# Information for File # MVP-2013-00813-NTD

**Applicant:** American Transmission Company, LLC

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**Primary County:** Outagamie, Shawano, Brown, Oconto, and Marinette Counties.

**Location:** The project is located in Sections 6, 7, 18, & 19, T.22N., R.18E.; Sections 6, 7, 18, 19, 30, & 31, T.23N., R.18E.; Sections 13, 30, & 31, T.24N., R.18E.; and Sections 1, 12, 13, & 24, T.24N., R.17E., Outagamie County, Wisconsin. In Sections 18, 19, & 30, T.25N., R.19E., Brown County, Wisconsin. In Sections 25 & 36, T.25N., R.17E.; Sections 1, 12, 13, 25, 26, 27, 28, 29, & 30, T.25N., R.18E.; Sections 3, 10, 11, 14, 23, 26, 35, & 36, T.262N., R.18E.; and Sections 13, 14, 21, 22, 23, 24, 27, & 34, T.27N., R.18E., Shawano County, Wisconsin. In Sections 4, 8, 9, 17, & 18, T.27N., R.19E., Oconto County, Wisconsin. In Section 23, T.35N., R.20E., Marinette County, Wisconsin.

**Information Complete On:** 1-14-2016

**Posting Expires On:** 5-13-2016

**Authorization Type:** Section 404 Letter of Permission

This application is being reviewed in accordance with the practices for documenting Corps jurisdiction under Sections 9 & 10 of the Rivers and Harbor Act of 1899 and Section 404 of the Clean Water Act identified in Regulatory Guidance Letter 07-01. We have made a preliminary determination that the aquatic resources that would be impacted by the proposed project are regulated by the Corps of Engineers under Section 404 of the Clean Water Act. Our jurisdictional review and final jurisdictional determination could result in modifications to the scope of the project's regulated waterbody/wetland impacts and compensatory mitigation requirements identified below. A preliminary or approved jurisdictional determination will be made prior to reaching a permit decision. If an approved determination is made, it will be posted on the St. Paul District web page at http://www.mvp.usace.army.mil/.

PROJECT DESCRIPTION: The proposed project includes new construction and upgrades to existing electrical transmission lines and substations between the North Appleton Substation located in the NE ¼, Section 19, T.22N., R.18E., Town of Freedom, Outagamie County, through Brown County to the existing Morgan Substation located in the NE ¼, Section 9, T.27N., R.19E., Town of Morgan, Oconto County. The project will consist of two new transmission lines, oriented south to north, and approximately 45 miles in length. The two new transmission lines would be constructed on separate sets of monopole structures while sharing the Rights-of-

Way (ROW) with some overlapping electrical transmission lines, gas pipeline, and roadway ROWs. Work will also be completed at the Amberg Substation located in NW ¼, Section 23, T.36N., R.20E., Town of Amberg, Marinette County.

PROJECT PURPOSE: New transmission lines and substation upgrades are required to increase reliability of the electric power grid in northeastern Wisconsin and the adjacent Upper Peninsula of Michigan.

NAME, AREA AND TYPES OF WATERS (INCLUDING WETLANDS) SUBJECT TO LOSS: Approximately 18.12 acres of wetlands including 5.22 acres of fresh wet meadow, 0.52 acre of sedge meadow, 12.00 acres of wooded swamp, and 0.38 acre shrub carr would be temporarily impacted by the use of matting for this project. Additionally, there would be approximately 1.24 acres of permanent fill (Structures and Grading) in fresh wet meadow (0.08 acre), shallow marsh (0.06 acre), sedge meadow (0.01 acre), shrub carr (0.05 acre), floodplain forest (0.06 acre), hardwood swamp (0.96 acre) and seasonally flooded basin (0.02 acre) wetlands. Finally, the project would result in the conversion of 59.79 acres of floodplain forest (12.82 acre), hardwood swamp (39.90 acre), and shrub carr (7.07 acre) wetlands into emergent wetlands.

ALTERNATIVES CONSIDERED: The no-build alternative would avoid impacts to wetlands; however the alternative was eliminated by the applicant because it failed to address the need and purpose of the project. Additional alternatives considered and dismissed by the applicant include:

- Route H (East Route)
- Route L is a combination of west (central) and east (north) route.
- Route N is a combination of east (central) and west (north) route.
- Substation Alternative: South Benson Lake

The applicant's preferred alternative is Route A (West Route), which is the costliest of the options. Route A was chosen over Route H, Route L, and Route N because the Public Service Commission ordered construction to occur along this route. Route A runs from the North Appleton Substation, parallel to the existing ATC North Appleton-White Clay 138kV line north and connecting to the Central West routing option. It follows a west to east route along the STH156 ROW and then heads northwest to the North Routing area, where it follows the western option along an ANR pipeline corridor until it reaches the STH 22-Morgan/White Clay-Morgan 345/138kv lines. The final segment would follow the Highway 22-Morgan/relocated White Clay-Morgan lines and the existing Morgan-Falls 138kV line relocated onto new structures, into the Morgan Substation.

The applicant's preferred substation project is the North Benson Lake Substation adjacent to the Amberg Substation. Wetland impacts associated with this alternative are included in the routing alternatives discussed above. The North Benson Lake Substation alternative would require filling 0.91 acre of forested wetlands and 0.06 acre non-forested wetland. The location adjacent to the Amberg Substation allows strategic placement of a Static Var Compensator (SVC) to provide the needed voltage support at a location on the system where support is most required and allows the SVC substation to be connected directly to the grid through a direct radial connection to the

Amberg Substation. The cost of construction of the North Benson Substation is significantly less than the South Benson Substation.

The Benson Lake South alternative would require filling 0.45 acre of forested wetland and 0.02 acre non-forested wetland. This alternative was dismissed by the applicant because the estimated cost of construction would be approximately $1.76 million greater than the Benson Lake North alternative.

COMPENSATORY MITIGATION: To compensate for unavoidable adverse impacts to wetlands, American Transmission Company (ATC) proposes to purchase 31.82 wetland mitigation credits via Wisconsin's In-Lieu Fee (ILF) program. The proposed permanent impact replacement ratio is 1.45:1 (1.45 credits debited for every 1 acre of wetland impacted). The temporary impact (matting) ratio for sedge meadow wetlands is 0.25:1, and conversion ratio for wooded and shrub car wetlands is 0.5:1.

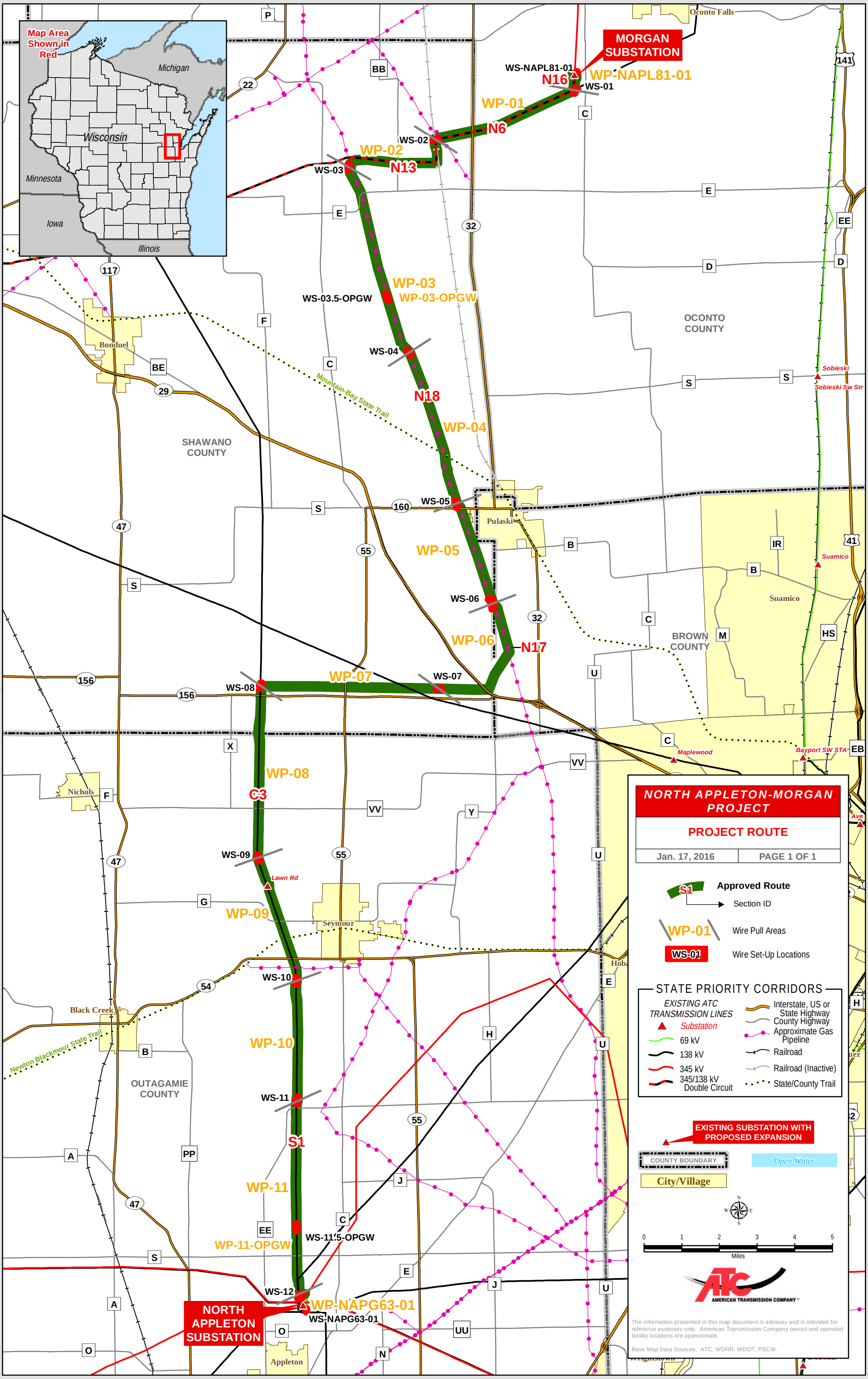
HISTORIC PROPERTIES: During our initial review of the project, a potential archaeological site was identified within planned construction area of the ATC Bay Lake transmission line. An archaeological investigation involving a surface survey on August 20, 2015 found no prehistoric cultural materials within the project area associated with the site.

ENDANGERED SPECIES: The potential for federally listed threatened or endangered species to occur within or near the project area was evaluated through a review of the WDNR Natural Heritage Inventory (NHI) and the U.S. Fish and Wildlife Service's (USFWS) county distribution list. None are known to exist in the project area; however, the following listed species are known to occur in the counties through which the project traverses:

Canada lynx (*Lynx canadensis*)
Dwarf lake iris (*Iris lacustris*)
Gray wolf (*Canis lupus*);
Karner Blue Butterfly (*Lycaeides Melissa samuelis*);
Kirtland's warbler (*Setophaga kirtlandii*);
Northern Long-Eared Bat (*Myotis septentrionalis*);
Piping plover (*Charadrius melodus*)
Rufa red knot (*Calidris canutus rufa*)
Snuffbox (*Epioblasma triquetra*)
Whooping crane (*Grus americanus*).

The Corps will coordinate any potential effects to the species listed above and their critical habitat with the USFWS. Any comments the USFWS may have concerning Federally-listed threatened or endangered wildlife or plants or their critical habitat will be considered in our final assessment of the project.

DRAWINGS**:** Attached figures include an overview of the proposed project route, tables listing wetland impacts, wetland type, corresponding impact locations along the project corridor, and compensatory mitigation proposed by ATC, and select project drawings. A full set of project drawings is available upon request.


Map Area Shown in Red
Michigan
Wisconsin
Minnesota
Iowa
Illinois
MORGAN SUBSTATION
WS-NAPL81-01
N16
WP-NAPL81-01
WS-01
WP-01
N6
WS-02
WP-02
N13
WS-03
WP-03
WS-03.5-OPGW
WP-03-OPGW
WS-04
N18
WP-04
WS-05
WP-05
WS-06
WP-06
N17
WS-07
WP-07
WS-08
WP-08
C3
WS-09
WP-09
WS-10
WP-10
WS-11
S1
WP-11
WS-11.5-OPGW
WP-11-OPGW
WS-12
WP-NAPG63-01
WS-NAPG63-01
NORTH APPLETON SUBSTATION
Oconto Falls
Bonduel
Pulaski
Suamico
Nichols
Seymour
Black Creek
Appleton
Sobieski
Sobieski Sw Str
Maplewood
Bayport SW STA
Lawn Rd
OCONTO COUNTY
SHAWANO COUNTY
BROWN COUNTY
OUTAGAMIE COUNTY
Mountain-Bay State Trail
Newton Blackmour State Trail
NORTH APPLETON-MORGAN PROJECT
PROJECT ROUTE
Jan. 17, 2016
PAGE 1 OF 1
Approved Route
Section ID
Wire Pull Areas
Wire Set-Up Locations
STATE PRIORITY CORRIDORS
EXISTING ATC TRANSMISSION LINES
Substation
69 kV
138 kV
345 kV
345/138 kV Double Circuit
Interstate, US or State Highway
County Highway
Approximate Gas Pipeline
Railroad
Railroad (Inactive)
State/County Trail
EXISTING SUBSTATION WITH PROPOSED EXPANSION
COUNTY BOUNDARY
Open Water
City/Village
Miles
AMERICAN TRANSMISSION COMPANY
The information presented in this map document is advisory and is intended for reference purposes only. American Transmission Company owned and operated facility locations are approximate.
Base Map Data Sources: ATC, WDNR, WDOT, PSCW.

North Appleton to Morgan Transmission Line Project Wetland Impacts

| Wetland Name | Cowardin Code[1] | Wetland Type[2,3] | Wetland Size (Acres)[4] | Location | | | Size of Wetland Impact (Acres) | Type of Impact[5] |
|---|---|---|---|---|---|---|---|---|
| | | | | County | Latitude | Longitude | | |
| BSN-W-B | PFO1 | Hardwood Swamp | 9.0878 | Marinette | -87.9735 | 45.4957 | 1.2300 | Forested Wetland Clearing |
| BSN-W-B | PFO1 | Hardwood Swamp | 9.0878 | Marinette | -87.9735 | 45.4957 | 0.8510 | Substation |
| BSN-W-B | PEM1 | Shallow Marsh | 9.0878 | Marinette | -87.9735 | 45.4957 | 0.0550 | Substation |
| 1-N6A-W-11 | PFO1 | Floodplain Forest | 0.0741 | Oconto | -88.2229 | 44.8236 | 0.0167 | Forested Wetland Clearing |
| 1-N6A-W-12 | PEM1 | Fresh (Wet) Meadow | 2.3188 | Oconto | -88.2160 | 44.8260 | 0.1867 | Matting |
| 1-N6A-W-14 | PFO1 | Floodplain Forest | 1.5337 | Oconto | -88.2069 | 44.8288 | 1.1581 | Forested Wetland Clearing |
| 1-N6A-W-14 | PFO1 | Floodplain Forest | 1.5337 | Oconto | -88.2069 | 44.8290 | 0.1322 | Matting |
| 1-N6A-W-16 | PFO1 | Floodplain Forest | 1.5681 | Oconto | -88.2221 | 44.8241 | 0.6668 | Forested Wetland Clearing |
| 1-N6A-W-16 | PEM1 | Sedge Meadow | 1.5681 | Oconto | -88.2220 | 44.8243 | 0.1829 | Matting |
| 1-N6A-W-18 | PEM1 | Fresh (Wet) Meadow | 0.4806 | Oconto | -88.2385 | 44.8192 | 0.0082 | Matting |
| 1-N6A-W-19 | PFO1 | Hardwood Swamp | 2.5935 | Oconto | -88.2358 | 44.8198 | 1.8702 | Forested Wetland Clearing |
| 1-N6A-W-19 | PEM1 | Fresh (Wet) Meadow | 2.5935 | Oconto | -88.2359 | 44.8199 | 0.2227 | Matting |
| 1-N6A-W-19 | PEM1 | Fresh (Wet) Meadow | 2.5935 | Oconto | -88.2373 | 44.8192 | 0.0004 | Pole 135774 |
| 1-N6A-W-19 | PEM1 | Fresh (Wet) Meadow | 2.5935 | Oconto | -88.2374 | 44.8194 | 0.0001 | Pole 138774 |
| 1-N6A-W-7 | PEM1 | Shallow Marsh | 1.3806 | Oconto | -88.2492 | 44.8178 | 0.3341 | Matting |
| 1-N6A-W-7 | PEM1 | Shallow Marsh | 1.3806 | Oconto | -88.2495 | 44.8177 | 0.0001 | Pole 138770 |
| 1-N6-W-1 | PFO1 | Floodplain Forest | 2.4231 | Oconto | -88.2086 | 44.8285 | 2.2025 | Forested Wetland Clearing |
| 1-N6-W-1 | PFO1 | Floodplain Forest | 2.4231 | Oconto | -88.2096 | 44.8282 | 0.4064 | Matting |
| 1-N6-W-1 | PFO1 | Floodplain Forest | 2.4231 | Oconto | -88.2091 | 44.8282 | 0.0004 | Pole 135784 |
| 1-C1A-W-2 | PFO1 | Floodplain Forest | 0.3250 | Outagamie | -88.3652 | 44.5215 | 0.2814 | Forested Wetland Clearing |
| 1-C1A-W-2 | PFO1 | Floodplain Forest | 0.3250 | Outagamie | -88.3654 | 44.5215 | 0.0278 | Matting |
| 1-C1A-W-3 | PFO1 | Hardwood Swamp | 0.0968 | Outagamie | -88.3724 | 44.5671 | 0.0385 | Forested Wetland Clearing |
| 1-C1A-W-3 | PFO1 | Hardwood Swamp | 0.0968 | Outagamie | -88.3724 | 44.5671 | 0.0135 | Matting |
| 1-C1A-W-4 | PFO1 | Hardwood Swamp | 0.0166 | Outagamie | -88.3724 | 44.5674 | 0.0166 | Forested Wetland Clearing |
| 1-C1A-W-4 | PFO1 | Hardwood Swamp | 0.0166 | Outagamie | -88.3724 | 44.5674 | 0.0074 | Matting |
| 1-C1A-W-5 | PFO1 | Hardwood Swamp | 0.7732 | Outagamie | -88.3722 | 44.5678 | 0.5095 | Forested Wetland Clearing |
| 1-C1A-W-5 | PFO1 | Hardwood Swamp | 0.7732 | Outagamie | -88.3724 | 44.5677 | 0.0687 | Matting |
| 1-E-W-123 | PFO1 | Hardwood Swamp | 0.3045 | Outagamie | -88.3559 | 44.4327 | 0.1041 | Forested Wetland Clearing |
| 1-E-W-123 | PEM1 | Sedge Meadow | 0.3045 | Outagamie | -88.3562 | 44.4329 | 0.0352 | Matting |
| 1-E-W-124 | PFO1 | Hardwood Swamp | 2.1259 | Outagamie | -88.3556 | 44.4379 | 0.3542 | Forested Wetland Clearing |
| 1-E-W-124 | PEM1 | Sedge Meadow | 2.1259 | Outagamie | -88.3560 | 44.4379 | 0.1529 | Matting |
| 1-E-W-125 | PFO1 | Floodplain Forest | 0.3791 | Outagamie | -88.3544 | 44.4631 | 0.1834 | Forested Wetland Clearing |
| 1-E-W-125 | PFO1 | Floodplain Forest | 0.3791 | Outagamie | -88.3545 | 44.4630 | 0.0903 | Matting |
| 1-E-W-125 | PFO1 | Floodplain Forest | 0.3791 | Outagamie | -88.3545 | 44.4630 | 0.0005 | Pole 135542 |
| 1-E-W-126 | PSS1 | Shrub-Carr | 0.5175 | Outagamie | -88.3543 | 44.4757 | 0.0499 | Matting |
| 1-S1A-W-10 | PFO1 | Hardwood Swamp | 0.5086 | Outagamie | -88.3566 | 44.4033 | 0.0356 | Forested Wetland Clearing |
| 1-S1A-W-10 | PEM1 | Fresh (Wet) Meadow | 0.5086 | Outagamie | -88.3570 | 44.4034 | 0.0345 | Matting |
| 1-S1A-W-11 | PEM1 | Fresh (Wet) Meadow | 0.2078 | Outagamie | -88.3569 | 44.4131 | 0.0248 | Matting |
| 1-S1A-W-12 | PEM1 | Fresh (Wet) Meadow | 0.3699 | Outagamie | -88.3570 | 44.4123 | 0.2351 | Matting |
| 1-S1A-W-12 | PEM1 | Fresh (Wet) Meadow | 0.3699 | Outagamie | -88.3568 | 44.4123 | 0.0003 | Pole 135520 |

North Appleton to Morgan Transmission Line Project Wetland Impacts

| Wetland Name | Cowardin Code[1] | Wetland Type[2,3] | Wetland Size (Acres)[4] | Location | | | Size of Wetland Impact (Acres) | Type of Impact[5] |
|---|---|---|---|---|---|---|---|---|
| | | | | County | Latitude | Longitude | | |
| 1-S1A-W-12 | PEM1 | Fresh (Wet) Meadow | 0.3699 | Outagamie | -88.3570 | 44.4123 | 0.0001 | Pole 138520 |
| 1-S1A-W-12 | PEM1 | Fresh (Wet) Meadow | 0.3699 | Outagamie | -88.3571 | 44.4123 | 0.0001 | Pole 25 |
| 1-S1A-W-14 | PSS1 | Shrub-Carr | 0.7306 | Outagamie | -88.3569 | 44.4143 | 0.2786 | Matting |
| 1-S1A-W-14 | PSS1 | Shrub-Carr | 0.7306 | Outagamie | -88.3568 | 44.4142 | 0.0003 | Pole 135521 |
| 1-S1A-W-14 | PSS1 | Shrub-Carr | 0.7306 | Outagamie | -88.3570 | 44.4142 | 0.0001 | Pole 138521 |
| 1-S1A-W-14 | PSS1 | Shrub-Carr | 0.7306 | Outagamie | -88.3571 | 44.4142 | 0.0001 | Pole 26 |
| 1-S1A-W-15 | PFO1 | Hardwood Swamp | 0.2269 | Outagamie | -88.3563 | 44.4215 | 0.1983 | Forested Wetland Clearing |
| 1-S1A-W-16 | PFO1 | Hardwood Swamp | 3.0622 | Outagamie | -88.3569 | 44.4230 | 0.8410 | Forested Wetland Clearing |
| 1-S1A-W-16 | PFO1 | Hardwood Swamp | 3.0622 | Outagamie | -88.3566 | 44.4238 | 0.5599 | Matting |
| 1-S1A-W-16 | PSS1 | Shrub-Carr | 3.0622 | Outagamie | -88.3564 | 44.4231 | 0.0003 | Pole 135525 |
| 1-S1A-W-16 | PSS1 | Shrub-Carr | 3.0622 | Outagamie | -88.3563 | 44.4254 | 0.0003 | Pole 135526 |
| 1-S1A-W-16 | PSS1 | Shrub-Carr | 3.0622 | Outagamie | -88.3566 | 44.4231 | 0.0001 | Pole 138525 |
| 1-S1A-W-16 | PSS1 | Shrub-Carr | 3.0622 | Outagamie | -88.3568 | 44.4231 | 0.0001 | Pole 30 |
| 1-S1A-W-18 | PEM1 | Shallow Marsh | 0.8709 | Outagamie | -88.3570 | 44.4073 | 0.0599 | Matting |
| 1-S1A-W-19 | PFO1 | Hardwood Swamp | 1.1414 | Outagamie | -88.3559 | 44.4345 | 0.0473 | Forested Wetland Clearing |
| 1-S1A-W-19 | PEM1 | Sedge Meadow | 1.1414 | Outagamie | -88.3562 | 44.4347 | 0.2812 | Matting |
| 1-S1A-W-19 | PFO1 | Hardwood Swamp | 1.1414 | Outagamie | -88.3560 | 44.4348 | 0.0006 | Pole 135530 |
| 1-S1A-W-19 | PEM1 | Sedge Meadow | 1.1414 | Outagamie | -88.3562 | 44.4348 | 0.0003 | Pole 138530 |
| 1-S1A-W-19 | PEM1 | Sedge Meadow | 1.1414 | Outagamie | -88.3563 | 44.4348 | 0.0003 | Pole 35 |
| 1-S1A-W-3 | PFO1 | Floodplain Forest | 0.0418 | Outagamie | -88.3574 | 44.3932 | 0.0079 | Forested Wetland Clearing |
| 1-S1A-W-4 | PEM1 | Fresh (Wet) Meadow | 0.1067 | Outagamie | -88.3571 | 44.3935 | 0.0206 | Matting |
| 1-S1A-W-5 | PEM1 | Fresh (Wet) Meadow | 0.2778 | Outagamie | -88.3564 | 44.3758 | 0.1686 | Matting |
| 1-S1A-W-5 | PSS1 | Shrub-Carr | 0.2778 | Outagamie | -88.3563 | 44.3758 | 0.0003 | Pole 135504 |
| 1-S1A-W-5 | PSS1 | Shrub-Carr | 0.2778 | Outagamie | -88.3565 | 44.3758 | 0.0001 | Pole 138504 |
| 1-S1A-W-6 | PSS1 | Shrub-Carr | 0.6941 | Outagamie | -88.3564 | 44.3764 | 0.0554 | Matting |
| 1-S1A-W-8 | PEM1 | Fresh (Wet) Meadow | 0.2646 | Outagamie | -88.3569 | 44.4009 | 0.0127 | Matting |
| 1-W-W-79 | PEM1 | Fresh (Wet) Meadow | 0.5301 | Outagamie | -88.3545 | 44.4957 | 0.0537 | Matting |
| 1-W-W-80 | PEM1 | Fresh (Wet) Meadow | 0.9815 | Outagamie | -88.3558 | 44.5000 | 0.0928 | Matting |
| 1-W-W-81 | PEM1 | Fresh (Wet) Meadow | 0.6174 | Outagamie | -88.3609 | 44.5115 | 0.1451 | Matting |
| 1-W-W-81 | PEM1 | Fresh (Wet) Meadow | 0.6174 | Outagamie | -88.3611 | 44.5115 | 0.0001 | Pole 138563 |
| 1-W-W-82 | PFO1 | Hardwood Swamp | 4.2636 | Outagamie | -88.3643 | 44.5192 | 4.2632 | Forested Wetland Clearing |
| 1-W-W-82 | PFO1 | Hardwood Swamp | 4.2636 | Outagamie | -88.3643 | 44.5191 | 0.8243 | Matting |
| 1-W-W-82 | PFO1 | Hardwood Swamp | 4.2636 | Outagamie | -88.3636 | 44.5178 | 0.0002 | Pole 135566 |
| 1-W-W-82 | PFO1 | Hardwood Swamp | 4.2636 | Outagamie | -88.3645 | 44.5199 | 0.0002 | Pole 135567 |
| 1-W-W-82 | PFO1 | Hardwood Swamp | 4.2636 | Outagamie | -88.3648 | 44.5198 | 0.0001 | Pole 138567 |
| 1-W-W-84 | PFO1 | Hardwood Swamp | 2.4278 | Outagamie | -88.3736 | 44.5429 | 1.1116 | Forested Wetland Clearing |
| 1-W-W-84 | PEM1 | Fresh (Wet) Meadow | 2.4278 | Outagamie | -88.3737 | 44.5428 | 0.1385 | Matting |
| 1-W-W-85 | PFO1 | Floodplain Forest | 0.8106 | Outagamie | -88.3730 | 44.5546 | 0.6607 | Forested Wetland Clearing |
| 1-W-W-85 | PFO1 | Floodplain Forest | 0.8106 | Outagamie | -88.3731 | 44.5545 | 0.0695 | Matting |
| 1-W-W-87 | PFO1 | Hardwood Swamp | 0.5102 | Outagamie | -88.3722 | 44.5666 | 0.4338 | Forested Wetland Clearing |

North Appleton to Morgan Transmission Line Project Wetland Impacts

| Wetland Name | Cowardin Code[1] | Wetland Type[2,3] | Wetland Size (Acres)[4] | Location | | | Size of Wetland Impact (Acres) | Type of Impact[5] |
|---|---|---|---|---|---|---|---|---|
| | | | | County | Latitude | Longitude | | |
| 1-W-W-87 | PFO1 | Hardwood Swamp | 0.5102 | Outagamie | -88.3724 | 44.5665 | 0.1761 | Matting |
| 1-W-W-87 | PFO1 | Hardwood Swamp | 0.5102 | Outagamie | -88.3723 | 44.5666 | 0.0005 | Pole 135590 |
| 1-W-W-88 | PFO1 | Hardwood Swamp | 0.9684 | Outagamie | -88.3717 | 44.5776 | 0.9685 | Forested Wetland Clearing |
| 1-W-W-88 | PFO1 | Hardwood Swamp | 0.9684 | Outagamie | -88.3719 | 44.5776 | 0.1306 | Matting |
| 1-W-W-89 | PFO1 | Hardwood Swamp | 5.4368 | Outagamie | -88.3719 | 44.5805 | 3.2015 | Forested Wetland Clearing |
| 1-W-W-89 | PFO1 | Hardwood Swamp | 5.4368 | Outagamie | -88.3717 | 44.5801 | 0.6491 | Matting |
| 1-W-W-89 | PFO1 | Hardwood Swamp | 5.4368 | Outagamie | -88.3716 | 44.5808 | 0.0005 | Pole 135596 |
| 1-W-W-89 | PEM1 | Fresh (Wet) Meadow | 5.4368 | Outagamie | -88.3720 | 44.5784 | 0.0003 | Pole 138595 |
| 1-W-W-89 | PFO1 | Hardwood Swamp | 5.4368 | Outagamie | -88.3719 | 44.5808 | 0.0003 | Pole 138596 |
| C3-W-37 | PEM1 | Seasonally Flooded Basin | 2.8724 | Outagamie | -88.3619 | 44.5138 | 0.3416 | Matting |
| C3-W-37 | PEM1 | Seasonally Flooded Basin | 2.8724 | Outagamie | -88.3618 | 44.5138 | 0.0003 | Pole 135564 |
| C3-W-37 | PEM1 | Seasonally Flooded Basin | 2.8724 | Outagamie | -88.3621 | 44.5137 | 0.0001 | Pole 138564 |
| N18-W-14 | PEM1 | Seasonally Flooded Basin | 0.2529 | Outagamie | -88.3723 | 44.5697 | 0.0283 | Matting |
| N18-W-15 | PEM1 | Seasonally Flooded Basin | 0.5465 | Outagamie | -88.2707 | 44.6990 | 0.0312 | Matting |
| S1-W-1 | PEM1 | Seasonally Flooded Basin | 1.5092 | Outagamie | -88.3563 | 44.4311 | 0.1058 | Matting |
| S1-W-2 | PEM1 | Seasonally Flooded Basin | 0.5889 | Outagamie | -88.3571 | 44.3793 | 0.0187 | Matting |
| 1-N13B-W-1 | PEM1 | Fresh (Wet) Meadow | 1.2358 | Shawano | -88.2967 | 44.8068 | 0.0460 | Matting |
| 1-N13B-W-1 | PEM1 | Fresh (Wet) Meadow | 1.2358 | Shawano | -88.2961 | 44.8065 | 0.0003 | Pole 135750 |
| 1-N13B-W-1 | PEM1 | Fresh (Wet) Meadow | 1.2358 | Shawano | -88.2961 | 44.8067 | 0.0003 | Pole 138750 |
| 1-N13B-W-3 | PEM1 | Fresh (Wet) Meadow | 0.2374 | Shawano | -88.2845 | 44.8061 | 0.0568 | Matting |
| 1-N13B-W-3 | PEM1 | Fresh (Wet) Meadow | 0.2374 | Shawano | -88.2846 | 44.8059 | 0.0003 | Pole 135754 |
| 1-N13B-W-3 | PEM1 | Fresh (Wet) Meadow | 0.2374 | Shawano | -88.2846 | 44.8061 | 0.0003 | Pole 138754 |
| 1-N13B-W-4 | PEM1 | Fresh (Wet) Meadow | 0.1572 | Shawano | -88.2838 | 44.8061 | 0.0024 | Matting |
| 1-N13B-W-5 | PFO1 | Floodplain Forest | 8.0701 | Shawano | -88.2734 | 44.8059 | 3.4890 | Forested Wetland Clearing |
| 1-N13B-W-5 | PEM1 | Fresh (Wet) Meadow | 8.0701 | Shawano | -88.2718 | 44.8060 | 2.3100 | Matting |
| 1-N13B-W-5 | PFO1 | Floodplain Forest | 8.0701 | Shawano | -88.2752 | 44.8059 | 0.0005 | Pole 135757 |
| 1-N13B-W-5 | PFO1 | Floodplain Forest | 8.0701 | Shawano | -88.2728 | 44.8058 | 0.0005 | Pole 135758 |
| 1-N13B-W-5 | PFO1 | Floodplain Forest | 8.0701 | Shawano | -88.2753 | 44.8061 | 0.0003 | Pole 138757 |
| 1-N13B-W-5 | PFO1 | Floodplain Forest | 8.0701 | Shawano | -88.2728 | 44.8060 | 0.0003 | Pole 138758 |
| 1-N18-W-1 | PEM1 | Shallow Marsh | 0.0657 | Shawano | -88.2725 | 44.7027 | 0.0005 | Matting |
| 1-N18-W-10 | PEM1 | Seasonally Flooded Basin | 0.4916 | Shawano | -88.2920 | 44.7397 | 0.0420 | Matting |
| 1-N18-W-11 | PFO1 | Hardwood Swamp | 2.3549 | Shawano | -88.3044 | 44.7723 | 2.3551 | Forested Wetland Clearing |
| 1-N18-W-11 | PFO1 | Hardwood Swamp | 2.3549 | Shawano | -88.3045 | 44.7726 | 0.3776 | Matting |
| 1-N18-W-11 | PFO1 | Hardwood Swamp | 2.3549 | Shawano | -88.3045 | 44.7730 | 0.0005 | Pole 135727 |
| 1-N18-W-11 | PFO1 | Hardwood Swamp | 2.3549 | Shawano | -88.3048 | 44.7730 | 0.0003 | Pole 138727 |
| 1-N18-W-12 | PFO1 | Hardwood Swamp | 7.9910 | Shawano | -88.3065 | 44.7794 | 7.3608 | Forested Wetland Clearing |
| 1-N18-W-12 | PFO1 | Hardwood Swamp | 7.9910 | Shawano | -88.3064 | 44.7791 | 1.1054 | Matting |
| 1-N18-W-12 | PFO1 | Hardwood Swamp | 7.9910 | Shawano | -88.3058 | 44.7775 | 0.0005 | Pole 135729 |
| 1-N18-W-12 | PFO1 | Hardwood Swamp | 7.9910 | Shawano | -88.3065 | 44.7798 | 0.0005 | Pole 135730 |
| 1-N18-W-12 | PFO1 | Hardwood Swamp | 7.9910 | Shawano | -88.3061 | 44.7775 | 0.0003 | Pole 138729 |

North Appleton to Morgan Transmission Line Project Wetland Impacts

| Wetland Name | Cowardin Code[1] | Wetland Type[2,3] | Wetland Size (Acres)[4] | Location | | | Size of Wetland Impact (Acres) | Type of Impact[5] |
|---|---|---|---|---|---|---|---|---|
| | | | | County | Latitude | Longitude | | |
| 1-N18-W-12 | PFO1 | Hardwood Swamp | 7.9910 | Shawano | -88.3068 | 44.7797 | 0.0003 | Pole 138730 |
| 1-N18-W-13 | PEM1 | Seasonally Flooded Basin | 0.1657 | Shawano | -88.3080 | 44.7841 | 0.0477 | Matting |
| 1-N18-W-14 | PFO1 | Hardwood Swamp | 0.4057 | Shawano | -88.3091 | 44.7883 | 0.4057 | Forested Wetland Clearing |
| 1-N18-W-14 | PFO1 | Hardwood Swamp | 0.4057 | Shawano | -88.3092 | 44.7884 | 0.1401 | Matting |
| 1-N18-W-14 | PFO1 | Hardwood Swamp | 0.4057 | Shawano | -88.3094 | 44.7885 | 0.0003 | Pole 138734 |
| 1-N18-W-15 | PFO1 | Hardwood Swamp | 0.0962 | Shawano | -88.3104 | 44.7916 | 0.0963 | Forested Wetland Clearing |
| 1-N18-W-16 | PFO1 | Hardwood Swamp | 1.9321 | Shawano | -88.3107 | 44.7935 | 1.9324 | Forested Wetland Clearing |
| 1-N18-W-16 | PFO1 | Hardwood Swamp | 1.9321 | Shawano | -88.3106 | 44.7934 | 0.3937 | Matting |
| 1-N18-W-16 | PFO1 | Hardwood Swamp | 1.9321 | Shawano | -88.3105 | 44.7931 | 0.0005 | Pole 135736 |
| 1-N18-W-16 | PFO1 | Hardwood Swamp | 1.9321 | Shawano | -88.3107 | 44.7931 | 0.0003 | Pole 138736 |
| 1-N18-W-17 | PFO1 | Floodplain Forest | 1.4496 | Shawano | -88.3111 | 44.7948 | 0.9025 | Forested Wetland Clearing |
| 1-N18-W-17 | PFO1 | Floodplain Forest | 1.4496 | Shawano | -88.3114 | 44.7951 | 0.1665 | Matting |
| 1-N18-W-17 | PEM1 | Fresh (Wet) Meadow | 1.4496 | Shawano | -88.3110 | 44.7953 | 0.0018 | Pole 135737 |
| 1-N18-W-17 | PFO1 | Floodplain Forest | 1.4496 | Shawano | -88.3113 | 44.7952 | 0.0009 | Pole 138737 |
| 1-N18-W-2 | PEM1 | Seasonally Flooded Basin | 0.0780 | Shawano | -88.2741 | 44.7071 | 0.0066 | Matting |
| 1-N18-W-4 | PEM1 | Fresh (Wet) Meadow | 3.6736 | Shawano | -88.2833 | 44.7272 | 0.2521 | Matting |
| 1-N18-W-4 | PEM1 | Fresh (Wet) Meadow | 3.6736 | Shawano | -88.2840 | 44.7287 | 0.0003 | Pole 135707 |
| 1-N18-W-8 | PEM1 | Fresh (Wet) Meadow | 1.5867 | Shawano | -88.2851 | 44.7305 | 0.1395 | Matting |
| 1-N18-W-8 | PEM1 | Fresh (Wet) Meadow | 1.5867 | Shawano | -88.2854 | 44.7309 | 0.0001 | Pole 138708 |
| 1-N18-W-9 | PEM1 | Seasonally Flooded Basin | 0.0418 | Shawano | -88.2869 | 44.7337 | 0.0418 | Matting |
| 1-N3A-W-1 | PEM1 | Seasonally Flooded Basin | 0.1010 | Shawano | -88.2582 | 44.6674 | 0.0151 | Matting |
| 1-N3A-W-2 | PEM1 | Seasonally Flooded Basin | 0.1408 | Shawano | -88.2579 | 44.6668 | 0.0301 | Matting |
| 1-N3A-W-3 | PEM1 | Seasonally Flooded Basin | 0.1211 | Shawano | -88.2577 | 44.6662 | 0.0365 | Matting |
| 1-N3A-W-4 | PEM1 | Seasonally Flooded Basin | 0.0978 | Shawano | -88.2572 | 44.6654 | 0.0134 | Matting |
| 1-N5A-W-1 | PFO1 | Hardwood Swamp | 0.9904 | Shawano | -88.2608 | 44.6733 | 0.8669 | Forested Wetland Clearing |
| 1-N5A-W-1 | PFO1 | Hardwood Swamp | 0.9904 | Shawano | -88.2608 | 44.6732 | 0.3066 | Matting |
| 1-N5A-W-1 | PFO1 | Hardwood Swamp | 0.9904 | Shawano | -88.2606 | 44.6732 | 0.0018 | Pole 135681 |
| 1-N5A-W-1 | PFO1 | Hardwood Swamp | 0.9904 | Shawano | -88.2609 | 44.6731 | 0.0012 | Pole 138681 |
| 1-N5A-W-10 | PFO1 | Hardwood Swamp | 0.6034 | Shawano | -88.2957 | 44.7483 | 0.2878 | Forested Wetland Clearing |
| 1-N5A-W-10 | PFO1 | Hardwood Swamp | 0.6034 | Shawano | -88.2956 | 44.7483 | 0.1284 | Matting |
| 1-N5A-W-11 | PFO1 | Hardwood Swamp | 4.6323 | Shawano | -88.3031 | 44.7680 | 4.5893 | Forested Wetland Clearing |
| 1-N5A-W-11 | PFO1 | Hardwood Swamp | 4.6323 | Shawano | -88.3032 | 44.7681 | 0.6508 | Matting |
| 1-N5A-W-11 | PFO1 | Hardwood Swamp | 4.6323 | Shawano | -88.3032 | 44.7685 | 0.0005 | Pole 135725 |
| 1-N5A-W-11 | PFO1 | Hardwood Swamp | 4.6323 | Shawano | -88.3035 | 44.7685 | 0.0003 | Pole 138725 |
| 1-N5A-W-12 | PFO1 | Hardwood Swamp | 1.2445 | Shawano | -88.2686 | 44.6936 | 1.3009 | Forested Wetland Clearing |
| 1-N5A-W-12 | PEM1 | Fresh (Wet) Meadow | 1.2445 | Shawano | -88.2686 | 44.6931 | 0.0474 | Matting |
| 1-N5A-W-13 | PFO1 | Floodplain Forest | 1.1206 | Shawano | -88.2947 | 44.7463 | 0.8067 | Forested Wetland Clearing |
| 1-N5A-W-13 | PFO1 | Floodplain Forest | 1.1206 | Shawano | -88.2944 | 44.7457 | 0.1546 | Matting |
| 1-N5A-W-13 | PFO1 | Floodplain Forest | 1.1206 | Shawano | -88.2943 | 44.7458 | 0.0003 | Pole 135715 |
| 1-N5A-W-13 | PFO1 | Floodplain Forest | 1.1206 | Shawano | -88.2946 | 44.7457 | 0.0003 | Pole 138715 |

North Appleton to Morgan Transmission Line Project Wetland Impacts

| Wetland Name | Cowardin Code[1] | Wetland Type[2,3] | Wetland Size (Acres)[4] | Location | | | Size of Wetland Impact (Acres) | Type of Impact[5] |
|---|---|---|---|---|---|---|---|---|
| | | | | County | Latitude | Longitude | | |
| 1-N5A-W-2 | PFO1 | Hardwood Swamp | 0.0734 | Shawano | -88.2615 | 44.6733 | 0.0133 | Forested Wetland Clearing |
| 1-N5A-W-3 | PFO1 | Hardwood Swamp | 0.2486 | Shawano | -88.2617 | 44.6736 | 0.1121 | Forested Wetland Clearing |
| 1-N5A-W-3 | PFO1 | Hardwood Swamp | 0.2486 | Shawano | -88.2616 | 44.6737 | 0.1027 | Matting |
| 1-N5A-W-4 | PFO1 | Hardwood Swamp | 0.2128 | Shawano | -88.2619 | 44.6744 | 0.1391 | Forested Wetland Clearing |
| 1-N5A-W-4 | PFO1 | Hardwood Swamp | 0.2128 | Shawano | -88.2620 | 44.6744 | 0.1388 | Matting |
| 1-N5A-W-5 | PFO1 | Hardwood Swamp | 2.6232 | Shawano | -88.2788 | 44.7183 | 1.9189 | Forested Wetland Clearing |
| 1-N5A-W-5 | PEM1 | Fresh (Wet) Meadow | 2.6232 | Shawano | -88.2788 | 44.7180 | 0.3081 | Matting |
| 1-N5A-W-6 | PFO1 | Hardwood Swamp | 0.2388 | Shawano | -88.2886 | 44.7345 | 0.1197 | Forested Wetland Clearing |
| 1-N5A-W-6 | PFO1 | Hardwood Swamp | 0.2388 | Shawano | -88.2887 | 44.7347 | 0.0016 | Matting |
| 1-N5A-W-7 | PFO1 | Hardwood Swamp | 1.1931 | Shawano | -88.2904 | 44.7360 | 0.8446 | Forested Wetland Clearing |
| 1-N5A-W-7 | PFO1 | Hardwood Swamp | 1.1931 | Shawano | -88.2905 | 44.7362 | 0.1240 | Matting |
| 1-N5A-W-8 | PEM1 | Seasonally Flooded Basin | 1.2437 | Shawano | -88.2716 | 44.7013 | 0.0891 | Matting |
| 1-N6A-W-1 | PFO1 | Floodplain Forest | 2.2667 | Shawano | -88.2696 | 44.8057 | 0.9977 | Forested Wetland Clearing |
| 1-N6A-W-1 | PFO1 | Floodplain Forest | 2.2667 | Shawano | -88.2695 | 44.8060 | 1.1490 | Matting |
| 1-N6A-W-1 | PFO1 | Floodplain Forest | 2.2667 | Shawano | -88.2694 | 44.8058 | 0.0022 | Pole 135759 |
| 1-N6A-W-1 | PFO1 | Floodplain Forest | 2.2667 | Shawano | -88.2696 | 44.8060 | 0.0012 | Pole 138759 |
| 1-N6A-W-10 | PFO1 | Hardwood Swamp | 3.0590 | Shawano | -88.2622 | 44.8163 | 0.2706 | Forested Wetland Clearing |
| 1-N6A-W-10 | PFO1 | Hardwood Swamp | 3.0590 | Shawano | -88.2632 | 44.8161 | 0.2169 | Matting |
| 1-N6A-W-10 | PEM1 | Fresh (Wet) Meadow | 3.0590 | Shawano | -88.2642 | 44.8160 | 0.0012 | Pole 112594 |
| 1-N6A-W-15 | PEM1 | Fresh (Wet) Meadow | 0.2240 | Shawano | -88.2685 | 44.8150 | 0.1831 | Matting |
| 1-N6A-W-2 | PFO1 | Hardwood Swamp | 0.2162 | Shawano | -88.2691 | 44.8076 | 0.0346 | Forested Wetland Clearing |
| 1-N6A-W-4 | PEM1 | Fresh (Wet) Meadow | 0.2140 | Shawano | -88.2701 | 44.8147 | 0.2117 | Matting |
| 1-N6A-W-5 | PEM1 | Fresh (Wet) Meadow | 2.2701 | Shawano | -88.2702 | 44.8127 | 0.3563 | Matting |
| 1-N6A-W-5 | PEM1 | Fresh (Wet) Meadow | 2.2701 | Shawano | -88.2705 | 44.8128 | 0.0015 | Pole 112591 |
| 1-N6A-W-5 | PEM1 | Fresh (Wet) Meadow | 2.2701 | Shawano | -88.2702 | 44.8129 | 0.0012 | Pole 138762 |
| 1-N6A-W-8 | PFO1 | Floodplain Forest | 0.5486 | Shawano | -88.2510 | 44.8177 | 0.2607 | Forested Wetland Clearing |
| 1-N6A-W-8 | PEM1 | Sedge Meadow | 0.5486 | Shawano | -88.2508 | 44.8174 | 0.0368 | Matting |
| 1-N6A-W-9 | PFO1 | Hardwood Swamp | 8.1789 | Shawano | -88.2589 | 44.8167 | 2.8082 | Forested Wetland Clearing |
| 1-N6A-W-9 | PFO1 | Hardwood Swamp | 8.1789 | Shawano | -88.2578 | 44.8167 | 0.9860 | Matting |
| 1-N6A-W-9 | PFO1 | Hardwood Swamp | 8.1789 | Shawano | -88.2587 | 44.8167 | 0.0012 | Pole 112596 |
| 1-N6A-W-9 | PSS1 | Shrub-Carr | 8.1789 | Shawano | -88.2553 | 44.8172 | 0.0005 | Pole 112597 |
| 1-N6A-W-9 | PEM1 | Fresh (Wet) Meadow | 8.1789 | Shawano | -88.2586 | 44.8163 | 0.0000 | Pole 135767 |
| 1-N6A-W-9 | PFO1 | Hardwood Swamp | 8.1789 | Shawano | -88.2586 | 44.8165 | 0.0003 | Pole 138767 |
| 1-N6A-W-9 | PSS1 | Shrub-Carr | 8.1789 | Shawano | -88.2556 | 44.8169 | 0.0001 | Pole 138768 |
| 1-W-W-35 | PEM1 | Fresh (Wet) Meadow | 0.0619 | Shawano | -88.3132 | 44.6047 | 0.0083 | Matting |
| 1-W-W-39 | PFO1 | Floodplain Forest | 0.8857 | Shawano | -88.2977 | 44.6043 | 0.8795 | Forested Wetland Clearing |
| 1-W-W-39 | PFO1 | Floodplain Forest | 0.8857 | Shawano | -88.2974 | 44.6044 | 0.2331 | Matting |
| 1-W-W-39 | PFO1 | Floodplain Forest | 0.8857 | Shawano | -88.2972 | 44.6044 | 0.0001 | Pole 138629 |
| 1-W-W-42 | PFO1 | Hardwood Swamp | 0.4335 | Shawano | -88.2679 | 44.6036 | 0.4336 | Forested Wetland Clearing |
| 1-W-W-42 | PFO1 | Hardwood Swamp | 0.4335 | Shawano | -88.2679 | 44.6035 | 0.1820 | Matting |

North Appleton to Morgan Transmission Line Project Wetland Impacts

| Wetland Name | Cowardin Code[1] | Wetland Type[2,3] | Wetland Size (Acres)[4] | Location | | | Size of Wetland Impact (Acres) | Type of Impact[5] |
|---|---|---|---|---|---|---|---|---|
| | | | | County | Latitude | Longitude | | |
| 1-W-W-42 | PFO1 | Hardwood Swamp | 0.4335 | Shawano | -88.2678 | 44.6036 | 0.0001 | Pole 138639 |
| 1-W-W-76 | PEM1 | Fresh (Wet) Meadow | 0.2482 | Shawano | -88.2696 | 44.6035 | 0.0343 | Matting |
| C3-W-31 | PEM1 | Seasonally Flooded Basin | 0.4868 | Shawano | -88.3645 | 44.6060 | 0.0792 | Matting |
| C3-W-32 | PEM1 | Seasonally Flooded Basin | 0.1025 | Shawano | -88.3618 | 44.6059 | 0.0257 | Matting |
| C3-W-33 | PEM1 | Seasonally Flooded Basin | 0.1470 | Shawano | -88.3704 | 44.6041 | 0.0204 | Matting |
| N13-W-1 | PEM1 | Seasonally Flooded Basin | 1.0918 | Shawano | -88.2951 | 44.8065 | 0.0429 | Matting |
| N13-W-2 | PEM1 | Seasonally Flooded Basin | 0.9911 | Shawano | -88.2790 | 44.8061 | 0.0853 | Matting |
| N18-W-1 | PEM1 | Seasonally Flooded Basin | 1.1123 | Shawano | -88.2909 | 44.7370 | 0.1329 | Matting |
| N18-W-11 | PEM1 | Seasonally Flooded Basin | 0.0408 | Shawano | -88.2702 | 44.6982 | 0.0113 | Matting |
| N18-W-16 | PEM1 | Seasonally Flooded Basin | 0.0612 | Shawano | -88.3723 | 44.5712 | 0.0293 | Matting |
| N18-W-2 | PEM1 | Seasonally Flooded Basin | 0.0336 | Shawano | -88.2804 | 44.7218 | 0.0310 | Matting |
| N18-W-2 | PEM1 | Seasonally Flooded Basin | 0.0336 | Shawano | -88.2804 | 44.7218 | 0.0003 | Pole 135704 |
| N18-W-3 | PEM1 | Seasonally Flooded Basin | 0.3090 | Shawano | -88.2759 | 44.7111 | 0.0721 | Matting |
| N18-W-34 | PEM1 | Seasonally Flooded Basin | 0.1979 | Shawano | -88.2558 | 44.6620 | 0.0734 | Matting |
| N18-W-34 | PEM1 | Seasonally Flooded Basin | 0.1979 | Shawano | -88.2558 | 44.6620 | 0.0001 | Pole 138676 |
| N18-W-5 | PEM1 | Seasonally Flooded Basin | 0.0697 | Shawano | -88.2481 | 44.6450 | 0.0095 | Matting |
| N18-W-50 | PEM1 | Fresh (Wet) Meadow | 0.1322 | Shawano | -88.3006 | 44.7616 | 0.0058 | Matting |
| N18-W-6 | PEM1 | Seasonally Flooded Basin | 0.0813 | Shawano | -88.2857 | 44.7320 | 0.0341 | Matting |
| N18-W-7 | PEM1 | Seasonally Flooded Basin | 1.4078 | Shawano | -88.2819 | 44.7242 | 0.1591 | Matting |
| N18-W-7 | PEM1 | Seasonally Flooded Basin | 1.4078 | Shawano | -88.2819 | 44.7241 | 0.0001 | Pole 138705 |
| N18-W-9 | PEM1 | Seasonally Flooded Basin | 0.1345 | Shawano | -88.2682 | 44.6916 | 0.0070 | Matting |

Notes:

[1]Wetland classification system based on Cowardin et al, 1979.

[2]Current wetland cover type. Forested and shrub-carr wetland types will be converted to non-forested after right-of-way clearing.

[3]Wetland cover types are based on Eggers and Reed, 2011, Wetland Plants and Plant Communities of Minnesota and Wisconsin, Third Edition.

[4]Wetland size in proposed right-of-way.

[5]Matting refers to construction mats used temporarily in wetlands.
Pole refers to permanent wetland impacts from utility pole installation in wetlands.
Forested wetland clearing refers to converting the wetland to non-forested wetland by clearing the right-of-way of trees in wetlands.
Substation refers to the permanent impact from the construction of the Benson Lake substation.

**Summary of Project Wetland Impacts and Compensatory Mitigation Acres for Bay Lake Project - Updated April 1, 2016**

| Watershed (BSA)[1] | Wetland Cover Types[2] | Total Wetland Acres (in Project Area) | Permanent Impacts (acre)[3] | | | | | Temporary Impacts (acre)[4] | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Structure and Grading Impacts[a] | Conversion[b] | Mitigation Ratio (in-BSA) (structure) | Mitigation Ratio (in-BSA) (coversion) | Total Credits Needed | Matting (ROW)[c] | Mitigation Ratio (in BSA) | Total Credits Needed | Total Credits Permanent + Temporary Impacts[5] |
| Fox | Shallow Marsh | - | - | - | - | - | - | - | - | - | - |
| | Fresh (Wet) Meadow | 4.21 | 0.009 | - | 1.45 | - | 0.01 | - | - | - | 0.01 |
| | S. Sedge Meadow | - | - | - | - | - | - | - | - | - | - |
| | Shrub Carr | - | - | - | - | - | - | - | - | - | - |
| | Floodplain Forest | 1.69 | 0.005 | 1.685 | 1.45 | 0.5 | 0.85 | - | - | - | 0.85 |
| | Hardwood Swamp | 10.59 | 0.028 | 10.562 | 1.45 | 0.5 | 5.32 | - | - | - | 5.32 |
| | Seasonally Flooded Basin | 2.76 | 0.009 | - | 1.45 | - | - | - | - | - | - |
| | **SUBTOTAL** | **19.25** | **0.051** | **12.247** | | | **6.18** | **0** | | **0.00** | **6.18** |
| Northwestern Lake Michigan | Shallow Marsh | 2.44 | 0.060 | - | 1.45 | - | 0.09 | - | - | - | 0.09 |
| | Fresh (Wet) Meadow | 21.29 | 0.075 | - | 1.45 | - | 0.11 | - | - | - | 0.11 |
| | S. Sedge Meadow | 3.15 | 0.009 | - | 1.45 | - | 0.01 | 0.523 | 0.25 | 0.13 | 0.14 |
| | Shrub Carr | 7.12 | 0.052 | 7.068 | 1.45 | 0.5 | 3.61 | - | - | - | 3.61 |
| | Floodplain Forest | 11.19 | 0.052 | 11.138 | 1.45 | 0.5 | 5.64 | - | - | - | 5.64 |
| | Hardwood Swamp | 30.27 | 0.931 | 29.341 | 1.45 | 0.5 | 16.02 | - | - | - | 16.02 |
| | Seasonally Flooded Basin | 8.57 | 0.014 | - | 1.45 | - | 0.02 | - | - | - | 0.02 |
| | **SUBTOTAL** | **84.03** | **1.192** | **47.547** | | | **25.50** | **0.523** | | **0.13** | **25.63** |
| **TOTAL** | | **103.28** | **1.243** | **59.794** | | | **31.69** | **0.523** | | **0.13** | **31.82** |

**Notes/Assumptions:**

1 Bank Service Areas (BSA) are based on Guidelines for Wetland Compensatory Mitigation in Wisconsin, Version 1, August 2013

2 Wetland cover types were taken from shape files provided by AECOM. Wetland cover types are based on Eggers and Reed, 2011, Wetland Plants and Plant Communities of Minnesota and Wisconsin, Third Edition.

3 Permanent wetland impacts include transmission structure placement in wetlands; grading in wetlands for the Benson Lake North Substation; and permanent conversion of wooded or shrub wetlands for the the width of the transmission line right-of-way (ROW), or area surrounding the footprint of the Benson Lake North Substation.

4 Temporary wetland impacts include installation of matting in high quality wetlands (sedge meadow).

5 The ILF program will be used for mitigation, which has a base ratio of 1:45:1 for permanent (structure) wetland impacts.Total wetland credits is based on replacement ratios of 1.45:1 for permanent structure and grading impacts, 0.5:1 for permanently converted wooded and shrub wetlands, and 0.25:1 for temporary impacts (matting) to high quality wetlands.

a Permanent wetland impacts assume structure impacts in wetlands at 204 $ft^2$ per structure.

b Structure impacts within forested and shrub wetlands additionally account for conversion. Acreage within the structure impacts column was not included within the conversion column so that the impacted acreage was only accounted for once.

c Mats are 20 ft in width. Value is combination of mats and mat pads that intersect high quality wetlands. Mats in forested wetlands are not included in temporary impact value. Only high quality wetlands (sedge meadow) are included for mitigation purposes.

# NORTH APPLETON-MORGAN PROJECT

## PROJECT ROUTE MAPBOOK

| January 2016 | PAGE 15 |
|---|---|

Approved Right of Way

TRANSMISSION / DISTRIBUTION

Substation

Structures

138 kV

345 kV

345/138 kV Double Circuit

Relocated 138 kV

Relocated 345 kV

Relocated 345/138 kV Double Circuit

WETLANDS

Delineated Wetlands

WI Wetland Inventory

Area A → Wetland ID

High Quality Wetlands

WATERWAYS

Delineated Waterway

WDNR Stream

Area A → Waterway ID

Open Water

Wooded Wetlands within ROW

ROW to be cleared

State Highway

County Highway

Gas Pipeline

Railroad (Inactive)

State Trail

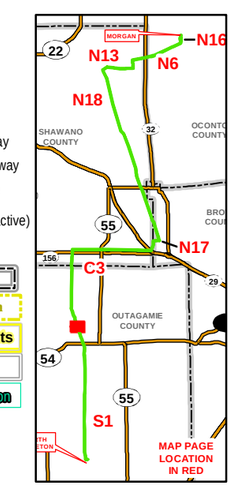
County Boundary

City/Village/Town

Existing Easements

PIN & Name(s)

Quarter-Quarter Section




N W E S

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Feet

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# NORTH APPLETON-MORGAN PROJECT

## PROJECT ROUTE MAPBOOK

January 2016 | PAGE 17

Approved Right of Way

TRANSMISSION / DISTRIBUTION

- Substation
- Structures
- 138 kV
- 345 kV
- 345/138 kV Double Circuit
- Relocated 138 kV
- Relocated 345 kV
- Relocated 345/138 kV Double Circuit

WETLANDS

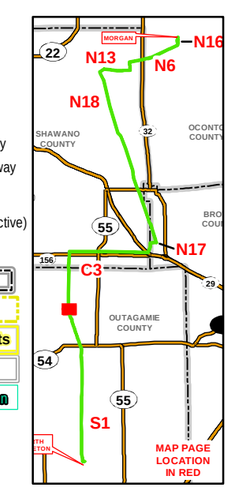
- Delineated Wetlands
- WI Wetland Inventory
- Area A → Wetland ID
- High Quality Wetlands

WATERWAYS

- Delineated Waterway
- WDNR Stream
- Area A → Waterway ID
- Open Water

- Wooded Wetlands within ROW
- ROW to be cleared

- State Highway
- County Highway
- Gas Pipeline
- Railroad (Inactive)
- State Trail
- County Boundary
- City/Village/Town
- Existing Easements
- PIN & Name(s)
- Quarter-Quarter Section




N W E S

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Feet

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# NORTH APPLETON-MORGAN PROJECT

## PROJECT ROUTE MAPBOOK

| January 2016 | PAGE 20 |
|---|---|

Approved Right of Way

TRANSMISSION / DISTRIBUTION

Substation

Structures

138 kV

345 kV

345/138 kV Double Circuit

Relocated 138 kV

Relocated 345 kV

Relocated 345/138 kV Double Circuit

WETLANDS

Delineated Wetlands

WI Wetland Inventory

Area A → Wetland ID

High Quality Wetlands

WATERWAYS

Delineated Waterway

WDNR Stream

Area A → Waterway ID

Open Water

Wooded Wetlands within ROW

ROW to be cleared

State Highway

County Highway

Gas Pipeline

Railroad (Inactive)

State Trail

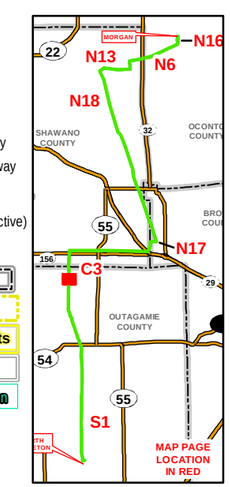
County Boundary

City/Village/Town

Existing Easements

PIN & Name(s)

Quarter-Quarter Section

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# NORTH APPLETON-MORGAN PROJECT

## PROJECT ROUTE MAPBOOK

January 2016 | PAGE 21

Approved Right of Way

TRANSMISSION / DISTRIBUTION

Substation

Structures

138 kV

345 kV

345/138 kV Double Circuit

Relocated 138 kV

Relocated 345 kV

Relocated 345/138 kV Double Circuit

WETLANDS

Delineated Wetlands

WI Wetland Inventory

Area A → Wetland ID

High Quality Wetlands

WATERWAYS

Delineated Waterway

WDNR Stream

Area A → Waterway ID

Open Water

Wooded Wetlands within ROW

ROW to be cleared

State Highway

County Highway

Gas Pipeline

Railroad (Inactive)

State Trail

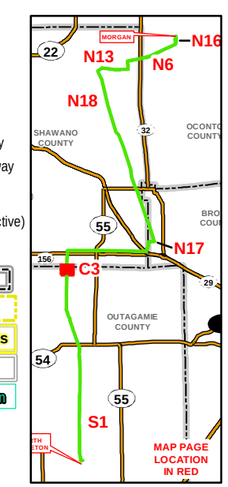
County Boundary

City/Village/Town

Existing Easements

PIN & Name(s)

Quarter-Quarter Section

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Feet

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# NORTH APPLETON-MORGAN PROJECT

## PROJECT ROUTE MAPBOOK

| January 2016 | PAGE 37 |
|---|---|

Approved Right of Way

TRANSMISSION / DISTRIBUTION

- Substation
- Structures
- 138 kV
- 345 kV
- 345/138 kV Double Circuit
- Relocated 138 kV
- Relocated 345 kV
- Relocated 345/138 kV Double Circuit

WETLANDS

- Delineated Wetlands
- WI Wetland Inventory
- Area A → Wetland ID
- High Quality Wetlands

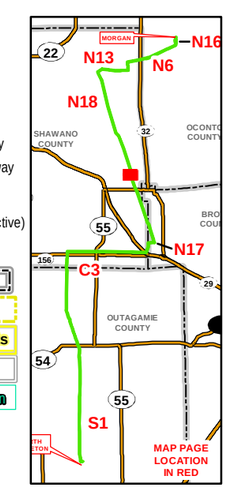
WATERWAYS

- Delineated Waterway
- WDNR Stream
- Area A → Waterway ID
- Open Water

Wooded Wetlands within ROW

ROW to be cleared

- State Highway
- County Highway
- Gas Pipeline
- Railroad (Inactive)
- State Trail
- County Boundary
- City/Village/Town
- Existing Easements
- PIN & Name(s)
- Quarter-Quarter Section




N W E S

0 200 400
Feet

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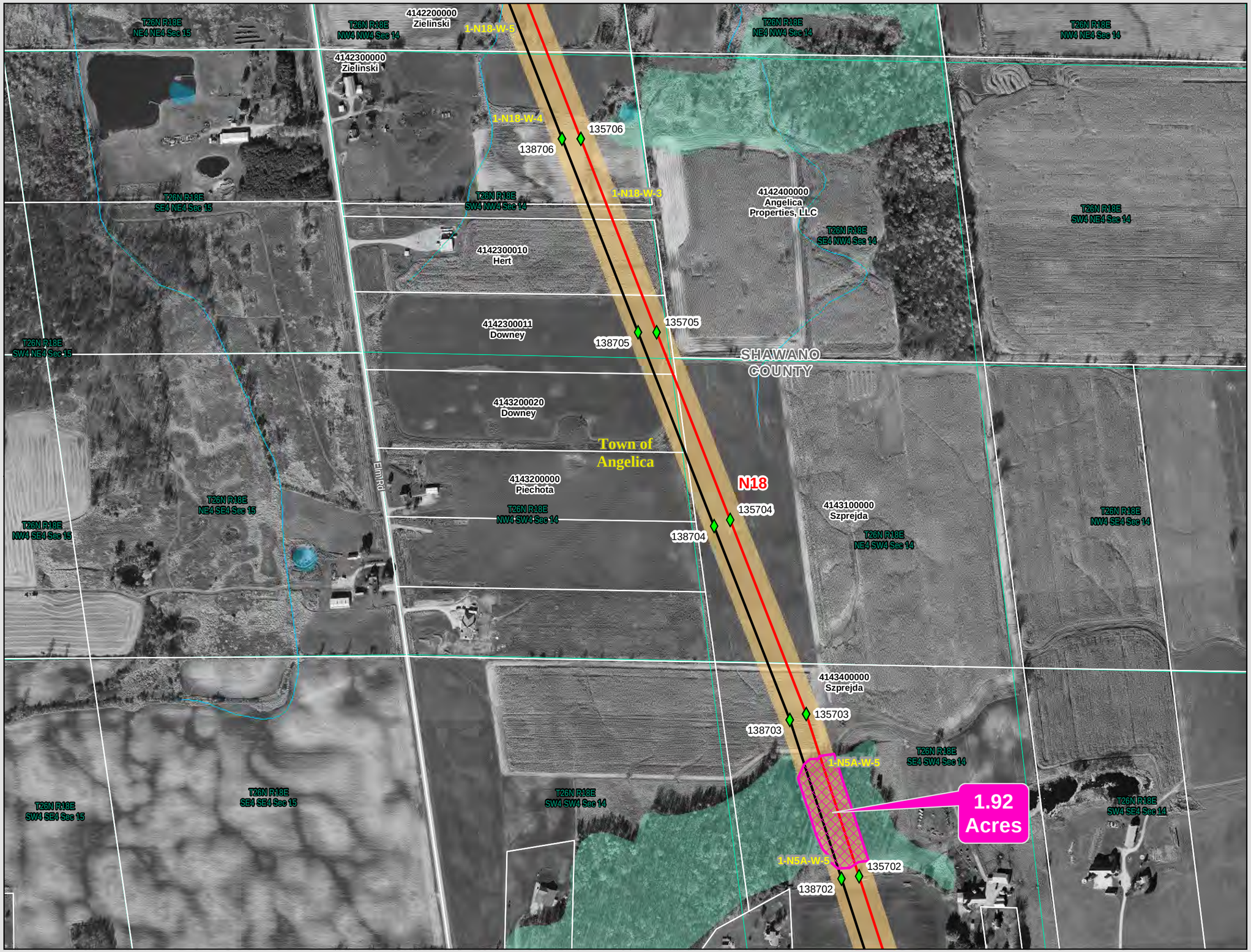
# NORTH APPLETON-MORGAN PROJECT

## PROJECT ROUTE MAPBOOK

January 2016 | PAGE 40




Approved Right of Way

TRANSMISSION / DISTRIBUTION

Substation
Structures
138 kV
345 kV
345/138 kV Double Circuit
Relocated 138 kV
Relocated 345 kV
Relocated 345/138 kV Double Circuit

WETLANDS

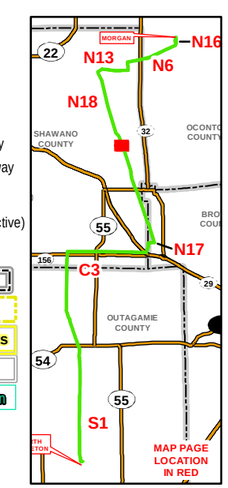
Delineated Wetlands
WI Wetland Inventory
Area A → Wetland ID
High Quality Wetlands

WATERWAYS

Delineated Waterway
WDNR Stream
Area A → Waterway ID
Open Water

Wooded Wetlands within ROW
ROW to be cleared

State Highway
County Highway
Gas Pipeline
Railroad (Inactive)
State Trail
County Boundary
City/Village/Town
Existing Easements
FIN & Name(s)
Quarter-Quarter Section




N W E S

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Feet

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# NORTH APPLETON-MORGAN PROJECT

## PROJECT ROUTE MAPBOOK

January 2016 | PAGE 44

Approved Right of Way

TRANSMISSION / DISTRIBUTION

Substation

Structures

138 kV

345 kV

345/138 kV Double Circuit

Relocated 138 kV

Relocated 345 kV

Relocated 345/138 kV Double Circuit

WETLANDS

Delineated Wetlands

WI Wetland Inventory

Area A → Wetland ID

High Quality Wetlands

WATERWAYS

Delineated Waterway

WDNR Stream

Area A → Waterway ID

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State Highway

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Railroad (Inactive)

State Trail

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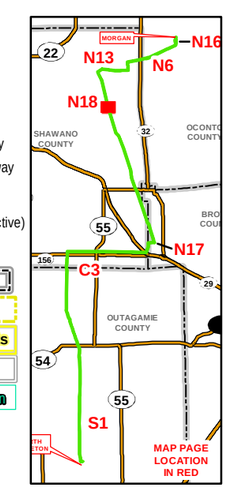
City/Village/Town

Existing Easements

FIN & Name(s)

Quarter-Quarter Section




N W E S

0 200 400

Feet

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# NORTH APPLETON-MORGAN PROJECT

## PROJECT ROUTE MAPBOOK

January 2016 | PAGE 45

Approved Right of Way

TRANSMISSION / DISTRIBUTION

Substation

Structures

138 kV

345 kV

345/138 kV Double Circuit

Relocated 138 kV

Relocated 345 kV

Relocated 345/138 kV Double Circuit

WETLANDS

Delineated Wetlands

WI Wetland Inventory

Area A → Wetland ID

High Quality Wetlands

WATERWAYS

Delineated Waterway

WDNR Stream

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State Highway

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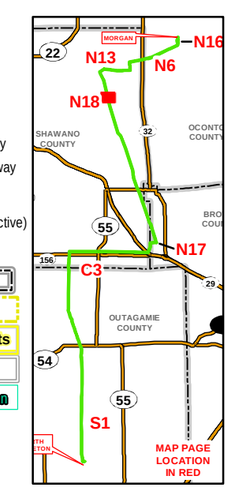
County Boundary

City/Village/Town

Existing Easements

FIN & Name(s)

Quarter-Quarter Section

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0 200 400

Feet

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# NORTH APPLETON-MORGAN PROJECT

## PROJECT ROUTE MAPBOOK

| January 2016 | PAGE 46 |
|---|---|

Approved Right of Way

TRANSMISSION / DISTRIBUTION

- Substation
- Structures
- 138 kV
- 345 kV
- 345/138 kV Double Circuit
- Relocated 138 kV
- Relocated 345 kV
- Relocated 345/138 kV Double Circuit

WETLANDS

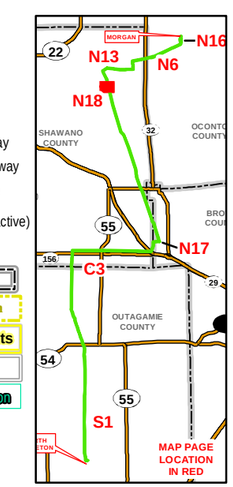
- Delineated Wetlands
- WI Wetland Inventory
- Area A → Wetland ID
- High Quality Wetlands

WATERWAYS

- Delineated Waterway
- WDNR Stream
- Area A → Waterway ID
- Open Water

- Wooded Wetlands within ROW
- ROW to be cleared

- State Highway
- County Highway
- Gas Pipeline
- Railroad (Inactive)
- State Trail
- County Boundary
- City/Village/Town
- Existing Easements
- PIN & Name(s)
- Quarter-Quarter Section




N W E S

0 200 400 Feet

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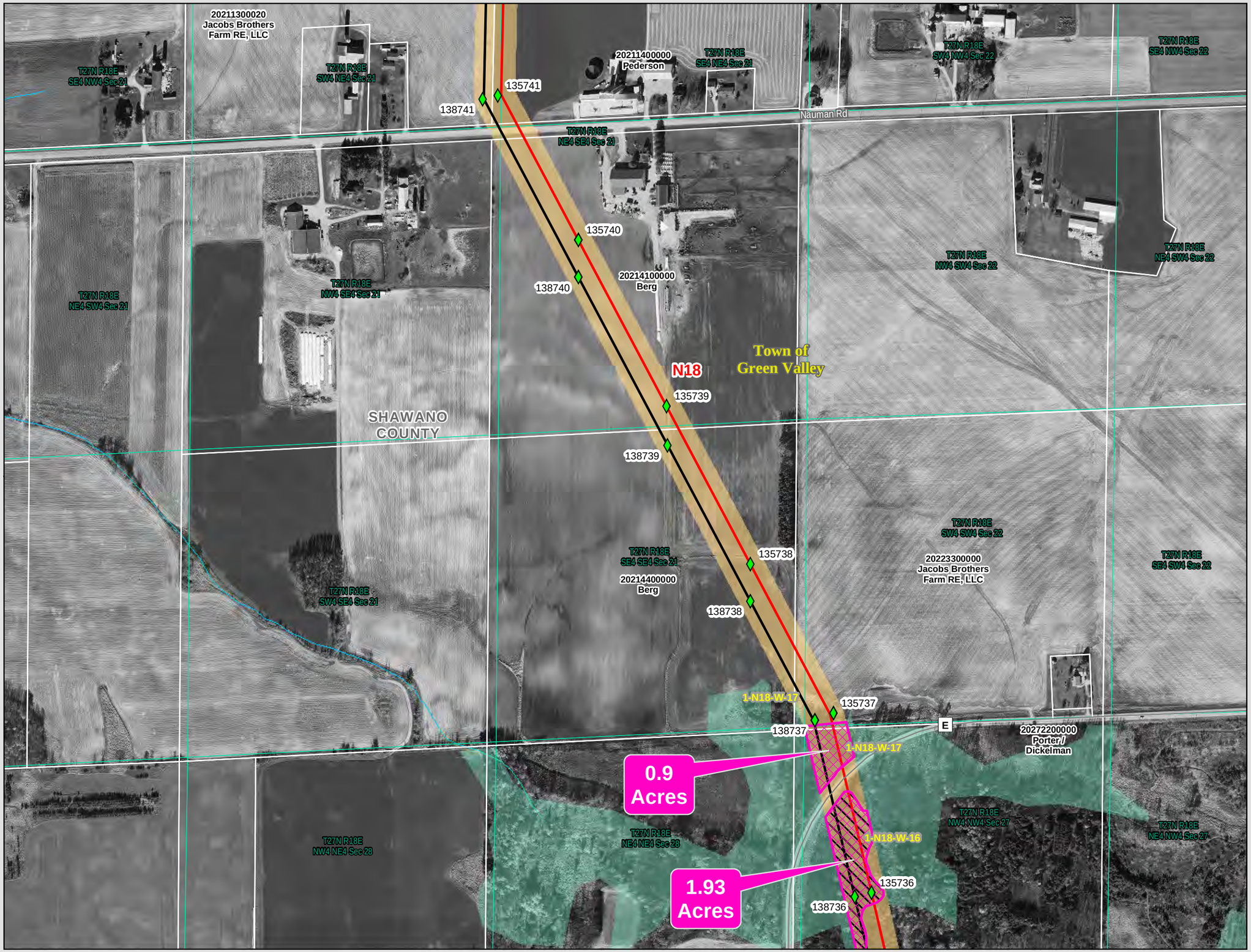
# NORTH APPLETON-MORGAN PROJECT

## PROJECT ROUTE MAPBOOK

January 2016 | PAGE 47




Approved Right of Way

TRANSMISSION / DISTRIBUTION

Substation
Structures
138 kV
345 kV
345/138 kV Double Circuit
Relocated 138 kV
Relocated 345 kV
Relocated 345/138 kV Double Circuit

WETLANDS

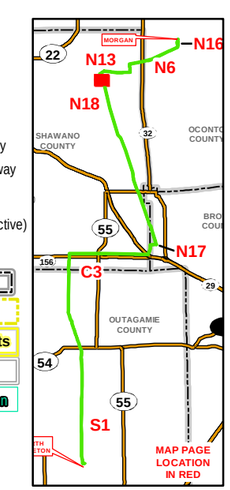
Delineated Wetlands
WI Wetland Inventory
Area A → Wetland ID
High Quality Wetlands

WATERWAYS

Delineated Waterway
WDNR Stream
Area A → Waterway ID
Open Water

Wooded Wetlands within ROW
ROW to be cleared

State Highway
County Highway
Gas Pipeline
Railroad (Inactive)
State Trail
County Boundary
City/Village/Town
Existing Easements
FIN & Name(s)
Quarter-Quarter Section




N W E S

0 200 400
Feet

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# NORTH APPLETON-MORGAN PROJECT

## PROJECT ROUTE MAPBOOK

January 2016 | PAGE 52

Approved Right of Way

TRANSMISSION / DISTRIBUTION

- Substation
- Structures
- 138 kV
- 345 kV
- 345/138 kV Double Circuit
- Relocated 138 kV
- Relocated 345 kV
- Relocated 345/138 kV Double Circuit

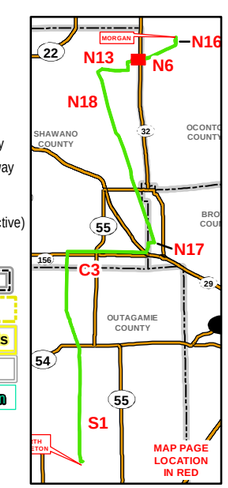
WETLANDS

- Delineated Wetlands
- WI Wetland Inventory
- Area A → Wetland ID
- High Quality Wetlands

WATERWAYS

- Delineated Waterway
- WDNR Stream
- Area A → Waterway ID
- Open Water

- Wooded Wetlands within ROW
- ROW to be cleared




- State Highway
- County Highway
- Gas Pipeline
- Railroad (Inactive)
- State Trail
- County Boundary
- City/Village/Town
- Existing Easements
- PIN & Name(s)
- Quarter-Quarter Section

N W E S

0 200 400 Feet

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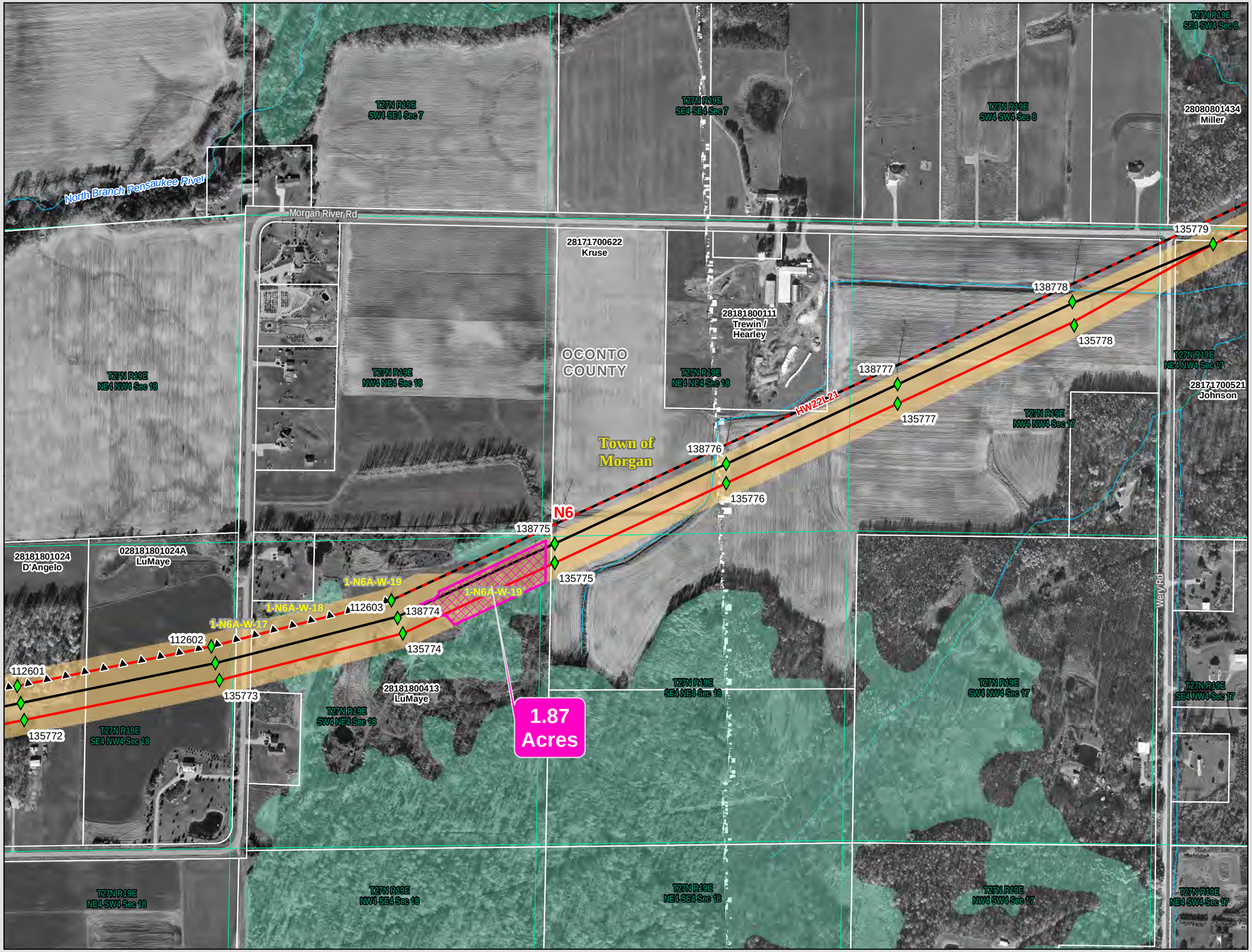
# NORTH APPLETON-MORGAN PROJECT

## PROJECT ROUTE MAPBOOK

January 2016 | PAGE 53




Approved Right of Way

TRANSMISSION / DISTRIBUTION

Substation

Structures

138 kV

345 kV

345/138 kV Double Circuit

Relocated 138 kV

Relocated 345 kV

Relocated 345/138 kV Double Circuit

WETLANDS

Delineated Wetlands

WI Wetland Inventory

Area A → Wetland ID

High Quality Wetlands

WATERWAYS

Delineated Waterway

WDNR Stream

Area A → Waterway ID

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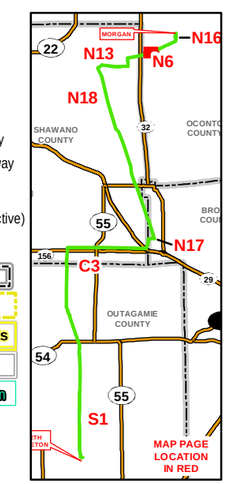
Existing Easements

PIN & Name(s)

Quarter-Quarter Section




0 200 400 Feet

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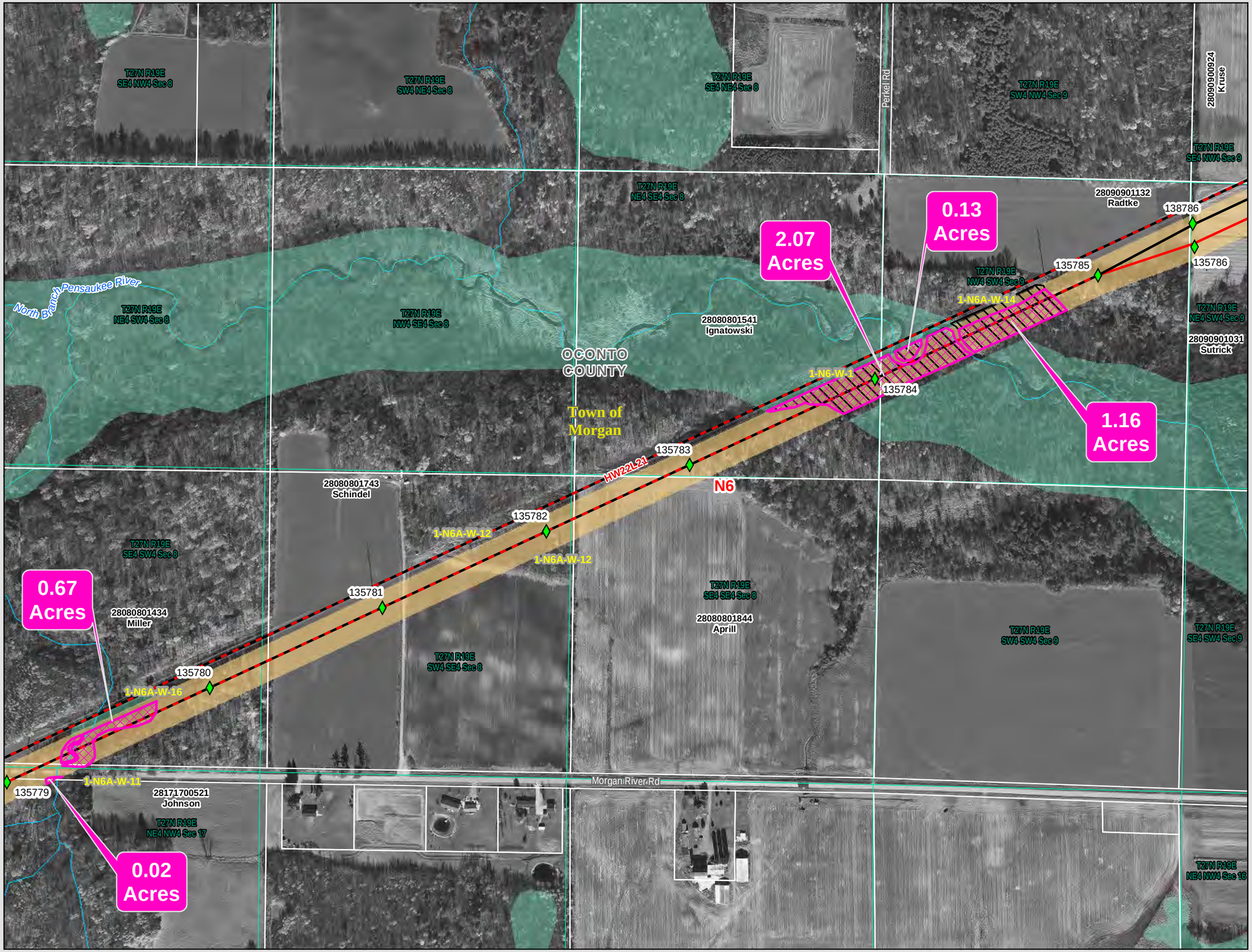
# NORTH APPLETON-MORGAN PROJECT

## PROJECT ROUTE MAPBOOK

January 2016 | PAGE 54




Approved Right of Way

TRANSMISSION / DISTRIBUTION

Substation
Structures
138 kV
345 kV
345/138 kV Double Circuit
Relocated 138 kV
Relocated 345 kV
Relocated 345/138 kV Double Circuit

WETLANDS

Delineated Wetlands
WI Wetland Inventory
Area A → Wetland ID
High Quality Wetlands

WATERWAYS

Delineated Waterway
WDNR Stream
Area A → Waterway ID
Open Water

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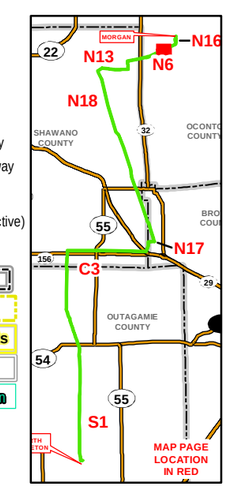
ROW to be cleared

State Highway
County Highway
Gas Pipeline
Railroad (Inactive)
State Trail
County Boundary
City/Village/Town
Existing Easements
PIN & Name(s)
Quarter-Quarter Section




N W E S

0 200 400
Feet

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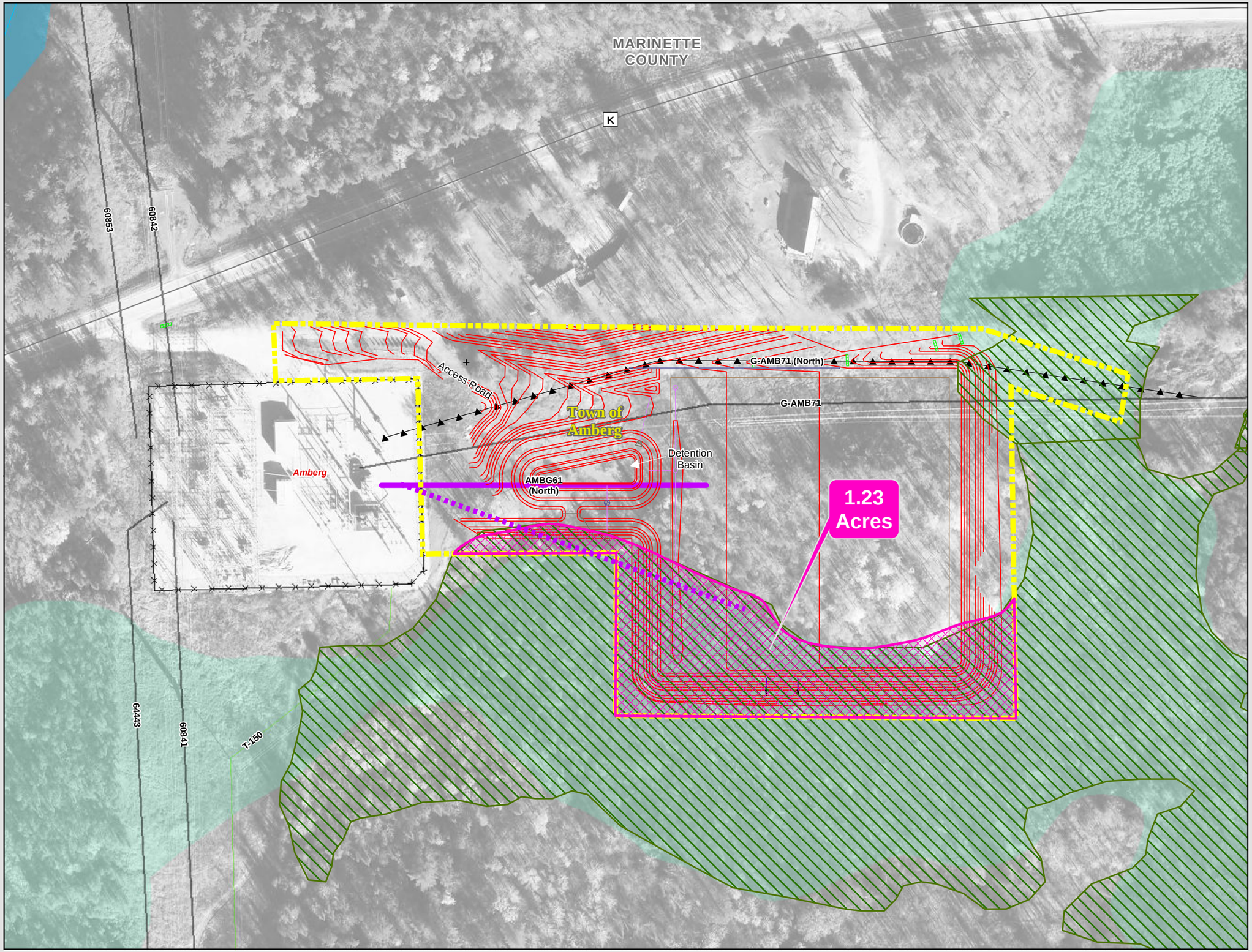
# BENSON LAKE SUBSTATION

## NORTH APPLETON-MORGAN PROJECT

JANUARY 2016




CPCN PROJECT DATA

138 kV Transmission Line

Relocated 138 kV

Existing Substation Fence

Grading Contour Lines

FINAL ENGINEERING

138 kV Transmission Line

Grading Contour Lines

Area to be cleared

Wooded Wetlands to be cleared

Stream

Open Water

WDNR Wetlands

Delineated Wetlands

N W E S

0 50 100 150

Feet

AMERICAN TRANSMISSION COMPANY

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