 km
Amherst Designated Water Supply Area	Amherst	Intersects
East Amherst – Eastern Habitat Joint Venture Lands	Amherst	0.2 km
Amherst Marsh – Eastern Habitat Joint Venture Lands	Amherst	Intersects
Missaguash/Fort Lawrence – Eastern Habitat Joint Venture Lands	Fort Lawrence	1 km
Hackmatack Lake & Round Lake Game Sanctuary	Amherst	9 km
Oxford Subdivision Non-Designated Rail Corridors	Oxford	Intersects
Henderson Settlement – Eastern Habitat Joint Venture Lands	Greenville Station	1 km
Certain Lands at Debert, Colchester County – Areas under the Special Places Act	Debert	1 km

Habitat cover within the Study Area consisted predominantly of a mix of hardwood, softwood and mixedwood forests, with some areas of clearcut, agriculture, alders and blueberries. Habitat types and coverage are outlined in Table 2, and depicted in Drawings A5-1 to A5-12 (Appendix A).

Table 2. Habitat Types in the Study Area

Habitat Type	Area (ha)	Percent Cover (%)
Softwood	138.5	35.6
Hardwood	86.2	22.1
Mixed	42.5	10.9
Treated Stand	8.6	2.2
Christmas Trees	2.9	0.8
Old Field	0.4	0.1
Wind Throw	1.2	0.3
Dead Stand	0.86	0.2
Plantation	32.1	8.4
Brush	0.86	0.2

Habitat Type	Area (ha)	Percent Cover (%)
Alders <75% Cover	1.46	0.4
Alders >75% Cover	2.8	0.7
Clear Cut	30.1	7.8
Partial Depletion	4.7	1.2
General Wetlands	7.4	1.9
Open Bogs	1.03	0.3
Water	1.3	0.3
Agriculture	19.2	5.0
Urban and Miscellaneous	2.2	0.6
Blueberry Fields	11.7	3.0
Road Corridor	1.6	0.4
Rail Corridor	0.2	0.1

2.2.3 Rare Species Assessment

The ACCDC database request identified 305 vascular plant SOCI, 122 avifauna SOCI, 70 invertebrate SOCI, 4 herptofauna SOCI, 183 non-vascular plant SOCI, 14 freshwater fish and mussel SOCI, 6 marine mammal SOCI and 8 mammal SOCI (Table B1, Appendix B). Of these species, the following records are located within 5 km of the L8005 ROW:

- 308 records of 97 vascular plant species, including Eastern Skunk Cabbage (*Symplocarpus foetidus*) (14), Halberd-leaved Tearthumb (*Persicaria arifolia*) (34), Large Purple Fringed Orchid (*Platanthera grandiflora*) (17), Slender Cottongrass (*Eriophorum gracile*) (10), Yellow-seeded False Pimperel (*Lindernia dubia*) (8), Eastern White Cedar (*Thuja occidentalis*) (15);
- 1561 records of 76 avifauna species, including American Bittern (*Botaurus lentiginosus*) (148), Bank Swallow (*Riparia riparia*) (75), Barn Swallow (*Hirundo rustica*) (71), Black Tern (*Chlidonias niger*) (61), Bobolink (*Dolichonyx oryzivorus*) (116), Eastern Wood-Pewee (*Contopus virens*) (41), Killdeer (*Charadrius vociferous*) (33), Olive-sided Flycatcher (*Contopus cooperi*) (44), Ruby-crowned Kinglet (*Regulus calendula*) (57), Swainson's Thrush (*Catharus ustulatus*) (53), and Wilson's Snipe (*Gallinago delicata*) (128);
- 111 records of 35 invertebrate species, including Aphrodite Fritillary (*Speyeria aphrodite*) (16), Grey Comma (*Polygonia progne*) (10), Question Mark (*Polygonia interrogationis*) (8), Bronze Copper (*Lycaena hyllus*) (7), American Kestrel (*Falco sparverius*) (5);
- 11 records of 3 herptofauna species, including Snapping Turtle (*Chelydra serpentina*) (5), Eastern Painted Turtle (*Chrysemys picta picta*) (5), Four-toed Salamander (*Hemidactylium scutatum*) (1);
- 9 records of 5 non-vascular plant species, including Eastern waterfan (*Peltigera hydrothyria*) (5), Valley Oakmoss Lichen (*Evernia prunastri*) (1), Grand Foam Lichen (*Sterocaulon grande*) (1), Metropolitan Timmia Moss (*Timmia megapolitana*) (1), and *Tortula obtusifolia* (1);
- 48 records of 7 freshwater fish and mussel species, including Eastern Pearlshell (*Margaritifera margaritifera*) (38), Tidewater Mucket (*Leptodea ochracea*) (8), American Eel (*Anguilla rostrata*) (4), Eastern Lampmussel (*Lampsilis radiata*) (4);
- 2 records of 1 mammal species pertaining to the Mainland Moose (*Alces americanus*).

SOCI identified within 5 km of the proposed L8005 transmission line were compared to habitat types present in the ROW identified in the Habitat Assessment to determine Priority SOCI species with the potential to be identified within the ROW (Table B2, Appendix B).

3.0 WETLAND, WATERCOURSE AND RARE SPECIES FIELD ASSESSMENTS

3.1 Methodology

3.1.1 Wetlands

Wetland delineations were completed within the Study area between August 21 and September 15, 2020. Wetland boundaries were walked and flagged with pink flagging tape. Wetland boundaries, data points, and watercourse/drainage flow paths were recorded using a GPS receiver capable of sub 5 m accuracy. Soil pits, vegetation surveys, and assessments of hydrology were completed to confirm the presence/absence of wetland habitat following the methodology outlined in the US Army Corp of Engineers Wetland Delineation Manual (US Army Corp of Engineers, 1987).

In order for a wetland determination to be made, the following three criteria must be met:

- presence of hydrophytic (water loving) vegetation;
- presence of hydrologic conditions that result in periods of flooding, ponding, or saturation during the growing season; and
- presence of hydric soils.

A positive indicator must typically be present for all three parameters in order to definitively identify any given site as a wetland (US Army Corp of Engineers 1987).

Detailed wetland delineation methodologies are provided in Appendix C. A glossary of commonly used terms is provided in Appendix D.

In locations where substrate depths were measured deeper, and conditions indicated that the entire wetland may involve deep substrates, multiple depth probes were taken.

3.1.2 Watercourses

Watercourse delineations were completed concurrently with wetland delineation for all watercourses located within the Study area. Watercourse paths were walked and marked using a GPS receiver capable of sub 5 m accuracy. Watercourse characteristics were noted and included:

- Channel depths and widths;
- Water depths and wetted widths;
- Substrate composition;
- Instream cover;
- Stream bank conditions; and
- Riparian habitat.

3.1.3 Rare Species

Field surveys for rare plants were completed concurrently with wetland delineation. The study area was walked in a random meander technique where terrain allowed, with focus on unique and rare habitat which may be more likely to support rare species. The location of identified rare plants were recorded using a GPS receiver capable of sub 5 m accuracy. Species identification was completed with the aid of Roland's Flora of Nova Scotia, with other resources, including Sedges of Main and Newcomb's Wildflower Guide, consulted if necessary.

Incidental observations of wildlife and bird species, including species of conservational interest, were also noted. Observations included direct sightings as well as indirect evidence such as pellets, tracks, and other signs. The location, type, species, and date of observation were noted and the location recorded using a GPS recorder capable of sub 5 m accuracy.

3.2 Results

3.2.1 Wetlands

Wetland delineation identified 230 areas of wetland habitat within the L8005 and L8001 transmission lines ROW (Drawing A6-1 to A6-30, Appendix A). In most cases, wetlands identified within the existing L8001 ROW consisted of shrub swamp and cattail marshes, indicative of wetlands formed in anthropogenically altered environment. These wetlands were often dominated by herbaceous species such as broadleaf cattail (*Typha latifolia*), tawny cottongrass (*Eriophorum virginicum*), woolgrass (*Scirpus cyperinus*), cinnamon fern (*Osmundastrum cinnamomeum*), Canada goldenrod (*Solidago canadensis*), and tall white aster (*Doellingeria umbellata*). Dominant shrub species included white meadowsweet (*Spiraea alba*), speckled alder (*Alnus incana*), red maple (*Acer rubrum*), gray birch (*Betula populifolia*), and lambkill (*Kalmia angustifolia*).

Wetlands within the proposed L8006 ROW were primarily composed of treed swamps typical throughout the province. Characteristic vegetative species included a dense herbaceous cover of cinnamon fern, sensitive fern (*Onoclea sensibilis*), three-seeded sedge (*Carex trisperma*), bunchberry (*Cornus canadensis*) and starflower (*Lysimachia borealis*), with a layer of sphagnum moss covering the ground. Shrub species included regenerating tree species, mountain holly (*Ilex mucronate*), wild raisin (*Viburnum nudum*), and speckled alder. A dense tree canopy included balsam fir (*Abies balsamea*), black spruce (*Picea mariana*), red maple, and yellow birch (*Betula alleghaniensis*).

Wetlands existing in both ROWs often consisted of a treed or shrub swamp in the proposed new L8005 ROW before transitioning to a shrub swamp or marsh in the existing L8001 ROW. Many of the wetlands consisted of shallow histosol substrate in basin or sloping landforms. Due to the dry conditions during delineation, common hydrologic indicators including a high water table (< 30 cm), surface water, or surface saturation were not present in several wetlands. A summary of wetland characteristics is provided in Table E1 (Appendix E).

3.2.2 Watercourses

Watercourse assessments identified 79 watercourses along the existing L8001 and proposed

L8005 transmission line ROWs (Drawing A6-1 to A6-30, Appendix A). An additional 13 watercourses exist along the transmission line, consisting of large rivers, that were not delineated as part of the assessment as they were well established and visible on satellite imagery, including River Philip, the Chiganois River, Staples Brook, Folly River and West Branch Wallace River.

Classifications for the watercourses identified are as follows:

- Fifteen (15) watercourses were identified as ephemeral, characterized by seasonal waterflow, poor confinement and often long sloping banks.
- Twenty-five (25) watercourses were identified as intermittent, characterized by intermittent water flow and defined channels. Due to the drought conditions during field surveys, many of these watercourses had no water flow.
- Thirty-four (34) watercourses were identified as small permanent, characterized by year-round water flow and confined channels. However, due to the drought conditions during field surveys, water levels in some watercourses were lower than usual.
- Four (4) watercourses were identified as large permanent, characterized by year-round water flow, channel widths greater than 2 m and water depths greater than 0.5 m. Due to the drought conditions during field surveys, water levels were lower than usual.

A summary of watercourses characteristics is provided in Table E2 (Appendix E).

3.2.3 Rare Species

Four species of conservational interest were observed during the field program (Drawing A6-1 to A6-30, Appendix A). Table 3 outlines the rare species identified during field surveys.

Table 3. Species of Conservational Concern identified during Field Surveys

Common Name	Scientific Name	SARA	COSEWIC	NS ESA	S-Rank	Wetland	Location Coordinate (NAD 83 UTM Zone 20)
Large purple fringed orchid	<i>Platanthera grandiflora</i>	Not Listed	Not Listed	Not Listed	S3	WL227	474895.68 E, 5028171.39 N
Yellow ladies' tresses	<i>Spiranthes ochroleuca</i>	Not Listed	Not Listed	Not Listed	S3	WL227	474903.69 E, 5028196.80 N
Slender cottongrass	<i>Eriophorum gracile</i>	Not Listed	Not Listed	Not Listed	S2S3	WL39	414760.17 E, 5079231.06 N
Nova Scotia agalinis	<i>Agalinis neascotica</i>	Not Listed	Not Listed	Not Listed	S3S4	WL51	438322.30 E, 5064771.79 N
						WL88	420849.01 E, 5076097.24 N

A master list of species identified at the Project site is provided in Table E3 (Appendix E).

4.0 SHAPEFILE DATA

The results of this assessment have been compiled into a geodatabase and delivered to NSPI. The ESRI geodatabase file '20-7464_NSP_TransmissionLine.gdb' includes field delineated wetlands and associated characteristics, field delineated watercourses and associated characteristics, rare species locations, and maximum substrate depth locations. Associated photographs for wetland and watercourses are also included as part of the electronic delivery, matching the fields WL_ID and WC_ID, respectively. Appendix F contains an electronic data glossary that corresponds with the geodatabase's contents and attributes.

5.0 STATEMENT OF QUALIFICATIONS AND LIMITATIONS

This report (the “Report”) has been prepared by Strum Consulting (“Consultant”) for the benefit of Nova Scotia Power Incorporated (“Client”) in accordance with the agreement between Consultant and Client, including the scope of work detailed therein (the “Agreement”).

The information, data, recommendations, and conclusions contained in the Report (collectively, the “Information”):

- Is subject to the scope, schedule, and other constraints and limitations in the Agreement and the qualifications contained in the Report (the “Limitations”);
- Represents Consultant’s professional judgement in light of the Limitations and industry standards for the preparation of similar reports;
- May be based on information provided to Consultant which has not been independently verified;
- Has not been updated since the date of issuance of the Report and its accuracy is limited to the time period and circumstances in which it was collected, processed, made or issued;
- Must be read as a whole and sections thereof should not be read out of such context;
- Was prepared for the specific purposes described in the Report and the Agreement; and
- In the case of subsurface, environmental, or geotechnical conditions, may be based on limited testing and on the assumption that such conditions are uniform and not variable either geographically or over time.

Consultant shall be entitled to rely upon the accuracy and completeness of information that was provided and has no obligation to update such information. Consultant accepts no responsibility for any events or circumstances that may have occurred since the date on which the Report was prepared and, in the case of subsurface, environmental, or geotechnical conditions, is not responsible for any variability in such conditions, geographically or over time.

Consultant agrees that the Report represents its professional judgement as described above and that the Information has been prepared for the specific purpose and use described in the Report and the Agreement, but Consultant makes no other representations, or any guarantees or warranties whatsoever, whether express or implied, with respect to the Report, the Information or any part thereof.

The Report is to be treated as confidential and may not be used or relied upon by third parties, except:

- As agreed in writing by Consultant and Client;
- As required by law; and
- For use by governmental reviewing agencies.

Consultant accepts no responsibility, and denies any liability whatsoever, to parties other than Client who may obtain access to the Report or the Information for any injury, loss, or damage suffered by such parties arising from their use of, reliance upon, or decisions or actions based on the Report or any of the Information (“improper use of the Report”), except to the extent

those parties have obtained the prior written consent of Consultant to use and rely upon the Report and the Information. Any damages arising from improper use of the Report or parts thereof shall be borne by the party making such use.

This Statement of Qualifications and Limitations forms part of the Report and any use of the Report is subject to the terms hereof.

Should additional information become available, Strum requests that this information be brought to our attention immediately so that we can re-assess the conclusions presented in this report. This report was prepared by Heather Mosher, MSc., Environmental Scientist, and was reviewed by Scott Dickey, BSc. MREM, Environmental Scientist.

6.0 REFERENCES

Nova Scotia Department of Lands and Forests (NSDLF). 2017. Wet Areas Mapping (WAM) Database. Retrieved from: <https://novascotia.ca/natr/forestry/gis/wamdownload.asp>

Nova Scotia Department of Lands and Forests (NSDLF). 2018a. Significant Species and Habitat Database. Retrieved from: <https://novascotia.ca/natr/Wildlife/habitats/hab-data/>

Nova Scotia Department of Lands and Forests (NSDLF). 2018b. Wetland Inventory Database. Retrieved from: <https://novascotia.ca/natr/wildlife/habitats/wetlands.asp>

Nova Scotia Department of Lands and Forests (NSDLF). 2020 Nova Scotia Forest Inventory Mapping Database. Retrieved from: <https://novascotia.ca/natr/forestry/gis/forest-inventory.asp>

US Army Corp of Engineers. 1987. Corps of Engineers Wetlands Delineation Manual.

APPENDIX A
DRAWINGS



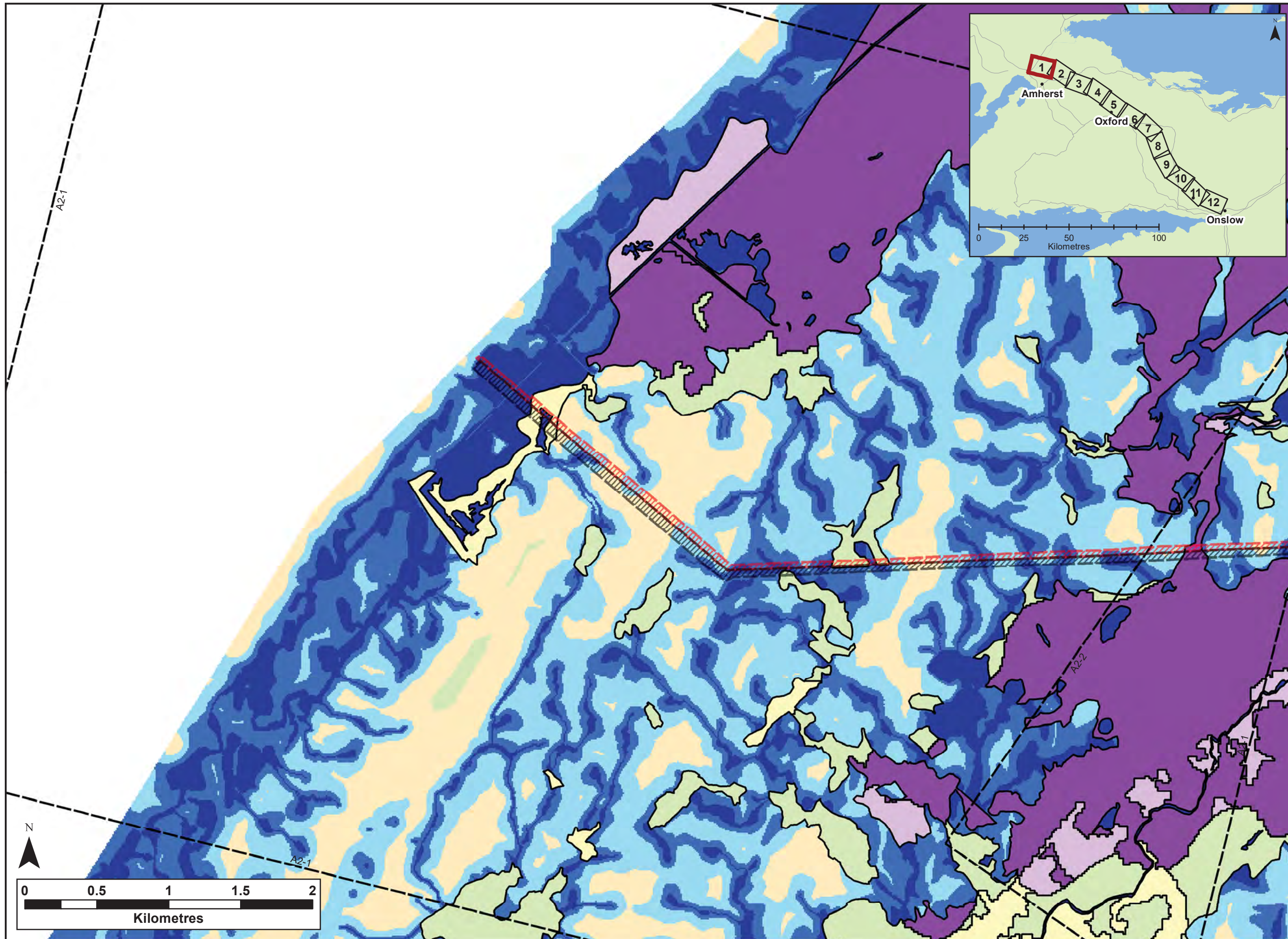
Notes:
 1. Data Sources: GeoNOVA, NSTD.
 2. Projection: NAD83 UTM Zone 20 North.

- Legend:**
- Existing L8001 and Proposed L8005 ROW
 - NB/NS Border
 - Transportation**
 - Trans-Canada Highway
 - Highway
 - Arterial Road
 - Collector Road
 - Local Road

**L8001 & L8005
 Transmission Line
 ROW - Site Location**



Date: Dec. 2020	Project #: 20-7464
Scale: 1:300,000	Drawing #: A1
Drawn By: M. Savelle	
Checked By: H. Mosher	



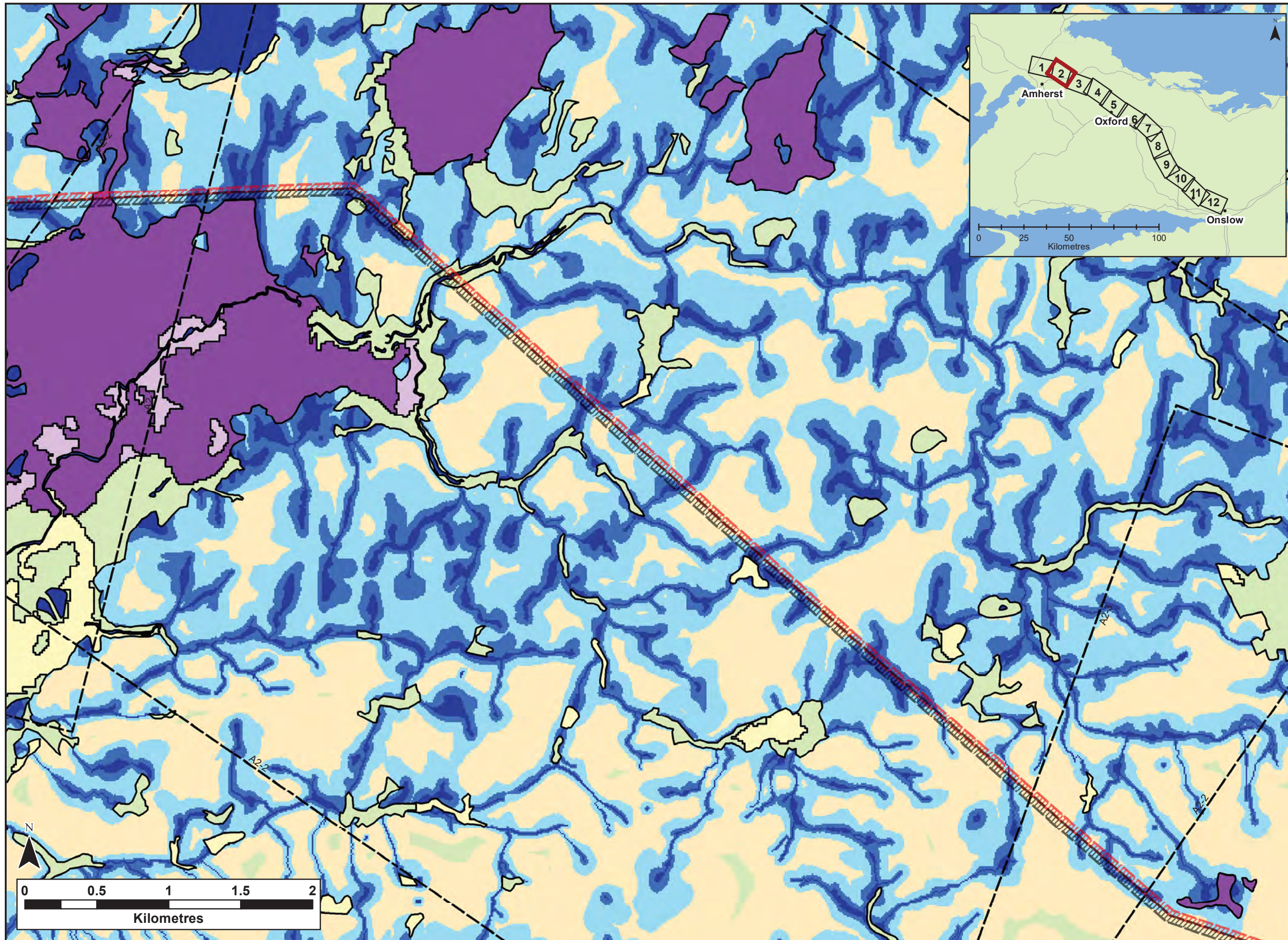
Notes:
 1. Data Sources: GeoNOVA, NSTD, NSTIR.
 2. Projection: NAD83 UTM Zone 20 North.

- Legend:**
- Existing L8001 ROW
 - Proposed L8005 ROW
 - Drawing Sheet
- NSDLF Wetland Inventory**
- Bog
 - Bog or Fen
 - Fen
 - Marsh
 - Salt Marsh
 - Swamp
- Wet Area Mapping**
- Depth to Water**
- 0 - 0.10 m
 - 0.11 - 0.50 m
 - 0.51 - 2 m
 - 2.01 - 10 m
 - > 10 m

**L8001 & L8005
 Transmission Line
 ROW - Wet Area Map**



Date: Dec. 2020	Project #: 20-7464
Scale: 1:25,000	Drawing #: A2-1
Drawn By: M. Savelle	
Checked By: H. Mosher	



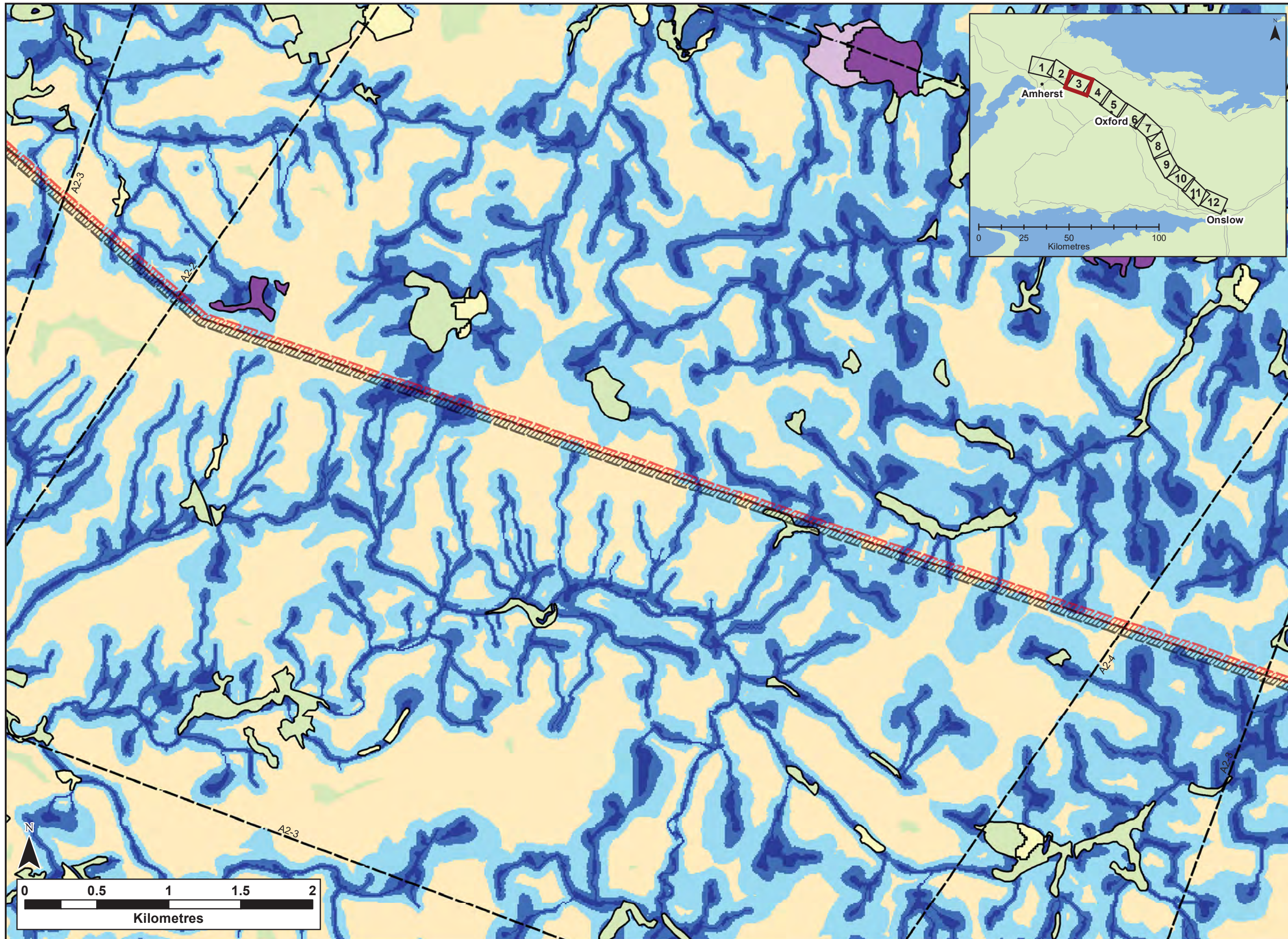
Notes:
 1. Data Sources: GeoNOVA, NSTD, NSTIR.
 2. Projection: NAD83 UTM Zone 20 North.

- Legend:**
- Existing L8001 ROW
 - Proposed L8005 ROW
 - Drawing Sheet
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- Bog
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- Depth to Water**
- 0 - 0.10 m
 - 0.11 - 0.50 m
 - 0.51 - 2 m
 - 2.01 - 10 m
 - > 10 m

**L8001 & L8005
 Transmission Line
 ROW - Wet Area Map**



Date: Dec. 2020	Project #: 20-7464
Scale: 1:25,000	Drawing #: A2-2
Drawn By: M. Savelle	
Checked By: H. Mosher	



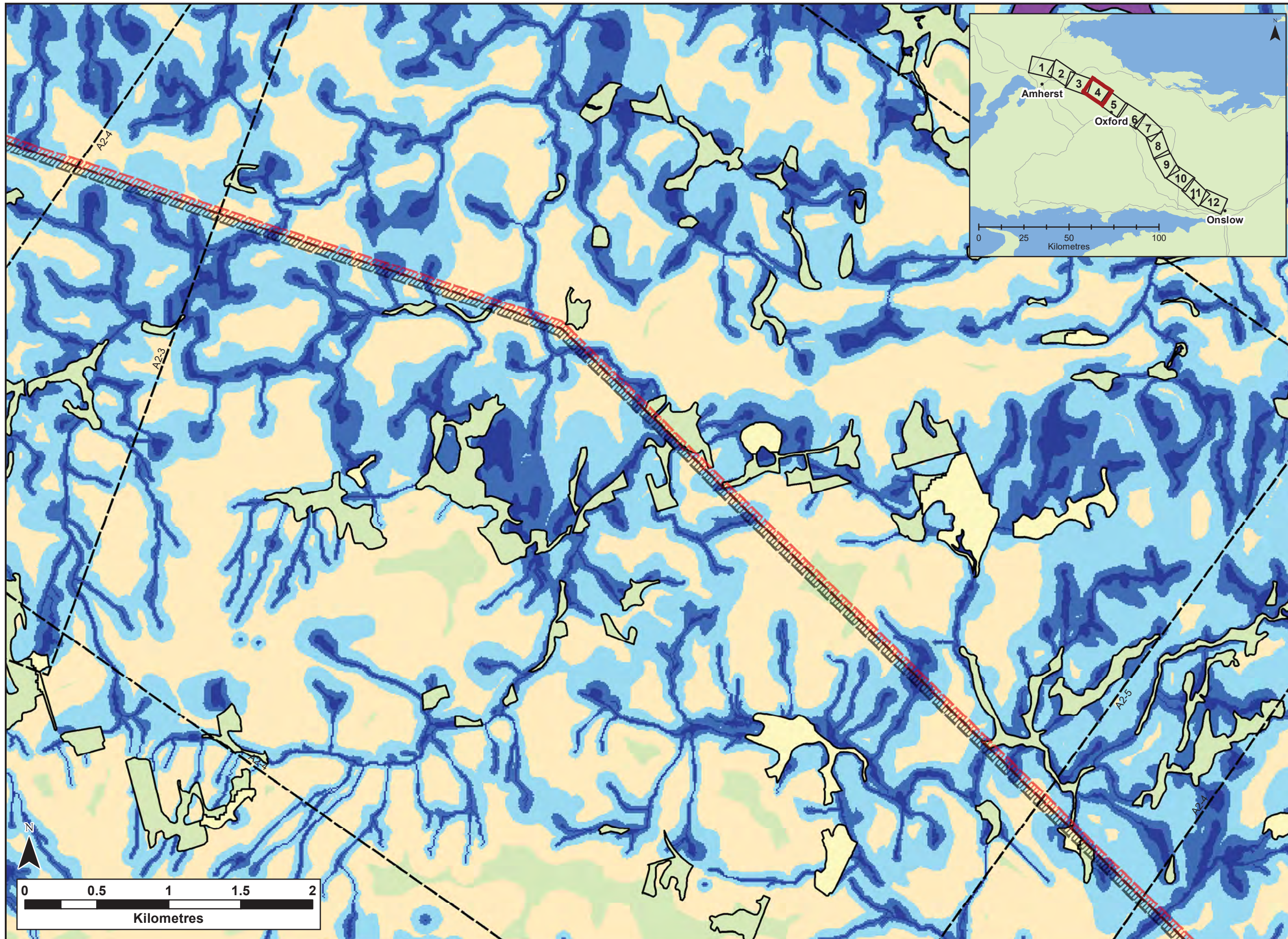
Notes:
 1. Data Sources: GeoNOVA, NSTD, NSTIR.
 2. Projection: NAD83 UTM Zone 20 North.

- Legend:**
- Existing L8001 ROW
 - Proposed L8005 ROW
 - Drawing Sheet
- NSDLF Wetland Inventory**
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 - Swamp
- Wet Area Mapping**
- Depth to Water**
- 0 - 0.10 m
 - 0.11 - 0.50 m
 - 0.51 - 2 m
 - 2.01 - 10 m
 - > 10 m

**L8001 & L8005
Transmission Line
ROW - Wet Area Map**



Date: Dec. 2020	Project #: 20-7464
Scale: 1:25,000	Drawing #: A2-3
Drawn By: M. Savelle	
Checked By: H. Mosher	



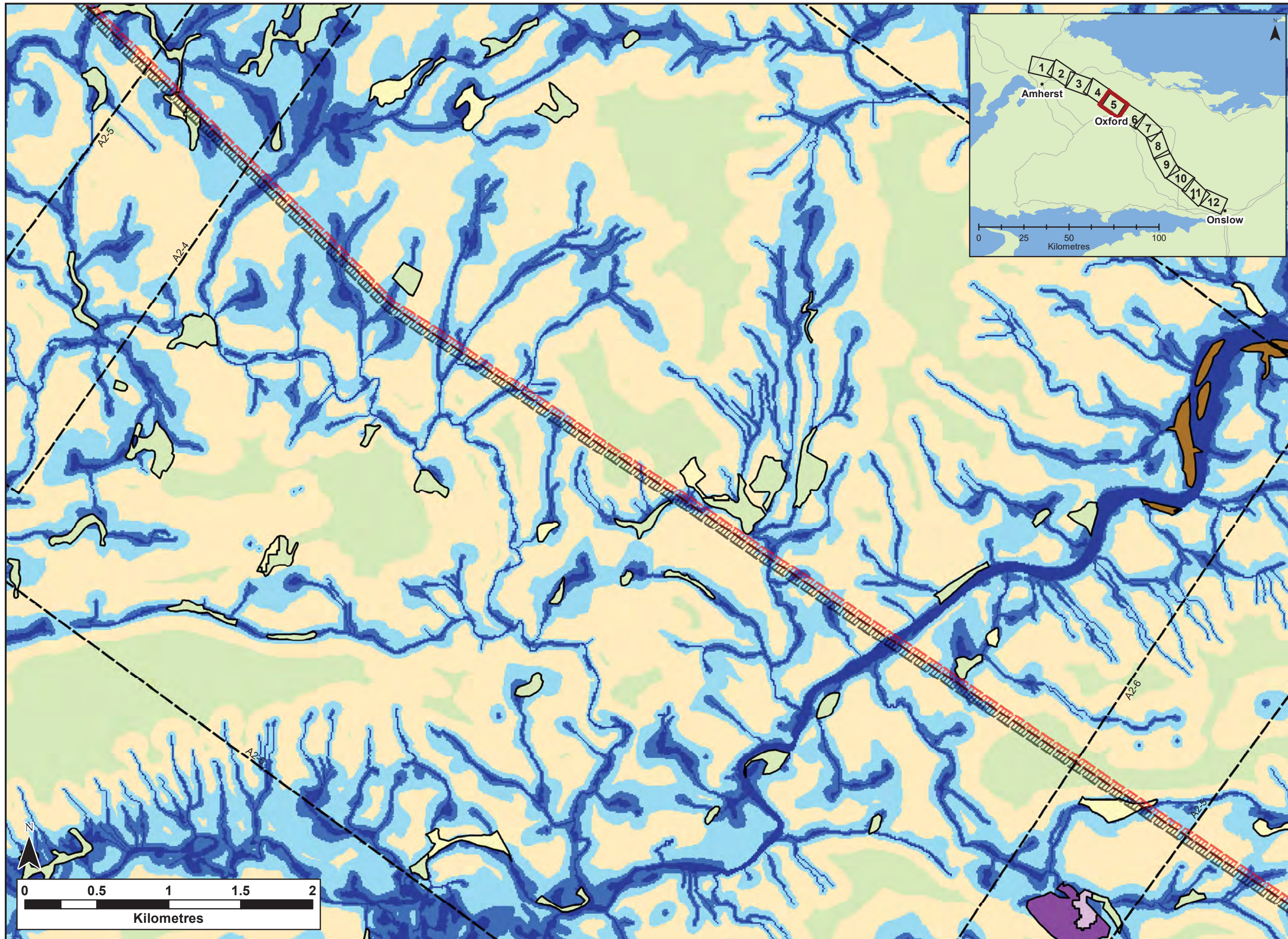
Notes:
 1. Data Sources: GeoNOVA, NSTD, NSTIR.
 2. Projection: NAD83 UTM Zone 20 North.

- Legend:**
- Existing L8001 ROW
 - Proposed L8005 ROW
 - Drawing Sheet
- NSDLF Wetland Inventory**
- Bog
 - Bog or Fen
 - Fen
 - Marsh
 - Salt Marsh
 - Swamp
- Wet Area Mapping**
- Depth to Water**
- 0 - 0.10 m
 - 0.11 - 0.50 m
 - 0.51 - 2 m
 - 2.01 - 10 m
 - > 10 m

**L8001 & L8005
 Transmission Line
 ROW - Wet Area Map**



Date: Dec. 2020	Project #: 20-7464
Scale: 1:25,000	Drawing #: A2-4
Drawn By: M. Savelle	
Checked By: H. Mosher	



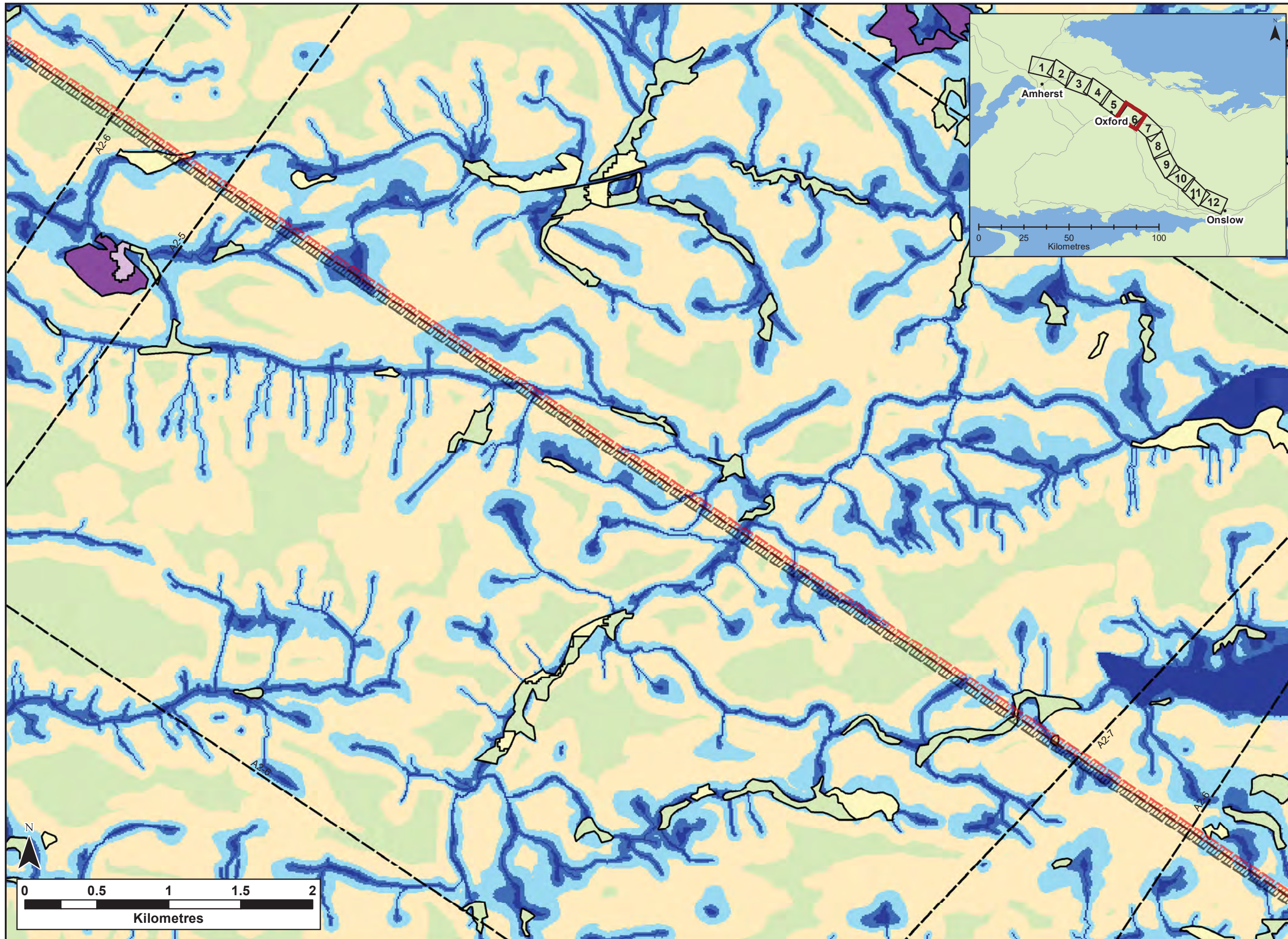
Notes:
 1. Data Sources: GeoNOVA, NSTD, NSTIR.
 2. Projection: NAD83 UTM Zone 20 North.

- Legend:**
- Existing L8001 ROW
 - Proposed L8005 ROW
 - Drawing Sheet
- NSDLF Wetland Inventory**
- Bog
 - Bog or Fen
 - Fen
 - Marsh
 - Salt Marsh
 - Swamp
- Wet Area Mapping**
- Depth to Water**
- 0 - 0.10 m
 - 0.11 - 0.50 m
 - 0.51 - 2 m
 - 2.01 - 10 m
 - > 10 m

**L8001 & L8005
 Transmission Line
 ROW - Wet Area Map**



Date: Dec. 2020	Project #: 20-7464
Scale: 1:25,000	Drawing #: A2-5
Drawn By: M. Savelle	
Checked By: H. Mosher	



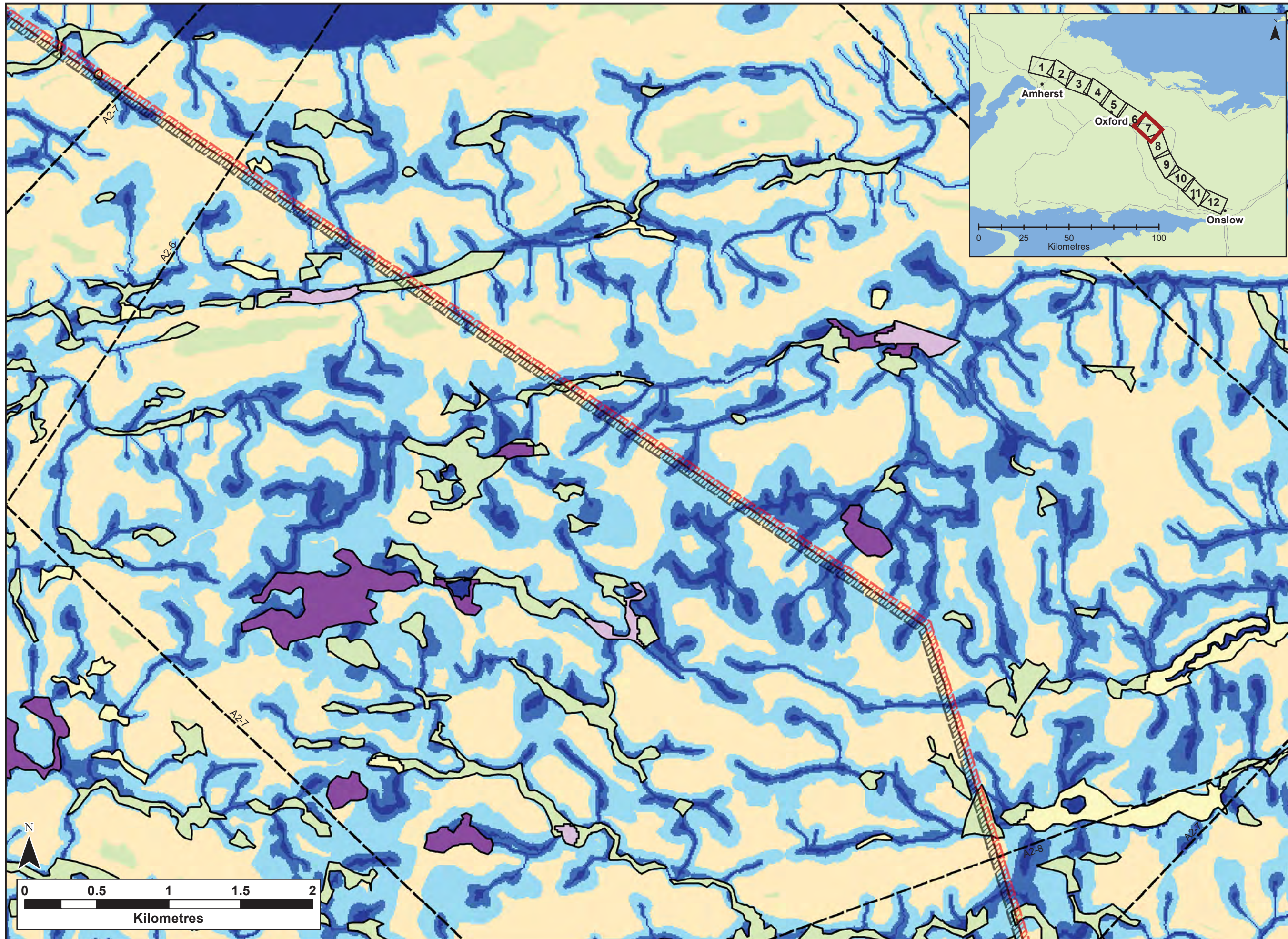
Notes:
 1. Data Sources: GeoNOVA, NSTD, NSTIR.
 2. Projection: NAD83 UTM Zone 20 North.

- Legend:**
- Existing L8001 ROW
 - Proposed L8005 ROW
 - Drawing Sheet
- NSDLF Wetland Inventory**
- Bog
 - Bog or Fen
 - Fen
 - Marsh
 - Salt Marsh
 - Swamp
- Wet Area Mapping**
- Depth to Water**
- 0 - 0.10 m
 - 0.11 - 0.50 m
 - 0.51 - 2 m
 - 2.01 - 10 m
 - > 10 m

**L8001 & L8005
 Transmission Line
 ROW - Wet Area Map**



Date: Dec. 2020	Project #: 20-7464
Scale: 1:25,000	Drawing #: A2-6
Drawn By: M. Savelle	
Checked By: H. Mosher	



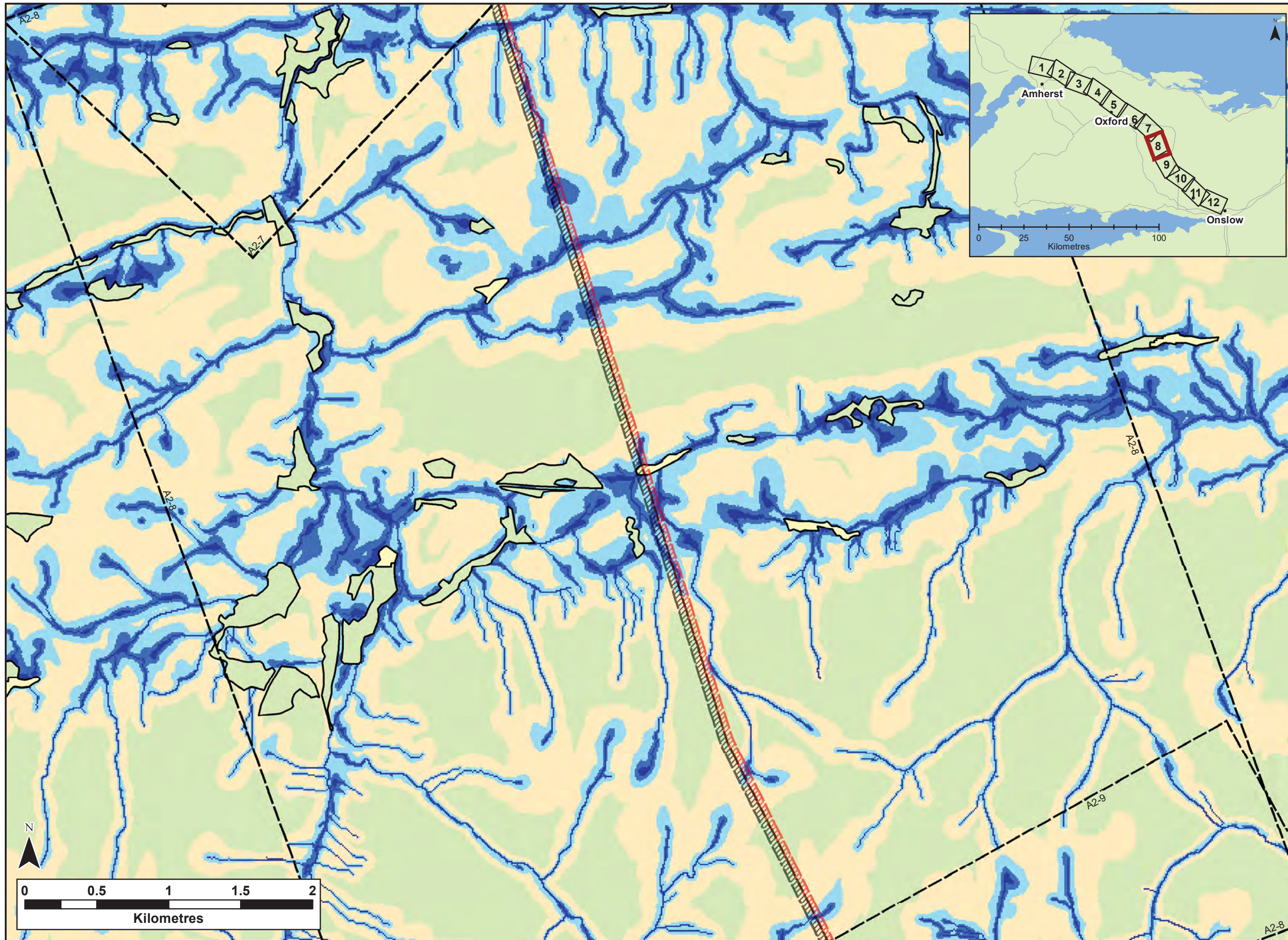
Notes:
 1. Data Sources: GeoNOVA, NSTD, NSTIR.
 2. Projection: NAD83 UTM Zone 20 North.

- Legend:**
- Existing L8001 ROW
 - Proposed L8005 ROW
 - Drawing Sheet
- NSDLF Wetland Inventory**
- Bog
 - Bog or Fen
 - Fen
 - Marsh
 - Salt Marsh
 - Swamp
- Wet Area Mapping**
- Depth to Water**
- 0 - 0.10 m
 - 0.11 - 0.50 m
 - 0.51 - 2 m
 - 2.01 - 10 m
 - > 10 m

**L8001 & L8005
Transmission Line
ROW - Wet Area Map**



Date: Dec. 2020	Project #: 20-7464
Scale: 1:25,000	Drawing #: A2-7
Drawn By: M. Savelle	
Checked By: H. Mosher	



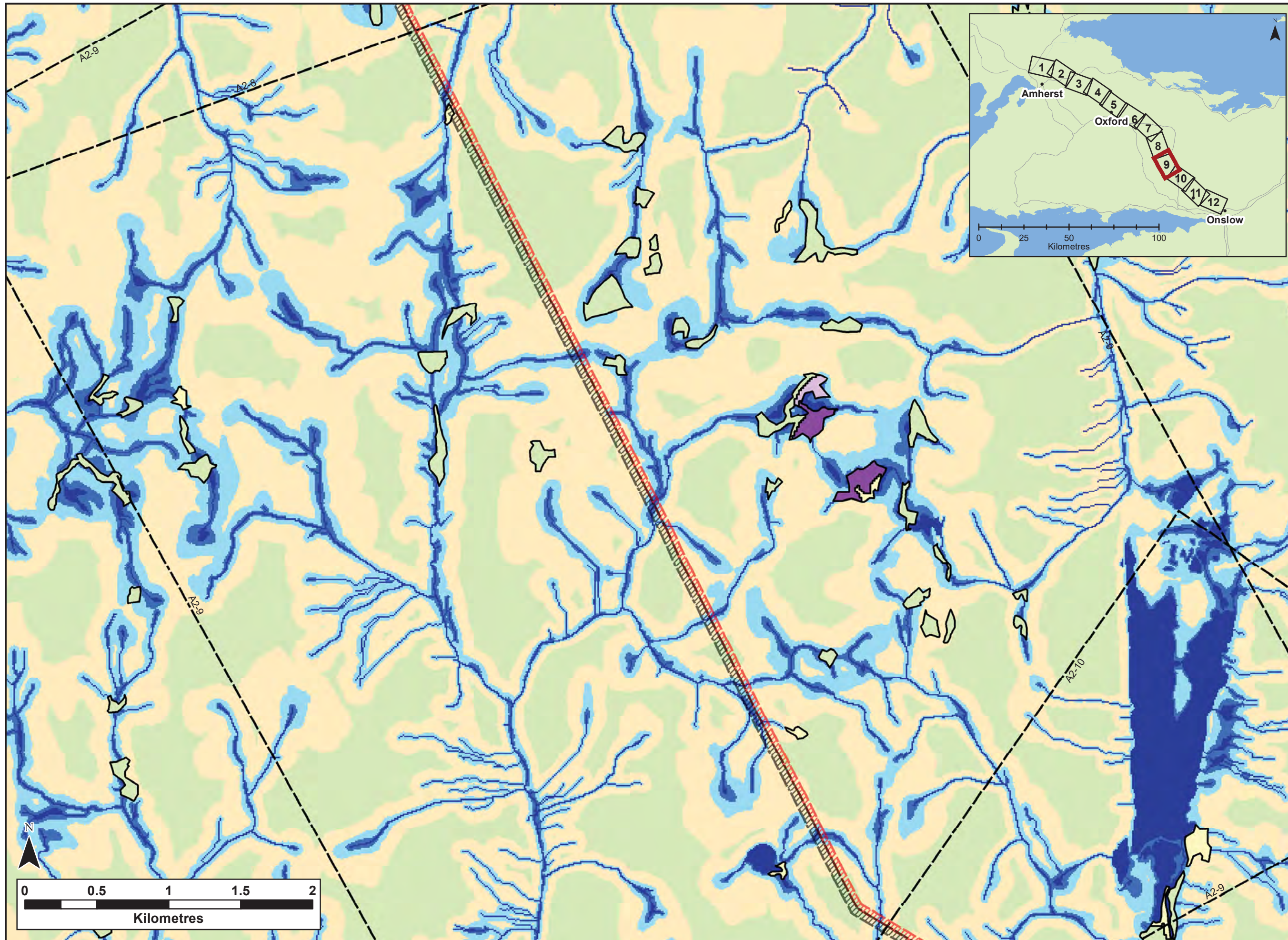
Notes:
 1. Data Sources: GeoNOVA, NSTD, NSTIR.
 2. Projection: NAD83 UTM Zone 20 North.

- Legend:**
- Existing L8001 ROW
 - Proposed L8005 ROW
 - Drawing Sheet
- NSDLF Wetland Inventory**
- Bog
 - Bog or Fen
 - Fen
 - Marsh
 - Salt Marsh
 - Swamp
- Wet Area Mapping**
- Depth to Water**
- 0 - 0.10 m
 - 0.11 - 0.50 m
 - 0.51 - 2 m
 - 2.01 - 10 m
 - > 10 m

**L8001 & L8005
 Transmission Line
 ROW - Wet Area Map**



Date: Dec. 2020	Project #: 20-7464
Scale: 1:25,000	Drawing #: A2-8
Drawn By: M. Savelle	A2-8
Checked By: H. Mosher	



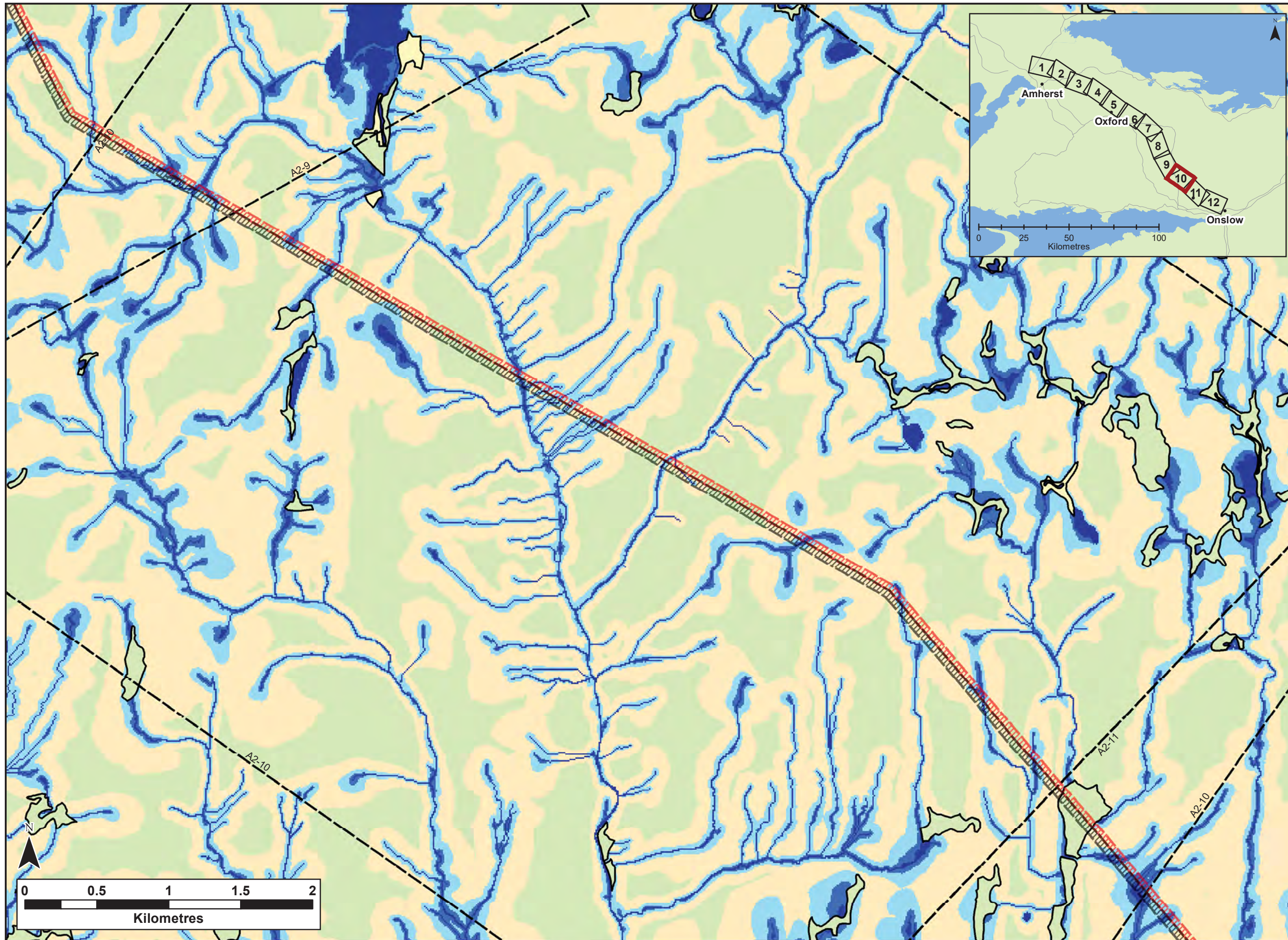
Notes:
 1. Data Sources: GeoNOVA, NSTD, NSTIR.
 2. Projection: NAD83 UTM Zone 20 North.

- Legend:**
- Existing L8001 ROW
 - Proposed L8005 ROW
 - Drawing Sheet
- NSDLF Wetland Inventory**
- Bog
 - Bog or Fen
 - Fen
 - Marsh
 - Salt Marsh
 - Swamp
- Wet Area Mapping**
- Depth to Water**
- 0 - 0.10 m
 - 0.11 - 0.50 m
 - 0.51 - 2 m
 - 2.01 - 10 m
 - > 10 m

**L8001 & L8005
 Transmission Line
 ROW - Wet Area Map**



Date: Dec. 2020	Project #: 20-7464
Scale: 1:25,000	Drawing #: A2-9
Drawn By: M. Savelle	
Checked By: H. Mosher	



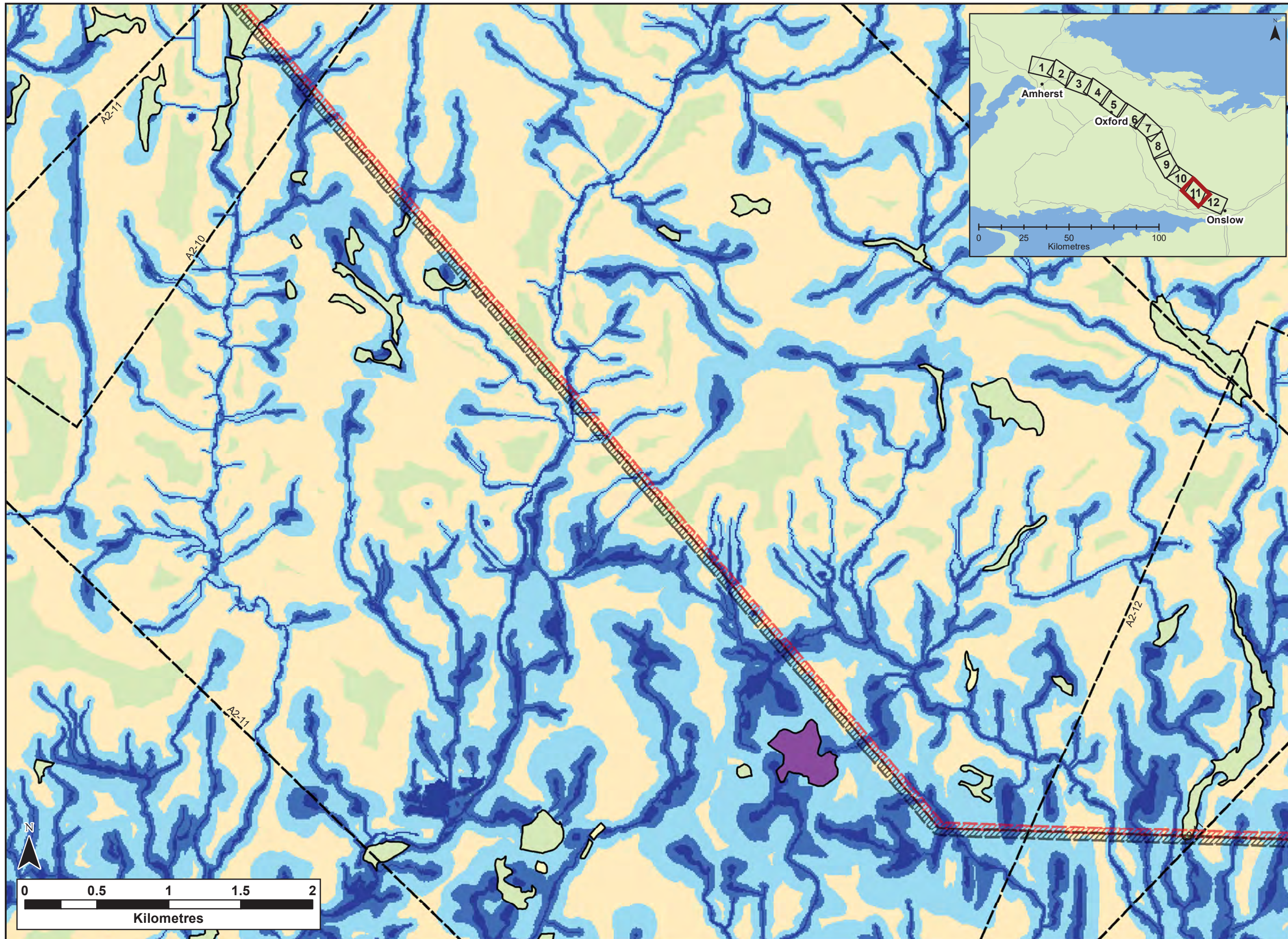
Notes:
 1. Data Sources: GeoNOVA, NSTD, NSTIR.
 2. Projection: NAD83 UTM Zone 20 North.

- Legend:**
- Existing L8001 ROW
 - Proposed L8005 ROW
 - Drawing Sheet
- NSDLF Wetland Inventory**
- Bog
 - Bog or Fen
 - Fen
 - Marsh
 - Salt Marsh
 - Swamp
- Wet Area Mapping**
- Depth to Water**
- 0 - 0.10 m
 - 0.11 - 0.50 m
 - 0.51 - 2 m
 - 2.01 - 10 m
 - > 10 m

**L8001 & L8005
 Transmission Line
 ROW - Wet Area Map**



Date: Dec. 2020	Project #: 20-7464
Scale: 1:25,000	Drawing #: A2-10
Drawn By: M. Savelle	
Checked By: H. Mosher	



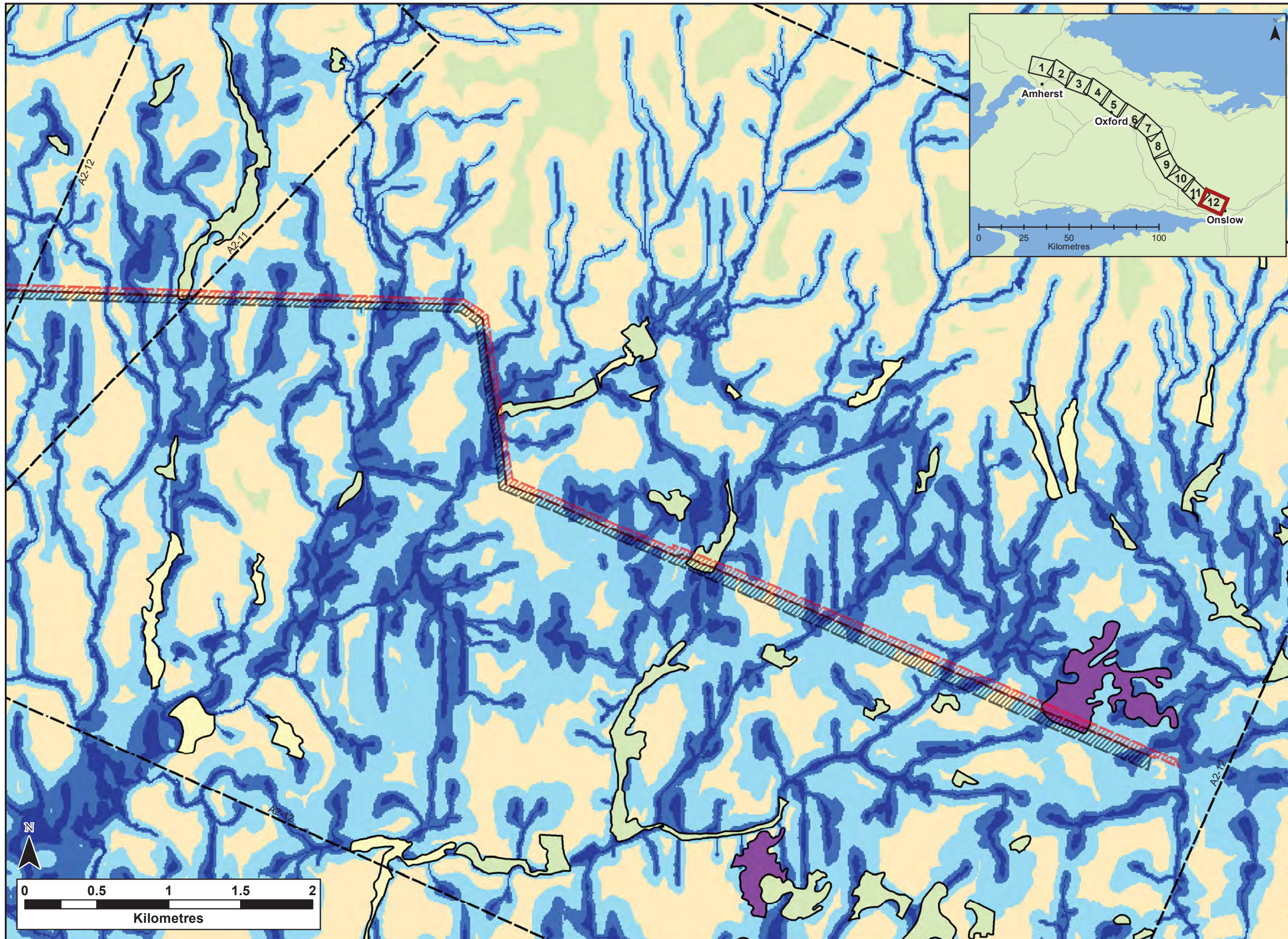
Notes:
 1. Data Sources: GeoNOVA, NSTD, NSTIR.
 2. Projection: NAD83 UTM Zone 20 North.

- Legend:**
- Existing L8001 ROW
 - Proposed L8005 ROW
 - Drawing Sheet
- NSDLF Wetland Inventory**
- Bog
 - Bog or Fen
 - Fen
 - Marsh
 - Salt Marsh
 - Swamp
- Wet Area Mapping**
- Depth to Water**
- 0 - 0.10 m
 - 0.11 - 0.50 m
 - 0.51 - 2 m
 - 2.01 - 10 m
 - > 10 m

**L8001 & L8005
 Transmission Line
 ROW - Wet Area Map**



Date: Dec. 2020	Project #: 20-7464
Scale: 1:25,000	Drawing #: A2-11
Drawn By: M. Savelle	
Checked By: H. Mosher	



Notes:
 1. Data Sources: GeoNOVA, NSTD, NSTIR.
 2. Projection: NAD83 UTM Zone 20 North.

- Legend:**
- Existing L8001 ROW
 - Proposed L8005 ROW
 - Drawing Sheet
- NSDLF Wetland Inventory**
- Bog
 - Bog or Fen
 - Fen
 - Marsh
 - Salt Marsh
 - Swamp
- Wet Area Mapping**
- Depth to Water**
- 0 - 0.10 m
 - 0.11 - 0.50 m
 - 0.51 - 2 m
 - 2.01 - 10 m
 - > 10 m

**L8001 & L8005
 Transmission Line
 ROW - Wet Area Map**



Date: Dec. 2020	Project #: 20-7464
Scale: 1:25,000	Drawing #: A2-12
Drawn By: M. Savelle	
Checked By: H. Mosher	