



## St. Vital Transmission Complex (Y36V) Construction Environmental Protection Mapbook

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Version: Draft

Date: September 22, 2022

NOTICE: Access routes are approximate. Please refer to Access Management Plan for latest approved access routes.



Document Owner:  
Licensing and Environmental Assessment Department  
Transmission Planning and Design Division  
Transmission Business Unit  
Manitoba Hydro

Version Draft  
List of Revisions - Y36V Construction Environmental Protection Plan Mapbook

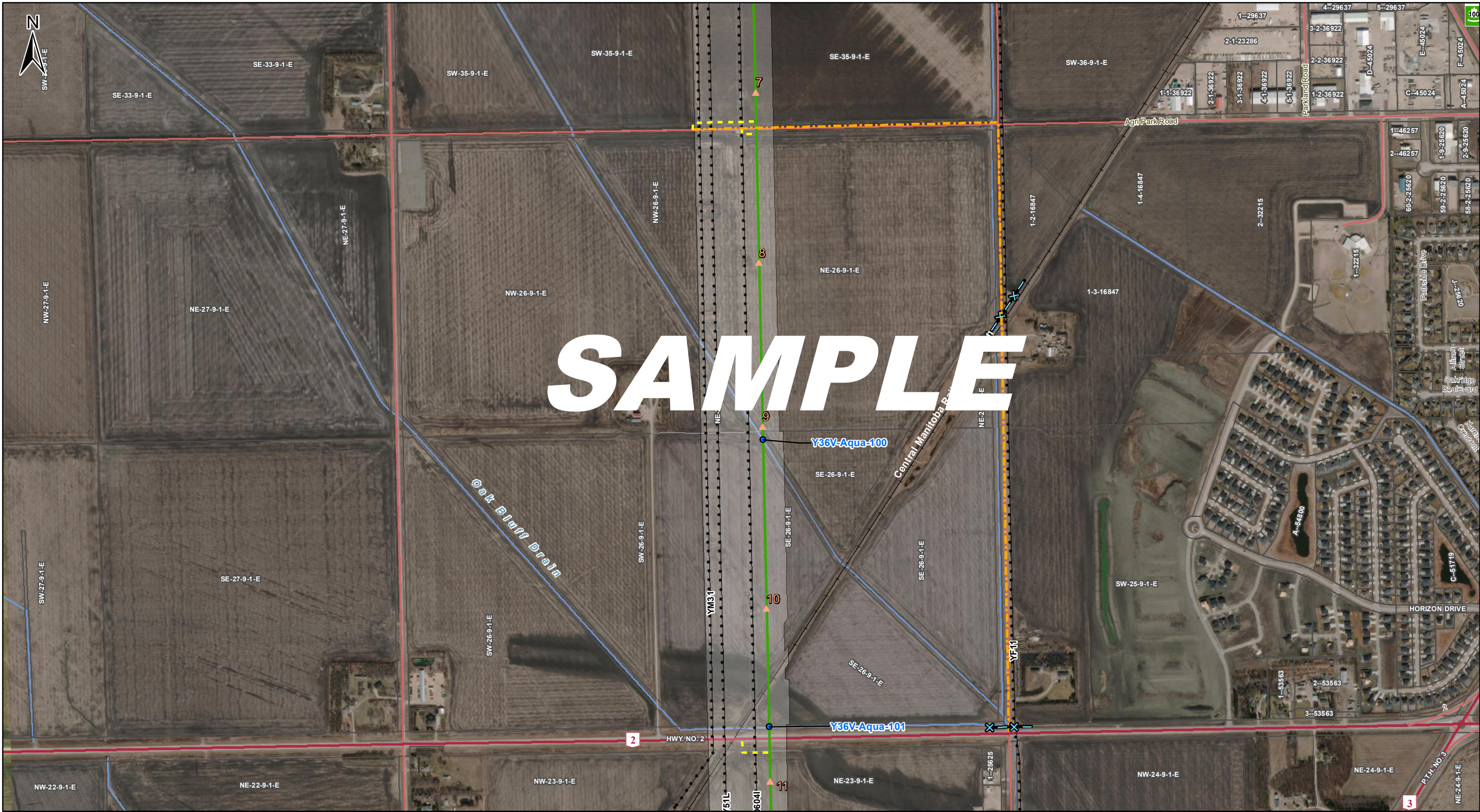
Number	Nature of Revision	Map/Table #	Revised By	Date
Draft	Added ESS points, lines and polygons	Maps 1-9	Manitoba Hydro	20220506
Draft	Added Y36V-Wild-102A as an ESS point. Updated mitigation for bird diverters.	Map 6	Manitoba Hydro	20220621
Draft	Updated access routes	Map 1 and 3	Manitoba Hydro	20220705
Draft	Added Y36V-Aqua-102A and Y36V-Aqua-103A	Map 6	Manitoba Hydro	20220707
Draft	Updated towers and FPR. Updated Y36V-Wild-102 and Y36V-Wild-103 (bird diverters) to new FPR alignment (Map 6-7)	Map 6 and 7	Manitoba Hydro	20220912
Draft	Updated access routes	Map 1 and 6	Manitoba Hydro	20220922





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Coordinate System: UTM Zone 14N NAD83  
Data Source: MB Hydro, ProvMB, NRCAN  
Date Created: March 01, 2022  
Version: Draft

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| <b>Land Base</b> <ul style="list-style-type: none"><li>Transmission Line</li><li>Highway</li><li>Major Road</li><li>Local Road</li><li>Railway (Operational)</li><li>Railway (Discontinued)</li><li>First Nation</li><li>Provincial Forest</li><li>Parcel Fabric</li><li>Rural Municipality</li></ul> | <b>Project Infrastructure</b> <ul style="list-style-type: none"><li>Tower Location</li><li>Angle Tower Location</li><li>Final Preferred Route</li><li>Right of Way</li><li>Electrical Station/Expansion</li></ul> <b>Biosecurity Feature</b> <ul style="list-style-type: none"><li>Control Access Point</li><li>Transition Zone</li></ul> | <b>Points of Access</b> <ul style="list-style-type: none"><li>Existing Gravel Road</li><li>Existing Gravel/Dirt Road</li><li>Field Access</li><li>New Trail</li><li>Restricted Access</li><li>Restricted - Livestock Operation</li><li>Underground Infrastructure</li></ul> <p>* Underground infrastructure locations are approximate and incomplete. Contractors are responsible for any damage to underground infrastructure</p> | <b>ESS Features</b> <ul style="list-style-type: none"><li><b>Water</b><ul style="list-style-type: none"><li>Water Crossing</li></ul></li></ul> <p>Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community</p> |
|---|---|--|--|

## St. Vital Transmission Complex Construction Environmental Protection Plan Environmentally Sensitive Site Locations



SAMPLE MITIGATION TABLE (See KEY below for additional Information)

ESS Group: Wetlands<sup>1</sup>

<sup>2</sup>  
*\*Features represented as polygons*

ESS ID	ESS Name	Site	Start	Stop	Distance (m)
Aqua-301	Wetland	21 to 22	E-671537 N-5525458	E-671580 N-5525456	43

Potential Effects:<sup>4</sup>  
*Increased erosion and sedimentation; rutting of floodplains; loss of riparian vegetation; potential impact to reptile and amphibian habitat*

Specific Mitigation (ID #205):<sup>5</sup>

- Carry out construction activities on frozen or dry ground to minimize surface damage, rutting and erosion. Construction matting will be used to protect the area from rutting and exposure to mineral soil during
- Identify and flag a 30 m vegetated (shrub and herbaceous) buffer around site
- Remove trees by low-disturbance methods
- The application of herbicides is prohibited
- Maintain shrub and herbaceous vegetation to the extent possible

KEY to Sample Mitigation Table

- 1

ESS Group classification of Environmentally Sensitive Sites (ESS) which are shown on the map
- 2

Notation indicates the geometry type of the ESS feature
- 3

ESS location summary; includes the following fields:
  - ESS ID - Site specific ID assigned to each ESS according to naming convention (**See ESS naming convention table**)
  - ESS Name - Brief name/description of ESS
  - Site - identification numbers for the start and stop site points of ESS intersection with the ROW (lines and polygons only)
  - Easting/Northing - UTM Zone 14 coordinates of ESS location (for points only)
  - Start/Stop - UTM Zone 14 coordinates of the start/stop identification numbers listed in the “Location” field (lines and polygons only)
  - Distance – length of ESS feature in meters
- 4

Potential effects identified for ESS listed in the ESS Location Summary table
- 5

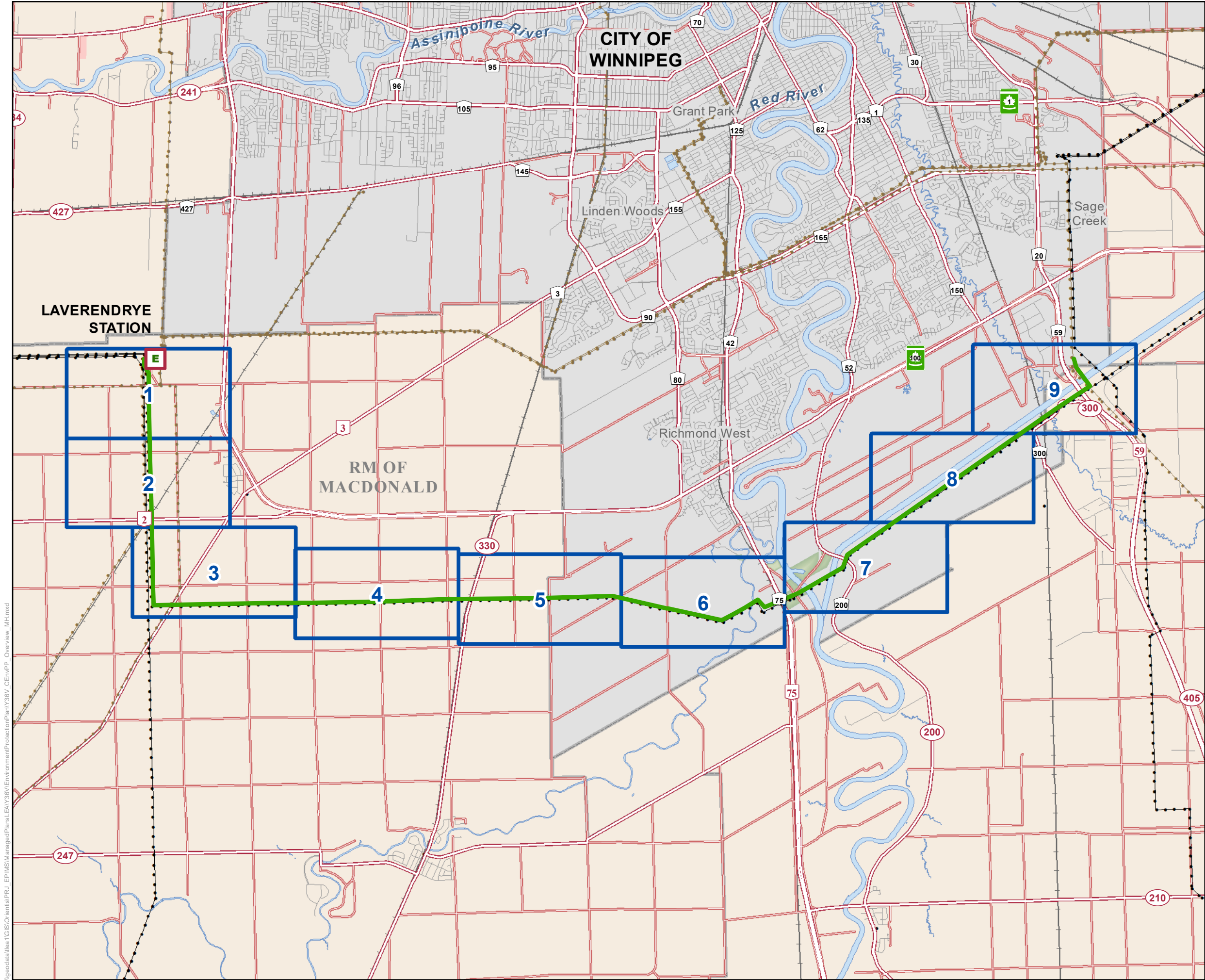
Mitigation measures identified for a specific site. The ID number indicates a specific combination of mitigation measures
- 6

Map on which ESS listed in the ESS Location Summary tables are illustrated

ESS NAMING CONVENTION

CATEGORY	GROUP (Number Series Representing Group)	ESS ID (Category-Group Number)
Access	Intersection (100)	RecUse-100
Ecosystem	Habitat (100)	Eco-100
	Research (200)	Eco-200
	Species of Concern (300)	Eco-300
	Invasive Species (400)	Eco-400
	Traditional Use (500)	Eco-500
Heritage	Archaeological (100)	Hert-100
	Cultural (200)	Hert-200
	Historic (300)	Hert-300
Land Use	Conservation (100)	LUse-100
	Crown Land Encumbrance (200)	LUse-200
	Recreation (300)	LUse-300
	Residential (400)	LUse-400
Resource Use	Agriculture (100)	RUse-100
	Food/Medicinal (200)	RUse-200
	Forestry (300)	RUse-300
	Hunting/Fishing (400)	RUse-400
	Trapping (500)	RUse-500
Soils and Terrain	Permafrost (100-200)	Soils-100
	Erosion (300)	Soils-300
	Terrain (400)	Soils-400
Water	Water Crossing (100)	Aqua-100
	Groundwater (200)	Aqua-200
	Wetlands (300)	Aqua-300
	Aquatic Invasive Species (400)	Aqua-400
Wildlife	Birds and Habitat (100)	Wild-100
	Mammal and Habitat (200)	Wild-200
	Reptiles/Amphibians and Habitat (300)	Wild-300
	Line of Sight Buffer (400)	Wild-400

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## St. Vital Transmission Complex

### Project Infrastructure

Y36V Final Preferred Route

### Infrastructure

- Electrical Station
- Existing  $\geq 230\text{kV}$  Transmission Line
- Existing  $\geq 69\text{kV}$  Transmission Line

### Map Tile Index - 1:10,000

Map Series Tile

### Landbase

- Community
- Highway
- Major Road
- Local Road
- City
- First Nation Lands
- Provincial Park
- Rural Municipality

Coordinate System: UTM Zone 14N NAD83  
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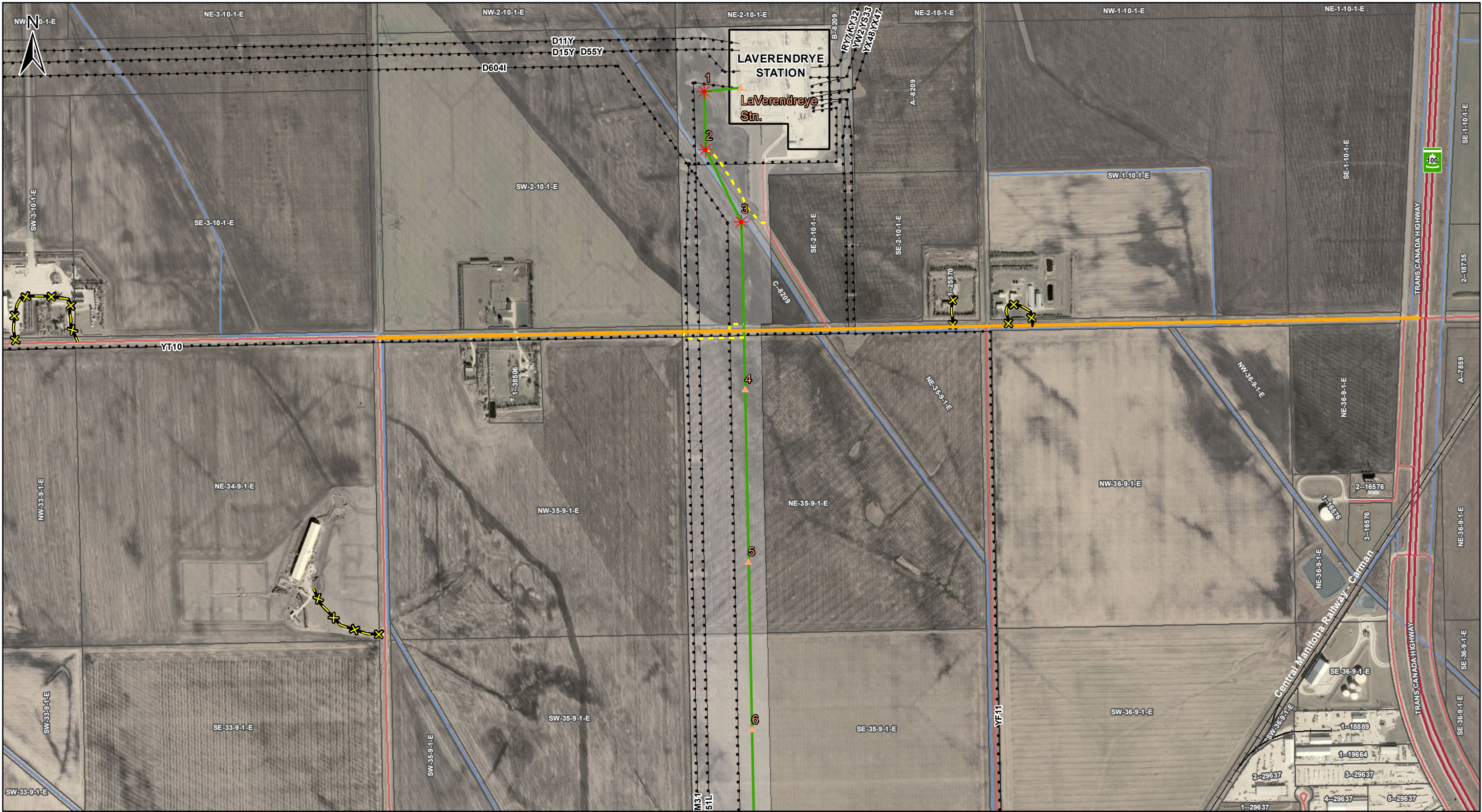
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## Index of Map Series Environmental Protection Plan

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Version: Draft

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| <b>Land Base</b> <ul style="list-style-type: none"><li>Transmission Line</li><li>Highway</li><li>Major Road</li><li>Local Road</li><li>Railway (Operational)</li><li>Railway (Discontinued)</li><li>First Nation</li><li>Provincial Forest</li><li>Parcel Fabric</li><li>Rural Municipality</li></ul> | <b>Project Infrastructure</b> <ul style="list-style-type: none"><li>Tower Location</li><li>Angle Tower Location</li><li>Final Preferred Route</li><li>Right of Way</li><li>Electrical Station/Expansion</li></ul> <p><small>* Underground infrastructure locations are approximate and incomplete. Contractors are responsible for any damages caused to underground infrastructure. Other unmarked objects and hazards may exist. Exercise caution when using mapbooks.</small></p> | <b>Points of Access</b> <ul style="list-style-type: none"><li>Existing Gravel Road</li><li>Existing Gravel/Dirt Road</li><li>Field Access</li><li>New Trail</li><li>Seasonal Restriction</li><li>Seasonal Restriction - Special Condition</li><li>Load Restriction</li><li>Restricted Access</li><li>Restricted - Livestock Operation</li><li>Underground Infrastructure</li></ul> |
|---|--|--|

**ESS Features**

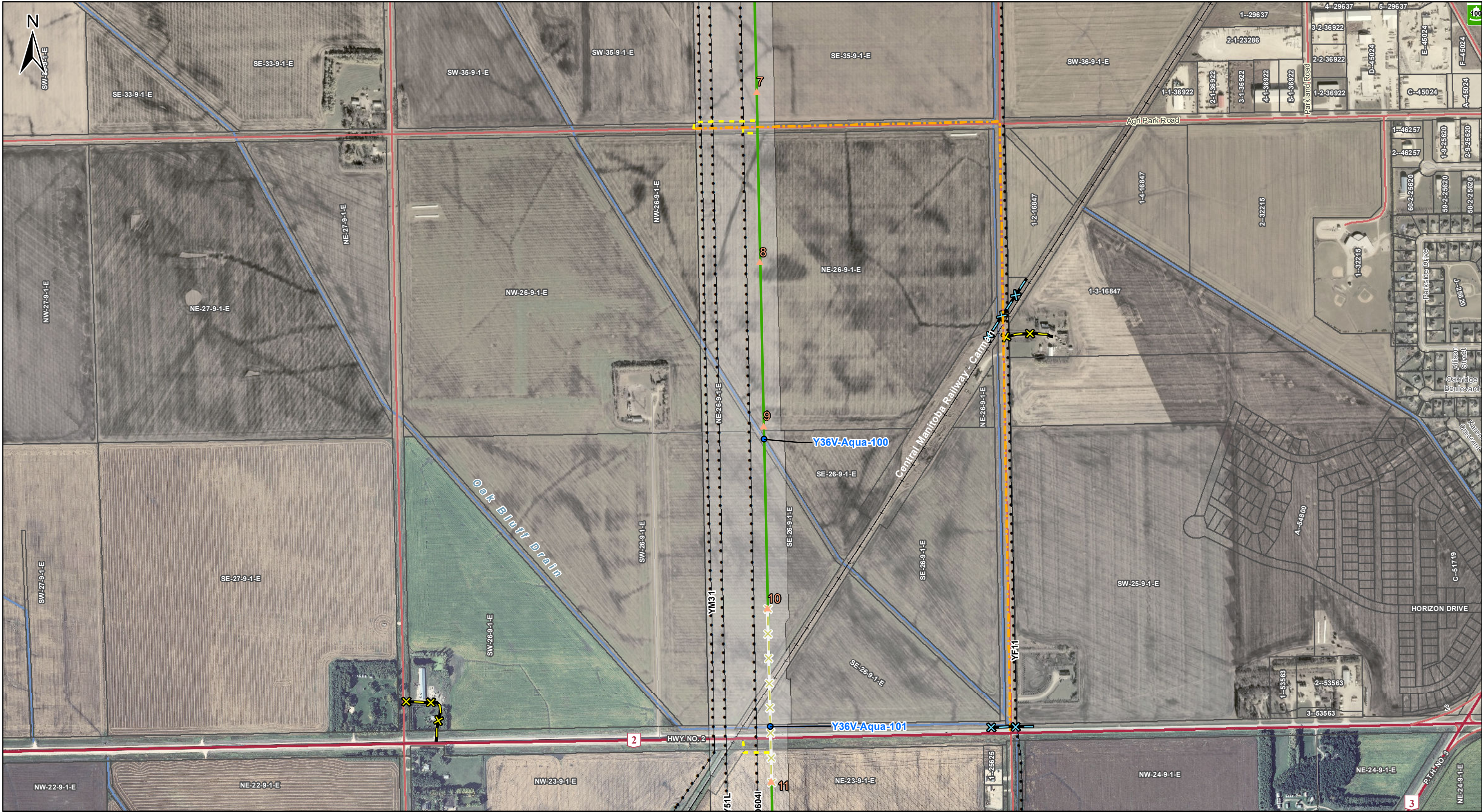
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

## St. Vital Transmission Complex Construction Environmental Protection Plan Environmentally Sensitive Site Locations



No specific mitigation measures for this map, page intentionally left blank





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**Land Base**

- Transmission Line
- Highway
- Major Road
- Local Road
- Railway (Operational)
- Railway (Discontinued)
- First Nation
- Provincial Forest
- Parcel Fabric
- Rural Municipality

**Project Infrastructure**

- Tower Location
- Angle Tower Location
- Final Preferred Route
- Right of Way
- Electrical Station/Expansion

\* Underground infrastructure locations are approximate and incomplete. Contractors are responsible for any damages caused to underground infrastructure. Other unmarked objects and hazards may exist. Exercise caution when using mapbooks.

**Points of Access**

- Existing Gravel Road
- Existing Gravel/Dirt Road
- Field Access
- New Trail
- Seasonal Restriction
- Seasonal Restriction - Special Condition
- Load Restriction
- Restricted Access
- Restricted - Livestock Operation
- Underground Infrastructure

**ESS Features**

**Water**

- Water Crossing

Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

## St. Vital Transmission Complex Construction Environmental Protection Plan Environmentally Sensitive Site Locations



ESS Group: Water Crossing

\*Features represented as points

ESS ID	ESS Name	Location
Y36V-Aqua-101	Oak Bluff Drain Crossing	E-618505 - N-5514205

Potential Effects:

Habitat loss and contamination from structure foundations & installations; increased erosion & sedimentation of streams; Damage to stream banks; Loss of riparian vegetation; Fish habitat disturbances and impeded fish movement; Rutting of floodplain

Specific Mitigation (ID# 715):

- Construction matting will be used along access trail to protect the area from rutting and exposure of soil during saturated soil conditions
- If wet conditions exist, one time fording or the use construction matting for low water levels or temporary bridge for higher water levels must be authorized by MH Environmental Officer/Inspector
- Use existing trails, roads or cut lines whenever possible as access routes
- A minimum 7m no machine zone will restrict equipment in close proximity to the waterbody except at the trail crossing
- Limit machinery fording of the watercourse to a one-time event (over and back) only if no alternative crossing method is available (i.e. matting or temporary bridge)
- If repeated fording of the watercourse is necessary, prior approval from the MH Environmental Officer/Inspector is required
- Locate crossings perpendicular to the bank, whenever possible
- Immediately stabilize shoreline or banks disturbed by any activity associated with the project to prevent erosion and/or sedimentation, preferably through re-vegetation with native species suitable for the site
- Equipment will fuel up prior to moving into these areas so the need to refuel will be minimized
- Mobile equipment (skid steers, zoom booms, vehicles) will be moved 100m away when fueling
- Two people will be utilized during refueling - one operator at the switch and another operator at the pump
- The person fueling will attend the nozzle at all times during the fueling operation and not lock out the nozzle
- Personnel involved in fueling will be versed in the requirements of the Spill Response Plan
- Once fueling is complete the fuel truck will leave the area immediately
- All equipment will be inspected for leaks, frayed hoses and loose fittings before operating
- The spill response equipment present onsite during work activities shall be capable of containing and managing a spill from the largest container or equipment and be suitable for the site location. For example, spill containment booms for work adjacent to a water body. Crews will be made aware of location of response equipment and spill procedures
- - Crew foremen will be briefed on the mitigations and signoff on the plan indicating their understanding
- - Spill trays will be used at all times

ESS Group: Water Crossing

\*Features represented as points

ESS ID	ESS Name	Location
Y36V-Aqua-100	Unnamed Drain Crossing	E-618488 - N-5514984

Potential Effects:

Habitat loss and contamination from structure foundations & installations; increased erosion & sedimentation of streams; Damage to stream banks; Loss of riparian vegetation; Fish habitat disturbances and impeded fish movement; Rutting of floodplain

Specific Mitigation (ID# 724):

- Construction matting will be used along access trail to protect the area from rutting and exposure of soil during saturated soil conditions
- If wet conditions exist, one time fording or the use construction matting for low water levels or temporary bridge for higher water levels must be authorized by MH Environmental Officer/Inspector
- Use existing trails, roads or cut lines whenever possible as access routes
- A minimum 7m no machine zone will restrict equipment in close proximity to the waterbody except at the trail crossing
- Limit machinery fording of the watercourse to a one-time event (over and back) only if no alternative crossing method is available (i.e. matting or temporary bridge)
- If repeated fording of the watercourse is necessary, prior approval from the MH Environmental Officer/Inspector is required
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- - Crew foremen will be briefed on the mitigations and signoff on the plan indicating their understanding
- - Spill trays will be used at all times
- Spill trays will be used at all times







ESS Group: Birds and Habitat

\*Features represented as lines

ESS ID	ESS Name	Site	Start	Stop	Distance (m)
Y36V-Wild-100	Atchison Drain Crossing	L1 to L2	E-621459 N-5512124	E-624215 N-5512169	2756

Potential Effects:

Higher risk of wire collision, Risk of wire collision is localized to the right-of-way

Specific Mitigation (ID# 827):

- Bird diverters will be installed in a manner to maximize visibility along the skywires
- Install bird diverter with spacing as per Transmission Line Design specifications for these spans

ESS Group: Intersection

\*Features represented as lines

ESS ID	ESS Name	Site	Location
Y36V-RecUse-100	Snowmobile Trail	C1	E-620840 N-5512117

Potential Effects:

Potential interference with pedestrian traffic; safety issues

Specific Mitigation (ID# 113):

- Avoid surface damage to and obstruction of recreation route
- Post warning markers and signs at trail location
- Refer to clearing management plan for further instruction

ESS Group: Water Crossing

\*Features represented as points

ESS ID	ESS Name	Location
Y36V-Aqua-102	Oak Bluff Drain Crossing	E-620675 - N-5512114

Potential Effects:

Habitat loss and contamination from structure foundations & installations; increased erosion & sedimentation of streams; Damage to stream banks; Loss of riparian vegetation; Fish habitat disturbances and impeded fish movement; Rutting of floodplain

Specific Mitigation (ID# 715):

- Construction matting will be used along access trail to protect the area from rutting and exposure of soil during saturated soil conditions
- If wet conditions exist, one time fording or the use construction matting for low water levels or temporary bridge for higher water levels must be authorized by MH Environmental Officer/Inspector
- Use existing trails, roads or cut lines whenever possible as access routes
- A minimum 7m no machine zone will restrict equipment in close proximity to the waterbody except at the trail crossing
- Limit machinery fording of the watercourse to a one-time event (over and back) only if no alternative crossing method is available (i.e. matting or temporary bridge)
- If repeated fording of the watercourse is necessary, prior approval from the MH Environmental Officer/Inspector is required
- Locate crossings perpendicular to the bank, whenever possible
- Immediately stabilize shoreline or banks disturbed by any activity associated with the project to prevent erosion and/or sedimentation, preferably through re-vegetation with native species suitable for the site
- Equipment will fuel up prior to moving into these areas so the need to refuel will be minimized
- Mobile equipment (skid steers, zoom booms, vehicles) will be moved 100m away when fueling
- Two people will be utilized during refueling - one operator at the switch and another operator at the pump
- The person fueling will attend the nozzle at all times during the fueling operation and not lock out the nozzle
- Personnel involved in fueling will be versed in the requirements of the Spill Response Plan
- Once fueling is complete the fuel truck will leave the area immediately
- All equipment will be inspected for leaks, frayed hoses and loose fittings before operating
- The spill response equipment present onsite during work activities shall be capable of containing and managing a spill from the largest container or equipment and be suitable for the site location. For example, spill containment booms for work adjacent to a water body. Crews will be made aware of location of response equipment and spill procedures
- Crew foremen will be briefed on the mitigations and signoff on the plan indicating their understanding
- Spill trays will be used at all times





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| <b>Land Base</b> <ul style="list-style-type: none"><li>Transmission Line</li><li>Highway</li><li>Major Road</li><li>Local Road</li><li>Railway (Operational)</li><li>Railway (Discontinued)</li><li>First Nation</li><li>Provincial Forest</li><li>Parcel Fabric</li><li>Rural Municipality</li></ul> | <b>Project Infrastructure</b> <ul style="list-style-type: none"><li>Tower Location</li><li>Angle Tower Location</li><li>Final Preferred Route</li><li>Right of Way</li><li>Electrical Station/Expansion</li></ul> <p><small>* Underground infrastructure locations are approximate and incomplete. Contractors are responsible for any damages caused to underground infrastructure. Other unmarked objects and hazards may exist. Exercise caution when using mapbooks.</small></p> | <b>Points of Access</b> <ul style="list-style-type: none"><li>Existing Gravel Road</li><li>Existing Gravel/Dirt Road</li><li>Field Access</li><li>New Trail</li><li>Seasonal Restriction</li><li>Seasonal Restriction - Special Condition</li><li>Load Restriction</li><li>Restricted Access</li><li>Restricted - Livestock Operation</li><li>Underground Infrastructure</li></ul> |
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- ESS Features**
- Wildlife**
- Birds and Habitat
- Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

# St. Vital Transmission Complex Construction Environmental Protection Plan Environmentally Sensitive Site Locations



ESS Group: Birds and Habitat

*\*Features represented as lines*

ESS ID	ESS Name	Site	Start	Stop	Distance (m)
Y36V-Wild-100	Atchison Drain Crossing	L1 to L2	E-621459 N-5512124	E-624215 N-5512169	2756

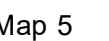
Potential Effects:

*Higher risk of wire collision, Risk of wire collision is localized to the right-of-way*

Specific Mitigation (ID# 827):

- Bird diverters will be installed in a manner to maximize visibility along the skywires
- Install bird diverter with spacing as per Transmission Line Design specifications for these spans







ESS Group: Birds and Habitat

*\*Features represented as lines*

ESS ID	ESS Name	Site	Start	Stop	Distance (m)
Y36V-Wild-101	Brady Landfill migratory route	L3 to L4	E-626543 N-5512229	E-631361 N-5511953	4856

Potential Effects:

*Higher risk of wire collision, Risk of wire collision is localized to the right-of-way*

Specific Mitigation (ID# 827):

- Bird diverters will be installed in a manner to maximize visibility along the skywires
- Install bird diverter with spacing as per Transmission Line Design specifications for these spans





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- Land Base**
- Transmission Line
  - Highway
  - Major Road
  - Local Road
  - Railway (Operational)
  - Railway (Discontinued)
  - First Nation
  - Provincial Forest
  - Parcel Fabric
  - Rural Municipality

- Project Infrastructure**
- Tower Location
  - Angle Tower Location
  - Final Preferred Route
  - Right of Way
  - Electrical Station/Expansion
- \* Underground infrastructure locations are approximate and incomplete. Contractors are responsible for any damages caused to underground infrastructure. Other unmarked objects and hazards may exist. Exercise caution when using mapbooks.

- Points of Access**
- Existing Gravel Road
  - Existing Gravel/Dirt Road
  - Field Access
  - New Trail
  - Seasonal Restriction
  - Seasonal Restriction - Special Condition
  - Load Restriction
  - Restricted Access
  - Restricted - Livestock Operation
  - Underground Infrastructure

- ESS Features**
- Water**
- Water Crossing
- Wildlife**
- Birds and Habitat
- Wildlife**
- Birds and Habitat
- Heritage**
- Archaeological
- Land Use**
- Recreation
- Water**
- Water Crossing

Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

## St. Vital Transmission Complex Construction Environmental Protection Plan Environmentally Sensitive Site Locations



ESS Group: Archaeological

\*Features represented as polygons

ESS ID	ESS Name	Site	Start	Stop	Distance (m)
Y36V-Hert-100	Potential Archaeological Site La Salle River	3 to 4	E-633055 N-5512011	E-633255 N-5512126	231
Y36V-Hert-101	Potential Archaeological Site La Salle River	7 to 8	E-633255 N-5512126	E-633505 N-5512075	326

Potential Effects:

Higher potential for discovery of cultural and heritage resources in this area

Specific Mitigation (ID# 301):

- Carry out construction activities using methods that minimize surface damage, rutting and erosion. Construction matting may be required to protect the area from rutting and exposure to soil
- In the event of a discovery, stop work in the area and contact the Project Archaeologist immediately. Refer to Cultural and Heritage Resources Protection Plan for further guidance
- The contractor must provide written notification to Manitoba Hydro Environmental Officer one week prior to any excavation (tower foundation installation, geotechnical investigations, etc) within the ESS, so that arrangements can be made for a project archeologist to be onsite.
- **The project archaeologist is required to be onsite during excavation**, to inspect all excavated material and be provided with satisfactory time and cooperation from the contractor to complete this requirement.
- All contractors must anticipate this work and plan activities and schedules accordingly

ESS Group: Birds and Habitat

\*Features represented as points

ESS ID	ESS Name	Location
Y36V-Wild-102A	Protected stick or cavity nest in tree	E-633195 - N-5512123

Potential Effects:

Habitat loss if nest removed or disturbed

Specific Mitigation (ID# 624):

- Identify and flag tree establish a buffer of 10m prior to start of work
- Minimize surface disturbance around the site to the extent possible
- Remove trees that aren't identified using a selective clearing method within buffer and fell them away from the identified tree
- Should minor trimming of the identified tree be required to facilitate construction, any activities must be approved by a Manitoba Hydro Environmental Office
- Permit required for tree removal

ESS Group: Birds and Habitat

\*Features represented as lines

ESS ID	ESS Name	Site	Start	Stop	Distance (m)
Y36V-Wild-103	Red River Crossing and Floodway	L7 to L8	E-633998 N-5512201	E-641204 N-5517906	9822
Y36V-Wild-102	La Salle River Crossing	L5 to L6	E-632506 N-5511697	E-633552 N-5512023	1260
Y36V-Wild-101	Brady Landfill migratory route	L3 to L4	E-626543 N-5512229	E-631361 N-5511953	4856

Potential Effects:

Higher risk of wire collision, Risk of wire collision is localized to the right-of-way

Specific Mitigation (ID# 827):

- Bird diverters will be installed in a manner to maximize visibility along the skywires
- Install bird diverter with spacing as per Transmission Line Design specifications for these spans

ESS Group: Recreation

\*Features represented as polygons

ESS ID	ESS Name	Site	Start	Stop	Distance (m)
Y36V-LUse-300	Southwood Golf and Country Club	1 to 2	E-632867 N-5511904	E-633225 N-5512109	427

Potential Effects:

Potential disruption to recreational use activities

Specific Mitigation (ID# 408):

- Carry out construction activities following any applicable noise bylaws
- MH to notify golf course manager of major noise-generating activities
- Where the golf course borders the ROW limit all equipment to the project footprint only, where possible
- Where the golf course borders the ROW No damage to vegetation on the edge of the Right of Way or pushing debris onto adjacent property
- No trees will be removed from outside of the ROW edge, except the removal of danger trees on the ROW edge as identified by Manitoba Hydro

ESS Group: Recreation

\*Features represented as polygons

ESS ID	ESS Name	Site	Start	Stop	Distance (m)
Y36V-LUse-301	Duff Roblin Provincial Park	11 to 12	E-633986 N-5512196	E-634277 N-5512328	319

Potential Effects:

Potential disruption to Provincial Park use

Specific Mitigation (ID# 409):

- Follow all provincial park work permit conditions
- Observe municipal and local by-laws and protocols including noise and work scheduling
- Minimize noise, dust and other emissions from work activities and maintain clean work site
- Provide warning signage for vehicle traffic and public safety

ESS Group: Water Crossing

\*Features represented as points

ESS ID	ESS Name	Location
Y36V-Aqua-103	La Salle River	E-633250 - N-5512123

Potential Effects:

Habitat loss and contamination from structure foundations & installations; increased erosion & sedimentation of streams; Damage to stream banks; Loss of riparian vegetation; Fish habitat disturbances and impeded fish movement; Rutting of floodplain

Specific Mitigation (ID# 64):

- Carry out construction activities on frozen ground to minimize surface damage, rutting and erosion
- Use existing trails, roads or cut lines whenever possible as access routes
- Identify and flag buffer areas prior to start of work
- Riparian Buffers shall be a minimum of 30m and increase in size based on slope of land entering waterway. Within these buffers shrub and herbaceous understory veg will be maintained along with trees that do not violate MH Veg Clearance Requirements.
- 7m no machine zone will restrict equipment in close proximity to the waterbody except at the trail crossing

ESS Group: Water Crossing

\*Features represented as polygons

ESS ID	ESS Name	Site	Start	Stop	Distance (m)
Y36V-Aqua-103A	La Salle River Water Crossing	9 to 10	E-633318 N-5512162	E-633263 N-5512131	62
Y36V-Aqua-102A	La Salle River Water Crossing	5 to 6	E-633097 N-5512036	E-633233 N-5512113	156

Potential Effects:

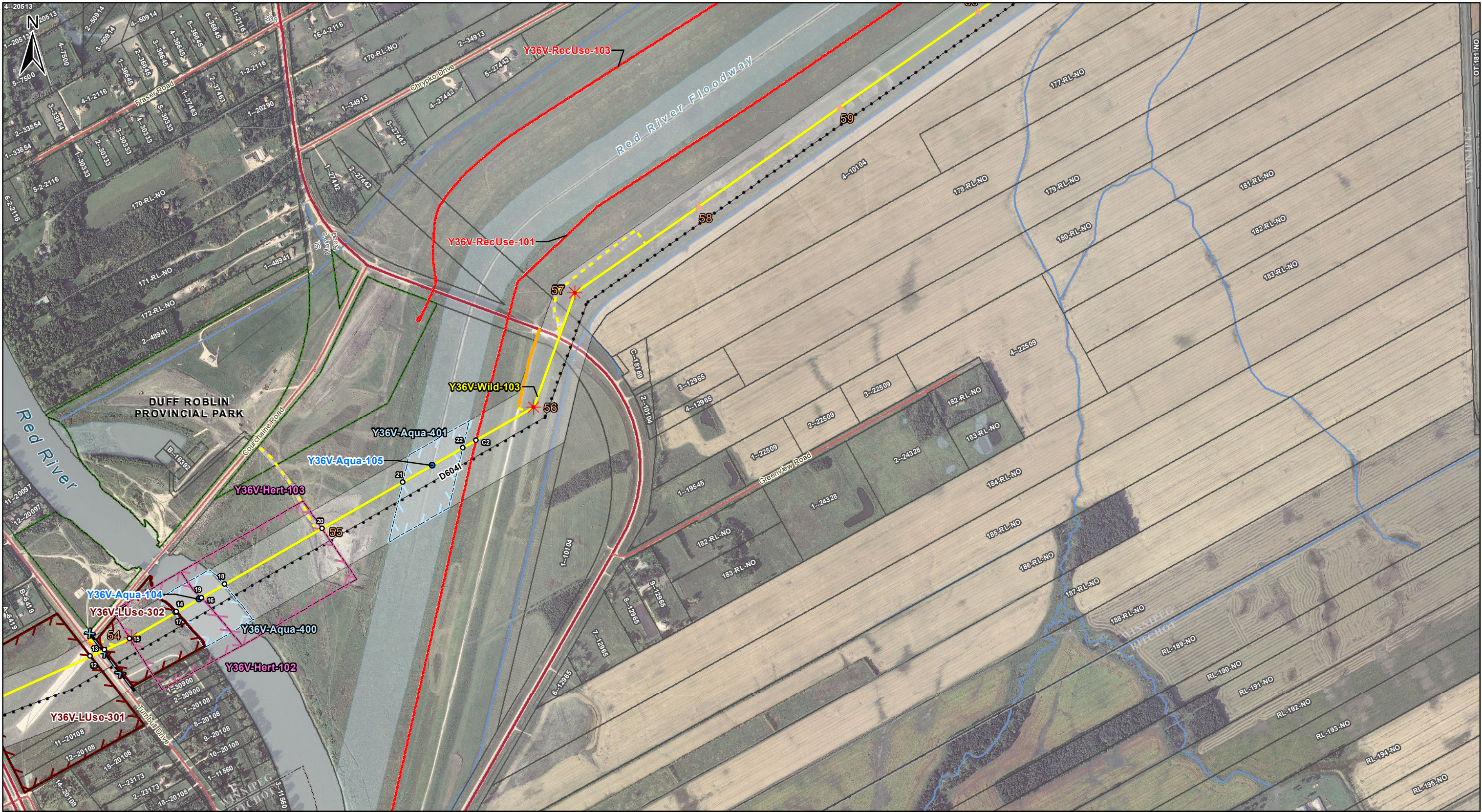
Increased erosion and sedimentation; rutting of floodplains; loss of riparian vegetation; potential impact to reptile and amphibian habitat

Specific Mitigation (ID# 725):

- Carry out construction activities using methods that minimize surface damage, rutting and erosion. Construction matting may be required to protect the area from rutting and exposure to soil
- Use existing trails, roads or cut lines whenever possible as access routes
- Riparian Buffers shall be a minimum of 30m and increase in size based on slope of land entering waterway with shrub and herbaceous understory maintained along with trees that do not violate Manitoba Hydro's vegetation clearance requirements
- 7m no machine zone will prohibit equipment in close proximity to the waterbody except at the trail crossing
- Identify and flag buffers and no machine zones prior to start of clearing activities in this area.
- Active vegetation reseeding will be required. Refer to Rehabilitation and Invasive Species Management Plan for active mitigation measures.

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Coordinate System: UTM Zone 14N NAD83  
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**Land Base**

- Transmission Line
- Highway
- Major Road
- Local Road
- Railway (Operational)
- Railway (Discontinued)
- First Nation
- Provincial Forest
- Parcel Fabric
- Rural Municipality

**Project Infrastructure**

- Tower Location
- Angle Tower Location
- Final Preferred Route
- Right of Way
- Electrical Station/Expansion

\* Underground infrastructure locations are approximate and incomplete. Contractors are responsible for any damages caused to underground infrastructure. Other unmarked objects and hazards may exist. Exercise caution when using mapbooks.

**Points of Access**

- Existing Gravel Road
- Existing Gravel/Dirt Road
- Field Access
- New Trail
- Seasonal Restriction
- Seasonal Restriction - Special Condition
- Load Restriction
- Restricted Access
- Restricted - Livestock Operation
- Underground Infrastructure

**ESS Features**

**Water**

- Water Crossing

**Rec Use**

- Trail

**Wildlife**

- Birds and Habitat

**Heritage**

- Archaeological

**Land Use**

- Recreation

**Water**

- AIS

Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

## St. Vital Transmission Complex Construction Environmental Protection Plan Environmentally Sensitive Site Locations



ESS Group: AIS

\*Features represented as polygons

ESS ID	ESS Name	Site	Start	Stop	Distance (m)
Y36V-Aqua-401	Aquatic Invasive Species Control Zone	21 to 22	E-635122 N-5512799	E-635285 N-5512892	187
Y36V-Aqua-400	Aquatic Invasive Species Control Zone	17 to 18	E-634507 N-5512446	E-634640 N-5512522	153

Potential Effects:

Potential spread of Aquatic Invasive Species from a control zone to unaffected water bodies

Specific Mitigation (ID# 719):

- If equipment or watercraft are required to be in contact with the water or shoreline please refer to the "Aquatic Biosecurity Mitigation Measures" found in the Appendix of the Biosecurity Management Plan

ESS Group: Archaeological

\*Features represented as polygons

ESS ID	ESS Name	Site	Start	Stop	Distance (m)
Y36V-Hert-103	Potential Archaeological Site Red River	19 to 20	E-634577 N-5512486	E-634904 N-5512674	376
Y36V-Hert-102	Potential Archaeological Site Red River	15 to 16	E-634383 N-5512376	E-634577 N-5512486	223

Potential Effects:

Higher potential for discovery of cultural and heritage resources in this area

Specific Mitigation (ID# 301):

- Carry out construction activities using methods that minimize surface damage, rutting and erosion. Construction matting may be required to protect the area from rutting and exposure to soil
- In the event of a discovery, stop work in the area and contact the Project Archaeologist immediately. Refer to Cultural and Heritage Resources Protection Plan for further guidance
- The contractor must provide written notification to Manitoba Hydro Environmental Officer one week prior to any excavation (tower foundation installation, geotechnical investigations, etc) within the ESS, so that arrangements can be made for a project archeologist to be onsite.
- The project archaeologist is required to be onsite during excavation**, to inspect all excavated material and be provided with satisfactory time and cooperation from the contractor to complete this requirement.
- All contractors must anticipate this work and plan activities and schedules accordingly

ESS Group: Birds and Habitat

\*Features represented as lines

ESS ID	ESS Name	Site	Start	Stop	Distance (m)
Y36V-Wild-103	Red River Crossing and Floodway	L7 to L8	E-633998 N-5512201	E-641204 N-5517906	9822

Potential Effects:

Higher risk of wire collision, Risk of wire collision is localized to the right-of-way

Specific Mitigation (ID# 827):

- Bird diverters will be installed in a manner to maximize visibility along the skywires
- Install bird diverter with spacing as per Transmission Line Design specifications for these spans

ESS Group: Intersection

\*Features represented as lines

ESS ID	ESS Name	Site	Location
Y36V-RecUse-101	Snowmobile Trail	C2	E-635321 N-5512913

Potential Effects:

Potential interference with snowmobilers; safety issues

Specific Mitigation (ID# 103):

- Identify and flag where trail intersects ROW
- Avoid surface damage to and obstruction of recreation route
- Post warning markers and signs at snowmobile trail location during construction
- Notify snowmobile club/users and local authorities regarding construction activities and schedule, and address concerns prior to construction

ESS Group: Recreation

\*Features represented as polygons

ESS ID	ESS Name	Site	Start	Stop	Distance (m)
Y36V-LUse-302	Duff Roblin Provincial Park	13 to 14	E-634315 N-5512345	E-634511 N-5512448	221
Y36V-LUse-301	Duff Roblin Provincial Park	11 to 12	E-633986 N-5512196	E-634277 N-5512328	319

Potential Effects:

Potential disruption to Provincial Park use

Specific Mitigation (ID# 409):

- Follow all provincial park work permit conditions
- Observe municipal and local by-laws and protocols including noise and work scheduling
- Minimize noise, dust and other emissions from work activities and maintain clean work site
- Provide warning signage for vehicle traffic and public safety

ESS Group: Water Crossing

\*Features represented as points

ESS ID	ESS Name	Location
Y36V-Aqua-104	Red River	E-634570 - N-5512482

Potential Effects:

Habitat loss and contamination from structure foundations & installations; increased erosion & sedimentation of streams; Damage to stream banks; Loss of riparian vegetation; Fish habitat disturbances and impeded fish movement; Rutting of floodplain

Specific Mitigation (ID# 64):

- Carry out construction activities on frozen ground to minimize surface damage, rutting and erosion
- Use existing trails, roads or cut lines whenever possible as access routes
- Identify and flag buffer areas prior to start of work
- Riparian Buffers shall be a minimum of 30m and increase in size based on slope of land entering waterway. Within these buffers shrub and herbaceous understory veg will be maintained along with trees that do not violate MH Veg Clearance Requirements.
- 7m no machine zone will restrict equipment in close proximity to the waterbody except at the trail crossing

ESS Group: Water Crossing

\*Features represented as points

ESS ID	ESS Name	Location
Y36V-Aqua-105	Red River Floodway Crossing	E-635202 - N-5512845

Potential Effects:

Habitat loss and contamination from structure foundations & installations; increased erosion & sedimentation of streams; Damage to stream banks; Loss of riparian vegetation; Fish habitat disturbances and impeded fish movement; Rutting of floodplain

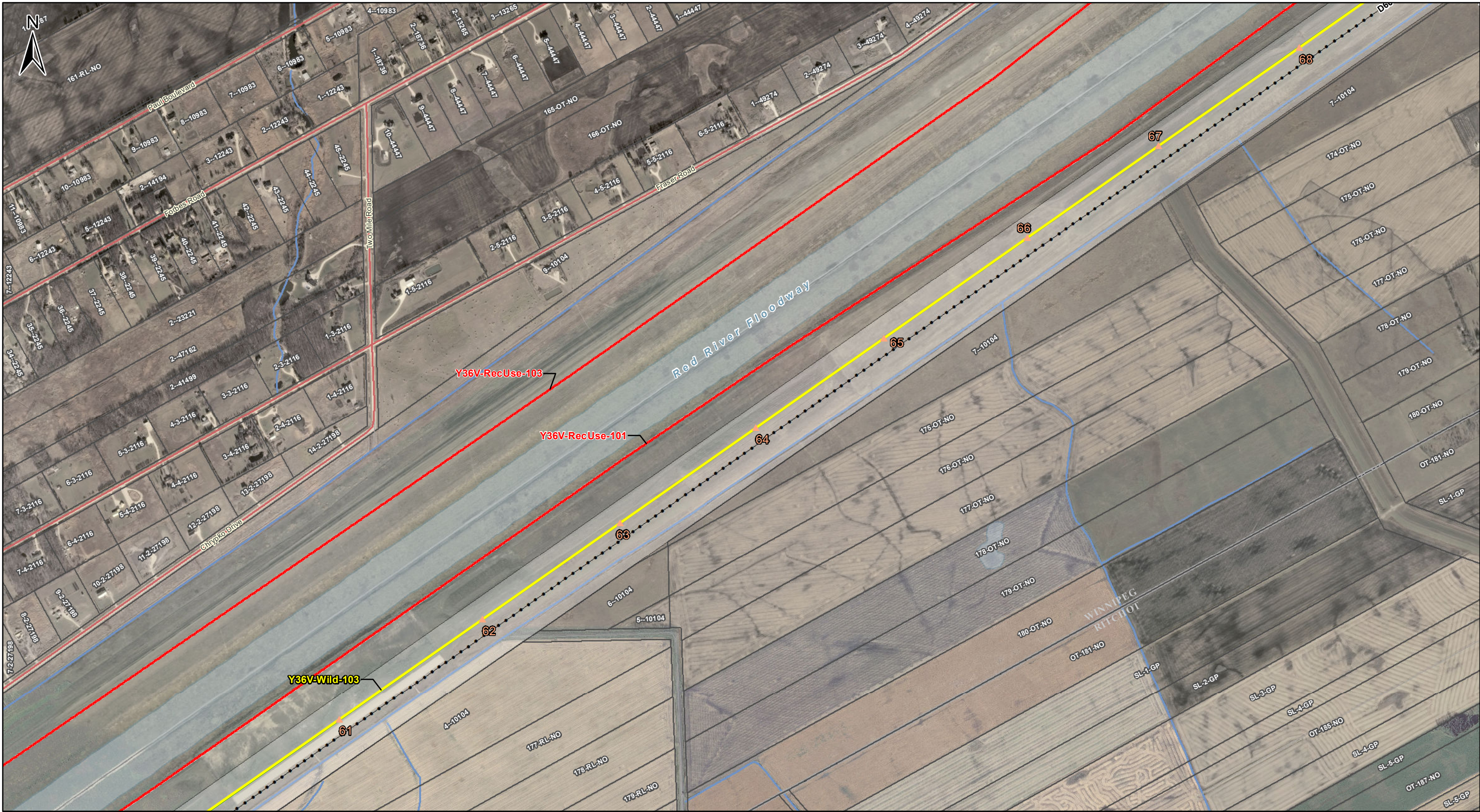
Specific Mitigation (ID# 710):

- Construction matting will be used along access trail to protect the area from rutting and exposure of soil during saturated soil conditions
- Use existing trails, roads or cut lines whenever possible as access routes
- Identify and flag buffer areas prior to start of work
- Riparian Buffers shall be a minimum of 30m and increase in size based on slope of land entering waterway. Within these buffers shrub and herbaceous understory veg will be maintained along with trees that do not violate MH Veg Clearance Requirements
- A minimum 7m no machine zone will restrict equipment in close proximity to the waterbody except at the trail crossing
- Construction contractor will have flag persons during stringing activities to direct safe passage of boats
- Equipment will fuel up prior to moving into these areas so the need to refuel will be minimized
- Mobile equipment (skid steers, zoom booms, vehicles) will be moved 100m away when fueling
- Two people will be utilized during refueling - one operator at the switch and another operator at the pump
- The person fueling will attend the nozzle at all times during the fueling operation and not lock out the nozzle
- Personnel involved in fueling will be versed in the requirements of the Spill Response Plan
- Once fueling is complete the fuel truck will leave the area immediately
- All equipment will be inspected for leaks, frayed hoses and loose fittings before operating
- The spill response equipment present onsite during work activities shall be capable of containing and managing a spill from the largest container or equipment and be suitable for the site location. For example, spill containment booms for work adjacent to a water body. Crews will be made aware of location of response equipment and spill procedures
- - Crew foremen will be briefed on the mitigations and signoff on the plan indicating their understanding
- - Spill trays will be used at all times

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**Land Base**

- Transmission Line
- Highway
- Major Road
- Local Road
- Railway (Operational)
- Railway (Discontinued)
- First Nation
- Provincial Forest
- Parcel Fabric
- Rural Municipality

**Project Infrastructure**

- Tower Location
- Angle Tower Location
- Final Preferred Route
- Right of Way
- Electrical Station/Expansion

\* Underground infrastructure locations are approximate and incomplete. Contractors are responsible for any damages caused to underground infrastructure. Other unmarked objects and hazards may exist. Exercise caution when using mapbooks.

**Points of Access**

- Existing Gravel Road
- Existing Gravel/Dirt Road
- Field Access
- New Trail
- Seasonal Restriction
- Seasonal Restriction - Special Condition
- Load Restriction
- Restricted Access
- Restricted - Livestock Operation
- Underground Infrastructure

**ESS Features**

**Rec Use**

- Trail

**Wildlife**

- Birds and Habitat

Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

## St. Vital Transmission Complex Construction Environmental Protection Plan Environmentally Sensitive Site Locations



ESS Group: Birds and Habitat

*\*Features represented as lines*

ESS ID	ESS Name	Site	Start	Stop	Distance (m)
Y36V-Wild-103	Red River Crossing and Floodway	L7 to L8	E-633998 N-5512201	E-641204 N-5517906	9822

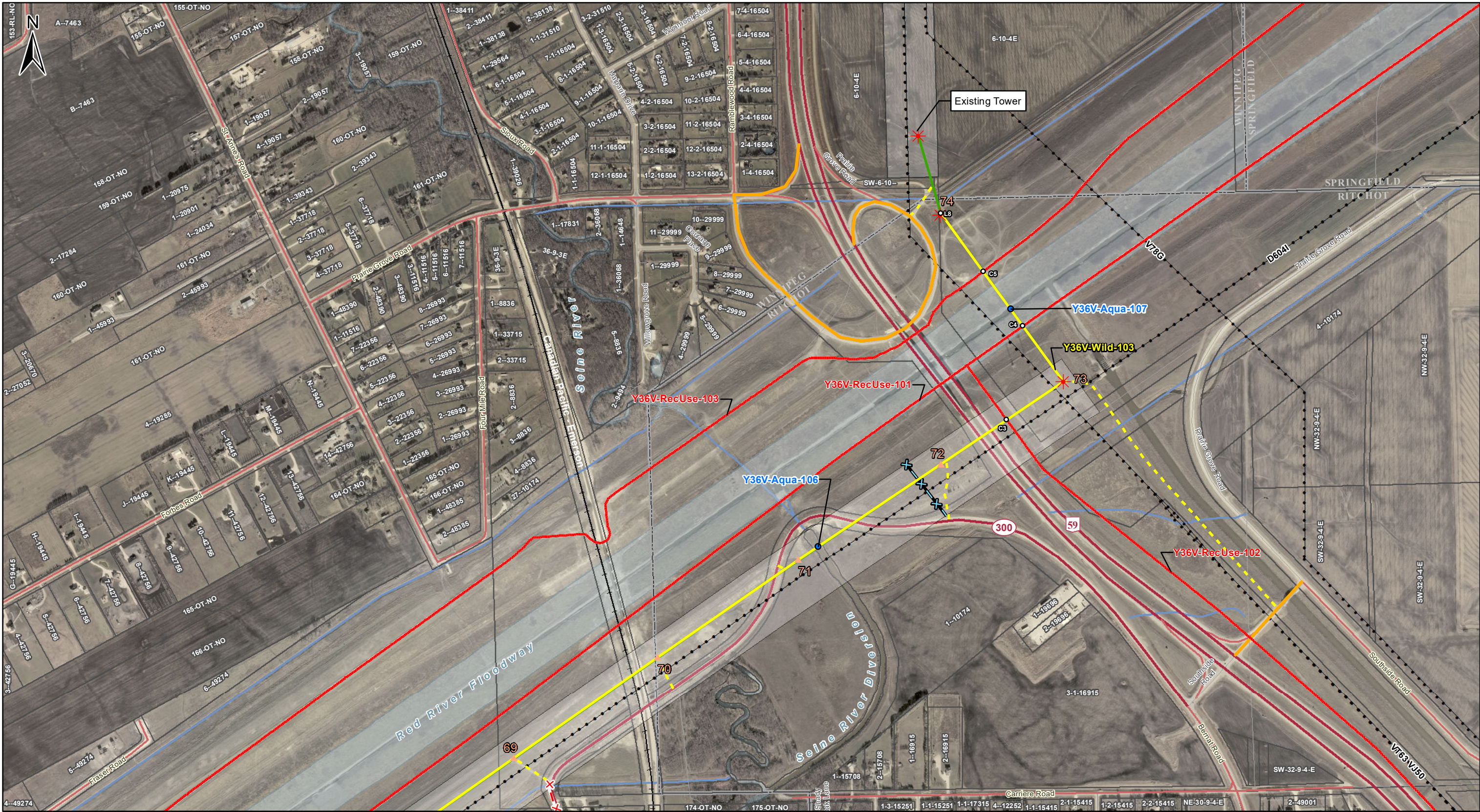
Potential Effects:

*Higher risk of wire collision, Risk of wire collision is localized to the right-of-way*

Specific Mitigation (ID# 827):

- Bird diverters will be installed in a manner to maximize visibility along the skywires
- Install bird diverter with spacing as per Transmission Line Design specifications for these spans





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**Land Base**

- Transmission Line
- Highway
- Major Road
- Local Road
- Railway (Operational)
- Railway (Discontinued)
- First Nation
- Provincial Forest
- Parcel Fabric
- Rural Municipality

**Project Infrastructure**

- Tower Location
- Angle Tower Location
- Final Preferred Route
- Right of Way
- Electrical Station/Expansion

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**Points of Access**

- Existing Gravel Road
- Existing Gravel/Dirt Road
- Field Access
- New Trail
- Seasonal Restriction
- Seasonal Restriction - Special Condition
- Load Restriction
- Restricted Access
- Restricted - Livestock Operation
- Underground Infrastructure

**ESS Features**

**Water**

- Water Crossing

**Rec Use**

- Trail

**Wildlife**

- Birds and Habitat

Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

## St. Vital Transmission Complex Construction Environmental Protection Plan Environmentally Sensitive Site Locations



ESS Group: Birds and Habitat

\*Features represented as lines

ESS ID	ESS Name	Site	Start	Stop	Distance (m)
Y36V-Wild-103	Red River Crossing and Floodway	L7 to L8	E-633998 N-5512201	E-641204 N-5517906	9822

Potential Effects:

Higher risk of wire collision, Risk of wire collision is localized to the right-of-way

Specific Mitigation (ID# 827):

- Bird diverters will be installed in a manner to maximize visibility along the skywires
- Install bird diverter with spacing as per Transmission Line Design specifications for these spans

ESS Group: Intersection

\*Features represented as lines

ESS ID	ESS Name	Site	Location
Y36V-RecUse-101	Snowmobile Trail	C4	E-641426 N-5517602
Y36V-RecUse-102	Snowmobile Trail	C3	E-641382 N-5517348

Potential Effects:

Potential interference with snowmobilers; safety issues

Specific Mitigation (ID# 103):

- Identify and flag where trail intersects ROW
- Avoid surface damage to and obstruction of recreation route
- Post warning markers and signs at snowmobile trail location during construction
- Notify snowmobile club/users and local authorities regarding construction activities and schedule, and address concerns prior to construction

ESS Group: Intersection

\*Features represented as lines

ESS ID	ESS Name	Site	Location
Y36V-RecUse-103	Duff Roblin Parkway Trail	C5	E-641318 N-5517750

Potential Effects:

Potential interference with pedestrian traffic; safety issues

Specific Mitigation (ID# 113):

- Avoid surface damage to and obstruction of recreation route
- Post warning markers and signs at trail location
- Refer to clearing management plan for further instruction

ESS Group: Water Crossing

\*Features represented as points

ESS ID	ESS Name	Location
Y36V-Aqua-107	Floodway	E-641393 - N-5517647

Potential Effects:

Habitat loss and contamination from structure foundations & installations; increased erosion & sedimentation of streams; Damage to stream banks; Loss of riparian vegetation; Fish habitat disturbances and impeded fish movement; Rutting of floodplain

Specific Mitigation (ID# 64):

- Carry out construction activities on frozen ground to minimize surface damage, rutting and erosion
- Use existing trails, roads or cut lines whenever possible as access routes
- Identify and flag buffer areas prior to start of work
- Riparian Buffers shall be a minimum of 30m and increase in size based on slope of land entering waterway. Within these buffers shrub and herbaceous understory veg will be maintained along with trees that do not violate MH Veg Clearance Requirements.
- 7m no machine zone will restrict equipment in close proximity to the waterbody except at the trail crossing

ESS Group: Water Crossing

\*Features represented as points

ESS ID	ESS Name	Location
Y36V-Aqua-106	Seine River Bypass Crossing	E-640871 - N-5517004

Potential Effects:

*Habitat loss and contamination from structure foundations & installations; increased erosion & sedimentation of streams; Damage to stream banks; Loss of riparian vegetation; Fish habitat disturbances and impeded fish movement; Rutting of floodplain*

Specific Mitigation (ID# 723):

- Carry out construction activities on frozen or dry ground to minimize surface damage, rutting and erosion
- Use existing trails, roads or cut lines whenever possible as access routes
- Identify and flag buffer areas prior to start of work
- Riparian Buffers shall be a minimum of 30m and increase in size based on slope of land entering waterway. Within these buffers shrub and herbaceous understory veg will be maintained along with trees that do not violate MH Veg Clearance Requirements
- A minimum 7m no machine zone will restrict equipment in close proximity to the waterbody except at the trail crossing
- Construction contractor will have flag persons during stringing activities to direct safe passage of boats
- Temporary signs stating "Construction Activity" will be:
  - placed and maintained 200m upstream and 200m downstream of the work
  - legible from a minimum distance of 100m downstream of the work
  - placed and maintained during all periods of conductor stringing during the open water season on all navigable waters
  - visible from all points of marine approach and when snowmobile traffic exists during frozen water conditions
- Ice bridges will be constructed of clean (ambient) water, ice and snow and snowfills will be constructed of clean snow. Materials such as gravel, rock and loose woody material will NOT be used. Crossings will not impede water flow at any time of the year
- Where logs are required for use in stabilizing shoreline approaches, they will be clean and securely bound together and they will be removed before the spring freshet
- When the crossing season is over and where it is safe to do so, a v-notch will be created in the centre of the ice bridge to allow it to melt from the centre and also to prevent blocking fish passage, channel erosion and flooding. Compacted snow and all crossing materials will be removed prior to the spring freshet
- No logs or woody debris will be left within the waterway or on the banks or shoreline where they can wash back into the waterway
- To minimize potential effects of boat use on mussel species and their habitats:
  - The use of boats will be limited to deep water areas at the transmission line crossings,
  - Boats will only approach shore at designated boat launches for stringing across
- Equipment will fuel up prior to moving into these areas so the need to refuel will be minimized
- Mobile equipment (skid steers, zoom booms, vehicles) will be moved 100m away when fueling
- Two people will be utilized during refueling - one operator at the switch and another operator at the pump
- The person fueling will attend the nozzle at all times during the fueling operation and not lock out the nozzle
- Personnel involved in fueling will be versed in the requirements of the Spill Response Plan
- Once fueling is complete the fuel truck will leave the area immediately
- All equipment will be inspected for leaks, frayed hoses and loose fittings before operating
- - Crew foremen will be briefed on the mitigations and signoff on the plan indicating their understanding
  - Spill trays will be used at all times

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