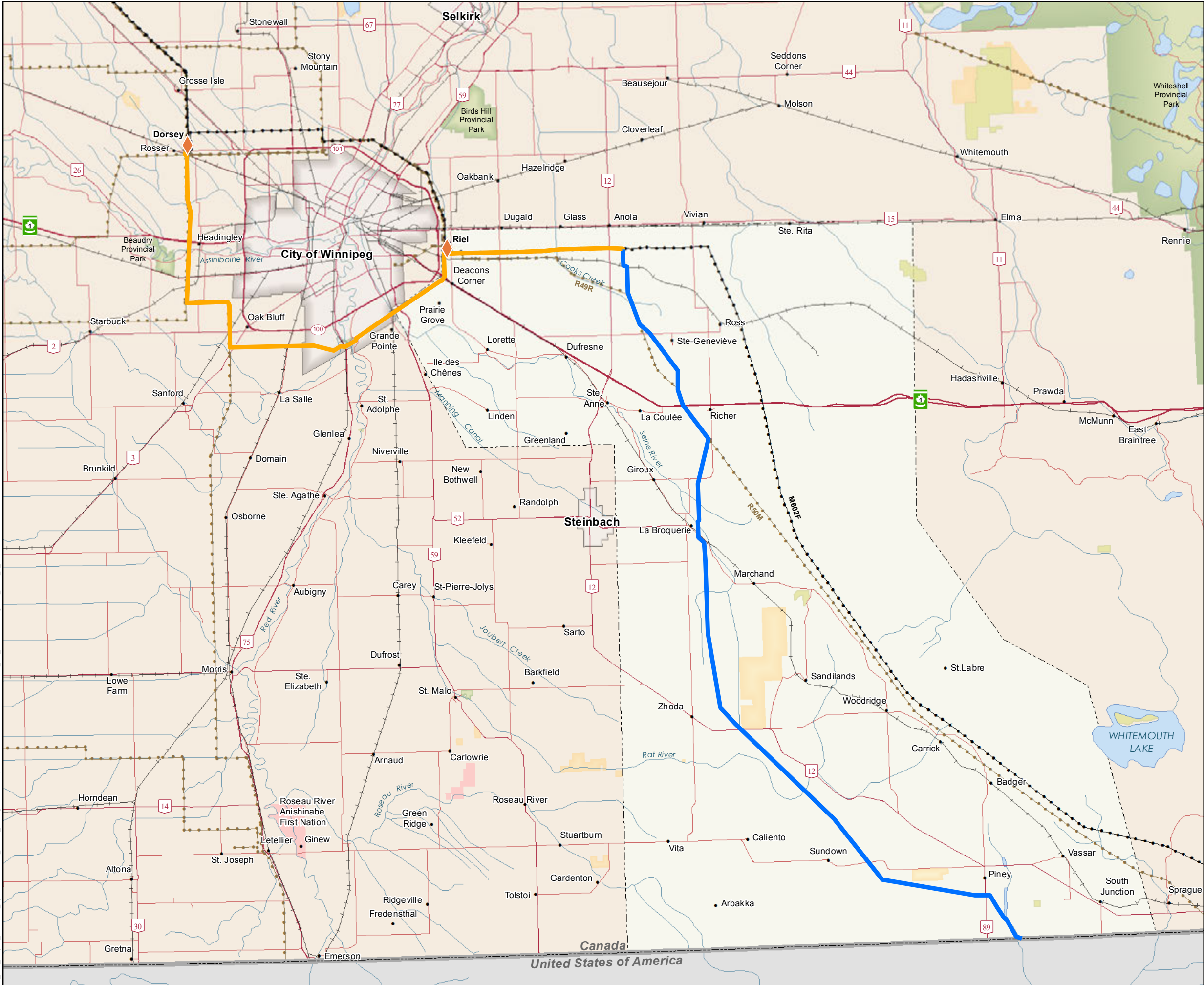


G:\GIS_Projects\Folder00_Hydro\11420000_MMTP_EA\Figures\EAChapter\CumulativeEffects\FIG01-MMTP_EA_RoutePlanning\Area_500K_B_20150721.mxd



Manitoba-Minnesota Transmission Project

Project Infrastructure

- ◆ Converter Station (Existing)
- Final Preferred Route (Existing Transmission Corridor)
- Final Preferred Route (New Right-of-Way)

Infrastructure

- Existing 500kV Transmission Line
- Existing 230kV Transmission Line

Assessment Area

- Route Planning Area

Landbase

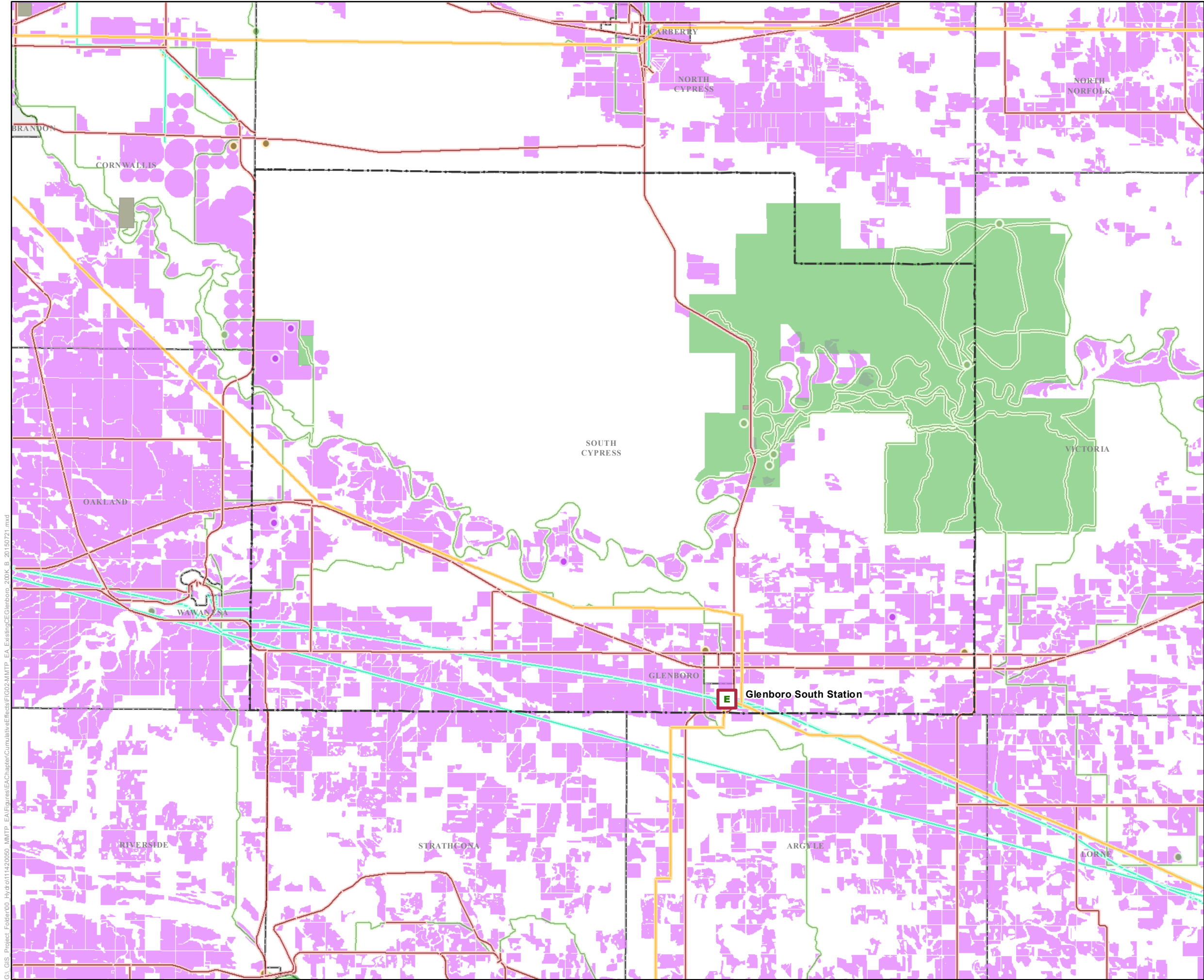
- Community
- Railway
- Trans Canada
- Provincial Highway
- Provincial Road
- First Nation Lands
- Ecological Reserve
- Wildlife Management Area
- Provincial Park
- City

Coordinate System: UTM Zone 14N NAD83
Data Source: MBHydro, ProvMB, NRCAN
Date Created: July 23, 2015

0 5 10 Kilometres
0 5 10 Miles

1:500,000

Route Planning Area



Manitoba-Minnesota Transmission Project

Project Infrastructure

E Electrical Station

Physical Activities and Resource Use

Transmission

Transmission Line (>115 kV)

Transportation

Road / Railway

Oil and Gas

Gas Line / Pipeline¹

Other

Manitoba Hydro Infrastructure

Commercial

Mine Site

Forestry / Mining Area²³⁴⁵⁶

Recreational

Campground / Snowmobile Shelter / Ski Center

Canoe Route / Trans Canada Trail / Snowmobile Trail

Recreational Area

Agriculture

Livestock Operation⁷

Annual Cropland⁸

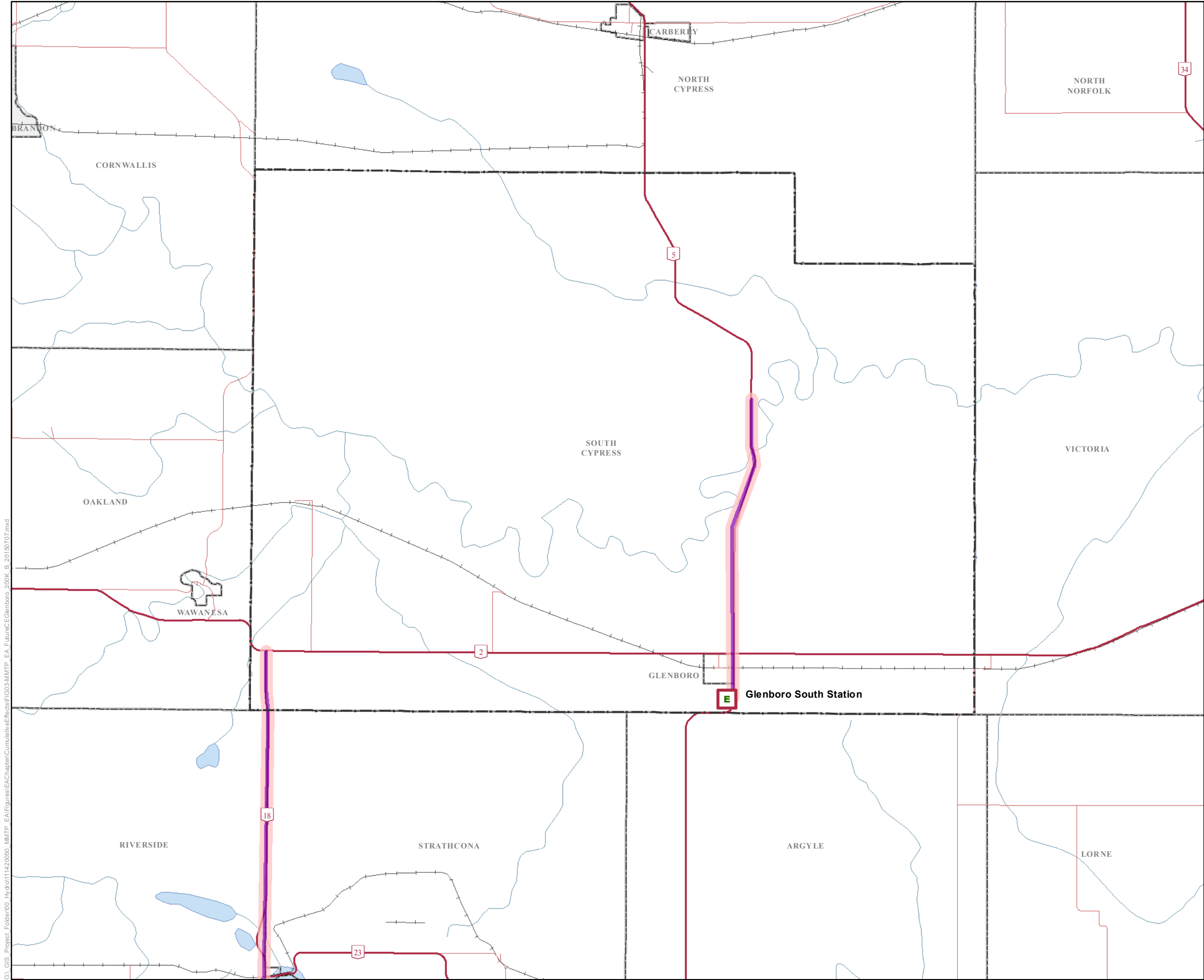
Source:
1. Alberta Clipper Pipeline, 2012, Adapted from Enbridge Proposed Alberta Clipper Pipeline (Line 67)
2. Tending, 1984-2002, Manitoba Conservation and Water Stewardship
3. Plantations, 1951-2011, Manitoba Conservation and Water Stewardship
4. Timber Sales Plan, 2010-15, Manitoba Conservation and Water Stewardship
5. Quarry Withdrawals, 2013, Manitoba Conservation and Water Stewardship
6. Casual Quarry Permit, 2015, Manitoba Conservation and Water Stewardship
7. Livestock Operations, 2014, Stantec
8. Annual Cropland, 1994-2014, Manitoba Conservation and Water Stewardship

Coordinate System: UTM Zone 14N NAD83
Data Source: MBHydro, ProvMB, NRCAN
Date Created: July 23, 2015



0 5 Kilometres
0 2.5 5 Miles
1:200,000

Glenboro South Station Past and Present Physical Activities and Resource Use



Manitoba-Minnesota Transmission Project

Project Infrastructure

 Electrical Station

Physical Activities

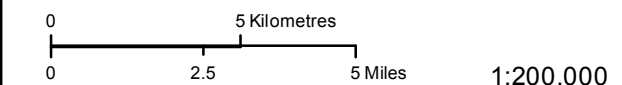
 Manitoba Infrastructure and Transportation
Capital Project (2015-2020)¹

Landbase

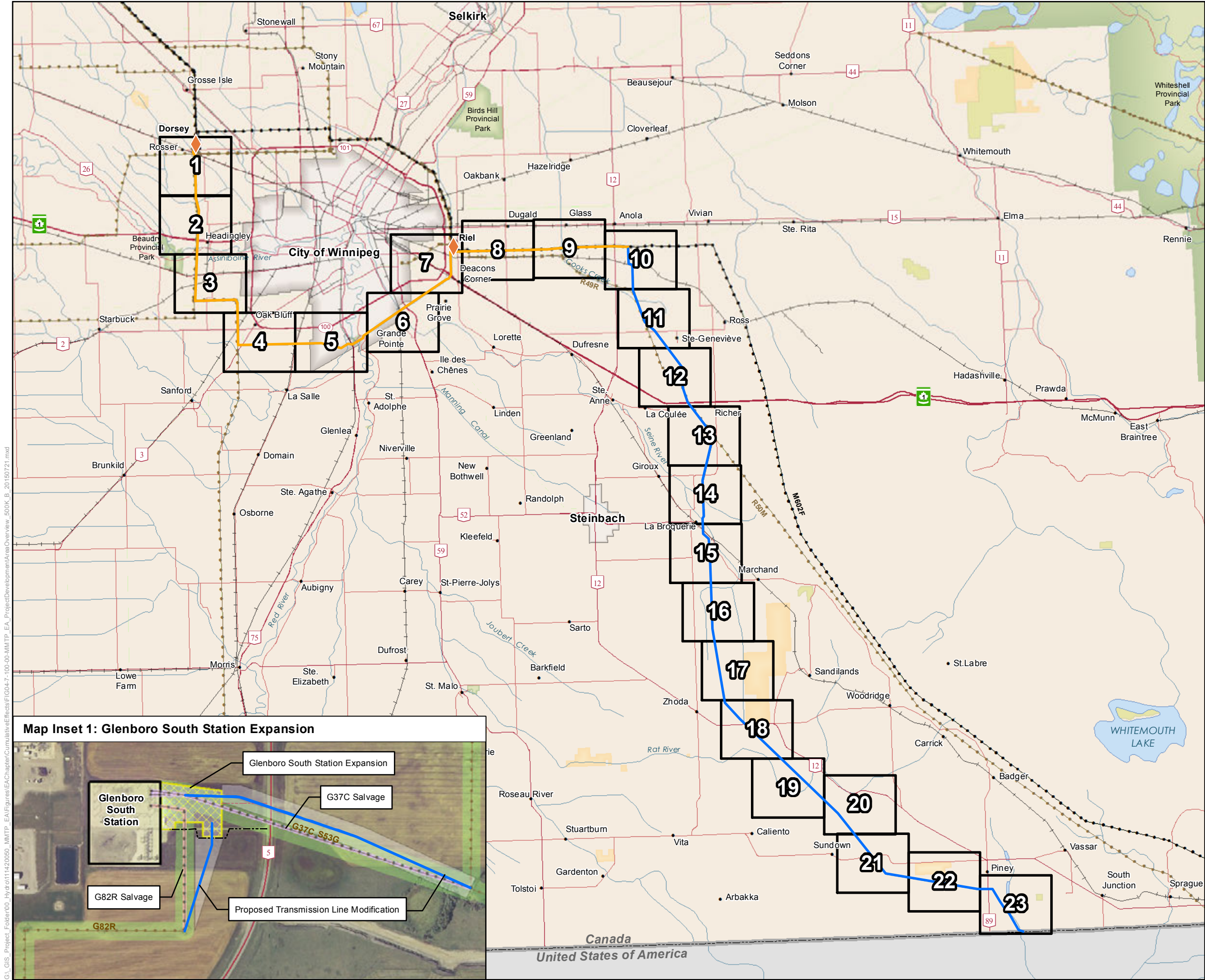
-  Provincial Highway
-  Provincial Road
-  Rural Municipality
-  City / Town
-  Watercourse
-  Waterbody

Source:
1. Adapted from Manitoba Highway Renewal Program 2014/15, Manitoba
Infrastructure and Transportation

Coordinate System: UTM Zone 14N NAD83
Data Source: MBHydro, ProvMB, NRCAN
Date Created: July 23, 2015



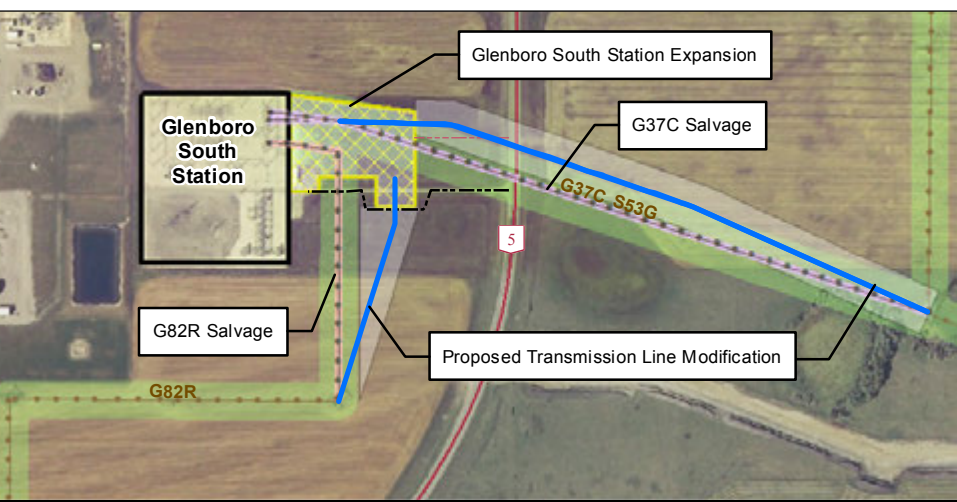
Glenboro South Station Reasonably Foreseeable Future Physical Activities



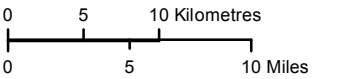
Manitoba-Minnesota
Transmission Project

- Project Infrastructure**
- Converter Station (Existing)
 - Final Preferred Route (Existing Corridor)
 - Final Preferred Route (New Right-of-Way)
 - Existing/New Glenboro South Station Access
 - New Glenboro South Station Access
 - G37C Salvage
 - G82R Salvage
 - Existing ROW
 - Station Expansion
 - Project Development Area (PDA)
- Infrastructure**
- Existing 500kV Transmission Line
 - Existing 230kV Transmission Line
- Map Tile Index - 1:30,000**
- Map Series Tile
- Landbase**
- Community
 - Railway
 - Trans Canada
 - Provincial Highway
 - Provincial Road
 - First Nation Lands
 - Ecological Reserve
 - Wildlife Management Area
 - Provincial Park
 - City

Map Inset 1: Glenboro South Station Expansion



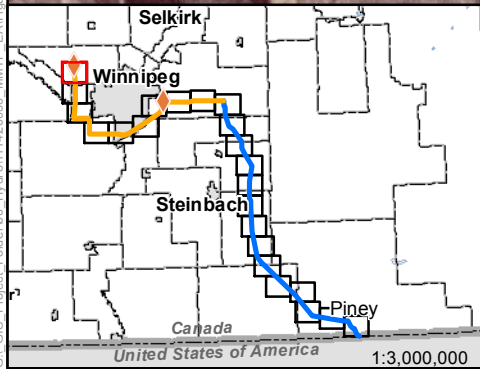
Coordinate System: UTM Zone 14N NAD83
Data Source: MBHydro, ProvMB, NRCAN
Date Created: August 05, 2015



1:500,000

Index of Map Series
Project Development Area

G:\GIS\Project_Folder\00_Hydro\11420080_MWTP_EA\Figures\EA\Chapter\CumulativeEffects\FIG04-7-100-01-MMTP_EA_ProjectDevelopment\AerialMapbook_30K_B_20150721.mxd



Manitoba-Minnesota Transmission Project

Project Infrastructure

- Final Preferred Route (Existing Transmission Corridor)
- Station Expansion
- Converter Station Footprint
- Project Development Area (PDA)

Infrastructure

- Existing 500 kV Transmission Line
- Existing 230kV Transmission Line

Landbase

- Community
- Railway
- Trans Canada
- Provincial Highway
- Provincial Road
- City / Town
- First Nation Lands
- Ecological Reserve
- Wildlife Management Area
- National/Provincial Park
- Rural Municipality

Coordinate System: UTM Zone 14N NAD83
Data Source: MBHydro, ProvMB, NRCAN
Date Created: July 23, 2015



0 0.5 1 Kilometres
0 0.25 0.5 Miles

1:30,000

Project Development Area

GA:GIS:Project:Folder00:Hydro111420000:MMTP:EA\Figures\EAChapter\CumulativeEffects\FIG04-7-100-01-MMTP:EA:ProjectDevelopment\Areal\Mapbook:30K_B_20150721.mxd



Manitoba-Minnesota Transmission Project

Project Infrastructure

- Final Preferred Route (Existing Transmission Corridor)
- Project Development Area (PDA)

Infrastructure

- Existing 230kV Transmission Line

Landbase

- Community
- Railway
- Trans Canada
- Provincial Highway
- Provincial Road
- City / Town
- First Nation Lands
- Ecological Reserve
- Wildlife Management Area
- National/Provincial Park
- Rural Municipality

Coordinate System: UTM Zone 14N NAD83
Data Source: MBHydro, ProvMB, NRCAN
Date Created: July 23, 2015

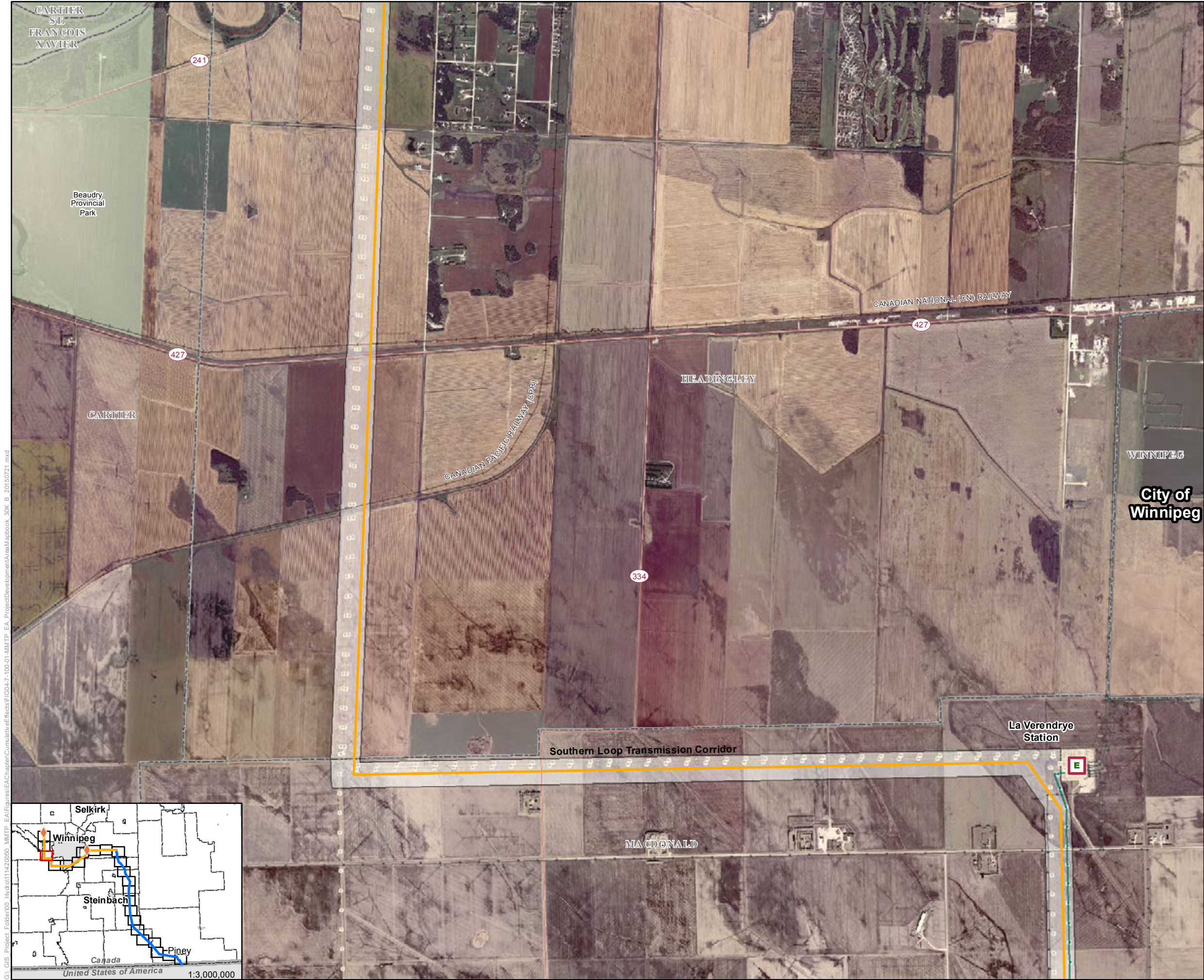


0 0.5 1 Kilometres
0 0.25 0.5 Miles

1:30,000

Project Development Area

Map 7-100-02



Manitoba-Minnesota
Transmission Project

Project Infrastructure

- Final Preferred Route (Existing Transmission Corridor)
- Project Development Area (PDA)

Infrastructure

- Electrical Station
- Existing 230kV Transmission Line
- St. Vital Transmission Complex (Proposed)
- Existing 115-230kV Transmission Line

Landbase

- Community
- Railway
- Trans Canada
- Provincial Highway
- Provincial Road
- City / Town
- First Nation Lands
- Ecological Reserve
- Wildlife Management Area
- National/Provincial Park
- Rural Municipality

Coordinate System: UTM Zone 14N NAD83
Data Source: MBHydro, ProvMB, NRCAN
Date Created: July 23, 2015



0 0.5 1 Kilometres
0 0.25 0.5 Miles

1:30,000

Project Development Area



Manitoba-Minnesota Transmission Project

- Project Infrastructure**
- Final Preferred Route (Existing Transmission Corridor)
 - Project Development Area (PDA)

- Infrastructure**
- Existing 230kV Transmission Line
 - St. Vital Transmission Complex (Proposed)
 - Existing 115-230kV Transmission Line

- Landbase**
- Community
 - Railway
 - Trans Canada
 - Provincial Highway
 - Provincial Road
 - City / Town
 - First Nation Lands
 - Ecological Reserve
 - Wildlife Management Area
 - National/Provincial Park
 - Rural Municipality

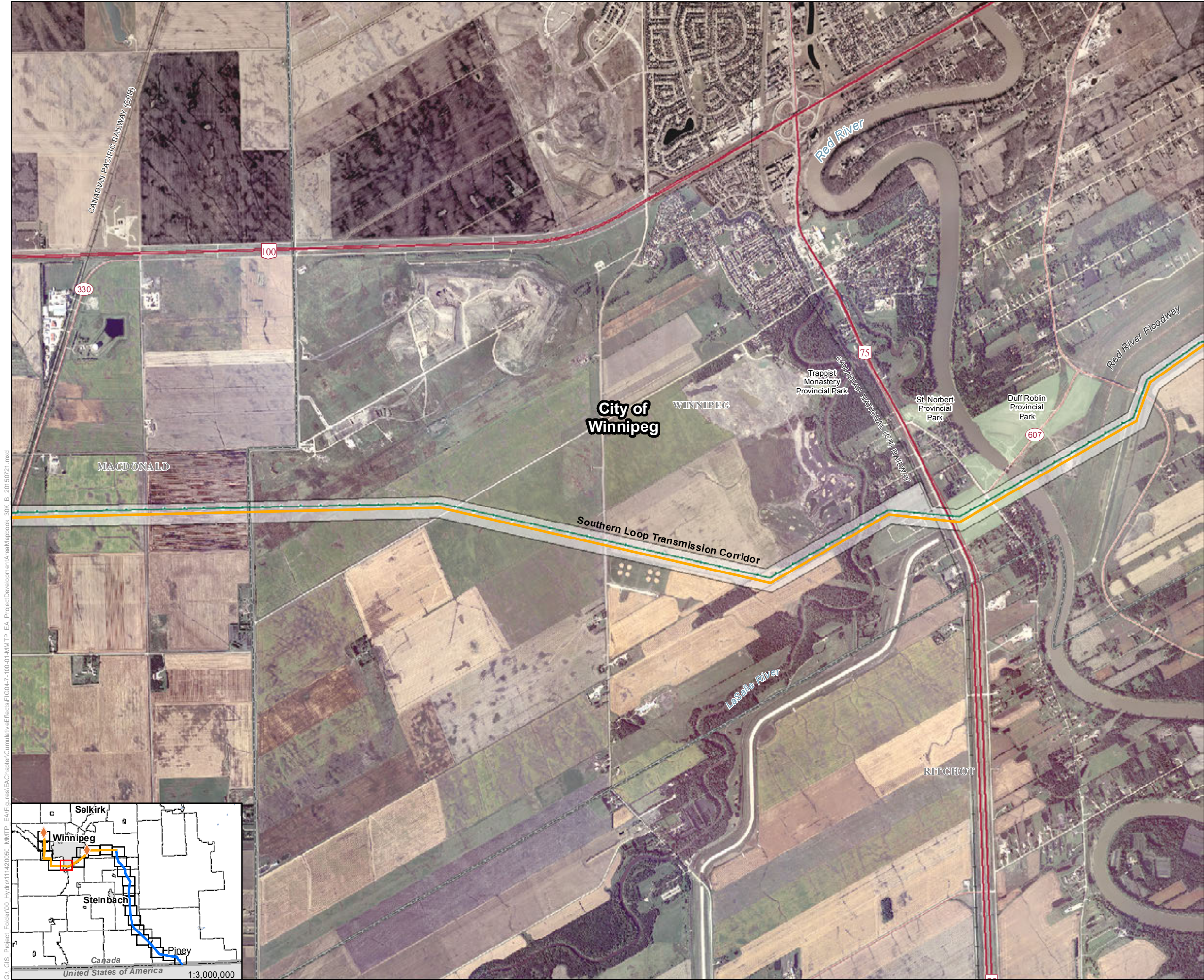
Coordinate System: UTM Zone 14N NAD83
Data Source: MBHydro, ProvMB, NRCAN
Date Created: July 23, 2015



0 0.5 1 Kilometres
0 0.25 0.5 Miles

1:30,000

Project Development Area



Manitoba-Minnesota
Transmission Project

- Project Infrastructure
- Final Preferred Route (Existing Transmission Corridor)
 - Project Development Area (PDA)

- Infrastructure
- St. Vital Transmission Complex (Proposed)

- Landbase
- Community
 - Railway
 - Trans Canada
 - Provincial Highway
 - Provincial Road
 - City / Town
 - First Nation Lands
 - Ecological Reserve
 - Wildlife Management Area
 - National/Provincial Park
 - Rural Municipality

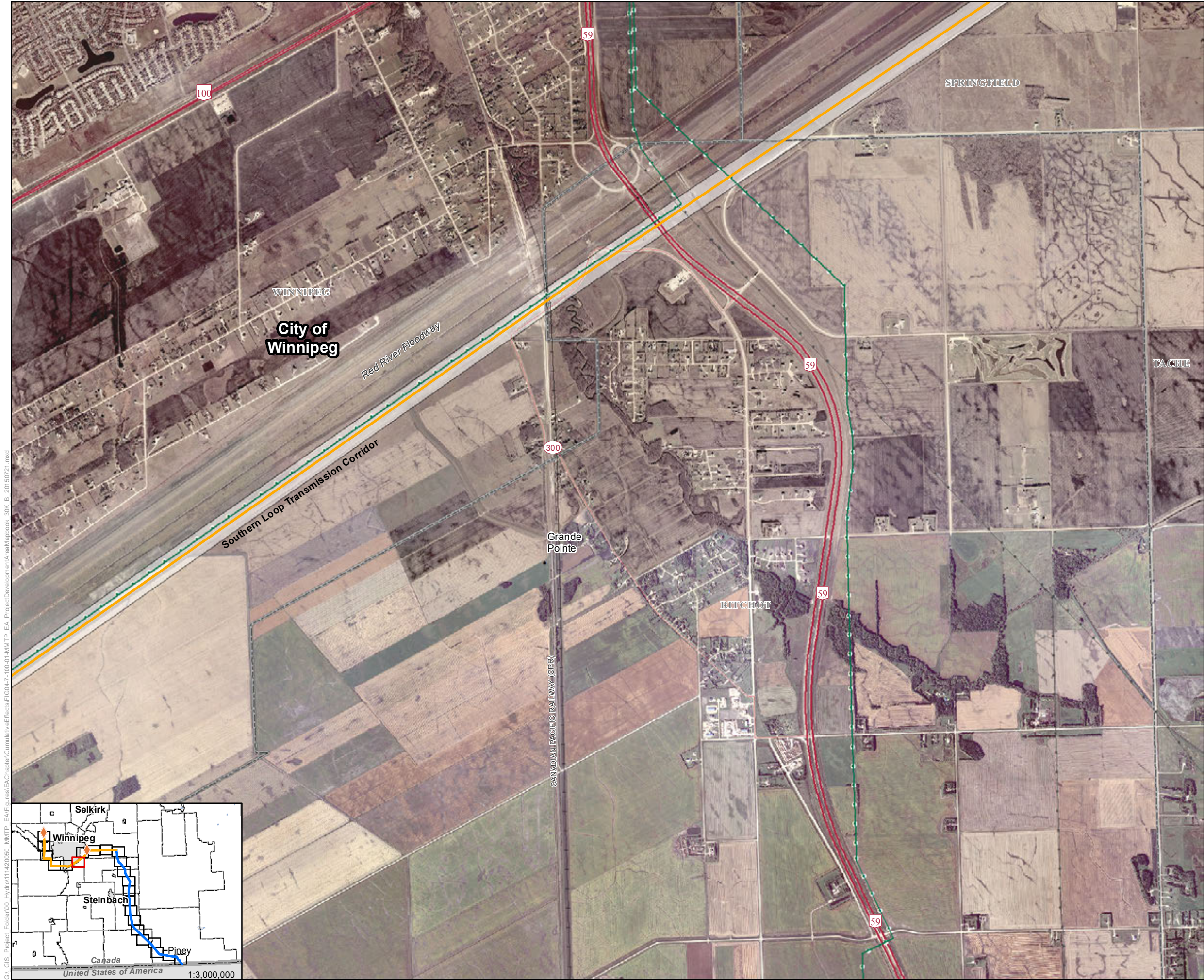
Coordinate System: UTM Zone 14N NAD83
Data Source: MBHydro, ProvMB, NRCAN
Date Created: July 23, 2015



0 0.5 1 Kilometres
0 0.25 0.5 Miles

1:30,000

Project Development Area



Manitoba-Minnesota Transmission Project

Project Infrastructure

- Final Preferred Route (Existing Transmission Corridor)
- Project Development Area (PDA)

Infrastructure

- St. Vital Transmission Complex (Proposed)
- Existing 115-230kV Transmission Line

Landbase

- Community
- Railway
- Trans Canada
- Provincial Highway
- Provincial Road
- City / Town
- First Nation Lands
- Ecological Reserve
- Wildlife Management Area
- National/Provincial Park
- Rural Municipality

Coordinate System: UTM Zone 14N NAD83
Data Source: MBHydro, ProvMB, NRCAN
Date Created: July 23, 2015

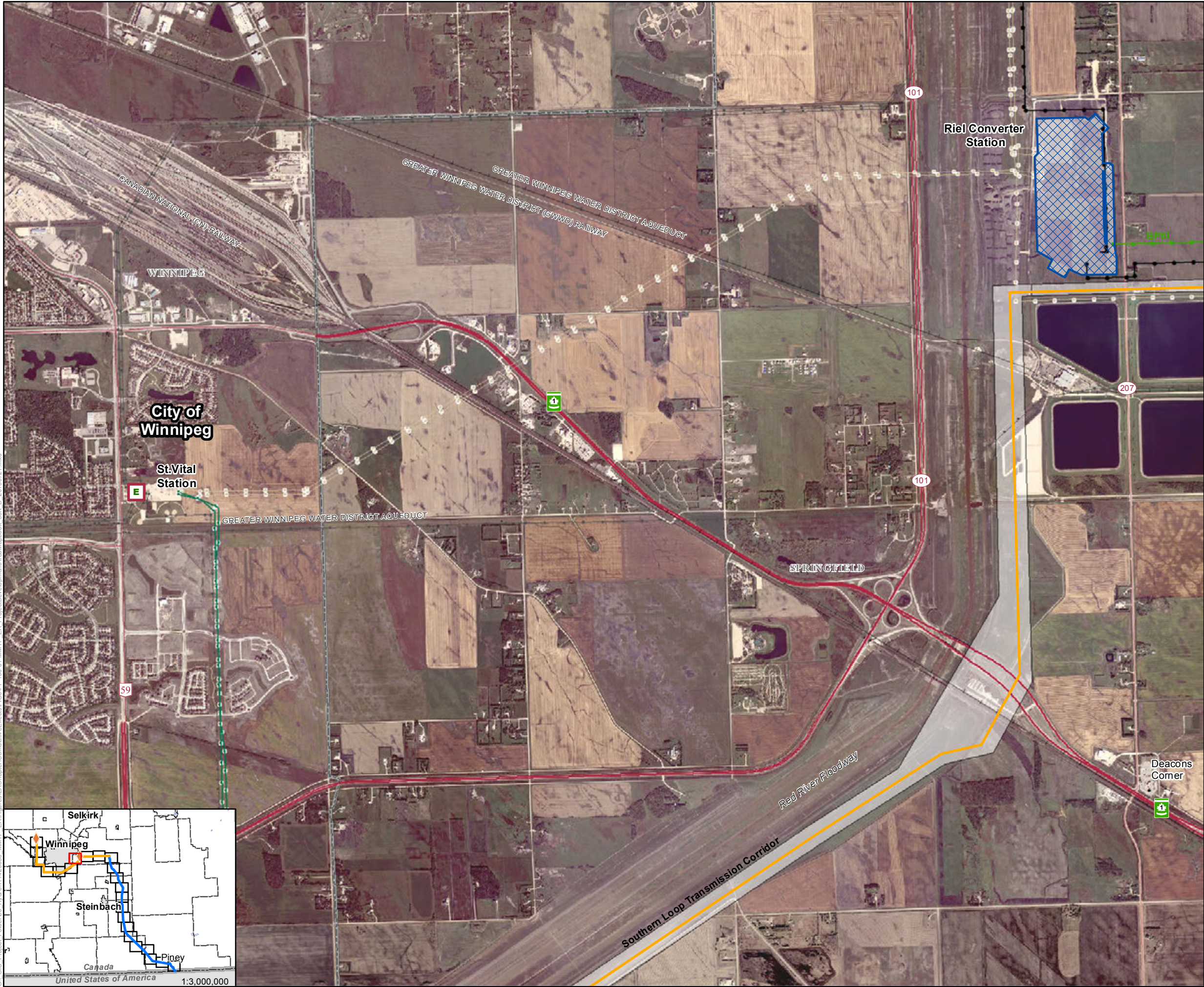


0 0.5 1 Kilometres
0 0.25 0.5 Miles

1:30,000

Project Development Area

GA:GIS:Project:Folder00_Hydro111420080_MWTP_EA\Figures\EAChapter\CumulativeEffects\FIG04-7-100-01-MMTP_EA_ProjectDevelopmentArea\Mapbook_30K_B_20150721.mxd



Manitoba-Minnesota Transmission Project

Project Infrastructure

- Final Preferred Route (Existing Transmission Corridor)
- Converter Station Footprint
- Project Development Area (PDA)

Infrastructure

- Electrical Station
- Existing 500 kV Transmission Line
- Existing 230kV Transmission Line
- Bipole III Transmission Line (Approved)
- St. Vital Transmission Complex (Proposed)
- Existing 115-230kV Transmission Line

Landbase

- Community
- Railway
- Trans Canada
- Provincial Highway
- Provincial Road
- City / Town
- First Nation Lands
- Ecological Reserve
- Wildlife Management Area
- National/Provincial Park
- Rural Municipality

Coordinate System: UTM Zone 14N NAD83
Data Source: MBHydro, ProvMB, NRCAN
Date Created: July 23, 2015

0 0.5 1 Kilometres
0 0.25 0.5 Miles



1:30,000

Project Development Area



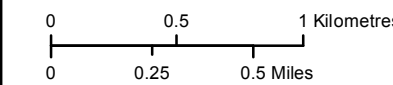
Manitoba-Minnesota Transmission Project

- Project Infrastructure**
- Final Preferred Route (Existing Transmission Corridor)
 - Project Development Area (PDA)

- Infrastructure**
- Existing 500 kV Transmission Line
 - Existing 230kV Transmission Line
 - Bipole III Transmission Line (Approved)
 - Existing 115-230kV Transmission Line

- Landbase**
- Community
 - Railway
 - Trans Canada
 - Provincial Highway
 - Provincial Road
 - City / Town
 - First Nation Lands
 - Ecological Reserve
 - Wildlife Management Area
 - National/Provincial Park
 - Rural Municipality

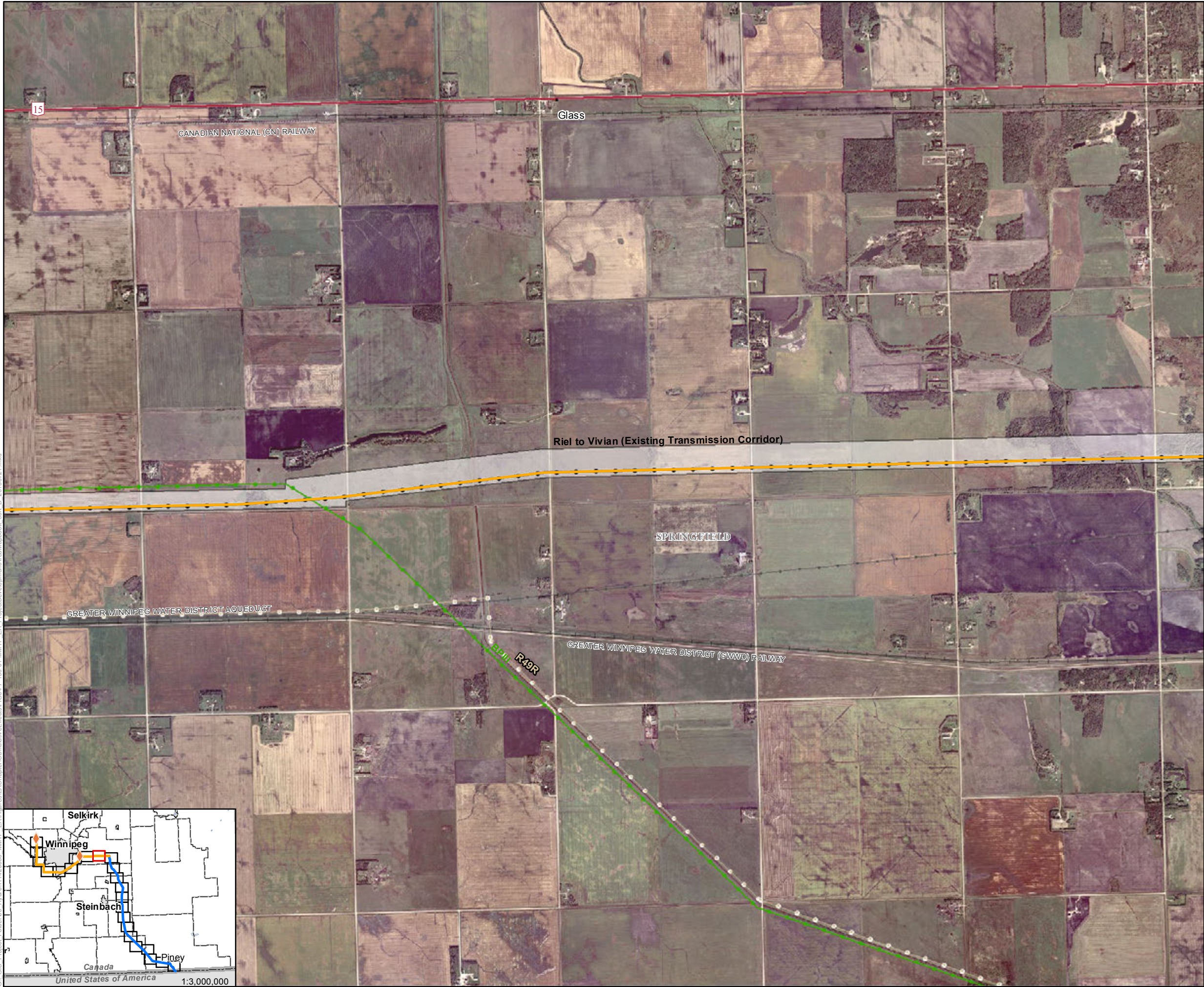
Coordinate System: UTM Zone 14N NAD83
Data Source: MBHydro, ProvMB, NRCAN
Date Created: July 23, 2015



1:30,000

Project Development Area

GA:GIS:Project:Folder00-Hydro111420080-MWTP-EA\Figures\EACumulativeEffects\Fig04-7-100-01-MMTP-EA-ProjectDevelopmentArea\Mapbook-30K-B-20150721.mxd



Manitoba-Minnesota
Transmission Project

Project Infrastructure

- Final Preferred Route (Existing Transmission Corridor)
- Project Development Area (PDA)

Infrastructure

- Existing 500 kV Transmission Line
- Existing 230kV Transmission Line
- Bipole III Transmission Line (Approved)
- Existing 115-230kV Transmission Line

Landbase

- Community
- Railway
- Trans Canada
- Provincial Highway
- Provincial Road
- City / Town
- First Nation Lands
- Ecological Reserve
- Wildlife Management Area
- National/Provincial Park
- Rural Municipality

Coordinate System: UTM Zone 14N NAD83
Data Source: MBHydro, ProvMB, NRCAN
Date Created: July 23, 2015



0 0.5 1 Kilometres
0 0.25 0.5 Miles

1:30,000

Project Development Area

G:\GIS\Project_Folder\00_Hydro\11420000_MWTP_EA\Figures\EA\Chapter\CumulativeEffects\FIG04-7-100-01-MMTP_EA_ProjectDevelopment\AerialMapbook_30K_B_20150721.mxd



Manitoba-Minnesota Transmission Project

Project Infrastructure

- Final Preferred Route (New Right of Way)
- Final Preferred Route (Existing Transmission Corridor)
- M602F Extension and Salvage
- Project Development Area (PDA)

Infrastructure

- Existing 500 kV Transmission Line
- Existing 230kV Transmission Line
- Existing 115-230kV Transmission Line

Landbase

- Community
- Railway
- Trans Canada
- Provincial Highway
- Provincial Road
- City / Town
- First Nation Lands
- Ecological Reserve
- Wildlife Management Area
- National/Provincial Park
- Rural Municipality

Coordinate System: UTM Zone 14N NAD83
Data Source: MBHydro, ProvMB, NRCAN
Date Created: July 23, 2015

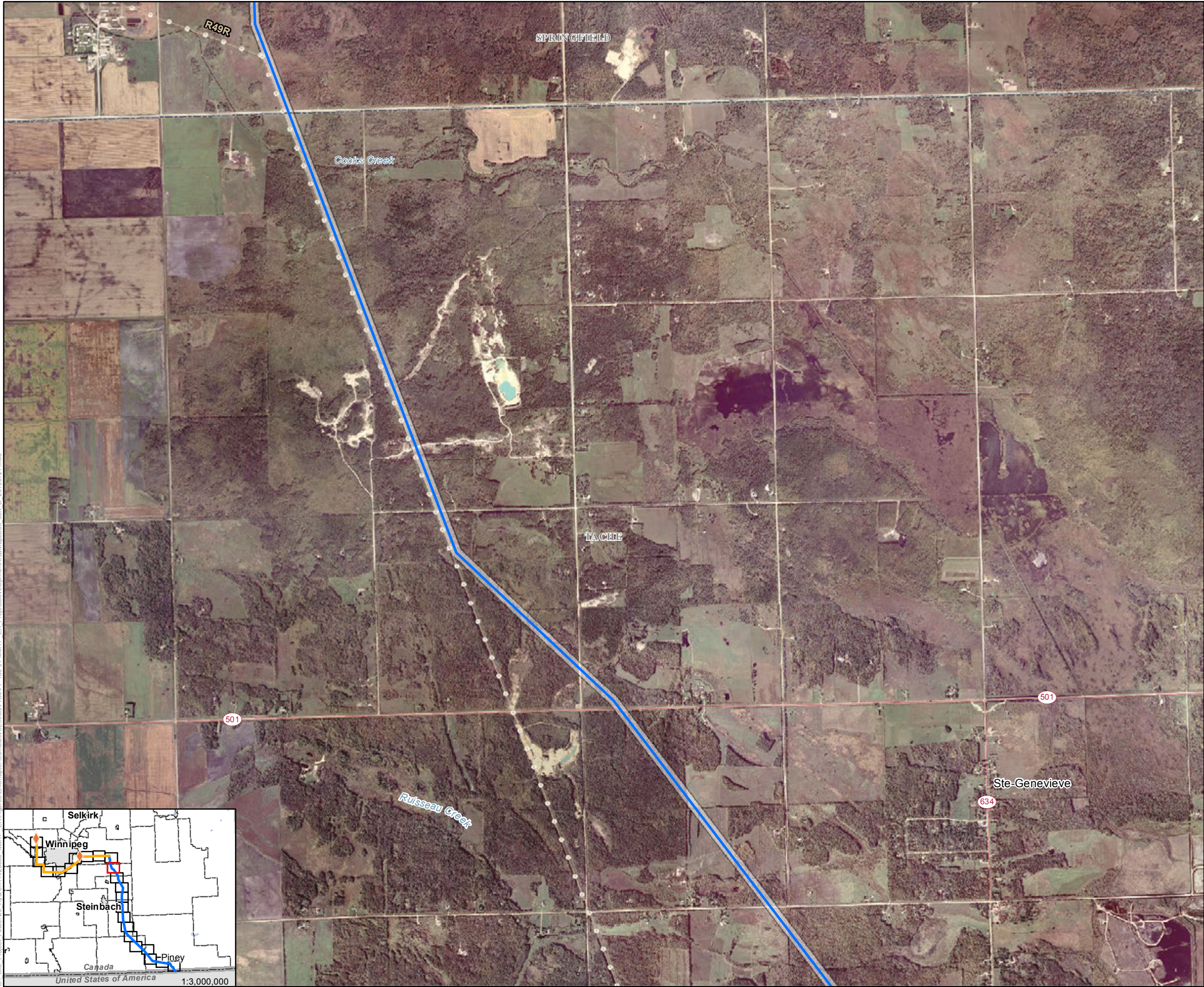


0 0.5 1 Kilometres
0 0.25 0.5 Miles

1:30,000

Project Development Area

G:\GIS\Project\Folder00_Hydro\11420080_MWTP_EA\Figures\EAChapter\CumulativeEffects\FIG04-7_100-01-MMTP_EA_ProjectDevelopment\Aerial\Mapbook_30K_B_20150721.mxd



**Manitoba-Minnesota
Transmission Project**

Project Infrastructure

-  Final Preferred Route (New Right of Way)
-  Project Development Area (PDA)

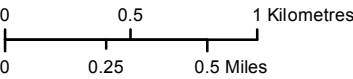
Infrastructure

-  Existing 230kV Transmission Line

Landbase

-  Community
-  Railway
-  Trans Canada
-  Provincial Highway
-  Provincial Road
-  City / Town
-  First Nation Lands
-  Ecological Reserve
-  Wildlife Management Area
-  National/Provincial Park
-  Rural Municipality

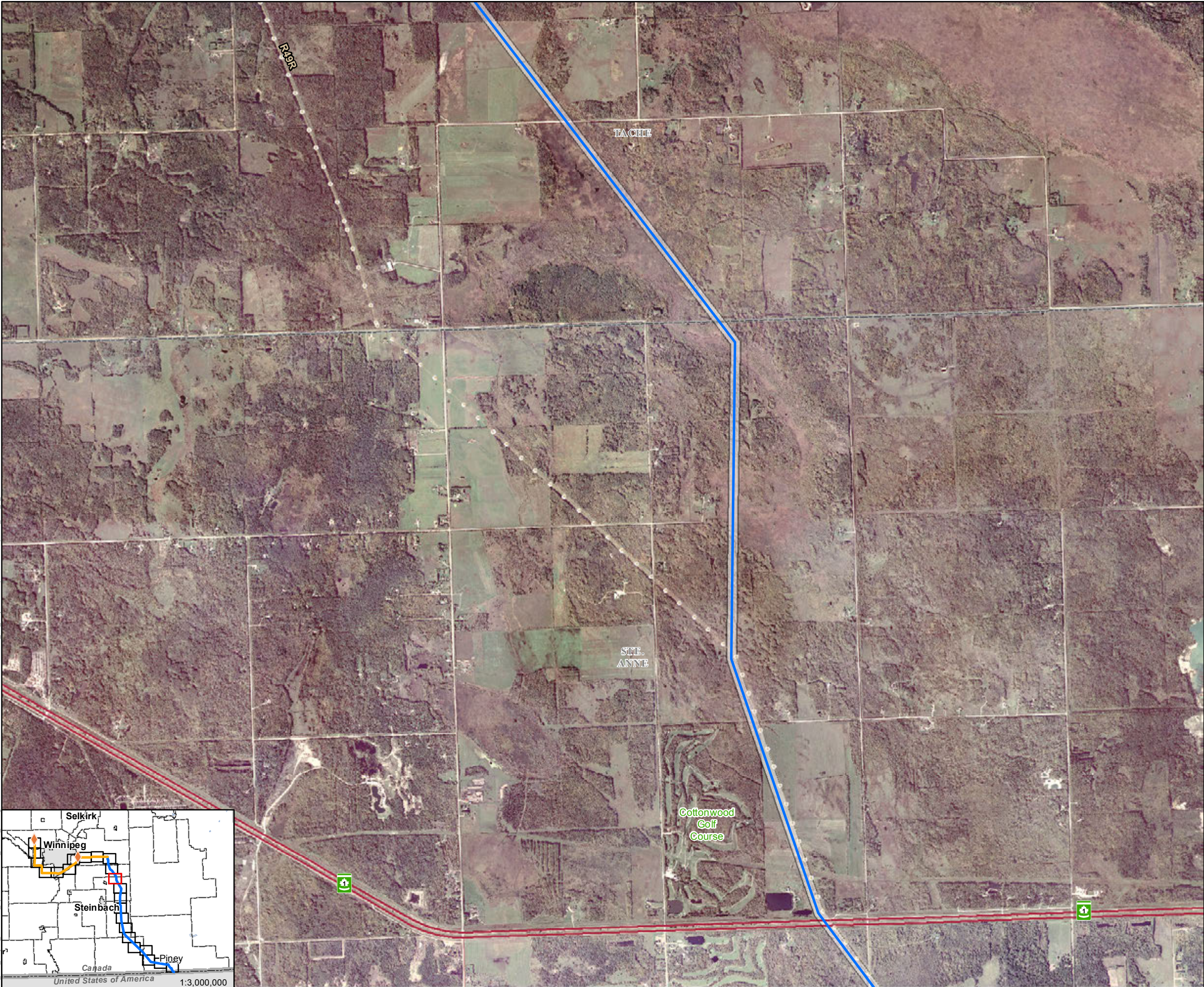
Coordinate System: UTM Zone 14N NAD83
Data Source: MBHydro, ProvMB, NRCAN
Date Created: July 23, 2015



1:30,000

Project Development Area

GA:GIS:Project:Folder00:Hydro111420080:MMTP:EA\Figures\EAChapter\CumulativeEffects\FIG047-100-01-MMTP:EA:ProjectDevelopment\Aerial\mapbook_30K_B_20150721.mxd



Manitoba-Minnesota Transmission Project

Project Infrastructure

-  Final Preferred Route (New Right of Way)
-  Project Development Area (PDA)

Infrastructure

-  Existing 230kV Transmission Line

Landbase

-  Community
-  Railway
-  Trans Canada
-  Provincial Highway
-  Provincial Road
-  City / Town
-  First Nation Lands
-  Ecological Reserve
-  Wildlife Management Area
-  National/Provincial Park
-  Rural Municipality

Coordinate System: UTM Zone 14N NAD83
Data Source: MBHydro, ProvMB, NRCAN
Date Created: July 23, 2015



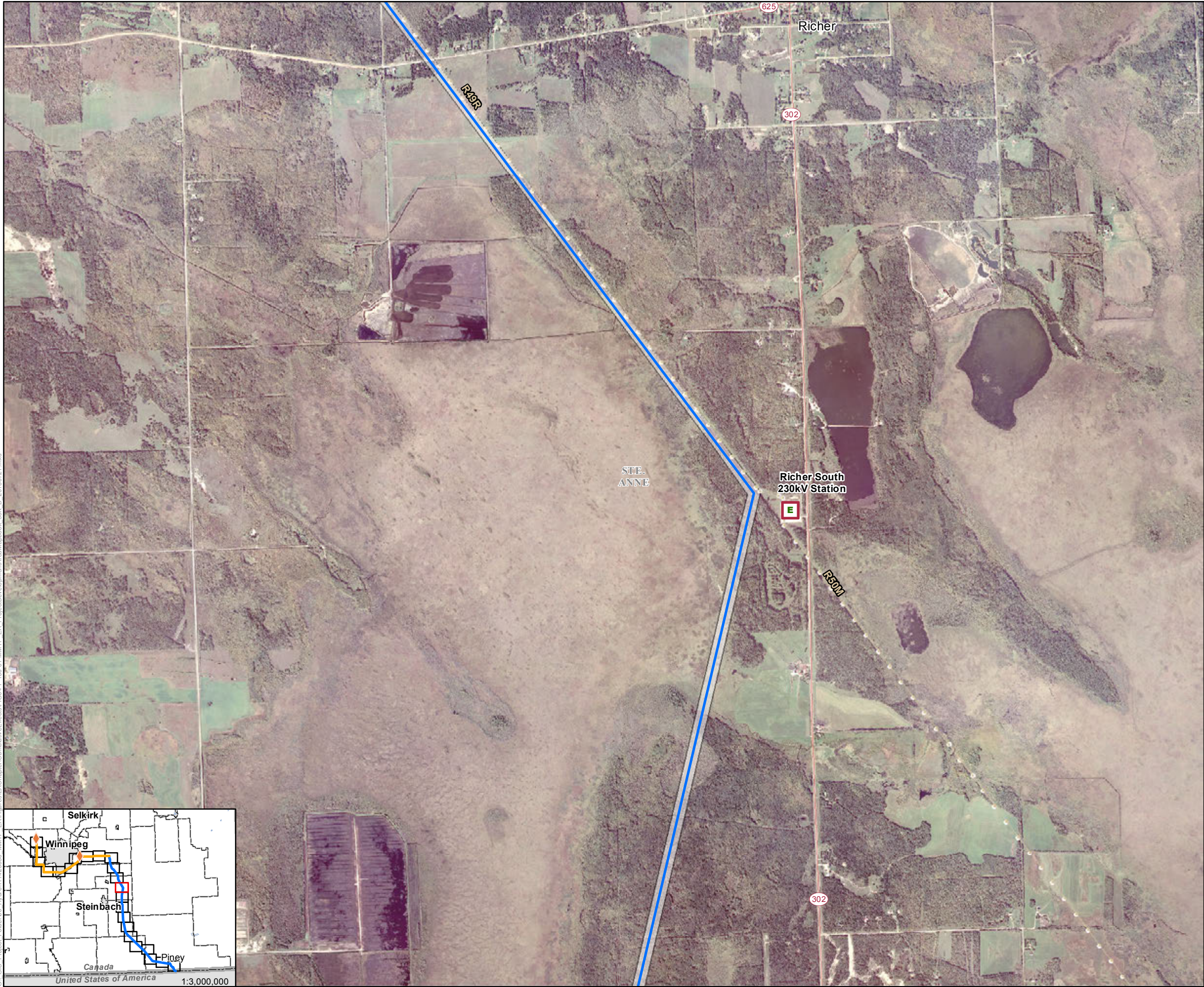
0 0.5 1 Kilometres
0 0.25 0.5 Miles

1:30,000

Project Development Area

Map 7-100-12

GA:GIS:Project:Folder00:Hydro11420000_MWTP_EA\Figures\EAChapter\CumulativeEffects\FIG04-7-100-01-MMTP_EA_ProjectDevelopment\Aerial\Mapbook_30K_B_20150721.mxd



Manitoba-Minnesota Transmission Project

Project Infrastructure

-  Final Preferred Route (New Right of Way)
-  Project Development Area (PDA)

Infrastructure

-  Electrical Station
-  Existing 230kV Transmission Line

Landbase

-  Community
-  Railway
-  Trans Canada
-  Provincial Highway
-  Provincial Road
-  City / Town
-  First Nation Lands
-  Ecological Reserve
-  Wildlife Management Area
-  National/Provincial Park
-  Rural Municipality

Coordinate System: UTM Zone 14N NAD83
Data Source: MBHydro, ProvMB, NRCAN
Date Created: July 23, 2015



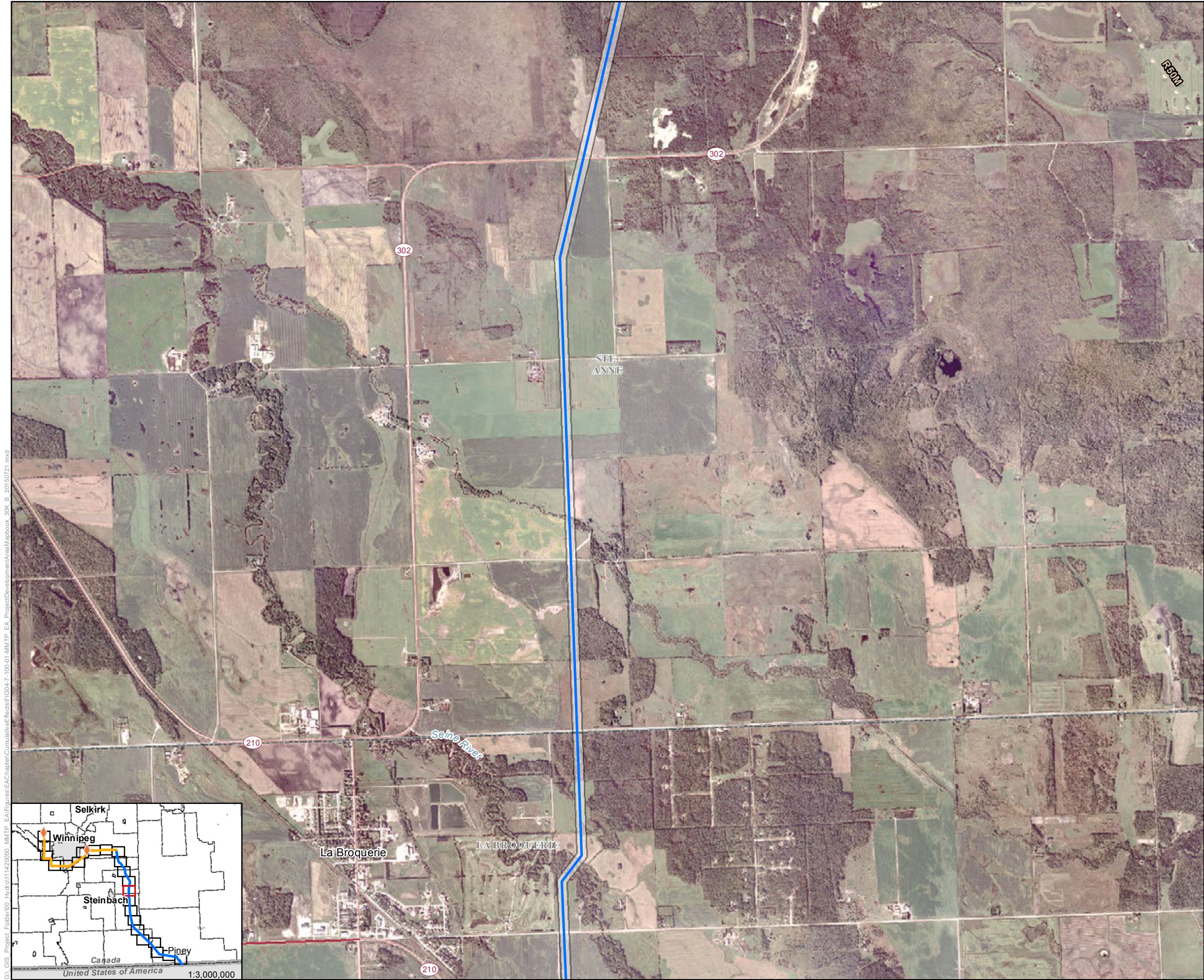
0 0.5 1 Kilometres
0 0.25 0.5 Miles

1:30,000

Project Development Area

Map 7-100-13

G:\GIS\Project\Folder00-Hydro\11420000-MNTP-EA\Figures\EA\Chapter\CumulativeEffects\FIG04-7-100-01-MNTP-EA-ProjectDevelopment\Aerial\mapbook-30K-B-20150721.mxd



Manitoba-Minnesota Transmission Project

Project Infrastructure

-  Final Preferred Route (New Right of Way)
-  Project Development Area (PDA)

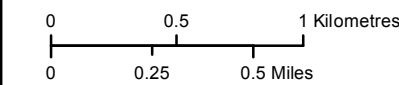
Infrastructure

-  Existing 230kV Transmission Line

Landbase

-  Community
-  Railway
-  Trans Canada
-  Provincial Highway
-  Provincial Road
-  City / Town
-  First Nation Lands
-  Ecological Reserve
-  Wildlife Management Area
-  National/Provincial Park
-  Rural Municipality

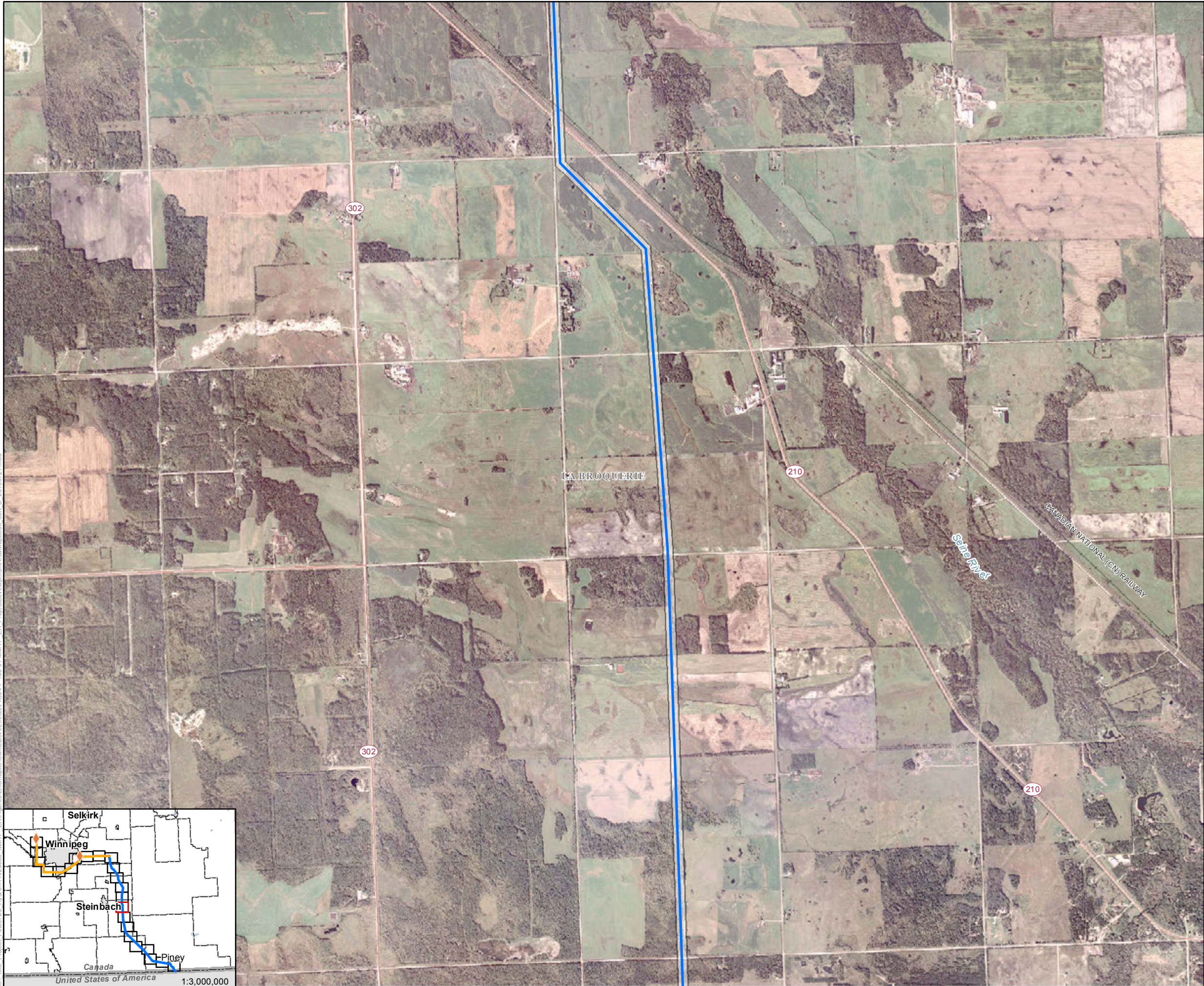
Coordinate System: UTM Zone 14N NAD83
Data Source: MBHydro, ProvMB, NRCAN
Date Created: July 23, 2015



1:30,000

Project Development Area

GA:GIS:Project:Folder00:Hydro111420000_MWTP_EA\Figures\EAChapter\CumulativeEffects\FIG04-7-100-01-MMTP_EA_ProjectDevelopment\AerialMapbook_30K_B_20150721.mxd



Manitoba-Minnesota Transmission Project

Project Infrastructure

-  Final Preferred Route (New Right of Way)
-  Project Development Area (PDA)

Landbase

-  Community
-  Railway
-  Trans Canada
-  Provincial Highway
-  Provincial Road
-  City / Town
-  First Nation Lands
-  Ecological Reserve
-  Wildlife Management Area
-  National/Provincial Park
-  Rural Municipality

Coordinate System: UTM Zone 14N NAD83
Data Source: MBHydro, ProvMB, NRCAN
Date Created: July 23, 2015



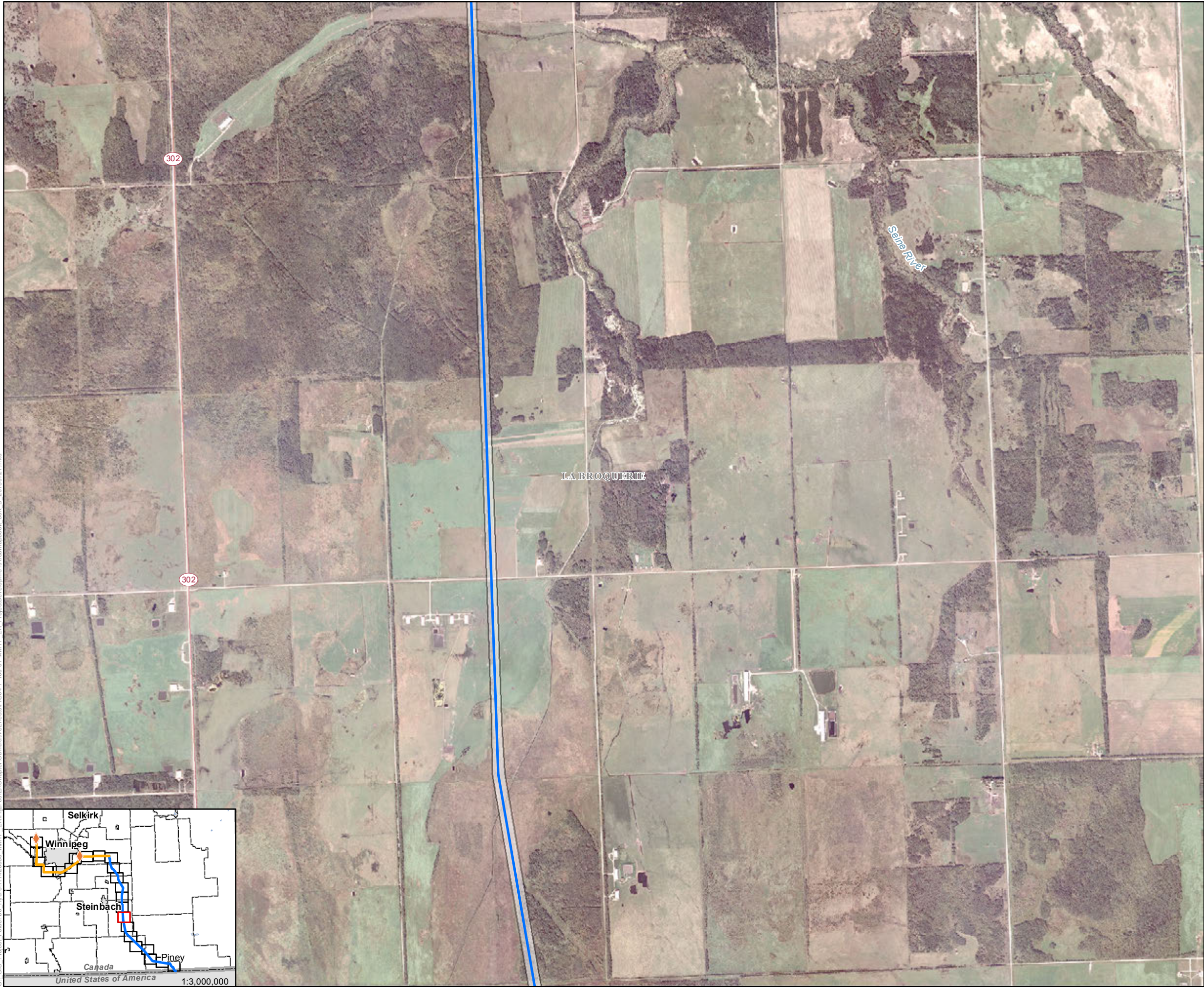
0 0.5 1 Kilometres
0 0.25 0.5 Miles

1:30,000

Project Development Area

Map 7-100-15

GA:GIS:Project:Folder00:Hydro111420000_MWTP_EA\Figures\EAC\Chapter\CumulativeEffects\FIG04-7-100-01-MMTP_EA_ProjectDevelopment\Aerial\Mapbook_30K_B_20150721.mxd



Manitoba-Minnesota Transmission Project

Project Infrastructure

-  Final Preferred Route (New Right of Way)
-  Project Development Area (PDA)

Landbase

-  Community
-  Railway
-  Trans Canada
-  Provincial Highway
-  Provincial Road
-  City / Town
-  First Nation Lands
-  Ecological Reserve
-  Wildlife Management Area
-  National/Provincial Park
-  Rural Municipality

Coordinate System: UTM Zone 14N NAD83
Data Source: MBHydro, ProvMB, NRCAN
Date Created: July 23, 2015

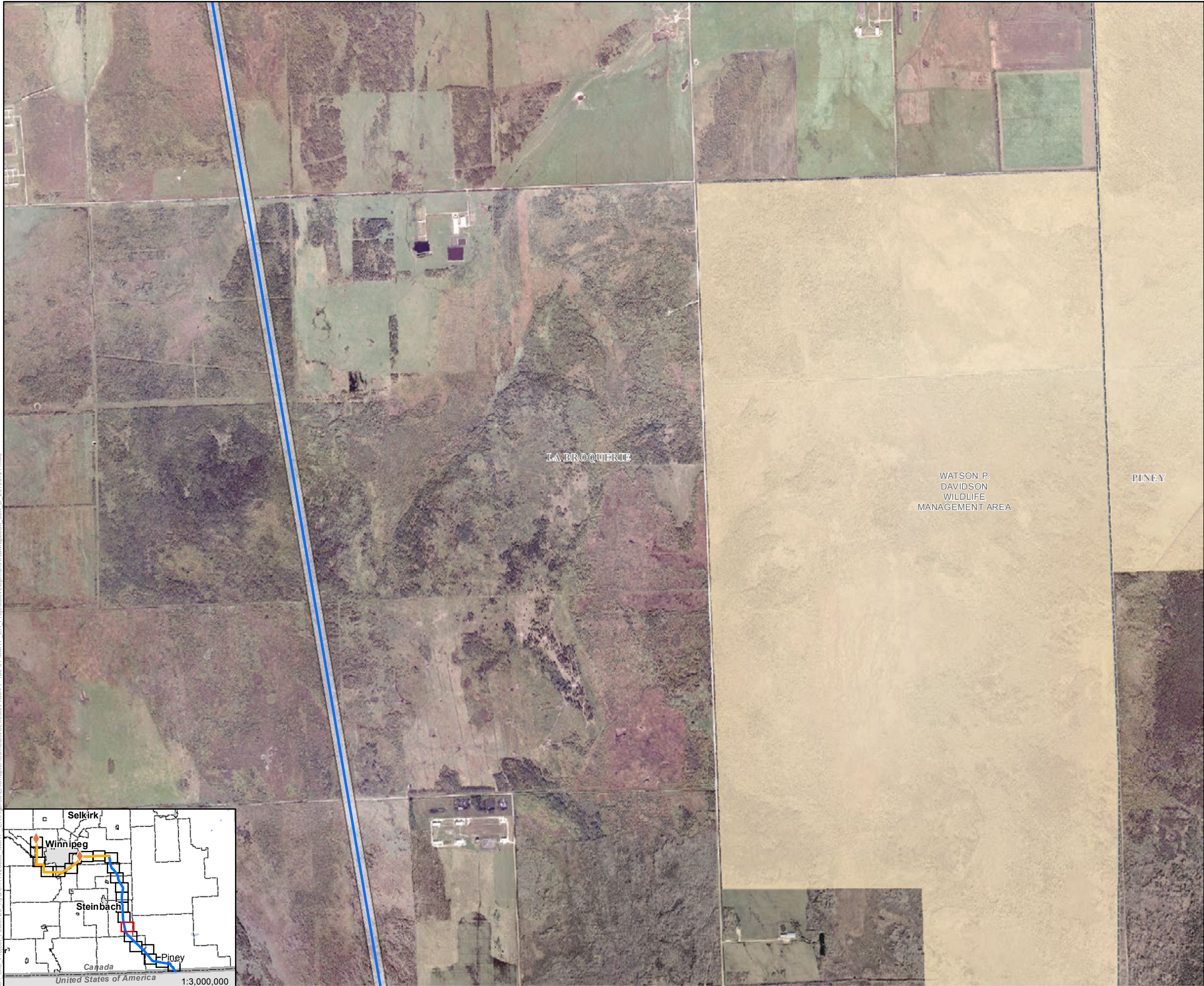


0 0.5 1 Kilometres
0 0.25 0.5 Miles

1:30,000

Project Development Area

GA:GIS:Project:Folder00-Hydro\11420080-MWTP-EA\Figures\EAC\Chapter\CumulativeEffects\FIG04-7-100-01-MMTP-EA-ProjectDevelopment\Aerial\Mapbook-30K-B-20150721.mxd



Manitoba-Minnesota Transmission Project

Project Infrastructure

-  Final Preferred Route (New Right of Way)
-  Project Development Area (PDA)

Landbase

-  Community
-  Railway
-  Trans Canada
-  Provincial Highway
-  Provincial Road
-  City / Town
-  First Nation Lands
-  Ecological Reserve
-  Wildlife Management Area
-  National/Provincial Park
-  Rural Municipality

Coordinate System: UTM Zone 14N NAD83
Data Source: MBHydro, ProvMB, NRCAN
Date Created: July 23, 2015

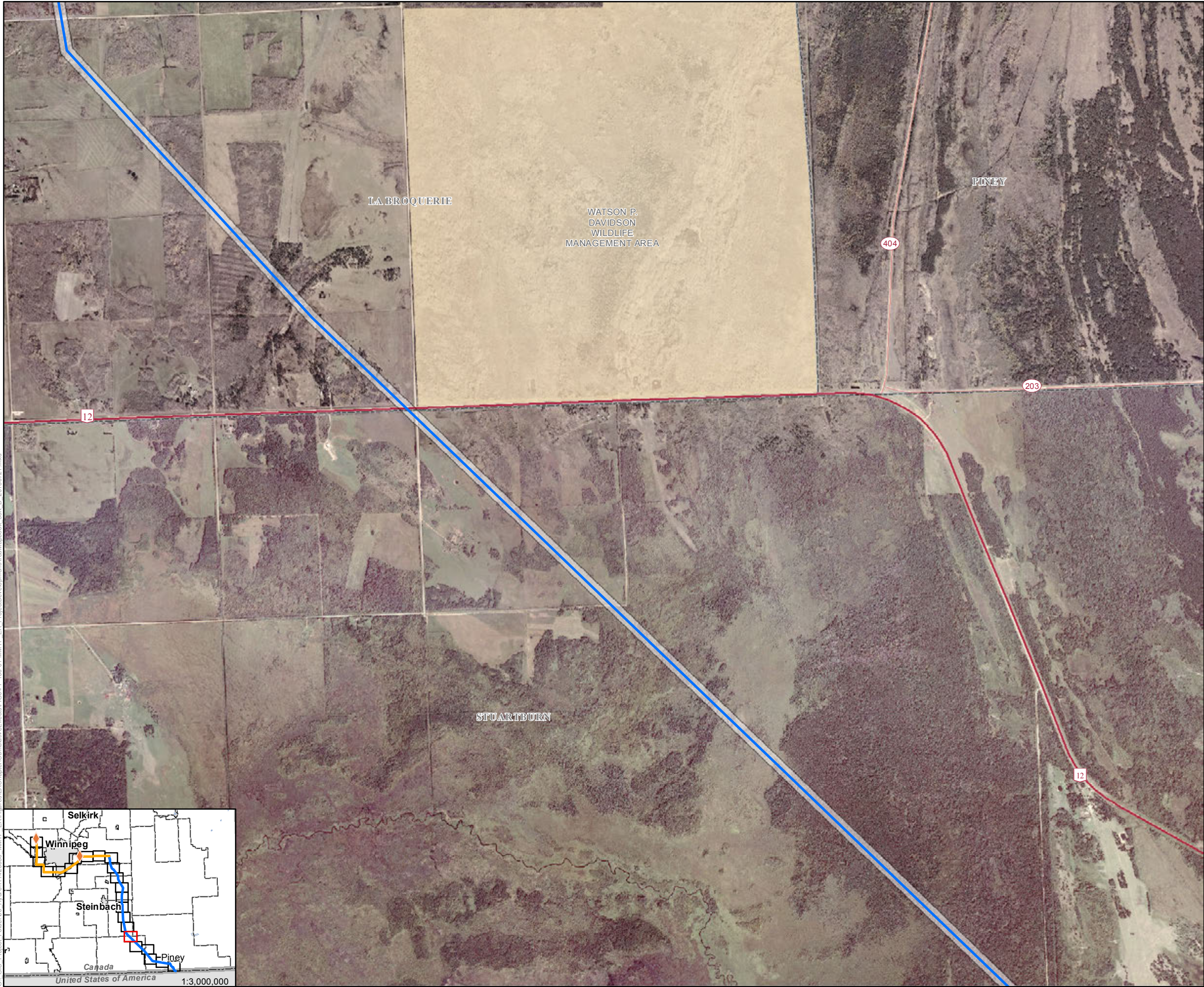


0 0.5 1 Kilometres
0 0.25 0.5 Miles

1:30,000

Project Development Area

GA:GIS:Project:Folder00:Hydro111420000:MMTP:EA\Figures\EAChapter\CumulativeEffects\FIG04-7:100-01-MMTP:EA:ProjectDevelopmentArea\Mapbook:30K_B_20150721.mxd



Manitoba-Minnesota Transmission Project

Project Infrastructure

-  Final Preferred Route (New Right of Way)
-  Project Development Area (PDA)

Landbase

-  Community
-  Railway
-  Trans Canada
-  Provincial Highway
-  Provincial Road
-  City / Town
-  First Nation Lands
-  Ecological Reserve
-  Wildlife Management Area
-  National/Provincial Park
-  Rural Municipality

Coordinate System: UTM Zone 14N NAD83
Data Source: MBHydro, ProvMB, NRCAN
Date Created: July 23, 2015



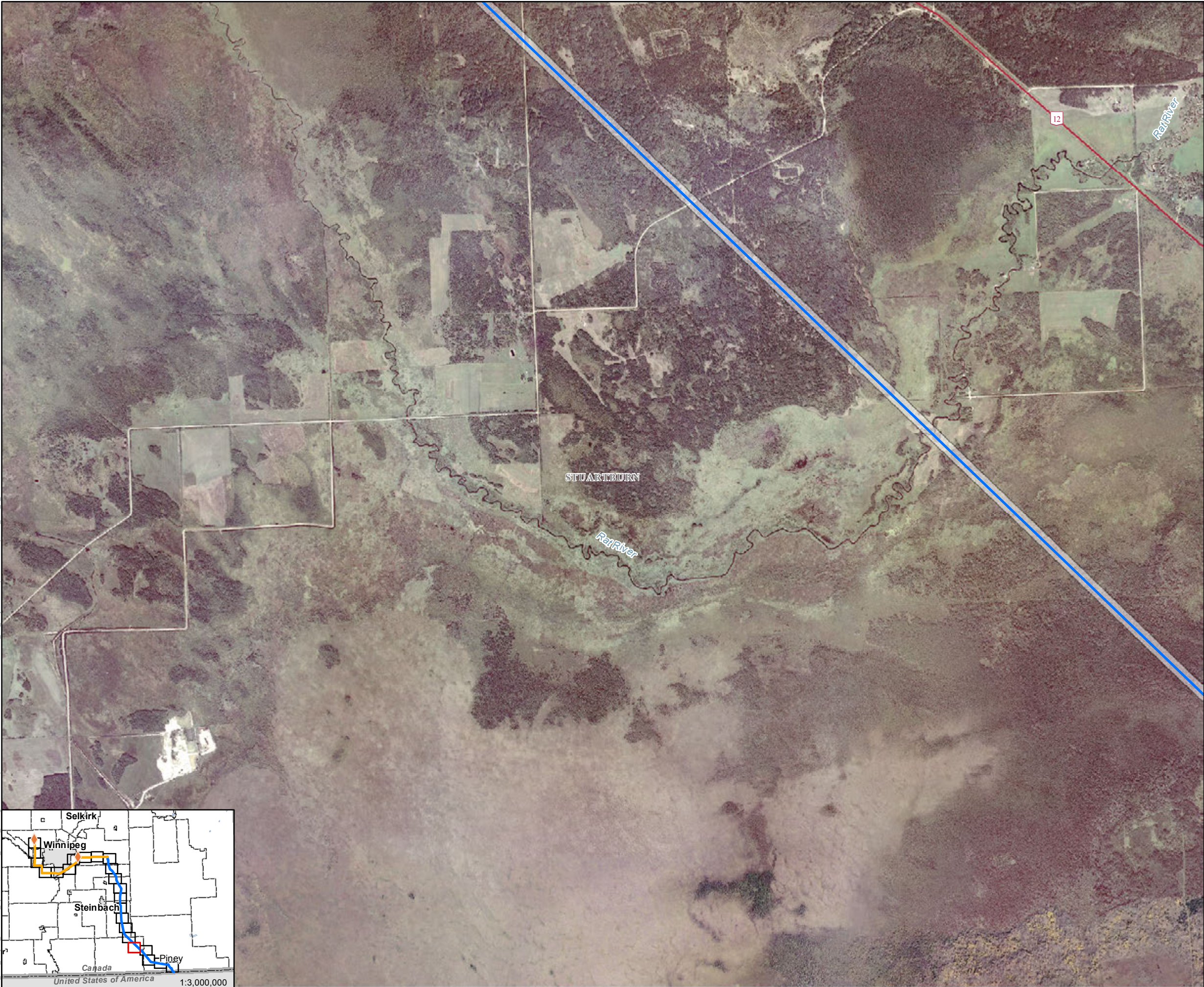
0 0.5 1 Kilometres
0 0.25 0.5 Miles

1:30,000

Project Development Area

Map 7-100-18

G:\GIS\Project_Folder\00_Hydro\11420030_MWTP_EA\Figures\EA\Chapter\CumulativeEffects\FIG04-7-100-01-MMTP_EA_ProjectDevelopmentArea\Mapbook_30K_B_20150721.mxd



**Manitoba-Minnesota
Transmission Project**

Project Infrastructure

-  Final Preferred Route (New Right of Way)
-  Project Development Area (PDA)

Landbase

-  Community
-  Railway
-  Trans Canada
-  Provincial Highway
-  Provincial Road
-  City / Town
-  First Nation Lands
-  Ecological Reserve
-  Wildlife Management Area
-  National/Provincial Park
-  Rural Municipality

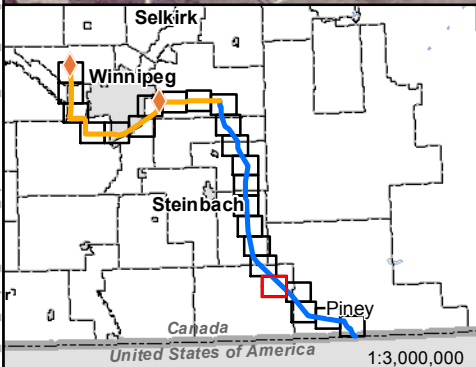
Coordinate System: UTM Zone 14N NAD83
Data Source: MBHydro, ProvMB, NRCAN
Date Created: July 23, 2015



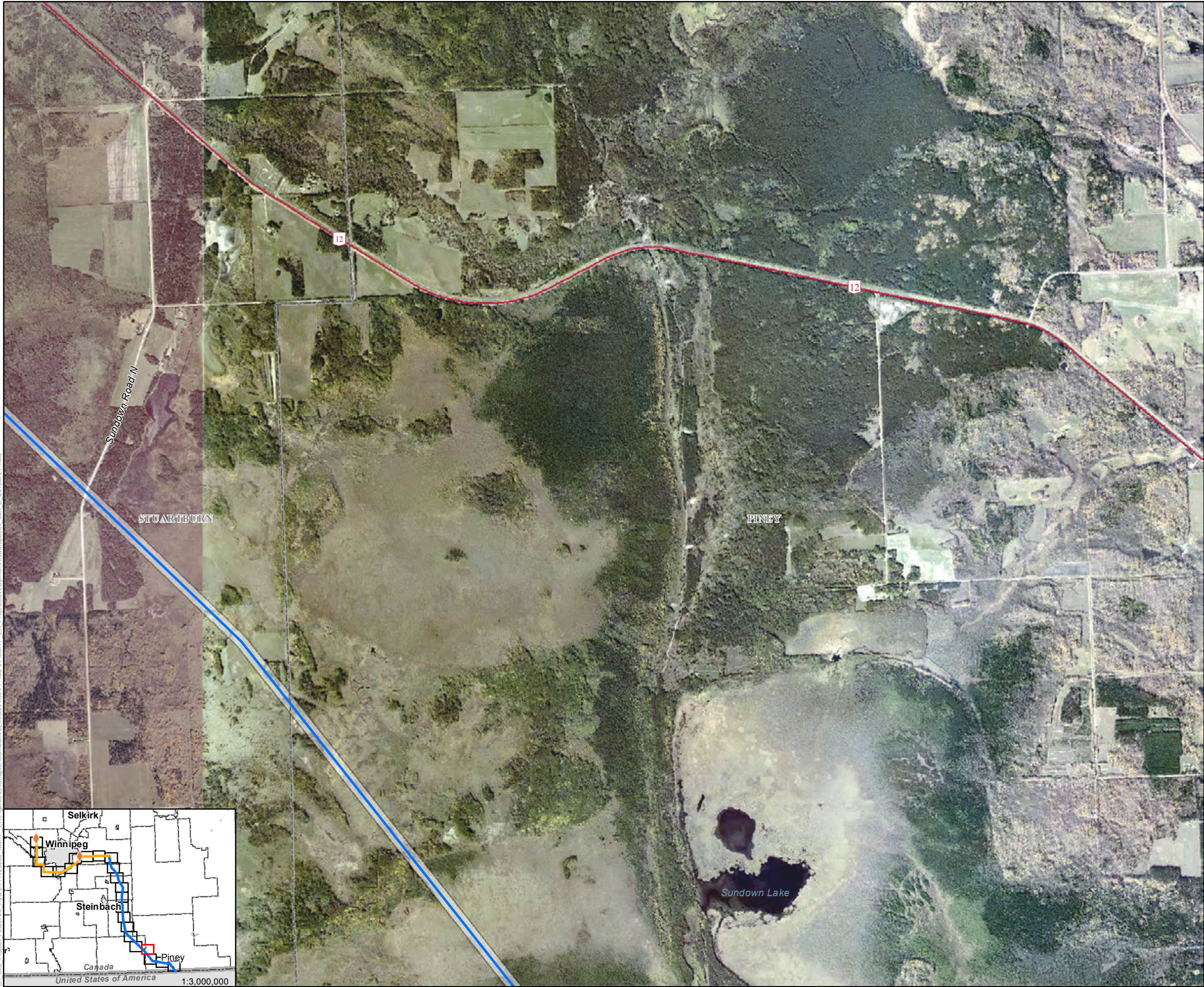
0 0.5 1 Kilometres
0 0.25 0.5 Miles

1:30,000

Project Development Area



G:\GIS\Project_Folder\00_Hydro\11420000_MWTP_EA\Figures\EA\Chapter\CumulativeEffects\FIG04-7-100-01-MMTP_EA_ProjectDevelopment\Aerial\mapbook_30K_B_20150721.mxd



Manitoba-Minnesota Transmission Project

Project Infrastructure

-  Final Preferred Route (New Right of Way)
-  Project Development Area (PDA)

Landbase

-  Community
-  Railway
-  Trans Canada
-  Provincial Highway
-  Provincial Road
-  City / Town
-  First Nation Lands
-  Ecological Reserve
-  Wildlife Management Area
-  National/Provincial Park
-  Rural Municipality

Coordinate System: UTM Zone 14N NAD83
Data Source: MBHydro, ProvMB, NRCAN
Date Created: July 23, 2015



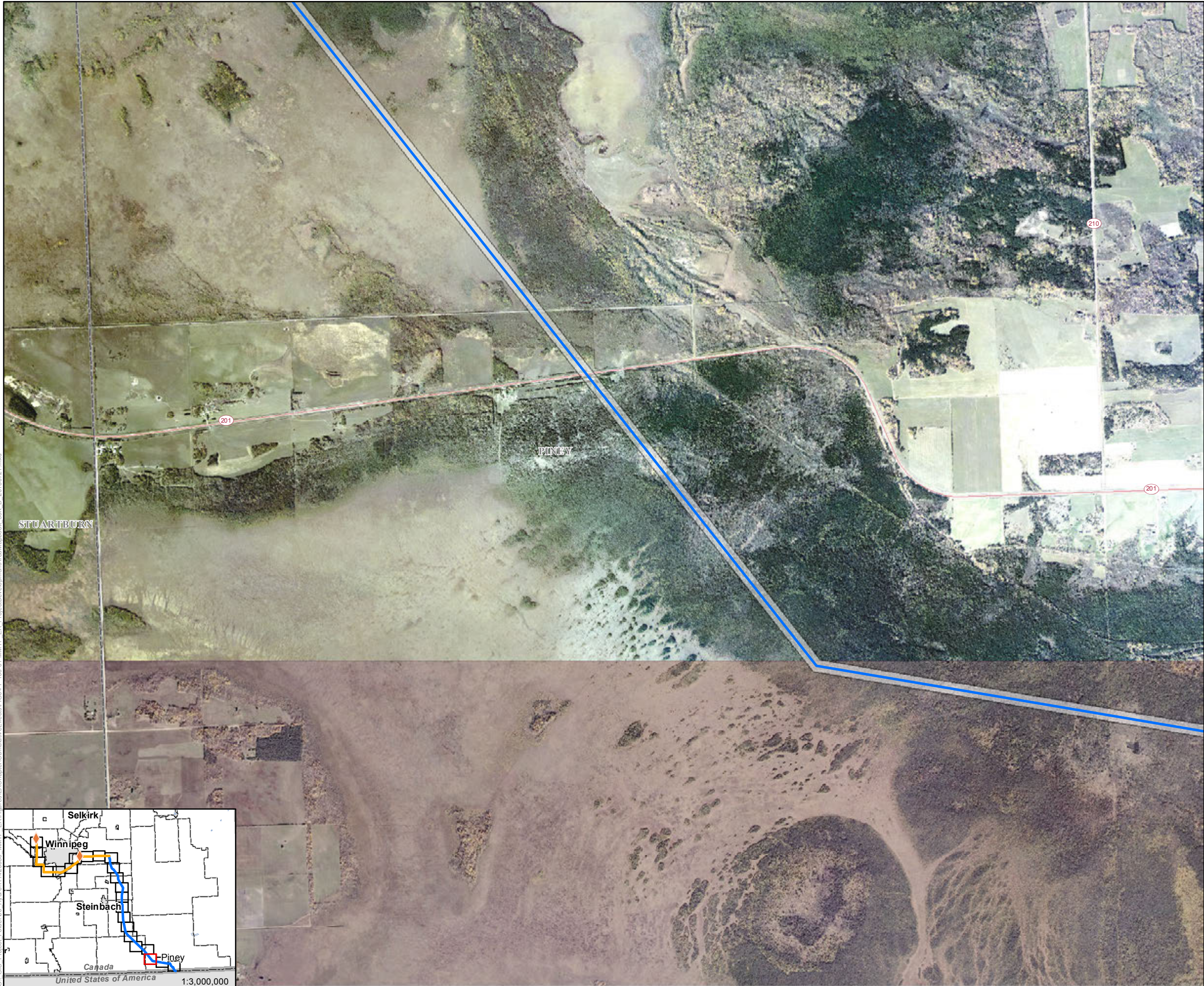
0 0.5 1 Kilometres
0 0.25 0.5 Miles

1:30,000

Project Development Area

Map 7-100-20

GA:GIS:Project:Folder00-Hydro\11420080-MWTP-EA\Figures\EAChapter\CumulativeEffects\FIG04-7-100-01-MMTP-EA-ProjectDevelopmentArea\Mapbook-30K-B-20150721.mxd



Manitoba-Minnesota Transmission Project

Project Infrastructure

-  Final Preferred Route (New Right of Way)
-  Project Development Area (PDA)

Landbase

-  Community
-  Railway
-  Trans Canada
-  Provincial Highway
-  Provincial Road
-  City / Town
-  First Nation Lands
-  Ecological Reserve
-  Wildlife Management Area
-  National/Provincial Park
-  Rural Municipality

Coordinate System: UTM Zone 14N NAD83
Data Source: MBHydro, ProvMB, NRCAN
Date Created: July 23, 2015



0 0.5 1 Kilometres
0 0.25 0.5 Miles

1:30,000

Project Development Area

Map 7-100-21

GA:GIS:Project:Folder00:Hydro111420000:MMTP:EA\Figures\EAChapter\CumulativeEffects\FIG04-7:100-01-MMTP:EA:ProjectDevelopment\Aerial\Mapbook:30K_B_20150721.mxd



Manitoba-Minnesota Transmission Project

Project Infrastructure

-  Final Preferred Route (New Right of Way)
-  Project Development Area (PDA)

Landbase

-  Community
-  Railway
-  Trans Canada
-  Provincial Highway
-  Provincial Road
-  City / Town
-  First Nation Lands
-  Ecological Reserve
-  Wildlife Management Area
-  National/Provincial Park
-  Rural Municipality

Coordinate System: UTM Zone 14N NAD83
Data Source: MBHydro, ProvMB, NRCAN
Date Created: July 23, 2015



0 0.5 1 Kilometres
0 0.25 0.5 Miles

1:30,000

Project Development Area

Map 7-100-22

GA:GIS:Project:Folder00:Hydro11420080_MWTP_EA\Figures\EAChapter\CumulativeEffects\FIG04-7-100-01-MMTP_EA_ProjectDevelopment\AerialMapbook_30K_B_20150721.mxd



Manitoba-Minnesota Transmission Project

Project Infrastructure

-  Final Preferred Route (New Right of Way)
-  Project Development Area (PDA)

Landbase

-  Community
-  Railway
-  Trans Canada
-  Provincial Highway
-  Provincial Road
-  City / Town
-  First Nation Lands
-  Ecological Reserve
-  Wildlife Management Area
-  National/Provincial Park
-  Rural Municipality

Coordinate System: UTM Zone 14N NAD83
Data Source: MBHydro, ProvMB, NRCAN
Date Created: July 23, 2015



0 0.5 1 Kilometres
0 0.25 0.5 Miles

1:30,000

Project Development Area

Map 7-100-23

G:\GIS\Project\Folder00_Hydro\11420030_MMTP_EA\Figures\EAChapter\CumulativeEffects\FIG05-7-200-00-MMTP_EA_ExistingCEOverview_600K_B_20150707.mxd



Manitoba-Minnesota Transmission Project

Project Infrastructure

- ◆ Converter Station (Existing)
- Final Preferred Route

Map Tile Index - 1:150,000

- Map Series Tile

Physical Activities and Resource Use

- Transmission
 - Transmission Line (>115 kV)
- Transportation
 - Road / Railway
- Oil and Gas
 - Gas Line / Pipeline¹
- Other
 - Manitoba Hydro Infrastructure
- Commercial
 - Mine Site²
 - Forestry / Mining Area^{3,4,5,6,7}
- Recreational
 - Campground / Snowmobile Shelter / Ski Center
 - Canoe Route / Trans Canada Trail / Snowmobile Trail
 - Recreational Area
- Agriculture
 - Livestock Operation⁸
 - Annual Cropland⁹
- Residential
 - Residential Subdivision¹⁰

Source:
1. Alberta Clipper Pipeline, 2012, Adapted from Enbridge Proposed Alberta Clipper Pipeline (Line 67)
2. Mine Sites, 2014, Manitoba's Mineral Resources
3. Tending, 1984-2002, Manitoba Conservation and Water Stewardship
4. Plantations, 1951-2011, Manitoba Conservation and Water Stewardship
5. Timber Sales Plan, 2010-15, Manitoba Conservation and Water Stewardship
6. Quarry Withdrawals, 2013, Manitoba Conservation and Water Stewardship
7. Casual Quarry Permit, 2015, Manitoba Conservation and Water Stewardship
8. Livestock Operations, 2014, Stantec
9. Annual Cropland, 1994-2014, Manitoba Conservation and Water Stewardship
10. Residential Subdivisions, 2015, Adapted from Residential Subdivision Plan

Coordinate System: UTM Zone 14N NAD83
Data Source: MBHydro, ProvMB, NRCAN
Date Created: July 23, 2015

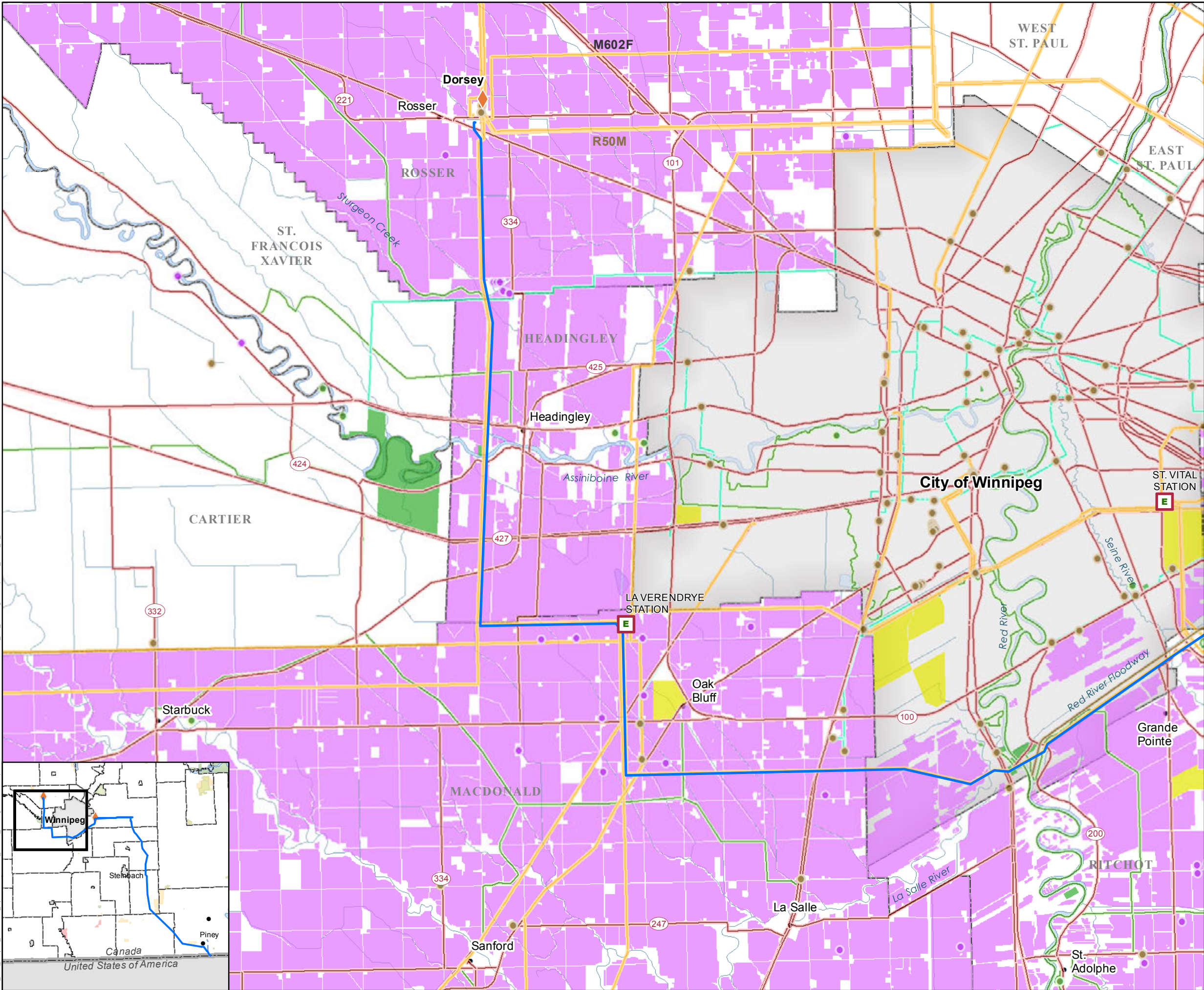


0 5 10 Kilometres
0 5 10 Miles

1:500,000

Index of Map Series Past and Present Physical Activities and Resource Use

G:\GIS\Project_Folder\00_Hydro\11420000_MMTP_EA\Figures\EAChapter\CumulativeEffects\IG05-7-200-01-MMTP_EA_ExistingCEMapbook_150K_B_20150707.mxd



Manitoba-Minnesota Transmission Project

Project Infrastructure

- ◆ Converter Station (Existing)
- Final Preferred Route

Infrastructure

- E** Electrical Station

Physical Activities and Resource Use

Agriculture

- Livestock Operation¹
- Annual Cropland²

Recreational

- Campground / Snowmobile Shelter / Ski Center
- Canoe Route / Trans Canada Trail / Snowmobile Trail
- Recreational Area

Other

- Manitoba Hydro Infrastructure
- Red River Floodway

Transmission

- Transmission Line (>115 kV)

Transportation

- Road / Railway

Oil and Gas

- Gas Line / Pipeline

Residential

- Residential Subdivision³

Landbase

- Community
- Trans Canada Highway
- Provincial Highway
- Provincial Road
- City / Town
- Rural Municipality
- Watercourse
- Waterbody

Source:

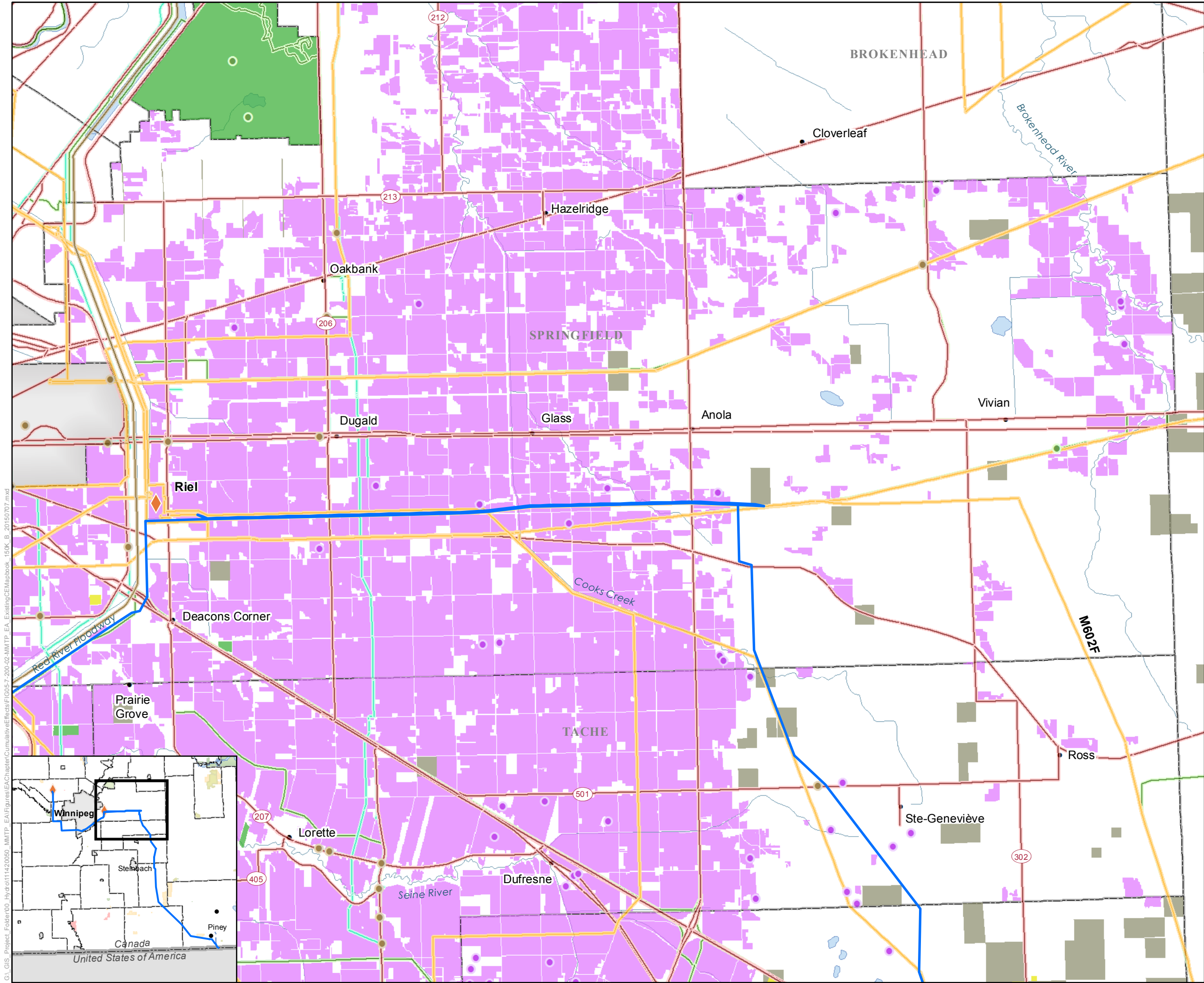
- 1. Livestock Operations, 2014, Stantec
- 2. Annual Cropland, 1994-2014, Manitoba Conservation and Water Stewardship
- 3. Residential Subdivisions, 2015, Adapted from Residential Subdivision Plan

Coordinate System: UTM Zone 14N NAD83
Data Source: MBHydro, ProvMB, NRCAN
Date Created: July 23, 2015

0 2 4 Kilometres
0 1.5 3 Miles

1:150,000

Past and Present Physical Activities and Resource Use



Manitoba-Minnesota Transmission Project

Project Infrastructure

- Converter Station (Existing)
- Final Preferred Route

Physical Activities and Resource Use

Agriculture

- Livestock Operation¹
- Annual Cropland²

Recreational

- Campground / Snowmobile Shelter / Ski Center
- Canoe Route / Trans Canada Trail / Snowmobile Trail
- Recreational Area

Other

- Manitoba Hydro Infrastructure
- Red River Floodway

- Transmission Line (>115 kV)

Transportation

- Road / Railway

- Gas Line / Pipeline

Residential

- Residential Subdivision³

Commercial

- Forestry / Mining Area^{4,5,6,7,8}

Landbase

- Community
- Trans Canada Highway
- Provincial Highway
- Provincial Road
- City / Town
- Rural Municipality
- Watercourse
- Waterbody

Source:
1. Livestock Operations, 2014, Stantec
2. Annual Cropland, 1994-2014, Manitoba Conservation and Water Stewardship
3. Residential Subdivisions, 2015, Adapted from Residential Subdivision Plan
4. Tending, 1984-2002, Manitoba Conservation and Water Stewardship
5. Plantations, 1951-2011, Manitoba Conservation and Water Stewardship
6. Timber Sales Plan, 2010-15, Manitoba Conservation and Water Stewardship
7. Quarry Withdrawals, 2013, Manitoba Conservation and Water Stewardship
8. Casual Quarry Permit, 2015, Manitoba Conservation and Water Stewardship

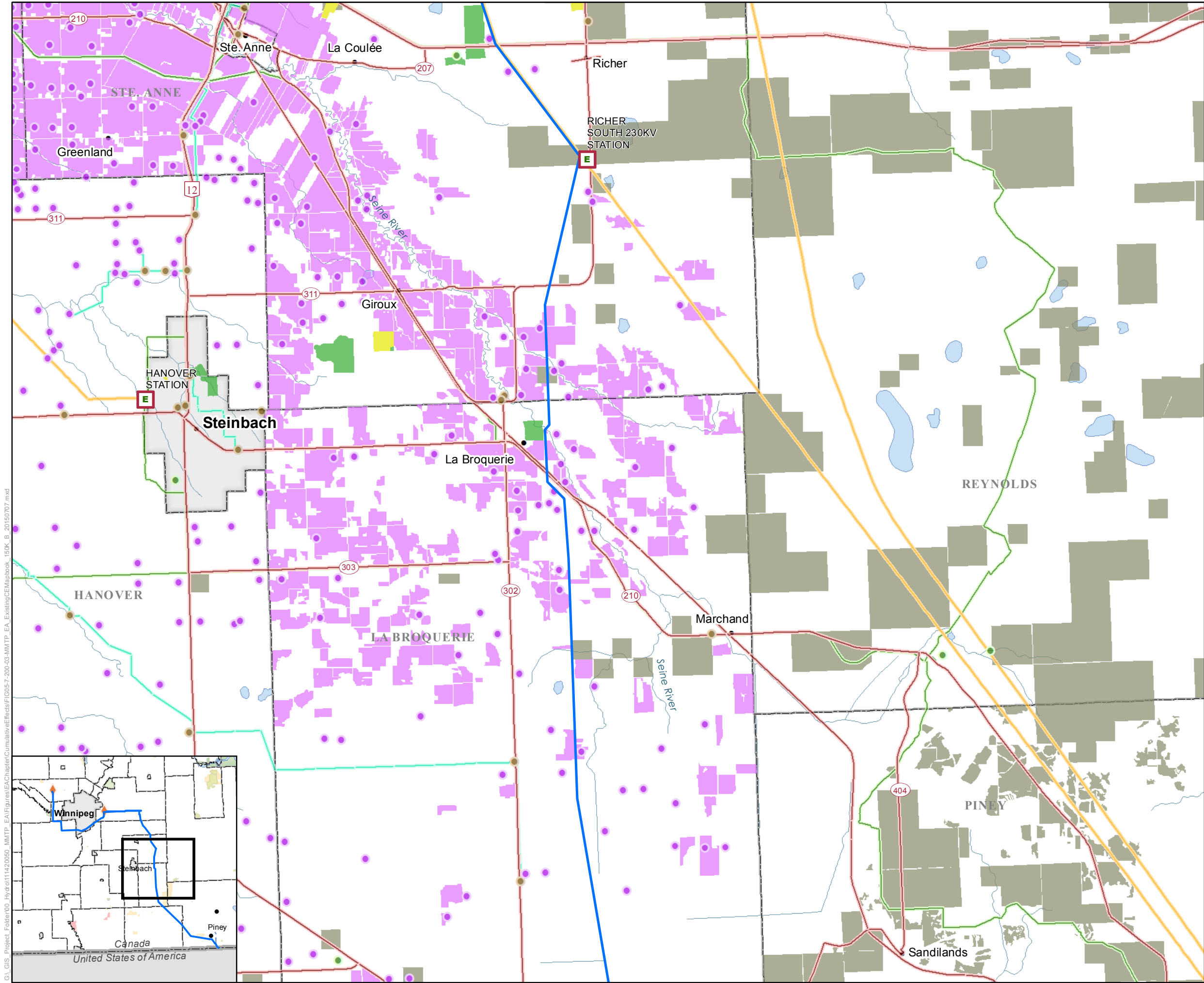
Coordinate System: UTM Zone 14N NAD83
Data Source: MBHydro, ProvMB, NRCAN
Date Created: July 23, 2015

0 2 4 Kilometres
0 1.5 3 Miles

1:150,000

Past and Present Physical Activities and Resource Use

Map 7-200-02



GL GIS Project Folder 00-Hydro\011420030_MMTTP_EA\Figures\EAChapter\CumulativeEffects\IG057-200-03-MMTP_EA_ExistingCEMapbook_150K_B_20150707.mxd



Manitoba-Minnesota
Transmission Project

Project Infrastructure
Final Preferred Route

Infrastructure
Electrical Station

Physical Activities and Resource Use

- Agriculture
- Livestock Operation¹
 - Annual Cropland²
- Recreational
- Campground / Snowmobile Shelter / Ski Center
 - Canoe Route / Trans Canada Trail / Snowmobile Trail
 - Recreational Area
- Other
- Manitoba Hydro Infrastructure
- Transmission
- Transmission Line (>115 kV)
- Transportation
- Road / Railway
- Oil and Gas
- Gas Line / Pipeline
- Residential
- Residential Subdivision³
- Commercial
- Forestry / Mining Area^{4,5,6,7,8}

- Landbase
- Community
 - Trans Canada Highway
 - Provincial Highway
 - Provincial Road
 - City / Town
 - Rural Municipality
 - Watercourse
 - Waterbody

Source:

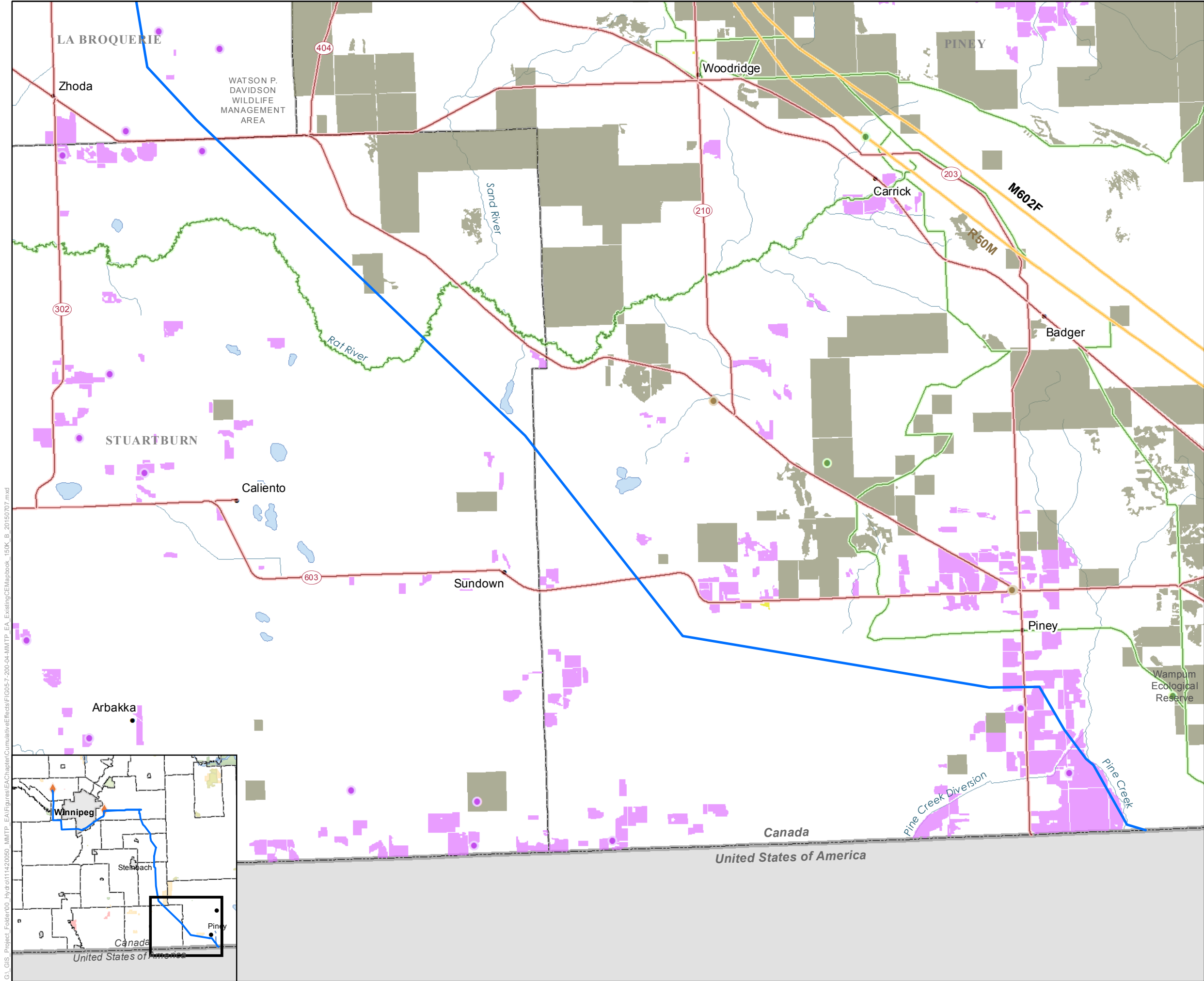
- Livestock Operations, 2014, Stantec
- Annual Cropland, 1994-2014, Manitoba Conservation and Water Stewardship
- Residential Subdivisions, 2015, Adapted from Residential Subdivision Plan
- Tending, 1984-2002, Manitoba Conservation and Water Stewardship
- Plantations, 1951-2011, Manitoba Conservation and Water Stewardship
- Timber Sales Plan, 2010-15, Manitoba Conservation and Water Stewardship
- Quarry Withdrawals, 2013, Manitoba Conservation and Water Stewardship
- Casual Quarry Permit, 2015, Manitoba Conservation and Water Stewardship

Coordinate System: UTM Zone 14N NAD83
Data Source: MBHydro, ProvMB, NRCAN
Date Created: July 23, 2015

0 2 4 Kilometres
0 1.5 3 Miles

1:150,000

Past and Present Physical
Activities and Resource Use



Manitoba-Minnesota
Transmission Project

Project Infrastructure

Final Preferred Route

Physical Activities and Resource Use

Agriculture

- Livestock Operation¹
- Annual Cropland²

Recreational

- Campground / Snowmobile Shelter / Ski Center
- Canoe Route / Trans Canada Trail / Snowmobile Trail
- Recreational Area

Other

- Manitoba Hydro Infrastructure

Transmission

- Transmission Line (>115 kV)

Transportation

- Road / Railway

Residential

- Residential Subdivision³

Commercial

- Forestry / Mining Area^{4,5,6,7,8}

Landbase

- Community
- Trans Canada Highway
- Provincial Highway
- Provincial Road
- City / Town
- Rural Municipality
- Watercourse
- Waterbody

Source:
1. Livestock Operations, 2014, Stantec
2. Annual Cropland, 1994-2014, Manitoba Conservation and Water Stewardship
3. Residential Subdivisions, 2015, Adapted from Residential Subdivision Plan
4. Tending, 1984-2002, Manitoba Conservation and Water Stewardship
5. Plantations, 1951-2011, Manitoba Conservation and Water Stewardship
6. Timber Sales Plan, 2010-15, Manitoba Conservation and Water Stewardship
7. Quarry Withdrawals, 2013, Manitoba Conservation and Water Stewardship
8. Casual Quarry Permit, 2015, Manitoba Conservation and Water Stewardship

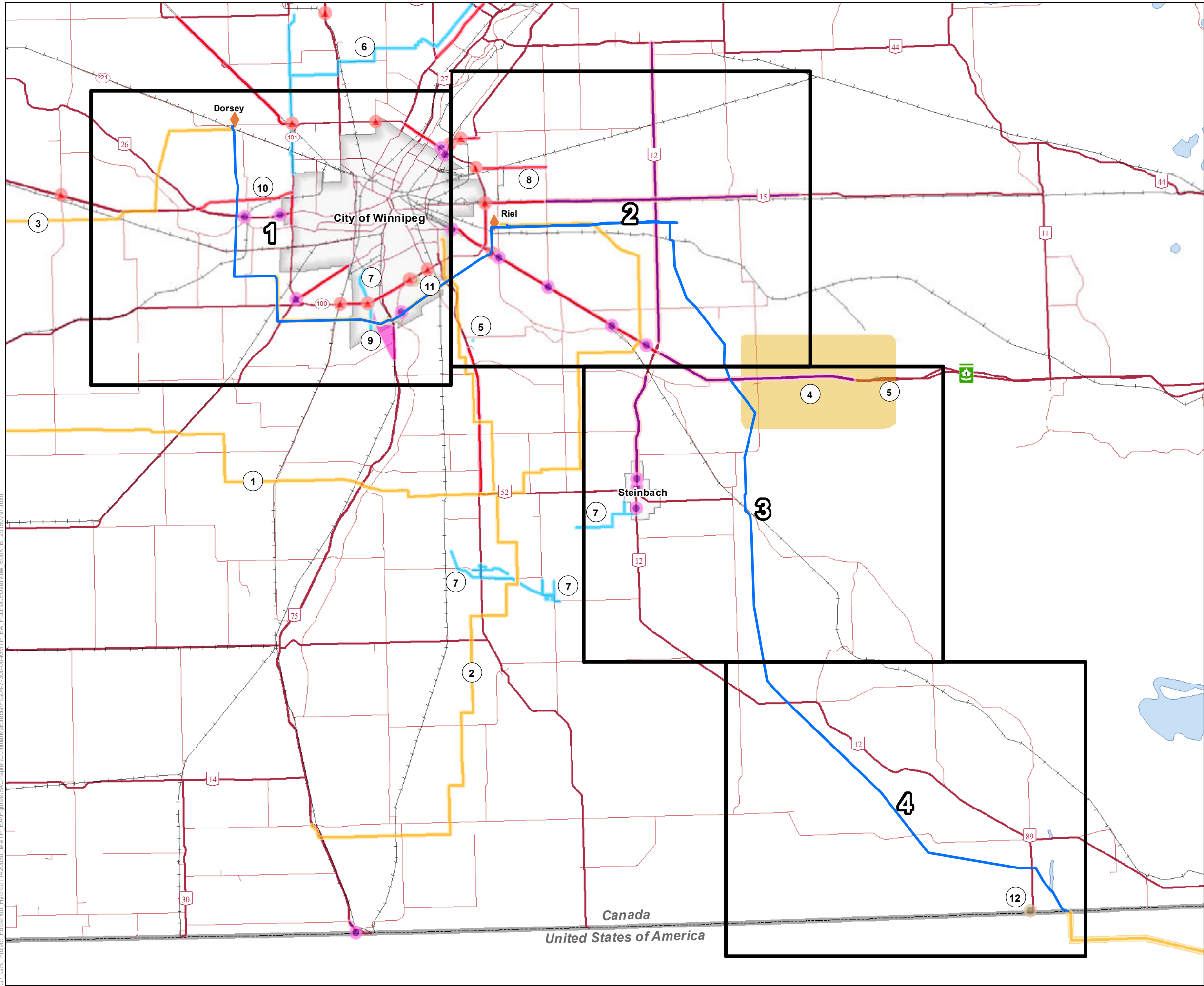
Coordinate System: UTM Zone 14N NAD83
Data Source: MBHydro, ProvMB, NRCAN
Date Created: July 23, 2015

0 2 4 Kilometres
0 1.5 3 Miles

1:150,000

Past and Present Physical
Activities and Resource Use

G:\GIS\Project_Folder\00_Hydro\11420050_MMTP_EA\Figures\EA\Chapter\CumulativeEffects\FIG067-300-00-MMTP_EA_FutureCEOverview_600K_B_20150707.mxd



Manitoba-Minnesota Transmission Project

Project Infrastructure

- Converter Station (Existing)
- Final Preferred Route

Map Tile Index - 1:150,000

- Map Series Tile

Physical Activities

Transmission

- Proposed Transmission Line
- Proposed Transmission Line Area

Transportation

- Manitoba Infrastructure and Transportation Capital Project (2015-2020)
- Future Interchange
- Manitoba Infrastructure and Transportation Capital Project (2015-2020)
- Proposed New Route/Additional Lane
- Proposed New Bypass Area

Oil and Gas

- Oil and Gas Line Upgrade
- Energy East Pump Station Exp.

Other

- Wastewater Treatment Plant Upgrade / Airport Runway Exp.

Landbase

- | | |
|----------------------|-------------|
| Trans Canada Highway | City / Town |
| Provincial Highway | Waterbody |
| Provincial Road | |

Future Project Names:

- | | |
|--|--|
| 1. Bipole III Transmission Project | 7. Gas Upgrade Projects |
| 2. St. Vital Transmission Complex | 8. Oakbank Corridor |
| 3. Dorsey to Portage Transmission Line | 9. St. Norbert Bypass |
| 4. Richer South Station to Spruce Station Transmission | 10. Headingley Bypass |
| 5. Energy East Pipeline Project | 11. South End Water Pollution Control Centre Upgrade |
| 6. Northwest Winnipeg Natural Gas Project | 12. Piney - Pinecreek Border Airport Expansion |

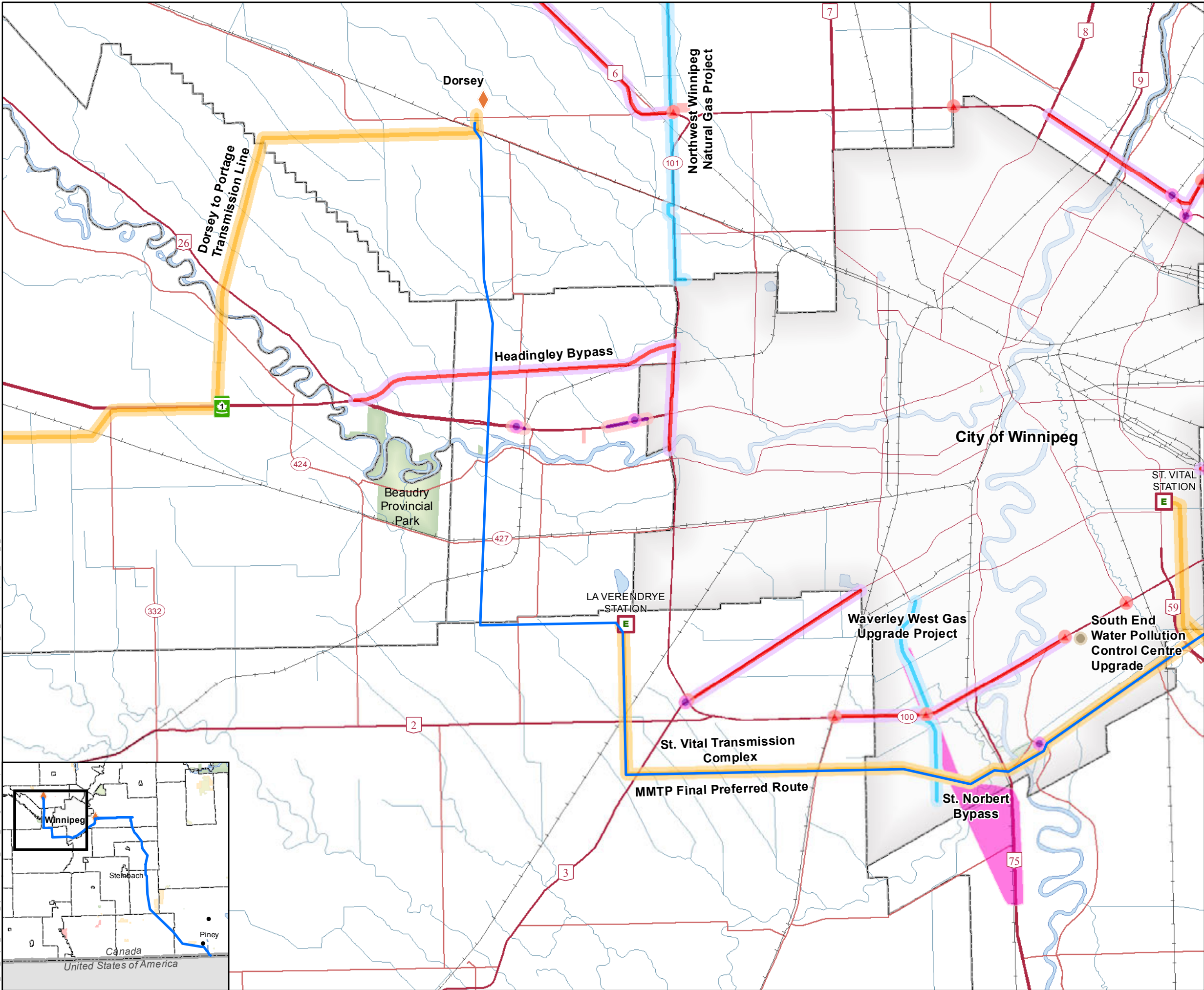
Coordinate System: UTM Zone 14N NAD83
Data Source: MBHydro, ProvMB, NRCAN
Date Created: July 31, 2015

0 5 10 Kilometres
0 5 10 Miles

1:500,000

Index of Map Series Reasonably Foreseeable Future Physical Activities

G:\GIS\Project_Folder\00_Hydro\11420030_MMTP_EA\Figures\EA\Chapter\CumulativeEffects\Fig06-7-300-01-MMTP_EA_FutureCEMapbook_150K_B_20150707.mxd



Manitoba-Minnesota Transmission Project

Project Infrastructure

- Converter Station (Existing)
- Final Preferred Route

Infrastructure

- Electrical Station

Physical Activities

Transportation

- Manitoba Infrastructure and Transportation Capital Project (2015-2020)
- Future Interchange
- Manitoba Infrastructure and Transportation Capital Project (2015-2020)
- Proposed New Route/Additional Lane
- Proposed New Bypass Area

Transmission

- Proposed Transmission Line

Oil and Gas

- Oil and Gas Line Upgrade

Other

- Wastewater Treatment Plant Upgrade / Airport Runway Exp.

Landbase

- Community
- Trans Canada Highway
- Provincial Highway
- Provincial Road
- City / Town
- First Nation Lands
- Rural Municipality
- Ecological Reserve
- Crown Land
- Wildlife Management Area
- Provincial Park
- Watercourse
- Waterbody

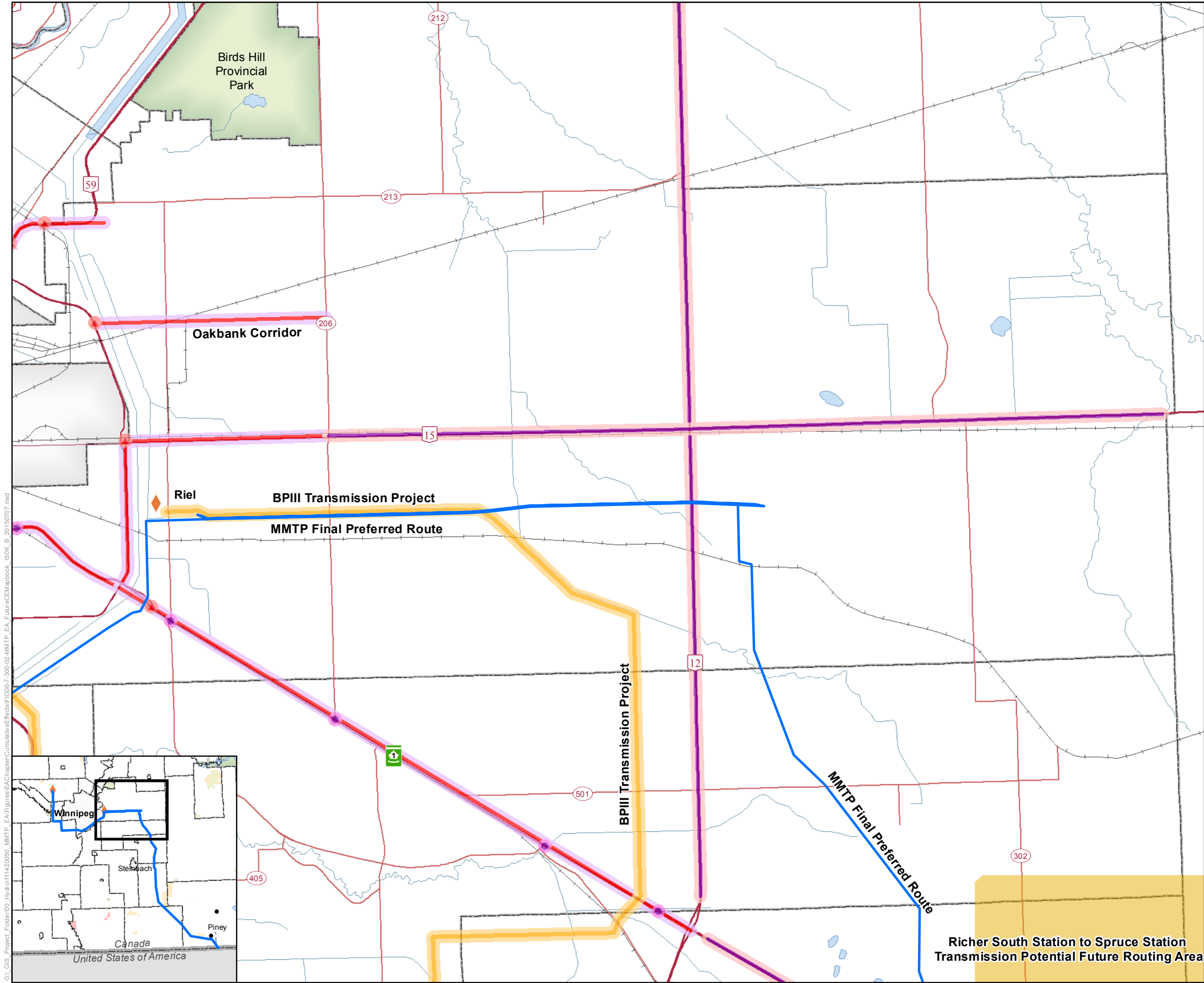
Coordinate System: UTM Zone 14N NAD83
Data Source: MBHydro, ProvMB, NRCAN
Date Created: July 23, 2015



0 2 4 Kilometres
0 1.5 3 Miles

1:150,000

Reasonably Foreseeable Future Physical Activities



Manitoba-Minnesota Transmission Project

Project Infrastructure

- Converter Station (Existing)
- Final Preferred Route

Physical Activities

Transportation

- Manitoba Infrastructure and Transportation Capital Project (2015-2020)
- Future Interchange
- Manitoba Infrastructure and Transportation Capital Project (2015-2020)
- Proposed New Route/Additional Lane

Transmission

- Proposed Transmission Line
- Proposed Transmission Line Area

Oil and Gas

- Energy East Pump Station Expansion

Landbase

- Community
- Trans Canada Highway
- Provincial Highway
- Provincial Road
- City / Town
- First Nation Lands
- Rural Municipality
- Ecological Reserve
- Crown Land
- Wildlife Management Area
- Provincial Park
- Watercourse
- Waterbody

Coordinate System: UTM Zone 14N NAD83
Data Source: MBHydro, ProvMB, NRCAN
Date Created: July 31, 2015



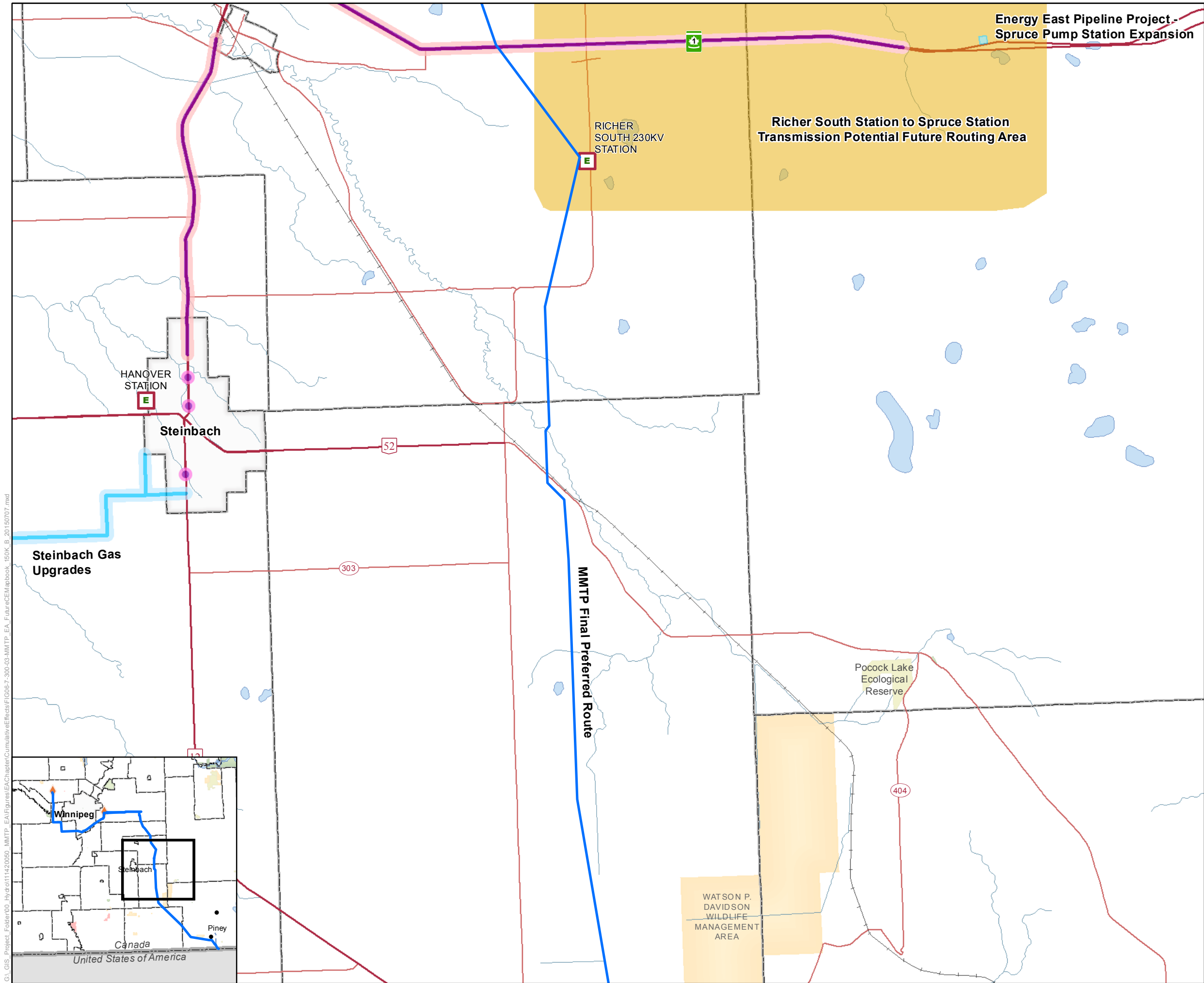
0 2 4 Kilometres
0 1.5 3 Miles

1:150,000

Reasonably Foreseeable Future Physical Activities

Richer South Station to Spruce Station
Transmission Potential Future Routing Area

G:\GIS_Projects\Folder00-Hydro\11420050_MMTTP_EA\Figures\EA\Chapter\CumulativeEffects\FIG06-7-300-03-MMTTP_EA_FutureCEMapbook_150K_B_20150707.mxd



Manitoba-Minnesota Transmission Project

Project Infrastructure

- Converter Station (Existing)
- Final Preferred Route

Physical Activities

- Transportation
- Manitoba Infrastructure and Transportation Capital Project (2015-2020)
 - Manitoba Infrastructure and Transportation Capital Project (2015-2020)
- Transmission
- Proposed Transmission Line Area
- Oil and Gas
- Oil and Gas Line Upgrade
 - Energy East Pump Station Expansion

Landbase

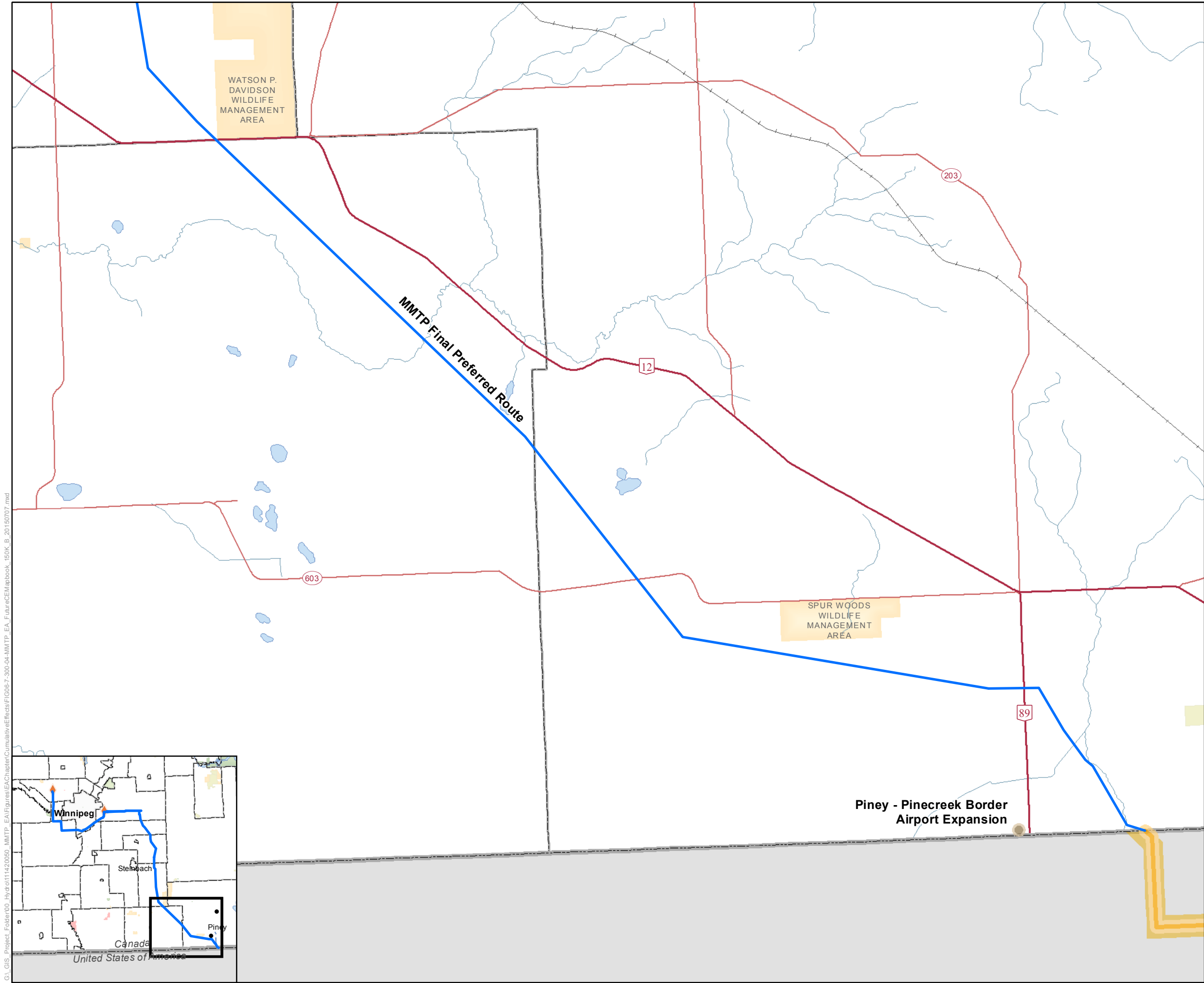
- | | |
|----------------------|--------------------------|
| Community | Ecological Reserve |
| Trans Canada Highway | Crown Land |
| Provincial Highway | Wildlife Management Area |
| Provincial Road | Provincial Park |
| City / Town | Watercourse |
| First Nation Lands | Waterbody |
| Rural Municipality | |

Coordinate System: UTM Zone 14N NAD83
Data Source: MBHydro, ProvMB, NRCAN
Date Created: July 31, 2015

0 2 4 Kilometres
0 1.5 3 Miles

1:150,000

Reasonably Foreseeable Future Physical Activities



G:\GIS\Project_Folder\00_Hydro\11420030_MMTP_EA\Figures\EA\Chapter\CumulativeEffects\FIG06-7-300-04-MMTP_EA_FutureCEMapbook_150K_B_20150707.mxd



Manitoba-Minnesota Transmission Project

Project Infrastructure

- Converter Station (Existing)
- Final Preferred Route

Physical Activities

Transmission

- Proposed Transmission Line
- Proposed Transmission Line Area

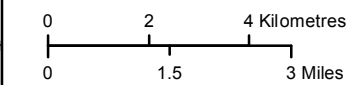
Other

- Wastewater Treatment Plant Upgrade / Airport Runway Exp.

Landbase

- | | |
|----------------------|--------------------------|
| Community | Ecological Reserve |
| Trans Canada Highway | Crown Land |
| Provincial Highway | Wildlife Management Area |
| Provincial Road | Provincial Park |
| City / Town | Watercourse |
| First Nation Lands | Waterbody |
| Rural Municipality | |

Coordinate System: UTM Zone 14N NAD83
Data Source: MBHydro, ProvMB, NRCAN
Date Created: July 23, 2015



1:150,000

Reasonably Foreseeable Future Physical Activities