

May 3, 2019

VIA ELECTRONIC FILING

Mr. Daniel P. Wolf
Executive Secretary
Minnesota Public Utilities Commission
121 Seventh Place East, Suite 350
Saint Paul, MN 55101-2147

Re: Application for Approval of Route Width Variations and Permit Amendment

In the Matter of the Application of Enbridge Energy, Limited Partnership for a Pipeline Route Permit for the Line 3 Replacement Project in Minnesota from the North Dakota Border to the Wisconsin Border
MPUC Docket No. PL-9/PPL-15-137

Dear Mr. Wolf:

Enbridge Energy, Limited Partnership (“Enbridge”) requests that the Minnesota Public Utilities Commission (“Commission”) approve route width variations and a permit amendment for the Pipeline Routing Permit (“Route Permit”) for the Line 3 Replacement Project (“Project”) pursuant to Minn. R. 7852.3400 and Sections 3.5 and 10 of the Route Permit. As described in more detail in this filing, Enbridge requests 17 route width and centerline modifications of the PUC Designated Route.¹ The following table provides an overview of the requested modifications:

Modification No.	Mile Post	County	Reason for Modification
1	828	Marshall	Avoidance of impacts to cultural resources.
2	865	Pennington	Water appropriation location.
3	915	Clearwater	Landowner and U.S. Fish and Wildlife Service (“USFWS”) coordination.

¹ The PUC Designated Route is the route identified in the Route Permit issued to Enbridge on January 18, 2019 in Docket No. PL9/PPL-15-137.

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Modification No.	Mile Post	County	Reason for Modification
4	925	Clearwater	Installation of cathodic protection ground bed.
5	927	Clearwater	Reduce impacts to wetlands protected by USFWS conservation easements.
6	931	Clearwater	Minimize impact to landowner farming activities.
7	952.5	Hubbard	Use of existing well for water appropriation source.
8	994	Wadena	Shift of route to location where Enbridge has existing land rights.
9	1019	Cass	Landowner request to relocate cathodic protection ground bed.
10	1054	Aitkin	Further design of facilities associated with Swatara Pump Station on property to be owned by Enbridge.
11	1062	Aitkin	Installation of cathodic protection ground bed.
12	1073	Aitkin	Avoid heavily saturated area with constructability concerns.
13	1095	St. Louis	Landowner coordination.
14	1105	Carlton	Additional temporary workspace for construction across wetland.
15	1110	Carlton	Shift in temporary workspace to follow typical construction along previously-installed pipeline at this location.
16	1117	Carlton	Optimal crossing of I-35 and co-location with existing Lines 67, 13, and 4 in this location.
17	1120	Carlton	Water appropriation location.

I. Applicable Law.

Section 10 of the Route Permit provides that Enbridge may apply to the Commission for amendments to the Route Permit in accordance with Minn. R. 7852.3400. Pursuant to Minn. R. 7852.3400, Enbridge may apply to the Commission for an amendment of the route location or

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conditions in the Route Permit. An application for an amendment must include information sufficient for the Commission to determine:

- A. whether, in light of the criteria in parts 7852.0700 and 7852.1900, the requested changes are significant enough to warrant commission study and approval;
- B. whether to order public information meetings near the affected area; and
- C. whether additional fees shall be assessed.

The Commission makes the above determinations within 45 days or, if it decides to study the application further, within 70 days.²

In addition, Section 3.5 of the Route Permit provides that “[r]oute width variations may be allowed” in the event of:

- 1. Unforeseen circumstances encountered during the detailed engineering and design process.
- 2. Federal or state agency requirements.
- 3. Existing infrastructure within the pipeline route, including but not limited to railroads, natural gas and liquid pipelines, high voltage electric transmission lines, or sewer and water lines.

As described in more detail below and in the attached filing, the requested modifications are insignificant, the resulting impacts have generally been contemplated within the existing record, and no further study is necessary for Commission approval.

² Minn. R. 7852.3400.

2. *Summary of Analysis.*

a. *Significance of Requested Modifications When Considering Routing Criteria.*

As noted previously, the modifications requested by Enbridge are generally proposed to avoid or mitigate Project impacts (including aligning construction practices and Project design more closely with prior pipeline construction in these areas). Specifically:

- One modification is proposed to avoid impacts to cultural resources (No. 1);
- Four modifications are proposed to accommodate a landowner requests (Nos. 3, 6, 9, and 13);
- Three modifications are proposed with respect to water appropriation locations after further Minnesota Department of Natural Resources (“MDNR”) coordination (Nos. 2, 7, and 17);
- Two modifications are proposed to reduce wetland impacts (Nos. 5 and 12);
- Three modifications are proposed to align Project construction and design more closely with prior pipeline construction and/or design in these locations (Nos. 8, 15, and 16); and
- Four modifications are proposed as a result of further detailed design and/or construction engineering analysis (Nos. 4, 10, 11, and 14).

Thus, as described further in this filing, the requested modifications to the PUC Designated Route have similar or lesser human and environmental impacts as the corresponding section of the PUC Designated Route. Where modifications are requested for additional temporary workspace or other construction-related issues, the modifications have generally been designed to minimize impacts, including by being located in previously disturbed areas. In addition, each of the modifications requested by Enbridge in this filing has been included in Enbridge’s application submissions to the MDNR, Minnesota Pollution Control Agency, and U.S. Army Corps of Engineers.

Further, many of the requested modifications fall within one of the categories identified in Section 3.5 of the Route Permit for which route width variations are authorized. For example, the three modifications proposed with respect to water appropriation locations (Nos. 2, 7, and 17) are proposed after further coordination with MDNR and, as such, are proposed to comply with “state agency requirements” and one location (No. 16) better aligns with existing infrastructure in this area.

b. Public Information Meetings.

The requested modifications are in close proximity to the PUC Designated Route, and Enbridge has been coordinating with potentially affected landowners concerning the modifications. As discussed in more detail in this filing and except where specifically noted, Enbridge generally has all land rights needed for each modification, several of which are proposed on property that is already or will be owned in fee by Enbridge. Further, as noted above, the requested modifications have similar or lesser human and environmental impacts than the PUC Designated Route. As such, Enbridge respectfully submits that additional public information meetings are not warranted.

c. Additional Fees.

Enbridge agrees to pay any additional fees, to the extent the Commission determines they should be assessed.

3. Enclosed Documents.

With respect to each requested modification, Enbridge includes: (1) a description of the proposed modification; (2) the purpose of and justification for the modification; (3) an analysis of the potential impacts of the modification on the human and natural environment; and (4) a map depicting the permitted route segment and corresponding proposed modification (see Attachment D). In addition, Attachment A lists the sources used to complete the analysis provided in this filing.

4. Conclusion.

Because the overall impacts of each proposed modification is comparable to the corresponding segment of the permitted route, Enbridge respectfully requests that the Commission grant an amendment to the Route Permit for the locations described above and shown in the enclosed attachments. Specifically, Enbridge requests that the Commission amend the Site Permit issued on January 18, 2019 by replacing the specific PUC Designated Route maps included in Attachment 3 of the Route Permit with those included as Attachment D in this request.

This letter has been e-filed today through www.edockets.state.mn.us and is also being served upon the persons on the Official Service List of record. In addition, this filing is being served upon affected landowners (*i.e.*, parcels affected by the requested modifications and parcels adjacent thereto. See Attachment C for a list of affected landowners).

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Sincerely,

/s/ Christina K. Brusven

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MODIFICATION NO. 1
MP 828

Modification No. 1 – Milepost 828

Enbridge requests a route modification outside the PUC Designated Route near MP 828 in Marshall County, Minnesota.

A. Description of Proposed Route Modification

As seen in the enclosed revised Maps 033 and 034, Enbridge seeks a route modification outside the PUC Designated Route near MP 828 in Wanger Township, Marshall County, for the Project's crossing of the Tamarac River. The requested modification is approximately 4,939 feet in length and would cross the Tamarac River farther west than the crossing in the PUC Designated Route.

B. Reason for Proposed Route Modification

Enbridge requests this modification to avoid impacts to cultural resources identified during Tribal Cultural Resource ("TCR") field surveys along the PUC Designated Route. Enbridge performed further design and engineering work in response to this issue, coordinated additional field surveys, and in coordination with the TCR management team, concluded that the proposed modification would avoid impacts to the cultural resources identified in this area.

C. Analysis of Potential Human and Environmental Impacts

Tables 1.1 and 1.2 below show the impacts of the modification being requested at MP 828. The third and fourth columns of Table 1.1 provide environmental data on the applicable portion of the PUC Designated Route and the requested modification. As shown on the tables below, this modification avoids cultural resource impacts and results in less wetland impacts. Although the modification also results in greater impacts to forested and agricultural land and will not be co-located with existing right-of-way, these impacts are necessary to avoid impacting the identified cultural resource site. Enbridge has acquired the additional land rights needed for this modification.

Table 1.1
Analysis of Route Modification No. 1 (Milepost 828)
for the Line 3 Replacement Project

Resource/Category	Units	PUC Designated Route	Requested Modification
Total Length	Feet	4,126	4,939
Length Parallel to Existing Rights-of-Way	Feet	1,822	382
Roads Crossed	Number	0	0
Parcels Crossed	Number	3	6
Residences within 300 feet of the Pipeline Route	Number	0	0
Total Impacts on Surveyed Wetlands	Acres	0.32	0.24
Land Use			
Forested Land Crossed	Acres	0.00	1.20
Agricultural Land Crossed	Acres	10.40	13.77
Developed Land Crossed	Acres	0.00	0.31
Wetlands Crossed ^a	Acres	0.00	0.00
Open Land Crossed	Acres	0.00	0.00

^a Wetland acres presented here were developed using Gap Analysis Program (“GAP”) land cover data (see Attachment A). This data should be used for land use data comparison purposes only. Actual wetland impacts based on survey data are presented in the "Total Impacts on Surveyed Wetlands" row, above.

Table 1.2	
Route Comparison of Route Modification No. 1 (Milepost 828)	
Human settlement, existence and density of populated areas, existing and planned future land use, and management plans	The requested modification would have no additional impact on these features because the parcels crossed are of similar nature to those previously impacted and no new structures are impacted by the modification.
Natural environment, public and designated lands, including but not limited to natural areas, wildlife habitat, water, and recreational lands	The requested modification will result in a different crossing location of the Tamarac River, which is a Minnesota Public Water Inventory (“PWI”) watercourse. The requested modification would avoid crossing an oxbow/wetland feature associated with the river.
Lands of historical, archaeological, and cultural significance	The purpose of the requested modification is to avoid a cultural site that was identified during Enbridge’s field survey. Based on Enbridge’s survey and the TCR Survey, no lands of historical, archeological, or cultural significance would be impacted by construction along the requested modification.
Economies within the route, including agricultural, commercial or industrial, forestry, recreational, and mining operations	The requested modification would increase impacts on agricultural lands by 3.37 acres. These types of impacts were previously contemplated in the PUC permitting process and do not have the potential to significantly impact these resources.
Pipeline cost and accessibility	This modification will increase pipeline cost slightly because of the increased length of the requested modification when compared to the PUC Designated Route.
Use of existing rights-of-way and right-of-way sharing or paralleling	This modification would reduce the amount of right-of-way sharing or paralleling by approximately 1,440 feet, as it diverges from the existing Enbridge Mainline right-of-way to avoid a cultural site and provide for an optimal crossing location of the Tamarac River.
Natural resources and features	The requested modification would reduce impacts on surveyed wetlands by 0.08 acre and increase impacts on forested lands by 1.2 acres. These types of impacts were previously contemplated in the PUC permitting process and do not have the potential to significantly impact these resources.

Table 1.2	
Route Comparison of Route Modification No. 1 (Milepost 828)	
Extent to which human or environmental effects are subject to mitigation by regulatory control and permit conditions	Any change in impacts on regulated features would be reflected in permits issued for the Project. No new permits are required due to this modification.
Cumulative potential effects of related or anticipated future pipeline construction	The requested modification would not result in a significant change in potential cumulative effects because the overall length and acreage of the impact is insignificant relative to the scale of the whole Project.
Relevant applicable policies, rules, and regulations of other state and federal and local government land use laws	The same policies, rules, and regulations of other state, federal, and local land use laws would apply to the requested modification and the PUC Designated Route.

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MODIFICATION NO. 2
MP 865

Modification No. 2 – Milepost 865

Enbridge requests permission for workspace outside the PUC Designated Route near MP 865 in Pennington County, Minnesota.

A. Description of Proposed Route Modification

As seen on the enclosed revised Map 080, Enbridge seeks a modification to the PUC Designated Route near MP 865 in Rocksbury Township, Pennington County, to access a water appropriation location to be used in connection with a horizontal direction drill (“HDD”) crossing and hydro-testing of the pipeline before operations. The requested modification consists of approximately 1,220 square feet outside of the PUC Designated Route. An existing transmission line corridor is planned to be used at this location to minimize environmental impacts.

B. Reason for Proposed Route Modification

This modification is requested to enable Enbridge to use the Red Lake River as a water appropriation location for the HDD crossing of the Red Lake River and hydro-testing of the pipeline before operations. Enbridge needs a source of water for all HDD crossings to make the drilling mud needed to complete the drill. Transportation impacts are minimized by appropriating water near where the mud is made, in this case at the crossing location. Although the requested modification is outside the PUC Designated Route, Enbridge has coordinated with the Minnesota Department of Natural Resources (“MDNR”) regarding its proposed water appropriation locations, and MDNR is currently reviewing Enbridge’s water appropriation permit application for this location.

C. Analysis of Potential Human and Environmental Impacts

Tables 2.1 and 2.2 below show the impacts of the modification being requested at MP 865. The third column of Table 2.1 provides specific data on the area of the requested modification that is outside the PUC Designated Route. This modification would impact one parcel which was already crossed by the PUC Designated Route, and Enbridge has acquired the land rights required for this modification. As shown on the tables below, the requested modification would impact 0.03 acre of wetlands, with no other identified human or environmental impacts.

Table 2.1		
Analysis of Route Modification No. 2 (Milepost 865)		
for the Line 3 Replacement Project		
Resource/Category	Units	Requested Modification Outside PUC Designated Route
Total Area	Square Feet	1,220
Length Parallel to Existing Rights-of-Way	Feet	*N/A
Roads Crossed	Number	0
Parcels Crossed	Number	1
Residences within 300 feet of the Pipeline Route	Number	0
Total Impacts on Surveyed Wetlands	Acres	0.03
Land Use		
Forested Land Crossed	Acres	0.00
Agricultural Land Crossed	Acres	0.00
Developed Land Crossed	Acres	0.00
Wetlands Crossed ^a	Acres	0.00
Open Land Crossed	Acres	0.00
^a Wetland acres presented here were developed using GAP land cover data (see Attachment A). This data should be used for land use data comparison purposes only. Actual wetland impacts based on survey data are presented in the "Total Impacts on Surveyed Wetlands" row, above. * Workspace only		

Table 2.2 Route Comparison of Route Modification No. 2 (Milepost 865)	
Human settlement, existence and density of populated areas, existing and planned future land use, and management plans	The requested modification would have no additional impact on these features because the parcel crossed was previously impacted by the PUC Designated Route and no new structures are impacted by the modification.
Natural environment, public and designated lands, including but not limited to natural areas, wildlife habitat, water, and recreational lands	The requested modification would have minimal impacts that do not have the potential to significantly impact these features.
Lands of historical, archaeological, and cultural significance	Based on Enbridge's survey and the TCR Survey, no lands of historical, archeological, or cultural significance would be impacted by construction along the requested modification.
Economies within the route, including agricultural, commercial or industrial, forestry, recreational, and mining operations	The requested modification would have no additional impact on these features.
Pipeline cost and accessibility	Pipeline cost and accessibility will be similar to that of the PUC Designated Route.
Use of existing rights-of-way and right-of-way sharing or paralleling	The requested modification is for temporary workspace only. The pipeline would continue to share and parallel the existing Enbridge right-of-way.
Natural resources and features	The requested modification would impact an additional 0.03 acre of surveyed wetlands. These types of impacts were previously contemplated in the PUC permitting process and do not have the potential to significantly impact these resources.
Extent to which human or environmental effects are subject to mitigation by regulatory control and permit conditions	Any change in impacts on regulated features would be reflected in permits issued for the Project. No new permits are required due to this modification.
Cumulative potential effects of related or anticipated future pipeline construction	The requested modification would not result in a significant change in potential cumulative effects because the overall length and acreage of impact is insignificant relative to the scale of the whole Project.
Relevant applicable policies, rules, and regulations of other state and federal and local government land use laws	The same policies, rules, and regulations of other state, federal and local land use laws would apply to the requested modification and the PUC Designated Route.

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MODIFICATION NO. 3
MP 915

Modification No. 3 – Milepost 915

Enbridge requests a route modification outside the PUC Designated Route near MP 915 in Clearwater County, Minnesota.

A. Description of Proposed Route Modification

As seen on the enclosed revised Maps 134 and 135, Enbridge requests a route modification between MP 915 and MP 916 in Holst Township, Clearwater County. The requested modification is approximately 3,736 feet in length.

B. Reason for Proposed Route Modification

This modification arises after coordination with landowners and United States Fish and Wildlife Service (“USFWS”). The landowner of tract MN-CL-C5-014.000 within the PUC Designated Route did not sign a voluntary easement, so Enbridge proposed moving the centerline alignment to the tract to the west, which shifted a portion of the route on tract MN-CL-C5-013.000. USFWS has a conservation easement on this tract that precedes Enbridge’s request for an easement. Enbridge and USFWS have come to an informal agreement that will reduce impacts of the Project in USFWS easement wetlands on that tract. The USFWS correspondence is attached to this request as Attachment B.

C. Analysis of Potential Human and Environmental Impacts

Tables 3.1 and 3.2 below show the impacts of the modification being requested at MP 915. The third and fourth columns of Table 3.1 provide environmental data on the applicable portion of the PUC Designated Route and the requested modification. As shown on the tables below, this modification reduces impacts on surveyed wetlands by 1.08 acres, increases impacts on forested lands by 0.42 acre, and would not be co-located with the existing right-of-way. The modification is consistent with Enbridge’s coordination with USFWS and reduces impacts to one of that agency’s conservation easements. Enbridge has acquired all required land rights for this modification.

Table 3.1			
Analysis of Route Modification No. 3 (Milepost 915)			
for the Line 3 Replacement Project			
Resource/Category	Units	PUC Designated Route	Requested Modification
Total Length	Feet	3,419	3,736
Length Parallel to Existing Rights-of-Way	Feet	3,419	1,371
Roads Crossed	Number	0	0
Parcels Crossed	Number	3	3
Residences within 300 feet of the Pipeline Route	Number	0	0
Total Impacts on Surveyed Wetlands	Acres	2.62	1.54
Land Use			
Forested Land Crossed	Acres	7.82	8.24
Agricultural Land Crossed	Acres	0.00	0.00
Developed Land Crossed	Acres	0.00	0.00
Wetlands Crossed ^a	Acres	0.00	0.00
Open Land Crossed	Acres	0.00	0.00
^a Wetland acres presented here were developed using GAP land cover data (see Attachment A). This data should be used for land use data comparison purposes only. Actual wetland impacts based on survey data are presented in the "Total Impacts on Surveyed Wetlands" row, above.			

Table 3.2 Route Comparison of Route Modification No. 3 (Milepost 915)	
Human settlement, existence and density of populated areas, existing and planned future land use, and management plans	The requested modification would have no additional impact on these features because the parcels crossed are of similar nature to those previously impacted and no new structures are impacted by the modification. This modification is requested as a result of further landowner coordination.
Natural environment, public and designated lands, including but not limited to natural areas, wildlife habitat, water, and recreational lands	Although the requested modification continues to cross one USFWS conservation easement, the modification was designed in consultation with the USFWS to minimize impacts.
Lands of historical, archaeological, and cultural significance	Based on Enbridge's survey and the TCR Survey, no lands of historical, archeological, or cultural significance would be impacted by construction along the requested modification.
Economies within the route, including agricultural, commercial or industrial, forestry, recreational, and mining operations	The requested modification would have no additional impact on these features.
Pipeline cost and accessibility	This modification will increase pipeline cost slightly because of the increased length of the requested modification when compared to the PUC Designated Route.
Use of existing rights-of-way and right-of-way sharing or paralleling	The requested modification would reduce the amount of right-of-way sharing by approximately 2,048 feet, as it diverges from the Minnesota Pipe Line right-of-way to avoid the USFWS easement.
Natural resources and features	The requested modification would reduce impacts on surveyed wetlands by 1.08 acres but would increase impacts on forested lands by 0.42 acre but are not substantial enough to have the potential to significantly impact these resources.
Extent to which human or environmental effects are subject to mitigation by regulatory control and permit conditions	Any change in impacts on regulated features would be reflected in permits issued for the Project. No new permits are required due to this modification.

Table 3.2 Route Comparison of Route Modification No. 3 (Milepost 915)	
Cumulative potential effects of related or anticipated future pipeline construction	The requested modification would not result in a significant change in potential cumulative effects because the overall length and acreage of impact is insignificant relative to the scale of the whole Project.
Relevant applicable policies, rules, and regulations of other state and federal and local government land use laws	The route modification reflects an informal agreement between Enbridge and USFWS and will reduce impacts of the Project in USFWS easement wetlands on these parcels.

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MODIFICATION NO. 4
MP 925

Modification No. 4 – Milepost 925

Enbridge requests permission for workspace outside the PUC Designated Route near MP 925 in Clearwater County, Minnesota.

A. Description of Proposed Route Modification

As seen on the enclosed revised Map 148, Enbridge seeks a modification to the PUC Designated Route near MP 925 in Nora Township, Clearwater County. The requested modification consists of approximately 7,011 square feet outside of the PUC Designated Route.

B. Reason for Proposed Route Modification

This modification is requested to allow for the installation of cathodic ground bed at this location. Cathodic protection systems are installed to mitigate the threat of external corrosion on pipelines. Although the requested modification is outside the PUC Designated Route as described above, Enbridge's additional design and engineering work has indicated that this area will be required for the installation of the cathodic ground bed at this location.

C. Analysis of Potential Human and Environmental Impacts

Tables 4.1 and 4.2 below show the impacts of the modification being requested at MP 925. The third column of Table 4.1 provides specific data on the area of the requested modification that is outside the PUC Designated Route. This modification impacts one parcel that is already crossed by the PUC Designated Route. Enbridge anticipates that no additional private land rights will be required, as this modification will impact county road right-of-way. As shown on the tables below and related maps, this modification does not result in significant impacts because it is in a cleared area that is adjacent to a roadway.

Table 4.1		
Analysis of Route Modification No. 4 (Milepost 925)		
for the Line 3 Replacement Project		
Resource/Category	Units	Requested Modification Outside PUC Designated Route
Total Area	Square Feet	7,011
Length Parallel to Existing Rights-of-Way	Feet	N/A
Roads Crossed	Number	0
Parcels Crossed	Number	1
Residences within 300 feet of the Pipeline Route	Number	0
Total Impacts on Surveyed Wetlands	Acres	0.00
Land Use		
Forested Land Crossed	Acres	0.13
Agricultural Land Crossed	Acres	0.00
Developed Land Crossed	Acres	0.03
Wetlands Crossed ^a	Acres	0.00
Open Land Crossed	Acres	0.00
^a Wetland acres presented here were developed using GAP land cover data (see Attachment A). This data should be used for land use data comparison purposes only. Actual wetland impacts based on survey data are presented in the "Total Impacts on Surveyed Wetlands" row, above.		

Table 4.2	
Route Comparison of Route Modification No. 4 (Milepost 925)	
Human settlement, existence and density of populated areas, existing and planned future land use, and management plans	The requested modification would have no additional impact on these features because it is located on a parcel already crossed by the PUC Designated Route and the workspace is contained within the road right-of-way.
Natural environment, public and designated lands, including but not limited to natural areas, wildlife habitat, water, and recreational lands	The requested modification would have no additional impact on these features because it is located within a road right-of-way.
Lands of historical, archaeological, and cultural significance	Based on Enbridge’s survey and the TCR Survey, no lands of historical, archeological, or cultural significance would be impacted by construction along the requested modification.
Economies within the route, including agricultural, commercial or industrial, forestry, recreational, and mining operations	The requested modification would have no additional impact on these features.
Pipeline cost and accessibility	Pipeline cost and accessibility will be similar to that of the PUC Designated Route.
Use of existing rights-of-way and right-of-way sharing or paralleling	The requested modification is adjacent to existing roadway.
Natural resources and features	A Geographic Information System (“GIS”) analysis suggests that the requested modification would increase impacts on the forested area land use type by 0.13 acre, however visual imagery shows that the workspace is located within an existing cleared area.
Extent to which human or environmental effects are subject to mitigation by regulatory control and permit conditions	Any change in impacts on regulated features would be reflected in permits issued for the Project. No new permits are required for this modification.
Cumulative potential effects of related or anticipated future pipeline construction	The requested modification would not result in a significant change in potential cumulative effects because the overall length and acreage of impact is insignificant relative to the scale of the whole Project.
Relevant applicable policies, rules, and regulations of other state and federal and local government land use laws	The same policies, rules, and regulations of other state, federal and local land use laws would apply to the requested modification and the PUC Designated Route.

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MODIFICATION NO. 5
MP 927

Modification No. 5 – Milepost 927

Enbridge requests a route modification outside the PUC Designated Route near MP 927 in Clearwater County, Minnesota.

A. Description of Proposed Route Modification

As seen on the enclosed revised Maps 151 and 152, Enbridge seeks a route modification outside the PUC Designated Route near MP 927 in Nora and Moose Creek Townships, Clearwater County, Minnesota. The requested modification is approximately 7,081 feet in length.

B. Reason for Proposed Route Modification

This modification is requested to reduce impacts to wetlands protected by USFWS conservation easements on the portion of the PUC Designated Route that was formerly RSA-05. Based on Enbridge's further design and engineering work, as many as 10-12 protected wetlands would have been impacted by the original route of RSA-05. Although the requested modification is outside the PUC Designated Route as described above, it moves the pipeline off USFWS easement wetlands, and Enbridge has coordinated with USFWS on conservation measures to further reduce impacts. See April 10, 2018 letter included as Attachment B.

C. Analysis of Potential Human and Environmental Impacts

Tables 5.1 and 5.2 below show the impacts of the modification being requested at MP 927. The third and fourth columns of Table 5.1 provide environmental data on the applicable portion of the PUC Designated Route and the requested modification. As shown on the tables below, this modification would reduce impacts on surveyed wetlands and forested lands by 0.73 acre and 1.30 acres, respectively. It would reduce collocation and would increase impacts on agricultural land by 2.5 acres. The requested modification supported the route presented by Enbridge to the USFWS regarding impacts on this conservation easement and would address a commitment Enbridge made to USFWS. Enbridge has obtained all land rights needed for this modification.

Table 5.1
Analysis of Route Modification No. 5 (Milepost 927)
for the Line 3 Replacement Project

Resource/Category	Units	PUC Designated Route	Requested Modification
Total Length	Feet	6,766	7,081
Length Parallel to Existing Rights-of-Way	Feet	6,766	4,348
Roads Crossed	Number	2	1
Parcels Crossed	Number	5	5
Residences within 300 feet of the Pipeline Route	Number	0	0
Total Impacts on Surveyed Wetlands	Acres	4.48	3.75
Land Use			
Forested Land Crossed	Acres	9.88	8.58
Agricultural Land Crossed	Acres	6.58	9.13
Developed Land Crossed	Acres	0.46	0.1
Wetlands Crossed ^a	Acres	0.00	0.00
Open Land Crossed	Acres	0.00	0.00

^a Wetland acres presented here were developed using GAP land cover data (see Attachment A). This data should be used for land use data comparison purposes only. Actual wetland impacts based on survey data are presented in the "Total Impacts on Surveyed Wetlands" row, above.

Table 5.2 Route Comparison of Route Modification No. 5 (Milepost 927)	
Human settlement, existence and density of populated areas, existing and planned future land use, and management plans	The requested modification would not have any additional impact on human settlement. The requested modification would be near an uninhabited property with a fenced pasture and small shed.
Natural environment, public and designated lands, including but not limited to natural areas, wildlife habitat, water, and recreational lands	The requested modification would minimize impacts on protected wetlands located within a USFWS conservation easement.
Lands of historical, archaeological, and cultural significance	Based on Enbridge's survey and the TCR Survey, no lands of historical, archeological, or cultural significance would be impacted by construction along the requested modification.
Economies within the route, including agricultural, commercial or industrial, forestry, recreational, and mining operations	The modification would result in an increased impact on agricultural land of about 2.5 acres. These types of impacts were previously contemplated in the PUC permitting process and do not have the potential to significantly impact these resources.
Pipeline cost and accessibility	This modification will increase pipeline cost slightly because of the increased length of the requested modification when compared to the PUC Designated Route.
Use of existing rights-of-way and right-of-way sharing or paralleling	The requested modification would reduce the amount of right-of-way sharing or paralleling by approximately 2,418 feet to avoid the USFWS easement.
Natural resources and features	The requested modification would reduce impacts on surveyed wetlands and forested lands by 0.73 acre and 1.30 acres, respectively.
Extent to which human or environmental effects are subject to mitigation by regulatory control and permit conditions	Any change in impacts on regulated features would be reflected in permits issued for the Project. No new permits are required due to this modification.
Cumulative potential effects of related or anticipated future pipeline construction	The requested modification would not result in a significant change in potential cumulative effects because the overall mileage or acreage of impact is insignificant relative to the scale of the whole Project.

Table 5.2 Route Comparison of Route Modification No. 5 (Milepost 927)	
Relevant applicable policies, rules, and regulations of other state and federal and local government land use laws	The route modification would support a pipeline route consistent with Enbridge's commitment to the USFWS regarding impacts to conservation easements.

Enbridge Energy, Limited Partnership
Route Permit Amendment Request
MPUC Docket No. PL-9/PPL-15-137

MODIFICATION NO. 6
MP 931

Modification No. 6 – Milepost 931

Enbridge requests a route modification outside the PUC Designated Route near MP 931 in Clearwater County, Minnesota.

A. Description of Proposed Route Modification

As seen in the enclosed revised Maps 155 and 156, Enbridge seeks a route modification outside the PUC Designated Route near MP 931 and 932 in Moose Creek Township, Clearwater County, to accommodate a landowner request. The requested modification is approximately 4,918 feet in length.

B. Reason for Proposed Route Modification

This modification arises from the landowner's request to move the pipeline to the westerly edge of these tracts to minimize impacts to farming activities by placing the route adjacent to the boundary of the property.

C. Analysis of Potential Human and Environmental Impact

Tables 6.1 and 6.2 below show the impacts of the modification being requested at MP 931. The third and fourth columns of Table 6.1 provide environmental data on the applicable portion of the PUC Designated Route and the requested modification. As shown on the tables below, this modification would reduce impacts on agricultural lands by 0.17 acre, increase impacts on surveyed wetlands by 0.44 acre, and reduce impacts on forested land by 1.07 acres. All parcels impacted by this modification were previously impacted by the PUC Designated Route, and Enbridge has acquired all land rights needed for this modification.

Table 6.1
Analysis of Route Modification No. 6 (Milepost 931)
for the Line 3 Replacement Project

Resource/Category	Units	PUC Designated Route	Requested Modification
Total Length	Feet	5,278	4,918
Length Parallel to Existing Rights-of-Way	Feet	500	500
Roads Crossed	Number	1	1
Parcels Crossed	Number	4	4
Residences within 300 feet of the Pipeline Route	Number	0	0
Total Impacts on Surveyed Wetlands	Acres	0.76	1.20
Land Use			
Forested Land Crossed	Acres	6.37	5.30
Agricultural Land Crossed	Acres	7.81	7.64
Developed Land Crossed	Acres	0.30	0.28
Wetlands Crossed ^a	Acres	0.00	0.00
Open Land Crossed	Acres	0.00	0.00

^a Wetland acres presented here were developed using GAP land cover data (see Attachment A). This data should be used for land use data comparison purposes only. Actual wetland impacts based on survey data are presented in the "Total Impacts on Surveyed Wetlands" row, above.

Table 6.2	
Route Comparison of Route Modification No. 6 (Milepost 931)	
Human settlement, existence and density of populated areas, existing and planned future land use, and management plans	The requested modification would have no additional impact on these features; however, it would address a landowner request.
Natural environment, public and designated lands, including but not limited to natural areas, wildlife habitat, water, and recreational lands	The requested modification will cross an Unnamed Stream also designated as a PWI watercourse. The PUC Designated Route would also cross this stream in a different location. The requested modification would have no additional impact on these features.
Lands of historical, archaeological, and cultural significance	Based on Enbridge's survey and the TCR Survey, no lands of historical, archeological, or cultural significance would be impacted by construction along the requested modification.
Economies within the route, including agricultural, commercial or industrial, forestry, recreational, and mining operations	The requested modification would reduce impacts on agricultural lands by 0.17 acre.
Pipeline cost and accessibility	This modification will increase pipeline cost slightly because of the increased length of the requested modification when compared to the PUC Designated Route.
Use of existing rights-of-way and right-of-way sharing or paralleling	The requested modification would have no additional impact on these features.
Natural resources and features	The requested modification would increase impacts on surveyed wetlands by 0.44 acre and reduce impacts on forested land by 1.07 acres. These types of impacts were previously contemplated in the PUC permitting process and do not have the potential to significantly impact these resources.
Extent to which human or environmental effects are subject to mitigation by regulatory control and permit conditions	Any change in impacts on regulated features would be reflected in permits issued for the Project. No new permits are required due to this modification.
Cumulative potential effects of related or anticipated future pipeline construction	The requested modification would not result in a significant change in potential cumulative effects because the overall mileage or acreage of impact is insignificant relative to the scale of the whole Project.

Table 6.2 Route Comparison of Route Modification No. 6 (Milepost 931)	
Relevant applicable policies, rules, and regulations of other state and federal and local government land use laws	The same policies, rules, and regulations of other state, federal and local land use laws would apply to the requested modification and the PUC Designated Route.

Enbridge Energy, Limited Partnership
Route Permit Amendment Request
MPUC Docket No. PL-9/PPL-15-137

MODIFICATION NO. 7
MP 952.5

Modification No. 7 – Mile Post 952.5

A. Description of Proposed Route Modification

As seen in the enclosed revised Map 186, Enbridge seeks a route modification outside the PUC Designated Route near MP 952.5 in Lake Alice Township, Hubbard County. The requested modification would result in approximately 29,761 square feet of workspace outside the PUC Designated Route.

B. Reason for Proposed Route Modification

Enbridge requests this modification to utilize an existing well to facilitate two hydrotests before the Project is placed in service. The PUC Designated Route previously contemplated using Sloan Lake for water appropriation, but MDNR advised Enbridge that Sloan Lake should not be used as a water appropriation source. Enbridge therefore identified this well as a source for water appropriation. The workspace requested will allow for equipment to access the well and put in place a temporary line to transport water to the right-of-way. Enbridge has included this well as a proposed water appropriation source in its groundwater appropriation permit application to the MDNR. MDNR is currently reviewing Enbridge's water appropriation permit application for this location.

C. Analysis of Potential Human and Environmental Impacts

Tables 7.1 and 7.2 below show the impacts of the modification being requested at MP 952.5. The third column of Table 7.1 provides specific data on the area of the requested modification that is outside the PUC Designated Route. As shown in the tables below, this modification will have only temporary impacts and will not require ground disturbance. Two additional parcels will be impacted by this parcel, both of which are owned by Enbridge; Enbridge has acquired all property rights needed for this modification.

Table 7.1 Analysis of Route Modification No. 7 (Mile Post 952.5) for the Line 3 Replacement Project		
Resource/Category	Units	Requested Modification Outside PUC Designated Route
Total Area	Square Feet	29,671
Length Parallel to Existing Rights-of-Way	Feet	*N/A
Roads Crossed	Number	0
Parcels Crossed	Number	5
Residences within 300 feet of the Pipeline Route	Number	0
Total Impacts on Surveyed Wetlands	Acres	0.00
Land Use		
Forested Land Crossed	Acres	0.08
Agricultural Land Crossed	Acres	0.0
Developed Land Crossed	Acres	0.60
Wetlands Crossed ^a	Acres	0.0
Open Land Crossed	Acres	0.0
^a Wetland acres presented here were developed using GAP land cover data (see Attachment A). This data should be used for land use data comparison purposes only. Actual wetland impacts based on survey data are presented in the "Total Impacts on Surveyed Wetlands" row, above. * Workspace only		

Table 7.2	
Route Comparison of Route Modification No. 7 (Mile Post 952.5)	
Human settlement, existence and density of populated areas, existing and planned future land use, and management plans	There is an existing residence located within the workspace; however, as the workspace is needed to access an existing well to support water appropriation activities, the disturbance will be limited to the period of active appropriations.
Natural environment, public and designated lands, including but not limited to natural areas, wildlife habitat, water, and recreational lands	The requested modification would have no additional impact on these features because of the limited nature of these impacts during the period of active appropriations.
Lands of historical, archaeological, and cultural significance	Enbridge will complete archaeological survey of this workspace during the 2019 field season. No lands of historical, archeological, or cultural significance were located in the previously surveyed area. Use of this workspace would not require any ground disturbing.
Economies within the route, including agricultural, commercial or industrial, forestry, recreational, and mining operations	The requested modification would have no additional impact on these features.
Pipeline cost and accessibility	This modification will have a negligible impact on cost because it will utilize an existing well for hydrotesting.
Use of existing rights-of-way and right-of-way sharing or paralleling	The requested modification is for temporary workspace only. The pipeline would continue to share and parallel Enbridge's existing right-of-way.
Natural resources and features	The requested modification would result in 0.08 acre of impact to forested land. These types of impacts were previously contemplated in the PUC permitting process and do not have the potential to significantly impact these resources.
Extent to which human or environmental effects are subject to mitigation by regulatory control and permit conditions	Any change in impacts on regulated features would be reflected in permits issued for the Project. No new permits are required due to this modification.
Cumulative potential effects of related or anticipated future pipeline construction	The requested modification would not result in a significant change in potential cumulative effects because the overall length and acreage of impact is insignificant relative to the scale of the whole Project.

Table 7.2 Route Comparison of Route Modification No. 7 (Mile Post 952.5)	
Relevant applicable policies, rules, and regulations of other state and federal and local government land use laws	The same policies, rules, and regulations of other state, federal and local land use laws would apply to the requested modification.

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Route Permit Amendment Request
MPUC Docket No. PL-9/PPL-15-137

MODIFICATION NO. 8
MP 994

Modification No. 8 – Milepost 994

Enbridge requests a route modification for workspace outside the PUC Designated Route near MP 994 in Wadena County, Minnesota.

A. Description of Proposed Route Modification

As seen in the enclosed revised Map 241, Enbridge seeks a route modification outside the PUC Designated Route near MP 994 in Huntersville Township, Wadena County. The requested modification would result in approximately 3,073 square feet outside the PUC Designated Route.

B. Reason for Proposed Route Modification

This modification is the result of a shift in the centerline alignment to a location where Enbridge has acquired land rights on a parcel owned by Lessard-Sams Outdoor Heritage Council and administered by the MDNR. The alignment shift caused the temporary workspace and permanent right-of-way to shift slightly outside of the PUC Designated Route.

C. Analysis of Potential Human and Environmental Impacts

Tables 8.1 and 8.2 below show the impacts of the modification being requested at MP 994. The third column of Table 8.1 provides specific data on the area of the requested modification that is outside the PUC Designated Route. The modification is located on land administered by the MDNR and was included in Enbridge's 2018 application to the MDNR for a License to Cross Public Lands.

Table 8.1		
Analysis of Route Modification No. 8 (Milepost 994)		
for the Line 3 Replacement Project		
Resource/Category	Units	Requested Modification Outside PUC Designated Route
Total Area	Square Feet	3,073
Length Parallel to Existing Rights-of-Way	Feet	*N/A
Roads Crossed	Number	0
Parcels Crossed	Number	1
Residences within 300 feet of the Pipeline Route	Number	0
Total Impacts on Surveyed Wetlands	Acres	0.00
Land Use		
Forested Land Crossed	Acres	0.07
Agricultural Land Crossed	Acres	0.00
Developed Land Crossed	Acres	0.00
Wetlands Crossed ^a	Acres	0.00
Open Land Crossed	Acres	0.00
^a Wetland acres presented here were developed using GAP land cover data (see Attachment A). This data should be used for land use data comparison purposes only. Actual wetland impacts based on survey data are presented in the "Total Impacts on Surveyed Wetlands" row, above. * Workspace only		

Table 8.2 Route Comparison of Route Modification No. 8 (Milepost 994)	
Human settlement, existence and density of populated areas, existing and planned future land use, and management plans	The requested modification would have no additional impact on these features because the modification results in only a slight shift of the impacts on a parcel previously impacted by the PUC Designated Route.
Natural environment, public and designated lands, including but not limited to natural areas, wildlife habitat, water, and recreational lands	The requested modification would increase impacts on MDNR-administered lands within the Huntersville State Forest by 0.07 acre. This modification was included in Enbridge's 2018 application to the MDNR for a License to Cross Public Lands.
Lands of historical, archaeological, and cultural significance	Based on Enbridge's survey and the TCR Survey, no lands of historical, archeological, or cultural significance would be impacted by construction along the requested modification.
Economies within the route, including agricultural, commercial or industrial, forestry, recreational, and mining operations	The requested modification would increase impacts on forested land within the Huntersville State Forest by 0.07 acre. This impact would be temporary, and vegetation would be allowed to reestablish within the workspace.
Pipeline cost and accessibility	Pipeline cost and accessibility will be similar to that of the PUC Designated Route.
Use of existing rights-of-way and right-of-way sharing or paralleling	The requested modification is for temporary workspace only. At this location, the pipeline does not share and parallel an existing third-party right-of-way.
Natural resources and features	The requested modification would increase impacts on forested lands by 0.07 acre. These types of impacts were previously contemplated in the PUC permitting process and do not have the potential to significantly impact these resources.
Extent to which human or environmental effects are subject to mitigation by regulatory control and permit conditions	Any change in impacts on regulated features would be reflected in permits issued for the Project. No new permits are required due to this modification.
Cumulative potential effects of related or anticipated future pipeline construction	The requested modification would not result in a significant change in potential cumulative effects because the overall length and acreage of impact is insignificant relative to the scale of the whole Project.

Table 8.2 Route Comparison of Route Modification No. 8 (Milepost 994)	
Relevant applicable policies, rules, and regulations of other state and federal and local government land use laws	The same policies, rules, and regulations of other state, federal and local land use laws would apply to the requested modification and the PUC Designated Route.

Enbridge Energy, Limited Partnership
Route Permit Amendment Request
MPUC Docket No. PL-9/PPL-15-137

MODIFICATION NO. 9
MP 1019

Modification No. 9 – Milepost 1019

Enbridge requests permission for workspace outside the PUC Designated Route near MP 1019 in Cass County, Minnesota.

A. Description of Proposed Route Modification

As seen on the enclosed revised Map 266, Enbridge seeks a modification to the PUC Designated Route near MP 1018 to 1019 in Barclay Township, Cass County. The requested modification consists of approximately 2,930 square feet outside of the PUC Designated Route on property that is owned by Enbridge.

B. Reason for Proposed Route Modification

This modification is requested to accommodate a landowner request that the cathodic protection ground bed be relocated from the landowner's property onto Enbridge-owned property. Although the requested modification is outside the PUC Designated Route as described above, Enbridge's additional design and engineering work in response to the landowner request has indicated that this area will be required for the installation of the cathodic ground bed at this location.

C. Analysis of Potential Human and Environmental Impacts

Tables 9.1 and 9.2 below show the impacts of the modification being requested at MP 1019. The third column of Table 9.1 provides specific data on the area of the requested modification that is outside the PUC Designated Route. As shown on the tables below, this modification would not result in significant impacts because it is proposed within a cleared area along a roadway and is on a parcel owned by Enbridge.

Table 9.1		
Analysis of Route Modification No. 9 (Milepost 1019)		
for the Line 3 Replacement Project		
Resource/Category	Units	Requested Modification Outside PUC Designated Route
Total Area	Square Feet	2,930
Length Parallel to Existing Rights-of-Way	Feet	N/A
Roads Crossed	Number	0
Parcels Crossed	Number	1
Residences within 300 feet of the Pipeline Route	Number	0
Total Impacts on Surveyed Wetlands	Acres	0.00
Land Use		
Forested Land Crossed	Acres	0.00
Agricultural Land Crossed	Acres	0.07
Developed Land Crossed	Acres	0.00
Wetlands Crossed ^a	Acres	0.00
Open Land Crossed	Acres	0.00
^a Wetland acres presented here were developed using GAP land cover data (see Attachment A). This data should be used for land use data comparison purposes only. Actual wetland impacts based on survey data are presented in the "Total Impacts on Surveyed Wetlands" row, above.		

Table 9.2 Route Comparison of Route Modification No. 9 (Milepost 1019)	
Human settlement, existence and density of populated areas, existing and planned future land use, and management plans	The requested modification would have no additional impact on these features because the modification shifts impacts to existing road right-of-way on property owned by Enbridge.
Natural environment, public and designated lands, including but not limited to natural areas, wildlife habitat, water, and recreational lands	The requested modification would have no additional impact on these features because the modification is located within an existing road right-of-way.
Lands of historical, archaeological, and cultural significance	Based on Enbridge's survey and the TCR Survey, no lands of historical, archeological, or cultural significance would be impacted by construction along the requested modification.
Economies within the route, including agricultural, commercial or industrial, forestry, recreational, and mining operations	The requested modification would increase impacts on agricultural lands by 0.07 acre. These types of impacts were previously contemplated in the PUC permitting process and do not have the potential to significantly impact these resources.
Pipeline cost and accessibility	Pipeline cost and accessibility will be similar to that of the PUC Designated Route.
Use of existing rights-of-way and right-of-way sharing or paralleling	The requested modification is adjacent to an existing roadway.
Natural resources and features	The requested modification would have no additional impact on these features.
Extent to which human or environmental effects are subject to mitigation by regulatory control and permit conditions	Any change in impacts on regulated features would be reflected in permits issued for the Project. No new permits are required due to this modification.
Cumulative potential effects of related or anticipated future pipeline construction	The requested modification would not result in a significant change in potential cumulative effects because the overall length and acreage of impact is insignificant relative to the scale of the whole Project.
Relevant applicable policies, rules, and regulations of other state and federal and local government land use laws	The same policies, rules, and regulations of other state, federal and local land use laws would apply to the requested modification and the PUC Designated Route.

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Route Permit Amendment Request
MPUC Docket No. PL-9/PPL-15-137

MODIFICATION NO. 10
MP 1054

Modification No. 10 – Milepost 1054

Enbridge requests a route modification outside the PUC Designated Route near MP 1054 in Aitkin County, Minnesota.

A. Description of Proposed Route Modification

As seen in the enclosed revised Map 302, Enbridge seeks a route modification outside the PUC Designated Route near MP 1054 in Macville Township, Aitkin County, for facilities associated with the proposed Swatara Pump Station along the portion of the PUC Designated Route previously known as RSA-22.

B. Reason for Proposed Route Modification

This modification is requested to site facilities associated with the pump station along the portion of the PUC Designated Route formerly known as RSA-22. Enbridge selected this location along this portion of the route after additional design, engineering, environmental, and landowner consultation.

C. Analysis of Potential Human and Environmental Impacts

Tables 10.1 and 10.2 below show the impacts of the modification being requested at MP 1054. The third column of Table 10.1 provides specific data on the area of the requested modification that is outside the PUC Designated Route. As shown on the tables below, this modification would result in impacts on 1.54 acres of agricultural lands, 3.93 acres of surveyed wetlands and 8.78 acres of forested lands. It would impact a cultural resource survey site that is likely not eligible for the National Register of Historic Places (“NRHP”). Enbridge proposes to locate the pump station within an existing gravel pit on the property, adjacent to the PUC Designated Route. Enbridge has a purchase agreement to acquire this property; although there is one existing residence, it will be demolished after Enbridge purchases the property. This location for the modification minimizes environmental impacts by reducing clearing of forested land and optimizes the site from an engineering standpoint by reducing earthwork and placing the foundations on competent soils.

Table 10.1 Analysis of Route Modification No. 10 (Milepost 1054) for the Line 3 Replacement Project		
Resource/Category	Units	Requested Modification Outside PUC Designated Route
Total Area	Square Feet	745,530
Length Parallel to Existing Rights-of-Way	Feet	*N/A
Roads Crossed	Number	1
Parcels Crossed	Number	5
Residences within 300 feet of the Pipeline Route	Number	1
Total Impacts on Surveyed Wetlands	Acres	3.93
Land Use		
Forested Land Crossed	Acres	8.78
Agricultural Land Crossed	Acres	1.54
Developed Land Crossed	Acres	0.00
Wetlands Crossed ^a	Acres	0.00
Open Land Crossed	Acres	0.00
^a Wetland acres presented here were developed using GAP land cover data (see Attachment A). This data should be used for land use data comparison purposes only. Actual wetland impacts based on survey data are presented in the "Total Impacts on Surveyed Wetlands" row, above. * Workspace only		

Table 10.2	
Route Comparison of Route Modification No. 10 (Milepost 1054)	
Human settlement, existence and density of populated areas, existing and planned future land use, and management plans	One home is located within 300 feet of the proposed workspace for the Swatara Pump Station. The owner of the home has agreed to sell the property to Enbridge.
Natural environment, public and designated lands, including but not limited to natural areas, wildlife habitat, water, and recreational lands	The requested modification would be partially located within the MDNR Site of Biological Significance (“SOBS”) site of moderate diversity (5.86 acres). These types of impacts were previously contemplated in the PUC permitting process and do not have the potential to significantly impact these resources.
Lands of historical, archaeological, and cultural significance	Enbridge’s archeological survey documented one site within the modification. Based on coordination to date, Enbridge does not expect the USACE or MN State Historic Preservation Office (“SHPO”) to disagree with Enbridge’s recommendation that this site is not eligible for inclusion in the National Register of Historic Places. Accordingly, based on Enbridge’s survey and the TCR Survey, no lands of historical, archeological, or cultural significance would be impacted by construction along the requested modification.
Economies within the route, including agricultural, commercial or industrial, forestry, recreational, and mining operations	The requested modification would result in impacts on 1.54 acres of agricultural lands. A portion of the land within the modification is located on a private sand/gravel pit which is not currently in use. These types of impacts were previously contemplated in the PUC permitting process and do not have the potential to significantly impact these resources.
Pipeline cost and accessibility	Pipeline cost and accessibility will be similar to that of the PUC Designated Route.
Use of existing rights-of-way and right-of-way sharing or paralleling	The requested modification is for temporary and permanent workspace needed to construct the pump station. The pipeline would continue to share and parallel an existing third-party right-of-way.

Table 10.2	
Route Comparison of Route Modification No. 10 (Milepost 1054)	
Natural resources and features	The requested modification would result in impacts on surveyed wetlands and forested lands of 3.93 and 8.78 acres, respectively. These types of impacts were previously contemplated in the PUC permitting process and do not have the potential to significantly impact these resources.
Extent to which human or environmental effects are subject to mitigation by regulatory control and permit conditions	Any change in impacts on regulated features would be reflected in permits issued for the Project. No new permits are required due to this modification.
Cumulative potential effects of related or anticipated future pipeline construction	There will be a short (approximately 1,250 feet) transmission line associated with the Swatara Pump Station. Because a transmission line would also have been needed were the pump station in a different location, these types of impacts were already contemplated during the PUC permitting process. The requested modification would not result in a significant change in potential cumulative effects because the overall length and acreage of impact is insignificant relative to the scale of the whole Project.
Relevant applicable policies, rules, and regulations of other state and federal and local government land use laws	The same policies, rules, and regulations of other state, federal and local land use laws would apply to the requested modification and the PUC Designated Route.

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Route Permit Amendment Request
MPUC Docket No. PL-9/PPL-15-137

MODIFICATION NO. 11
MP 1062

Modification No. 11 – Milepost 1062

Enbridge requests permission for workspace outside the PUC Designated Route near MP 1062 in Aitkin County, Minnesota.

A. Description of Proposed Route Modification

As seen on the enclosed revised Maps 309 and 310, Enbridge seeks a modification to the PUC Designated Route near MP 1061 to 1062 in northwest Aitkin Township, Aitkin County. The requested modification consists of approximately 9,570 square feet outside of the PUC Designated Route.

B. Reason for Proposed Route Modification

This modification is requested to allow for the installation of cathodic ground bed at this location. Cathodic protection systems are installed to mitigate the threat of external corrosion on pipelines. Although the requested modification is outside the PUC Designated Route as described above, Enbridge's additional design and engineering work has indicated that this area will be required for the installation of the cathodic ground bed at this location because of the length of the ground bed.

C. Analysis of Potential Human and Environmental Impacts

Tables 11.1 and 11.2 below show the impacts of the modification being requested at MP 1062. The third column of Table 11.1 provides specific data on the area of the requested modification that is outside the PUC Designated Route. The parcel impacted by this modification was already crossed by the PUC Designated Route, and Enbridge has acquired all land rights needed for this modification. As shown on the tables below, this modification is located in a previously cleared area and thus does not result in significant impacts.

Table 11.1 Analysis of Route Modification No. 11 (Milepost 1062) for the Line 3 Replacement Project		
Resource/Category	Units	Requested Modification Outside PUC Designated Route
Total Area	Square Feet	9,570
Length Parallel to Existing Rights-of-Way	Feet	N/A
Roads Crossed	Number	0
Parcels Crossed	Number	1
Residences within 300 feet of the Pipeline Route	Number	0
Total Impacts on Surveyed Wetlands	Acres	0.00
Land Use		
Forested Land Crossed	Acres	0.05
Agricultural Land Crossed	Acres	0.10
Developed Land Crossed	Acres	0.08
Wetlands Crossed ^a	Acres	0.00
Open Land Crossed	Acres	0.00
^a Wetland acres presented here were developed using GAP land cover data (see Attachment A). This data should be used for land use data comparison purposes only. Actual wetland impacts based on survey data are presented in the "Total Impacts on Surveyed Wetlands" row, above.		

Table 11.2 Route Comparison of Route Modification No. 11 (Milepost 1062)	
Human settlement, existence and density of populated areas, existing and planned future land use, and management plans	The requested modification would have no additional impact on these features because the parcel was previously crossed by the PUC Designated Route and no new structures would be impacted by the modification.
Natural environment, public and designated lands, including but not limited to natural areas, wildlife habitat, water, and recreational lands	The requested modification would result in 0.22 acre of additional impact on a MDNR SOBS site of moderate diversity which is already crossed by the PUC Designated Route. The requested modification would also increase impacts on private lands located within the boundaries of the Hill River State Forest by 0.22 acre. These types of impacts were previously contemplated in the PUC permitting process and do not have the potential to significantly impact these resources.
Lands of historical, archaeological, and cultural significance	Based on Enbridge’s survey and the TCR Survey, no lands of historical, archeological, or cultural significance would be impacted by construction along the requested modification.
Economies within the route, including agricultural, commercial or industrial, forestry, recreational, and mining operations	The requested modification would increase impacts on agricultural lands by 0.10 acre. These types of impacts were previously contemplated in the PUC permitting process and do not have the potential to significantly impact these resources.
Pipeline cost and accessibility	Pipeline cost and accessibility will be similar to that of the PUC Designated Route.
Use of existing rights-of-way and right-of-way sharing or paralleling	The requested modification is for permanent workspace only. The pipeline would continue to share and parallel an existing third-party right-of-way.
Natural resources and features	The requested modification would increase impacts on forested lands by 0.05 acre, although visual imagery indicates that the land is partially cleared and actual impacts may be less than indicated by the GIS analysis.

Table 11.2	
Route Comparison of Route Modification No. 11 (Milepost 1062)	
Extent to which human or environmental effects are subject to mitigation by regulatory control and permit conditions	Any change in impacts on regulated features would be reflected in permits issued for the Project. No new permits are required due to this modification.
Cumulative potential effects of related or anticipated future pipeline construction	The requested modification would not result in a significant change in potential cumulative effects because the overall length and acreage of impact is insignificant relative to the scale of the whole Project.
Relevant applicable policies, rules, and regulations of other state and federal and local government land use laws	The same policies, rules, and regulations of other state, federal and local land use laws would apply to the requested modification and the PUC Designated Route.

Enbridge Energy, Limited Partnership
Route Permit Amendment Request
MPUC Docket No. PL-9/PPL-15-137

MODIFICATION NO. 12
MP 1073

Modification No. 12 – Milepost 1073

Enbridge requests a route modification outside the PUC Designated Route near MP 1073 in Aitkin County, Minnesota.

A. Description of Proposed Route Modification

As seen in the enclosed revised Map 321, Enbridge seeks a route modification outside the PUC Designated Route near MP 1073 and 1074 in Cornish Township, Aitkin County. The requested modification is approximately 4,377 feet in length.

B. Reason for Proposed Route Modification

This modification is requested to avoid a large, heavily saturated area that presents significant constructability concerns. Enbridge conducted additional design, engineering, environmental, and landowner consultation and determined that the proposed modification would avoid a large surveyed wetland and would not present the same constructability concerns.

C. Analysis of Potential Human and Environmental Impacts

Tables 12.1 and 12.2 below show the impacts of the modification being requested at MP 1073. The third and fourth columns of Table 12.1 provide environmental data on the applicable portion of the PUC Designated Route and the requested modification. As shown on the tables below, this modification would reduce impacts on surveyed wetlands by 3.52 acres and increase impacts on forested lands by 0.15 acre, but it would deviate from an existing utility corridor. The requested modification also would avoid impacts to state-listed plants identified during field survey. This modification would impact parcels owned by Aitkin County, and Enbridge has the land rights needed for this modification.

**Table 12.1
Analysis of Route Modification No. 12 (Milepost 1073)
for the Line 3 Replacement Project**

Resource/Category	Units	PUC Designated Route	Requested Modification
Total Length	Feet	4,181	4,377
Length Parallel to Existing Rights-of-Way	Feet	4,181	457
Roads Crossed	Number	0	0
Parcels Crossed	Number	2	2
Residences within 300 feet of the Pipeline Route	Number	0	0
Total Impacts on Surveyed Wetlands ^a	Acres	5.35	1.83
Land Use			
Forested Land Crossed	Acres	10.99	11.14
Agricultural Land Crossed	Acres	0.00	0.00
Developed Land Crossed	Acres	0.00	0.00
Wetlands Crossed ^a	Acres	0.00	0.00
Open Land Crossed	Acres	0.00	0.00
^a Wetland acres presented here were developed using GAP land cover data (see Attachment A). This data should be used for land use data comparison purposes only. Actual wetland impacts based on survey data are presented in the "Total Impacts on Surveyed Wetlands" row, above.			

Table 12.2 Route Comparison of Route Modification No. 12 (Milepost 1073)	
Human settlement, existence and density of populated areas, existing and planned future land use, and management plans	The requested modification would have no additional impact on these features because it is located on county-owned land and does not have any structures.
Natural environment, public and designated lands, including but not limited to natural areas, wildlife habitat, water, and recreational lands	The requested modification would result in 0.16 acre of additional impact within a MDNR SOBS site of high biodiversity that is already crossed by the PUC Designated Route. The requested modification would also increase impacts on county tax-forfeited lands within the Savanna State Forest by 0.16 acre. These types of impacts were previously contemplated in the PUC permitting process and do not have the potential to significantly impact these resources.
Lands of historical, archaeological, and cultural significance	Based on Enbridge’s survey and the TCR Survey, no lands of historical, archeological, or cultural significance would be impacted by construction along the requested modification.
Economies within the route, including agricultural, commercial or industrial, forestry, recreational, and mining operations	The requested modification would increase impacts on county tax-forfeited forested lands within the Savanna State Forest by 0.16 acres. These types of impacts were previously contemplated in the PUC permitting process and do not have the potential to significantly impact these resources.
Pipeline cost and accessibility	Pipeline cost and accessibility will be similar to that of the PUC Designated Route.
Use of existing rights-of-way and right-of-way sharing or paralleling	This modification would reduce the amount of right-of-way sharing or paralleling by approximately 3,724 feet to avoid a large saturated wetland area.
Natural resources and features	The requested modification would reduce impacts on surveyed wetlands by 3.52 acres and would increase impacts on forested lands by 0.15 acre. The requested modification also would avoid impacts to state-listed plants identified during field survey.
Extent to which human or environmental effects are subject to mitigation by regulatory control and permit conditions	Any change in impacts on regulated features would be reflected in permits issued for the Project. No new permits are required due to this modification.

Table 12.2	
Route Comparison of Route Modification No. 12 (Milepost 1073)	
Cumulative potential effects of related or anticipated future pipeline construction	The requested modification would not result in a significant change in potential cumulative effects because the overall length and acreage of impact is insignificant relative to the scale of the whole Project.
Relevant applicable policies, rules, and regulations of other state and federal and local government land use laws	The same policies, rules, and regulations of other state, federal and local land use laws would apply to the requested modification and the PUC Designated Route.

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MODIFICATION NO. 13
MP 1095

Modification No. 13 – Milepost 1095

Enbridge requests a route modification outside the PUC Designated Route near MP 1095 in St. Louis County, Minnesota.

A. Description of Proposed Route Modification

As seen in the enclosed revised Map 343, Enbridge seeks a route modification outside the PUC Designated Route near MP 1095 in Floodwood Township, St. Louis County. The requested modification is approximately 2,422 feet in length.

B. Reason for Proposed Route Modification

This modification is requested in response to a landowner request to move the Project's route westerly near the Gowan Pump Station location. Enbridge proposes this specific modification after consulting with affected landowners.

C. Analysis of Potential Human and Environmental Impacts

Tables 13.1 and 13.2 below show the impacts of the modification being requested at MP 1095. The third and fourth columns of Table 13.1 provide environmental data on the applicable portion of the PUC Designated Route and the requested modification. As shown on the tables below, this modification would increase impacts on agricultural lands by 0.40 acre and would increase impacts on surveyed wetlands and forested areas by 0.46 and 0.75 acre, respectively. These impacts are not anticipated to be significant when balanced against accommodating the landowner's request. All changes are within property owned by Enbridge, with the exception of a portion of the modification in the northeast corner of the map (labeled T-167-1 on the map), and that will be located in existing road right-of-way.

Table 13.1
Analysis of Route Modification No. 13 (Milepost 1095)
for the Line 3 Replacement Project

Resource/Category	Units	PUC Designated Route	Requested Modification
Total Length	Feet	2,228	2,422
Length Parallel to Existing Rights-of-Way	Feet	2,228	1,749
Roads Crossed	Number	2	1
Parcels Crossed	Number	5	9
Residences within 300 feet of the Pipeline Route	Number	0	0
Total Impacts on Surveyed Wetlands	Acres	0.16	0.62
Land Use			
Forested Land Crossed	Acres	1.17	1.92
Agricultural Land Crossed	Acres	2.92	3.32
Developed Land Crossed	Acres	0.89	0.76
Wetlands Crossed ^a	Acres	0.00	0.00
Open Land Crossed	Acres	0.00	0.00

^a Wetland acres presented here were developed using GAP land cover data (see Attachment A). This data should be used for land use data comparison purposes only. Actual wetland impacts based on survey data are presented in the “Total Impacts on Surveyed Wetlands” row, above.

Table 13.2 Route Comparison of Route Modification No. 13 (Milepost 1095)	
Human settlement, existence and density of populated areas, existing and planned future land use, and management plans	The requested modification would have no additional impact on these features; however, it would address a landowner request.
Natural environment, public and designated lands, including but not limited to natural areas, wildlife habitat, water, and recreational lands	The requested modification would have no additional impact on these features.
Lands of historical, archaeological, and cultural significance	Based on Enbridge’s survey and the TCR Survey, no lands of historical, archeological, or cultural significance would be impacted by construction along the requested modification.
Economies within the route, including agricultural, commercial or industrial, forestry, recreational, and mining operations	The requested modification would increase impacts on agricultural lands by 0.40 acre. These types of impacts were previously contemplated in the PUC permitting process and do not have the potential to significantly impact these resources.
Pipeline cost and accessibility	This modification will increase pipeline cost slightly because of the increased length of the requested modification when compared to the PUC Designated Route.
Use of existing rights-of-way and right-of-way sharing or paralleling	This modification would reduce the amount of right-of-way sharing or paralleling by approximately 479 feet to accommodate a landowner request.
Natural resources and features	The requested modification would increase impacts on surveyed wetlands and forested areas by 0.46 and 0.75 acre, respectively. These types of impacts were previously contemplated in the PUC permitting process and do not have the potential to significantly impact these resources.
Extent to which human or environmental effects are subject to mitigation by regulatory control and permit conditions	Any change in impacts on regulated features would be reflected in permits issued for the Project. No new permits are required due to this modification.
Cumulative potential effects of related or anticipated future pipeline construction	The requested modification would not result in a significant change in potential cumulative effects because the overall length and acreage of impact is insignificant relative to the scale of the whole Project.

Table 13.2 Route Comparison of Route Modification No. 13 (Milepost 1095)	
Relevant applicable policies, rules, and regulations of other state and federal and local government land use laws	The same policies, rules, and regulations of other state, federal and local land use laws would apply to the requested modification and the PUC Designated Route.

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MODIFICATION NO. 14
MP 1105

Modification No. 14 – Milepost 1105

Enbridge requests permission for workspace outside the PUC Designated Route near MP 1105 in Carlton County, Minnesota within the Fond du Lac Reservation.

A. Description of Proposed Route Modification

As seen on the enclosed revised Map 353, Enbridge seeks a modification to the PUC Designated Route near MP 1104 to 1105, in North Carlton Township, Carlton County. The requested modification consists of approximately 4,271 square feet outside of the PUC Designated Route.

B. Reason for Proposed Route Modification

Enbridge requests this modification for additional temporary workspace for staging and pulling pipe near MP 1105, which is required for construction across wetlands in this area.

C. Analysis of Potential Human and Environmental Impacts

Tables 14.1 and 14.2 below show the impacts of the modification being requested at MP 1105. The third column of Table 14.1 provides specific data on the area of the requested modification that is outside the PUC Designated Route. As shown on the tables below, this modification would increase impacts on surveyed wetlands and forested areas by 0.10 acre. This modification is on MDNR-administered lands and was included in Enbridge's 2018 application to the MDNR for a License to Cross Public Lands.

Table 14.1		
Analysis of Route Modification No. 14 (Milepost 1105)		
for the Line 3 Replacement Project		
Resource/Category	Units	Requested Modification Outside PUC Designated Route
Total Area	Square Feet	4,271
Length Parallel to Existing Rights-of-Way	Feet	*N/A
Roads Crossed	Number	0
Parcels Crossed	Number	1
Residences within 300 feet of the Pipeline Route	Number	0
Total Impacts on Surveyed Wetlands	Acres	0.10
Land Use		
Forested Land Crossed	Acres	0.10
Agricultural Land Crossed	Acres	0.00
Developed Land Crossed	Acres	0.00
Wetlands Crossed ^a	Acres	0.00
Open Land Crossed	Acres	0.00
^a Wetland acres presented here were developed using GAP land cover data (see Attachment A). This data should be used for land use data comparison purposes only. Actual wetland impacts based on survey data are presented in the “Total Impacts on Surveyed Wetlands” row, above. * Workspace only		

Table 14.2 Route Comparison of Route Modification No. 14 (Milepost 1105)	
Human settlement, existence and density of populated areas, existing and planned future land use, and management plans	The requested modification would have no additional impact on these features because it is located on a parcel previously crossed by the PUC Designated Route that does not have any structures.
Natural environment, public and designated lands, including but not limited to natural areas, wildlife habitat, water, and recreational lands	The requested modification would result in 0.10 acre of additional impact to a MDNR SOBS site of high diversity and 0.10 acre of additional impact to MDNR-administered lands within and the Fond du Lac State Forest, each of which are already crossed by the PUC Designated Route. This modification was included in Enbridge’s 2018 application to the MDNR for a License to Cross Public Lands.
Lands of historical, archaeological, and cultural significance	Based on Enbridge’s survey and the TCR Survey, no lands of historical, archeological, or cultural significance would be impacted by construction along the requested modification.
Economies within the route, including agricultural, commercial or industrial, forestry, recreational, and mining operations	The requested modification would increase impacts on MDNR-administered forested land within the Fond du Lac State Forest by 0.10 acres. These types of impacts were previously contemplated in the PUC permitting process and do not have the potential to significantly impact these resources.
Pipeline cost and accessibility	Pipeline cost and accessibility will be similar to that of the PUC Designated Route.
Use of existing rights-of-way and right-of-way sharing or paralleling	The requested modification is for temporary workspace only. The pipeline would continue to share and parallel the Enbridge Mainline right-of-way.
Natural resources and features	The requested modification would increase impacts on surveyed wetlands and forested areas by 0.10 acre. These types of impacts were previously contemplated in the PUC permitting process and do not have the potential to significantly impact these resources.

Table 14.2	
Route Comparison of Route Modification No. 14 (Milepost 1105)	
Extent to which human or environmental effects are subject to mitigation by regulatory control and permit conditions	Any change in impacts on regulated features would be reflected in permits issued for the Project. No new permits are required due to this modification.
Cumulative potential effects of related or anticipated future pipeline construction	The requested modification would not result in a significant change in potential cumulative effects because the overall length and acreage of impact is insignificant relative to the scale of the whole Project.
Relevant applicable policies, rules, and regulations of other state and federal and local government land use laws	The same policies, rules, and regulations of other state, federal and local land use laws would apply to the requested modification and the PUC Designated Route.

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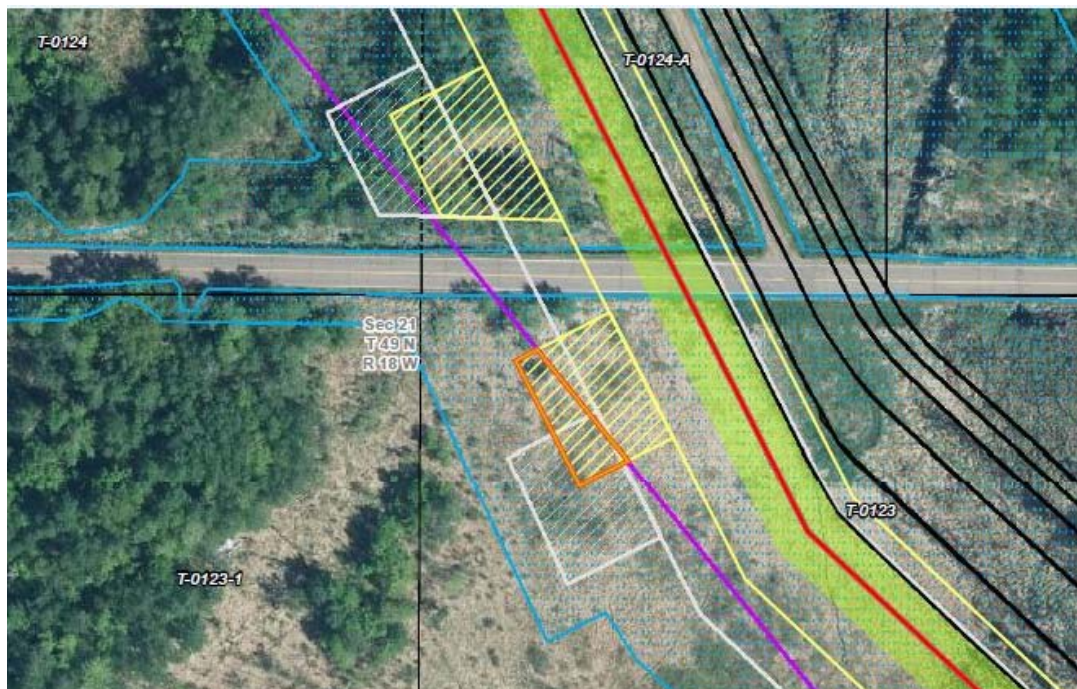
MODIFICATION NO. 15
MP 1110

Modification No. 15 – Milepost 1110

Enbridge requests permission for workspace outside the PUC Designated Route near MP 1110 in Carlton County, Minnesota within the Fond du Lac Reservation.

A. Description of Proposed Route Modification

As seen on the enclosed revised Map 359, Enbridge seeks a modification to the PUC Designated Route between MP 1110 to 1111 in Perch Lake Township, Carlton County. The requested modification consists of approximately 2,798 square feet outside of the PUC Designated Route. The requested modification would replace other additional temporary workspace in this area included in the PUC Designated Route, as shown in the figure below:



B. Reason for Proposed Route Modification

Enbridge seeks this modification for workspace outside the PUC Designated Route because, after further detailed design and engineering, Enbridge determined that typical construction along the previously-installed pipeline in this area would result in workspace in this area outside the PUC Designated Route. The PUC Designated Route already includes additional temporary workspace in this area, and the modification shifts and reduces the size of that workspace.

C. Analysis of Potential Human and Environmental Impacts

Tables 15.1 and 15.2 below show the impacts of the modification being requested at MP 1110. The third column of Table 15.1 provides specific data on the area of the requested

modification that is outside the PUC Designated Route. As shown on the tables below, this modification would increase impacts on surveyed wetlands and forest areas by 0.06 acre. However, aerial imagery indicates that the areas identified as forested land are currently cleared. Overall, because this requested modification is smaller in size than the temporary workspace included in the PUC Designated Route, this modification is expected to result in similar or lesser impacts.

Table 15.1 Analysis of Route Modification No. 15 (Milepost 1110) for the Line 3 Replacement Project		
Resource/Category	Units	Requested Modification Outside PUC Designated Route
Total Area	Square Feet	2,798
Length Parallel to Existing Rights-of-Way	Feet	*N/A
Roads Crossed	Number	0
Parcels Crossed	Number	1
Residences within 300 feet of the Pipeline Route	Number	0
Total Impacts on Surveyed Wetlands	Acres	0.06
Land Use		
Forested Land Crossed	Acres	0.06
Agricultural Land Crossed	Acres	0.00
Developed Land Crossed	Acres	0.00
Wetlands Crossed ^a	Acres	0.00
Open Land Crossed	Acres	0.00
^a Wetland acres presented here were developed using GAP land cover data (see Attachment A). This data should be used for land use data comparison purposes only. Actual wetland impacts based on survey data are presented in the “Total Impacts on Surveyed Wetlands” row, above. * Workspace only		

Table 15.2 Route Comparison of Route Modification No. 15 (Milepost 1110)	
Human settlement, existence and density of populated areas, existing and planned future land use, and management plans	The requested modification would have no additional impact on these features because it is located on a parcel previously crossed by the PUC Designated Route that does not have any structures.
Natural environment, public and designated lands, including but not limited to natural areas, wildlife habitat, water, and recreational lands	The requested modification would have no additional impact on these features.
Lands of historical, archaeological, and cultural significance	Based on Enbridge's survey and the TCR Survey, no lands of historical, archeological, or cultural significance would be impacted by construction along the requested modification.
Economies within the route, including agricultural, commercial or industrial, forestry, recreational, and mining operations	The requested modification would have no additional impact on these features.
Pipeline cost and accessibility	Pipeline cost and accessibility will be similar to that of the PUC Designated Route.
Use of existing rights-of-way and right-of-way sharing or paralleling	The requested modification is for temporary workspace only. The pipeline would continue to share and parallel the Enbridge Mainline right-of-way.
Natural resources and features	Based on a GIS analysis, the requested modification would increase impacts on surveyed wetlands and forest areas by 0.06 acre. However, aerial imagery indicates that the areas designated as forested land are currently cleared.
Extent to which human or environmental effects are subject to mitigation by regulatory control and permit conditions	Any change in impacts on regulated features would be reflected in permits issued for the Project. No new permits are required due to this modification.
Cumulative potential effects of related or anticipated future pipeline construction	The requested modification would not result in a significant change in potential cumulative effects because the overall length and acreage of impact is insignificant relative to the scale of the whole Project.
Relevant applicable policies, rules, and regulations of other state and federal and local government land use laws	The same policies, rules, and regulations of other state, federal and local land use laws would apply to the requested modification and the PUC Designated Route.

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MODIFICATION NO. 16
MP 1117

Modification No. 16 – Milepost 1117

Enbridge requests a route modification outside the PUC Designated Route near MP 1117 in Twin Lakes Township, Carlton County.

A. Description of Proposed Route Modification

As seen on the enclosed revised Maps 366 and 367, Enbridge seeks a modification to the PUC Designated Route between MP 1117 in Twin Lakes Township, Carlton County and 1118. The requested modification is approximately 5,165 feet in length.

B. Reason for Proposed Route Modification

Enbridge requests this modification for the crossing of I-35 to allow for an optimal crossing of that interstate and to be co-located with the existing Lines 67, 13, and 4 pipelines in this area. This modification would avoid a residence and waterbody present on this segment of the PUC Designated Route.

C. Analysis of Potential Human and Environmental Impacts

Tables 16.1 and 16.2 below show the impacts of the modification being requested at MP 1117. The third and fourth columns of Table 16.1 provide environmental data on the applicable portion of the PUC Designated Route and the requested modification. As shown on the tables below, this modification would increase impacts on surveyed wetlands and forested areas by 3.00 acres. The requested modification would reduce impacts on agricultural lands by 0.87 acre. The requested modification is co-located with existing Enbridge pipelines in this area. Other than the modification's crossing of the Willard Munger State Trail (which is also crossed by the PUC Designated Route), Enbridge has acquired all land rights needed for this modification.

Table 16.1			
Analysis of Route Modification No. 16 (Milepost 1117)			
for the Line 3 Replacement Project			
Resource/Category	Units	PUC Designated Route	Requested Modification
Total Length	Feet	4,488	5,165
Length Parallel to Existing Rights-of-Way	Feet	4,488	5,165
Roads Crossed	Number	4	4
Parcels Crossed	Number	9	8
Residences within 300 feet of the Pipeline Route	Number	2	2
Total Impacts on Surveyed Wetlands	Acres	4.00	7.00
Land Use			
Forested Land Crossed	Acres	6.00	9.00
Agricultural Land Crossed	Acres	2.41	1.54
Developed Land Crossed	Acres	2.81	3.20
Wetlands Crossed ^a	Acres	0.00	0.00
Open Land Crossed	Acres	0.00	0.00
^a Wetland acres presented here were developed using GAP land cover data (see Attachment A). This data should be used for land use data comparison purposes only. Actual wetland impacts based on survey data are presented in the "Total Impacts on Surveyed Wetlands" row, above.			

Table 16.2 Route Comparison of Route Modification No. 16 (Milepost 1117)	
Human settlement, existence and density of populated areas, existing and planned future land use, and management plans	The requested modification would have no additional impact on these features because the same number of residences is located within 300 feet of the pipeline and none of the structures are impacted.
Natural environment, public and designated lands, including but not limited to natural areas, wildlife habitat, water, and recreational lands	Both the PUC Designated Route and the proposed modification cross the Willard Munger State trail, although the crossings occur in different locations. The requested modification would result in 0.86 acre of additional impact to a MNDR SOBS site of moderate diversity. These types of impacts were previously contemplated in the PUC permitting process and do not have the potential to significantly impact these resources.
Lands of historical, archaeological, and cultural significance	Based on Enbridge’s survey and the TCR Survey, no lands of historical, archeological, or cultural significance would be impacted by construction along the requested modification.
Economies within the route, including agricultural, commercial or industrial, forestry, recreational, and mining operations	The requested modification would reduce impacts on agricultural lands by 0.87 acre.
Pipeline cost and accessibility	This modification will increase pipeline cost slightly because of the increased length of the requested modification when compared to the PUC Designated Route.
Use of existing rights-of-way and right-of-way sharing or paralleling	Both the PUC Designated Route and the requested modification parallel existing Enbridge pipelines; the requested modification parallels the rights-of-way for Enbridge’s Lines 67, 13, and 4.
Natural resources and features	The requested modification would increase impacts on surveyed wetlands and forested areas by 3.00 acres. These types of impacts were previously contemplated in the PUC permitting process and do not have the potential to significantly impact these resources.

Table 16.2	
Route Comparison of Route Modification No. 16 (Milepost 1117)	
Extent to which human or environmental effects are subject to mitigation by regulatory control and permit conditions	Any change in impacts on regulated features would be reflected in permits issued for the Project. No new permits are required due to this modification.
Cumulative potential effects of related or anticipated future pipeline construction	The requested modification would not result in a significant change in potential cumulative effects because the overall length and acreage of impact is insignificant relative to the scale of the whole Project.
Relevant applicable policies, rules, and regulations of other state and federal and local government land use laws	The same policies, rules, and regulations of other state, federal and local land use laws would apply to the requested modification and the PUC Designated Route.

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MODIFICATION NO. 17
MP 1120

Modification No. 17 – Mile Post 1120

A. Description of Proposed Route Modification

As seen on the enclosed revised Map 369, Enbridge seeks a modification to the PUC Designated Route near MP 1120, in Twin Lakes Township, Carlton County, for temporary workspace for water appropriation activities at Chub Lake. The requested modification consists of approximately 221,297 square feet outside of the PUC Designated Route.

B. Reason for Proposed Route Modification

Enbridge requests this modification for additional temporary workspace for water appropriation activities at Chub Lake to support hydrostatic testing of the pipeline before the Project is placed in service. The PUC Designated Route previously contemplated using the nearby Venoh Lake for water appropriation. Chub Lake was the suggested alternative to Venoh by the MDNR due to its increased size and historical usage by Enbridge during the Alberta Clipper Pipeline Project. Enbridge has included Chub Lake as a proposed water appropriation source in its surface water appropriations permit application to the MDNR, in response to the agency's request. MDNR is currently reviewing Enbridge's water appropriation permit application for this location.

C. Analysis of Potential Human and Environmental Impacts

Tables 17.1 and 17.2 below show the impacts of the modification being requested at MP 1120. The third column of Table 17.1 provides specific data on the area of the requested modification that is outside the PUC Designated Route. As shown in the tables below, this modification will have only temporary impacts and will not require ground disturbance.

Table 17.1		
Analysis of Route Modification No. 17 (Mile Post 1120)		
for the Line 3 Replacement Project		
Resource/Category	Units	Requested Modification Outside PUC Designated Route
Total Area	Square Feet	298,356
Length Parallel to Existing Rights-of-Way	Feet	*N/A
Roads Crossed	Number	2
Parcels Crossed	Number	13
Residences within 300 feet of the Pipeline Route	Number	3
Total Impacts on Surveyed Wetlands	Acres	**0.08
Land Use		
Forested Land Crossed	Acres	2.18
Agricultural Land Crossed	Acres	0.65
Developed Land Crossed	Acres	3.86
Wetlands Crossed ^a	Acres	0.00
Open Land Crossed	Acres	0.00
^a Wetland acres presented here were developed using GAP land cover data (see Attachment A). This data should be used for land use data comparison purposes only. Actual wetland impacts based on survey data are presented in the "Total Impacts on Surveyed Wetlands" row, above. * Workspace only ** Modification has not been fully surveyed for wetlands.		

Table 17.2 Route Comparison of Route Modification No. 17 (Mile Post 1120)	
Human settlement, existence and density of populated areas, existing and planned future land use, and management plans	The requested modification would be located on private land, county park land, and MDNR-administered land associated with water access to Chub Lake. Enbridge will obtain the necessary approvals from county and state land administering agencies prior to use of public land within this workspace. Impacts to area residents will be temporary in nature during active appropriations.
Natural environment, public and designated lands, including but not limited to natural areas, wildlife habitat, water, and recreational lands	The workspace is partially located on recreational lands associated with Chub Lake, which is a PWI feature. MDNR administers a public water access site within the workspace. The requested modification would be partially located within a MDNR SOBS site of moderate diversity (0.17 acre).
Lands of historical, archaeological, and cultural significance	Enbridge does not have complete survey coverage within this workspace. Enbridge will complete archaeological survey of this workspace during the 2019 field season. No lands of historical, archeological, or cultural significance were located in the previously surveyed area. Use of this workspace would not require any ground disturbance.
Economies within the route, including agricultural, commercial or industrial, forestry, recreational, and mining operations	The requested modification would result in temporary impacts to 0.65 acres of agricultural lands and temporary impacts to county and state-administered recreational lands; however, as this workspace will only be used as a water appropriation site and will not ground disturbance, the impacts will be limited.
Pipeline cost and accessibility	This modification will increase pipeline cost slightly because of the increased workspace needed.
Use of existing rights-of-way and right-of-way sharing or paralleling	The requested modification is for temporary workspace only. The pipeline would continue to share and parallel Enbridge's existing right-of-way.

Table 17.2	
Route Comparison of Route Modification No. 17 (Mile Post 1120)	
Natural resources and features	The requested modification would result in 2.18 acres of impacts to forested land and 0.08 acre of impact to surveyed wetlands. Additional wetland survey will occur in 2019. There will be no ground disturbance associated with this activity.
Extent to which human or environmental effects are subject to mitigation by regulatory control and permit conditions	Any change in impacts on regulated features would be reflected in permits issued for the Project. No new permits are required due to this modification.
Cumulative potential effects of related or anticipated future pipeline construction	The requested modification would not result in a significant change in potential cumulative effects because the overall length and acreage of impact is insignificant relative to the scale of the whole Project.
Relevant applicable policies, rules, and regulations of other state and federal and local government land use laws	The same policies, rules, and regulations of other state, federal and local land use laws would apply to the requested modification and the PUC Designated Route.

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Attachment A

Data Sources

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The following data sources were used to complete the analyses contained in the tables included in this filing. For the purposes of these analyses, a feature is considered crossed if it intersects with the construction workspace for the requested modification.

Table x.1 Source Table Analysis of Route Modification for the Line 3 Replacement Project		
Resource/Category ^a	Units	Source
Total Length	Feet	Measured from point where modification deviates from centerline shown in Route Permit to point where it rejoins centerline shown in Route Permit using GIS software.
Length Parallel to Existing Rights-of-Way	Feet	Enbridge civil and cadastral survey
Roads Crossed	Number	Enbridge civil and cadastral survey
Parcels Crossed	Number	Enbridge civil and cadastral survey
Residences within 300 feet of the Pipeline Route	Number	Enbridge civil and cadastral survey and aerial imagery
Total Impacts on Surveyed Wetlands	Acres	Enbridge wetland survey data
Land Use		
Forested Land Crossed	Acres	GAP Land Cover: https://www.usgs.gov/gapanalysis/land-cover-data-download?qt-science_center_objects=0#qt-science_center_objects
Agricultural Land Crossed	Acres	GAP Land Cover: https://www.usgs.gov/gapanalysis/land-cover-data-download?qt-science_center_objects=0#qt-science_center_objects
Developed Land Crossed	Acres	GAP Land Cover: https://www.usgs.gov/gapanalysis/land-cover-data-download?qt-science_center_objects=0#qt-science_center_objects
Wetlands Crossed ^b	Acres	GAP Land Cover: https://www.usgs.gov/gapanalysis/land-cover-data-download?qt-science_center_objects=0#qt-science_center_objects
Open Land Crossed	Acres	GAP Land Cover: https://www.usgs.gov/gapanalysis/land-cover-data-download?qt-science_center_objects=0#qt-science_center_objects
<p>^a For this analysis, “crossed” means the features intersects with the proposed construction workspace for the modification.</p> <p>^b Wetland acres presented here were developed using GAP land cover data. This data should be used for land use data comparison purposes only. Actual wetland impacts based on survey data are presented in the "Total Impacts on Surveyed Wetlands" row, above.</p>		

Table x.2 Route Comparison of Route Modification	
	Source
Human settlement, existence and density of populated areas, existing and planned future land use, and management plans	<ul style="list-style-type: none"> • Review of aerial imagery and presence or absence of evidence of human settlement (homes, fencing, structures) • Residences within 300 feet of the proposed pipeline route (table x.1)
Natural environment, public and designated lands, including but not limited to natural areas, wildlife habitat, water, and recreational lands	<ul style="list-style-type: none"> • Minnesota Public Waters Inventory Wetlands, Basins, and Watercourses: https://gisdata.mn.gov/dataset/water-mn-public-waters • USFWS conservation easements and wetlands: obtained through consultation and https://www.fws.gov/gis/data/CadastralDB/links_cadastral.html • Minnesota DNR State Forest Boundaries: https://gisdata.mn.gov/dataset/bdry-state-forest • Minnesota DNR Fee Surface Administered Land (forestry, wildlife, parks and trails, water access sites, and other Minnesota DNR-administered lands): https://gisdata.mn.gov/dataset/bdry-dnr-managed-areas • MCBS Sites of Biodiversity Significance: https://gisdata.mn.gov/dataset/biota-mcbs-sites-of-biodiversity • Snowmobile Trails: https://gisdata.mn.gov/dataset/trans-snowmobile-trails-mn • State Trails: https://gisdata.mn.gov/dataset/trans-state-trails-minnesota
Lands of historical, archaeological, and cultural significance	<ul style="list-style-type: none"> • Enbridge cultural resource field survey results • Tribal cultural resource field survey reports
Economies within the route, including agricultural, commercial or industrial, forestry, recreational, and mining operations	<ul style="list-style-type: none"> • GAP Land Cover – “Agricultural Land Crossed” (see table x.1) • GAP Land Cover – “Forested Land Crossed” (see table x.1) • Minnesota DNR State Forest Boundaries: https://gisdata.mn.gov/dataset/bdry-state-forest • Minnesota DNR Fee Surface Administered Land (forestry, wildlife, parks and trails, and other Minnesota DNR-administered lands) and County Tax Forfeit lands: https://gisdata.mn.gov/dataset/bdry-dnr-managed-areas • Aerial imagery for features such as gravel pits
Pipeline cost and accessibility	<ul style="list-style-type: none"> • Enbridge Construction and Engineering review of the PUC Designated Route compared to modification. Access roads, constructability concerns, waterbody avoidance, and landowner request were among the factors considered.
Use of existing rights-of-way and right-of-way sharing or paralleling	<ul style="list-style-type: none"> • Enbridge civil and cadastral survey.

**Table x.2
Route Comparison of Route Modification**

Natural resources and features	<ul style="list-style-type: none"> • Enbridge surveyed wetlands (see table x.1, “Total Impacts on Surveyed Wetlands”) • GAP Land Cover – “Forested Land Crossed” (see table x.1) • Aerial imagery to verify evident land use data discrepancies • Enbridge protected flora field survey results • Minnesota Natural Heritage Information System data: Available by license only
Extent to which human or environmental effects are subject to mitigation by regulatory control and permit conditions	<ul style="list-style-type: none"> • Review of activities against current permitting efforts. No permit conditions are known at the time of survey.
Cumulative potential effects of related or anticipated future pipeline construction	<ul style="list-style-type: none"> • Length and acreage of modification, considered in relation to the total impacts of the Project
Relevant applicable policies, rules, and regulations of other state and federal and local government land use laws	<ul style="list-style-type: none"> • Review of activities against applicable regulations

Attachment B

USFWS April 10, 2018 letter

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United States Department of the Interior



FISH AND WILDLIFE SERVICE
Tamarac National Wildlife Refuge
35704 County Highway 26
Rochert, Minnesota 56578-9638
Phone: 218/847-2641 Fax: 218/847-9141

April 10, 2018

Enbridge Inc.
Ms. Sara Ploetz
26 East Superior Street
Duluth, MN 55802

Dear Ms. Ploetz:

Thank you for the opportunity to review Enbridge's Line 3 pipeline replacement proposal. This project crosses three properties in Clearwater County with U.S. Fish and Wildlife Service (FWS) wetland conservation easements. FWS wetland conservation easements provide valuable habitat for migratory birds, especially waterfowl and prohibit protected wetlands from being burned, drained, filled or leveled. The subject properties are located as follows:

T.146N, R.37W, Section 12, N1/2SW1/4, NW1/4SE1/4 and S1/2NE1/4
T.148N, R.37W, Section 17, S1/2NW1/4 and N1/2SW1/4
T.148N, R.37W, Section 17, S1/2SW1/4

We have reviewed the subject proposal and have determined that the pipeline installation and associated construction as planned, will avoid FWS wetland easement interests by constructing around protected wetland basins, or be confined to prior existing rights of way acquired by Enbridge before the acquisition of the wetland conservation easement. A field review of all three properties will be conducted this spring that will aid in identifying any problem areas or unforeseen impacts to wetlands before construction begins.

In the spirit of cooperation, our organizations have agreed to incorporate the following Cooperative Conservation Measures to minimize impacts to FWS easement wetlands lying within the existing pipeline right of way.

Cooperative Conservation Measures

1. When possible, timing of construction will coincide with fall or winter periods to avoid impacts to nesting and breeding wildlife.
2. Dewatering of wetlands will be avoided or minimized to the extent possible.
3. Back-filling operations will involve placement of soil into original horizons to the extent possible.
4. Excess fill from pipeline trenching operations will be removed from the wetland basin after back-filling/compaction is complete.

5. Trench Breakers or other similar strategies will be implemented upstream and downstream of wetlands with open trenching operations to prevent artificial drainage or sedimentation of the wetland.
6. Trees, other organic material or construction debris will not be buried or piled within wetland basins.
7. Enbridge will consult with FWS regarding construction operations that have the potential to impact trees with known active nests.
8. FWS may provide technical assistance if cultural resources are encountered while crossing properties with FWS wetland conservation easements.

As a reference, I have enclosed the maps previously provide by Enbridge of the three properties depicting the pipeline corridor and wetlands protected by the conservation easement.

Thank you for your cooperation and efforts to consider alternatives that avoid and minimize impacts to wetlands along the pipeline corridor. We appreciate the opportunity to work closely with you throughout the review process of this project and look forward to visiting again after snowmelt. In the meantime, please feel free to contact me with any questions or concerns regarding the subject tracts or the U.S. Fish and Wildlife Service's wetland conservation easement program.

Sincerely,






Neil J. Powers
Project Leader




L3R FWS Easement Reroutes

-  FWS Wetland Basins
-  Conservation Easements
-  Previously Acquired Design

Previous Design

-  Proposed Route
-  ATWS
-  TWS

Current Design




-  Proposed Route
-  ATWS
-  TWS






L3R FWS Easement Reroutes

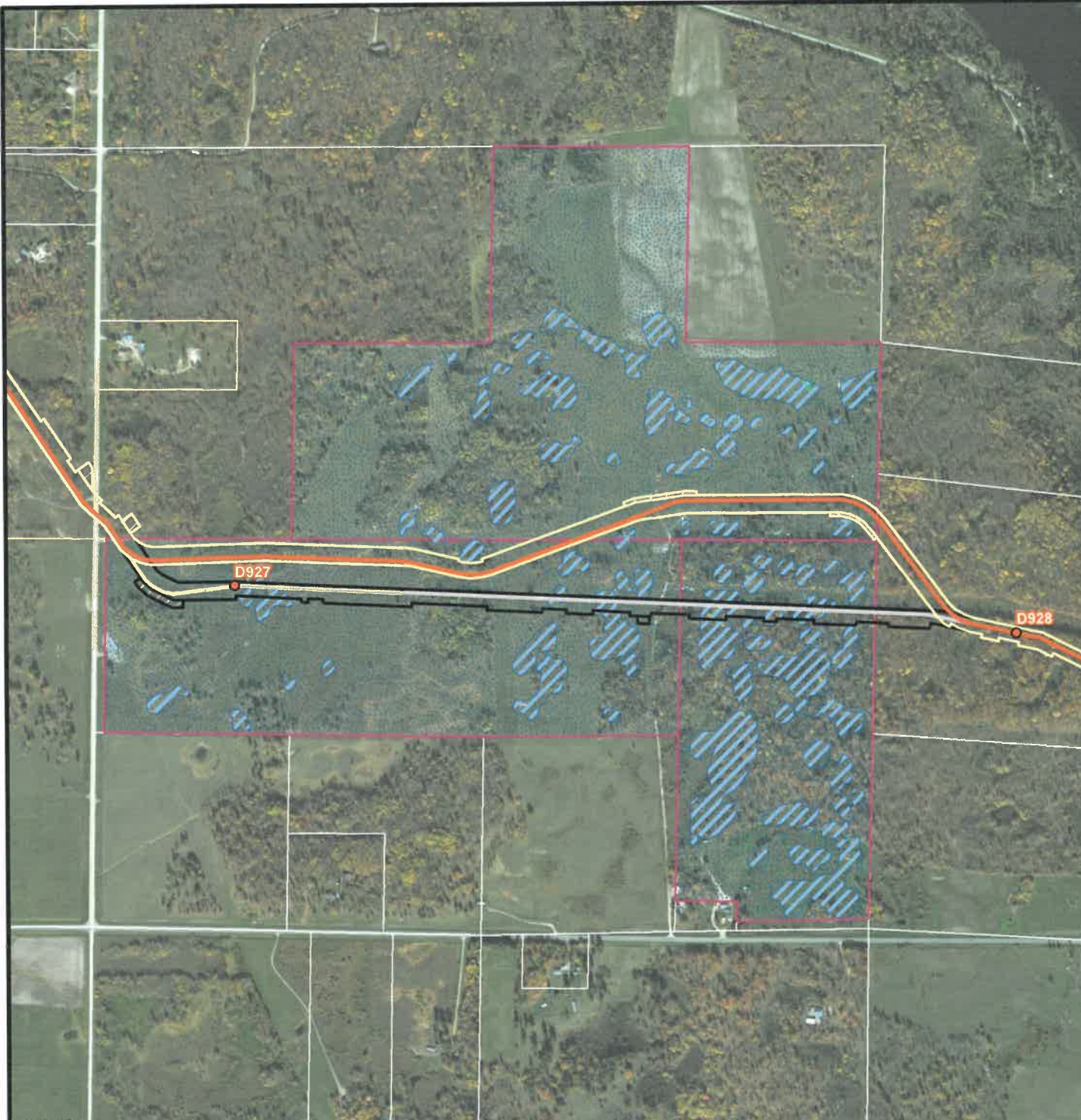
-  FWS Wetland Basins
-  Conservation Easements
-  Previously Acquired Design

Previous Design

-  Proposed Route
-  ATWS
-  TWS

Current Design




-  Proposed Route
-  ATWS
-  TWS






L3R FWS Easement Reroutes

-  FWS Wetland Basins
-  Conservation Easements
-  Previously Acquired Design

Previous Design

-  Proposed Route
-  ATWS
-  TWS

Current Design

-  Proposed Route
-  ATWS
-  TWS



Attachment C

Mailing List of Affected Landowners

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Landowner Mailing List - Enbridge Route Permit Amendment Request PL-9/PPL-15-137

Keith Amborn
7682 Albert Rd
Saginaw, MN 55779

Kelvin B. Amborn
7682 Albert Rd
Saginaw, MN 55779

Bayle Bellefy
22688 320th St
Bagley, MN 56621

Lynn M. & Mark L. Bellefy
22960 320th St
Bagley, MN 56621

Stephen W. & Rosemarie A. Blaede
1896 W Chub Lake Rd
Carlton, MN 55718

Blaede Trust Agreement.
1896 W Chub Lake Rd
Carlton, MN 55718

Arnette & Kenneth Ray Borowicz
PO Box 344
Stephen, MN 56757

Borowicz Farms
c/o Greg Borowicz
PO Box 257
Stephen, MN 56757

Loretta Borowicz
PO Box 344
Stephen, MN 56757

Christopher J. & Kelly N. Brauhn
20929 280th St N
Ulen, MN 56585

Dameon & Haley Bryant
1900 W Chub Lake Rd
Carlton, MN 55718

C & G Gift Estate Trust
527 Tower St NW
Clearbrook, MN 56634-4290

Carlton County Minnesota
301 Walnut Ave
Carlton, MN 55718

Wendy Dawn & Brett David Carter
22275 Walkerbrook Dr
Bagley, MN 56621-4745

JoNette & Scott Corrow
535 Jackson St SW
Hutchinson, MN 55350

Mary Ann Durand
PO Box 263
Stephen, MN 56757

Adam E. Fradenburgh
1120 Park Ave NW
Bemidji, MN 56601

Jeffrey R. & Mary J. Gyskiewicz
31382 360th St NW
Argyle, MN 56713

Charles J. & Laurie Holm
PO Box 72
Hill City, MN 55748

Veronique C. Jokinen
1733 County Rd 61
Carlton, MN 55718

Deborah J. & Mark T. Klemmetsen
PO Box 556
Bagley, MN 56621

Rebecca J. & Peter J. Krause
428 W Redwing St
Duluth, MN 55803

Nadene N. & Victor R. Lopez
2055 Yndestad Rd
Carlton, MN 55718

Bradley Ness
2248 East Main Ave
West Fargo, ND 58078

David A. Nieland
1729 County Rd 61
Carlton, MN 55718

North Dakota Pipeline Co, LLC
119 North 25th St E
Superior, WI 54880

Northern Natural Gas Co
PO Box 3330
Omaha, NE 68103

Northern Natural Gas Co
c/o Jeff Telker
1995 Northern Natural Gas Rd
Carlton, MN 55718

Alvin & Nancy Oien
21407 340th St
Bagley, MN 56621

Mary Alice Oien
1925 W Chub Lake Rd
Carlton, MN 55718

Wesley B. Oien
1925 W Chub Lake Rd
Carlton, MN 55718

Elizabeth & Rodney Pawloski
3427 Dailey St
Phoenix, AZ 85053

Julie Pawloski
PO Box 263
Stephen, MN 56757

Larry L. & Penni L. Pietz
58085 320th Pl
Palisade, MN 56469

John & Janice Proulx
15878 210th Ave SW
Red Lake Falls, MN 56750

Robert. Proulx
16124 210th Ave SW
Red Lake Falls, MN 56750

Mary A. & Terrance L. Radtke
1868 W Chub Lake Rd
Carlton, MN 55718

Douglas A. & Kathy A. Rasch
43003 191st Ave
Clearbrook, MN 56634

Linda Rasmussen
717 Island View Dr
Bemidji, MN 56601

River Bend Farms, Inc.
c/o Robert Wald
10617 130th Ave NE
Thief River Falls, MN 56701

Nancy A. Solem Reisinger
975 Trettle Lane
Cloquet, MN 55720

State of Minnesota (MN)
100 Rev Dr Martin Luther
King Jr Blvd
Saint Paul, MN 55155

State of Minnesota
Department of Natural Resources
(MNDNR)
1201 E Highway 2
Grand Rapids, MN 55744

State of Minnesota
Department of Transportation
(MNDOT)
3920 Highway 2 W
Bemidji, MN 56601

Janelle Sundby
2001 Eastwood Dr #102
Thief River Falls, MN 56701

Betty J. Surdez
23845 320th St
Bagley, MN 56621

Mark W. & Rose Surdez
23845 320th St
Bagley, MN 56621

Paul L. Surdez
23845 320th St
Bagley, MN 56621

Brandon J. & Jennifer Suonvieri
11118 Mirbat Rd
Floodwood, MN 55736

Jessica L. & John A. Tuttle Jr.
1412 John Rd
Cloquet, MN 55720

Leeann L. & Travis A. Vettleson
42794 181st Ave
Clearbrook, MN 56634

Dennis P. & Kathy D. Waller
2080 Yndestad Rd
Carlton, MN 55718

Terri Lynn Wittwer
11050 Bush Rd
Floodwood, MN 55736

Dale W. & Lori A. Zylka
2102 Yndestad Rd
Carlton, MN 55718

Attachment D

Maps

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COUNTY: Marshall

TOWNSHIP: Wanger

MODIFICATION NO.: 1

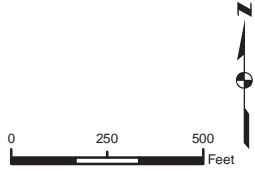


- PUC Designated Route
- ROW
- Line 3R Pipeline
- Valve Location
- Enbridge Pump Station

- Mile Post
- Deviated Temporary Workspace
- Deviated Additional Temporary Workspace
- Existing Enbridge Pipelines
- Existing Electric Transmission
- Existing Third Party Pipelines

- Pipeline Outside PUC Corridor
- Surveyed Waterbodies
- ESA
- Surveyed Wetlands
- NWI Wetlands
- Workspace Outside PUC Corridor

- Tract Boundary
- MN Section Boundary
- Township/City Boundary
- County Boundary



LINE 3 REPLACEMENT PIPELINE ROUTE AMENDMENT

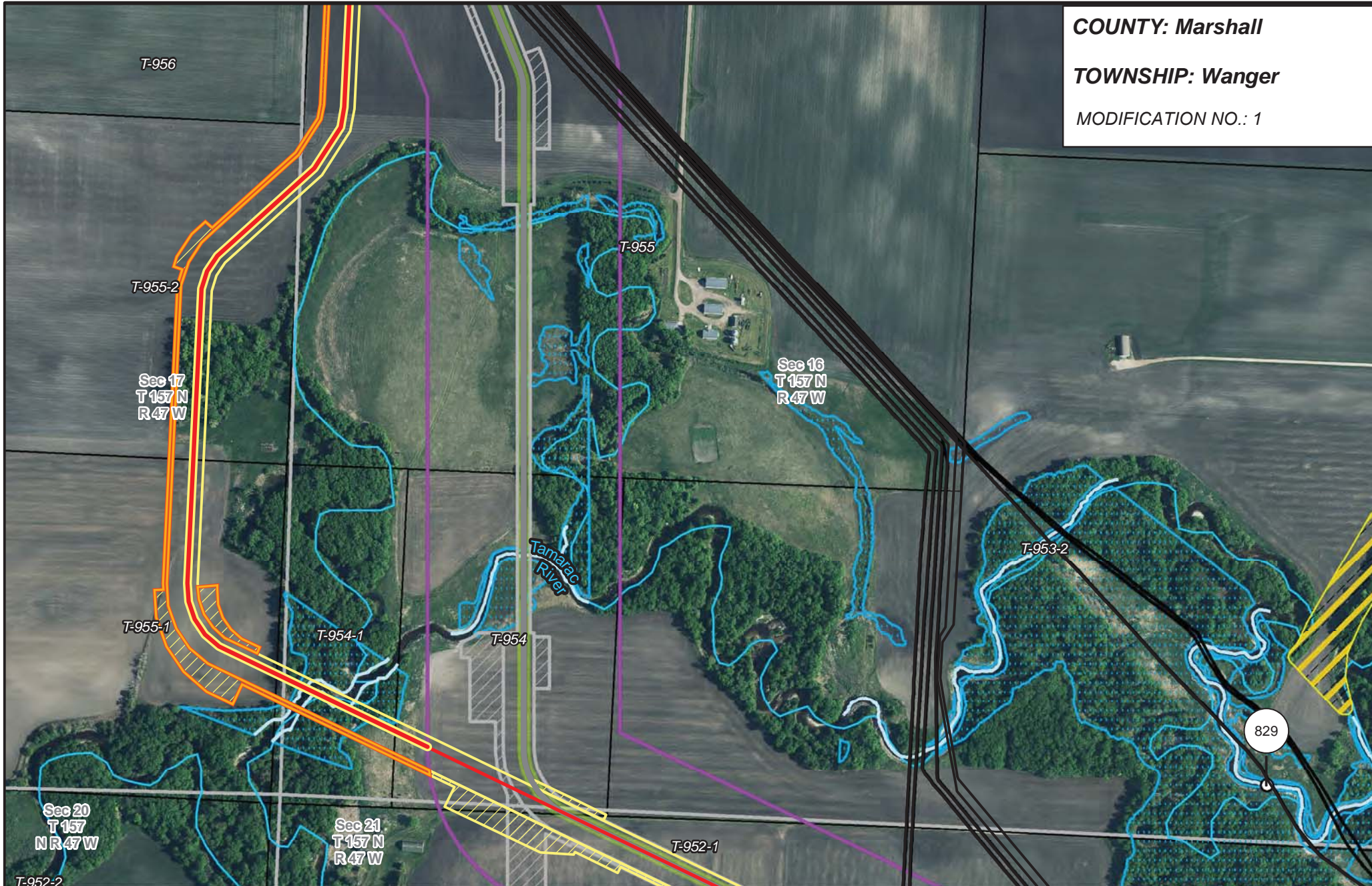
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Map 033 of 378

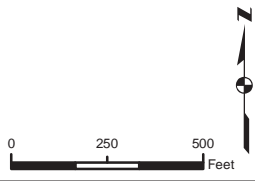
COUNTY: Marshall

TOWNSHIP: Wanger

MODIFICATION NO.: 1



- PUC Designated Route
- ROW
- Line 3R Pipeline
- Valve Location
- Enbridge Pump Station
- Mile Post
- Deviated Temporary Workspace
- Deviated Additional Temporary Workspace
- Existing Enbridge Pipelines
- Existing Electric Transmission
- Existing Third Party Pipelines
- Pipeline Outside PUC Corridor
- Surveyed Waterbodies
- ESA
- Surveyed Wetlands
- NWI Wetlands
- Workspace Outside PUC Corridor
- Tract Boundary
- MN Section Boundary
- Township/City Boundary
- County Boundary

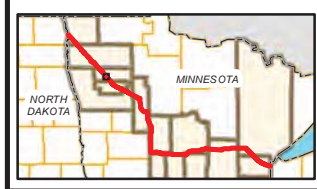
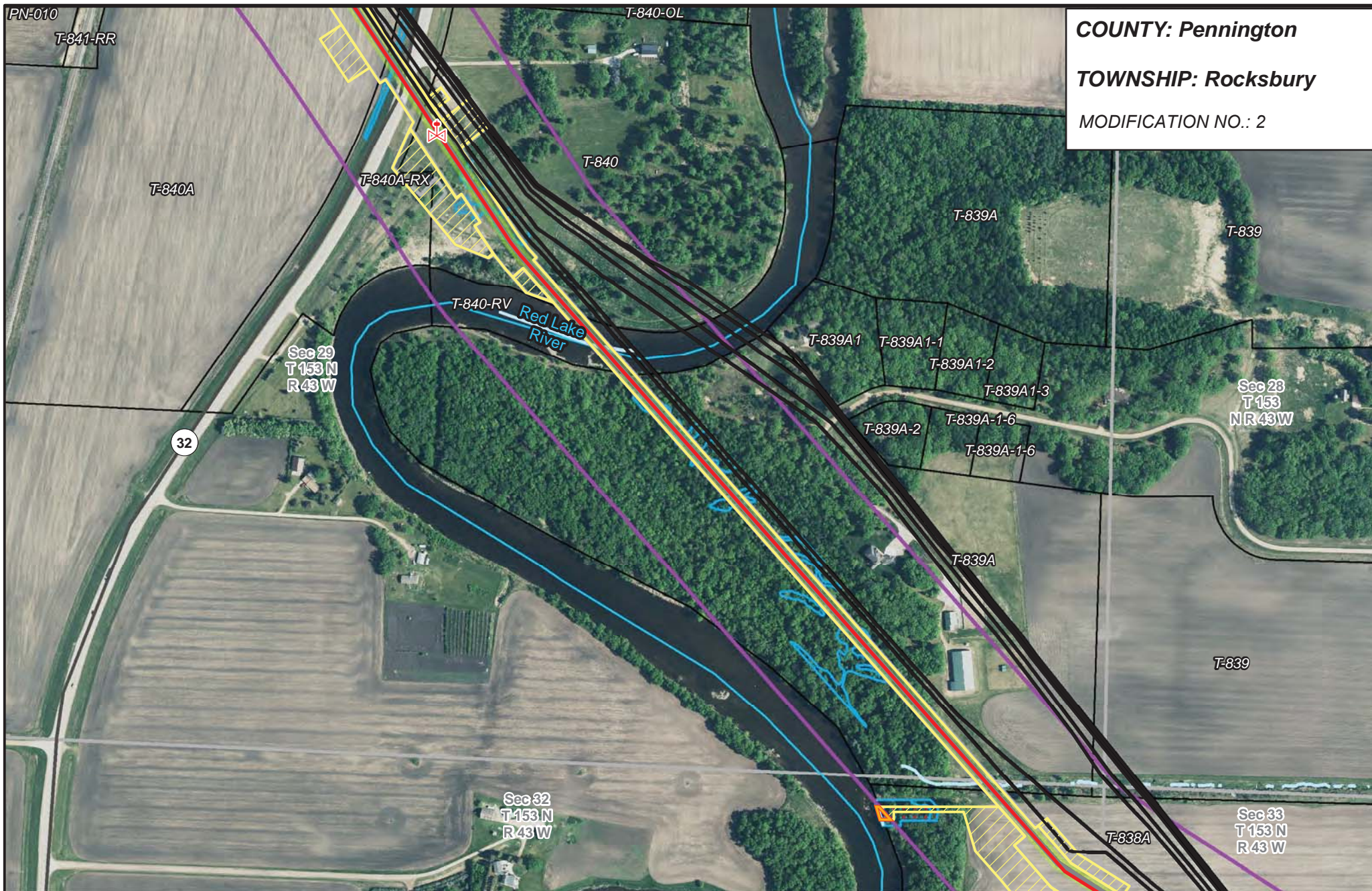


LINE 3 REPLACEMENT PIPELINE ROUTE AMENDMENT

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DATE: January 24, 2019 SCALE: 1:6,000

Map 034 of 378

COUNTY: Pennington
TOWNSHIP: Rocksbury
MODIFICATION NO.: 2



PUC Designated Route	Mile Post	Pipeline Outside PUC Corridor	Tract Boundary
ROW	Deviated Temporary Workspace	Surveyed Waterbodies	MN Section Boundary
Line 3R Pipeline	Deviated Additional Temporary Workspace	ESA	Township/City Boundary
Valve Location	Existing Enbridge Pipelines	Surveyed Wetlands	County Boundary
Enbridge Pump Station	Existing Electric Transmission	NWI Wetlands	
	Existing Third Party Pipelines	Workspace Outside PUC Corridor	

LINE 3 REPLACEMENT PIPELINE ROUTE AMENDMENT

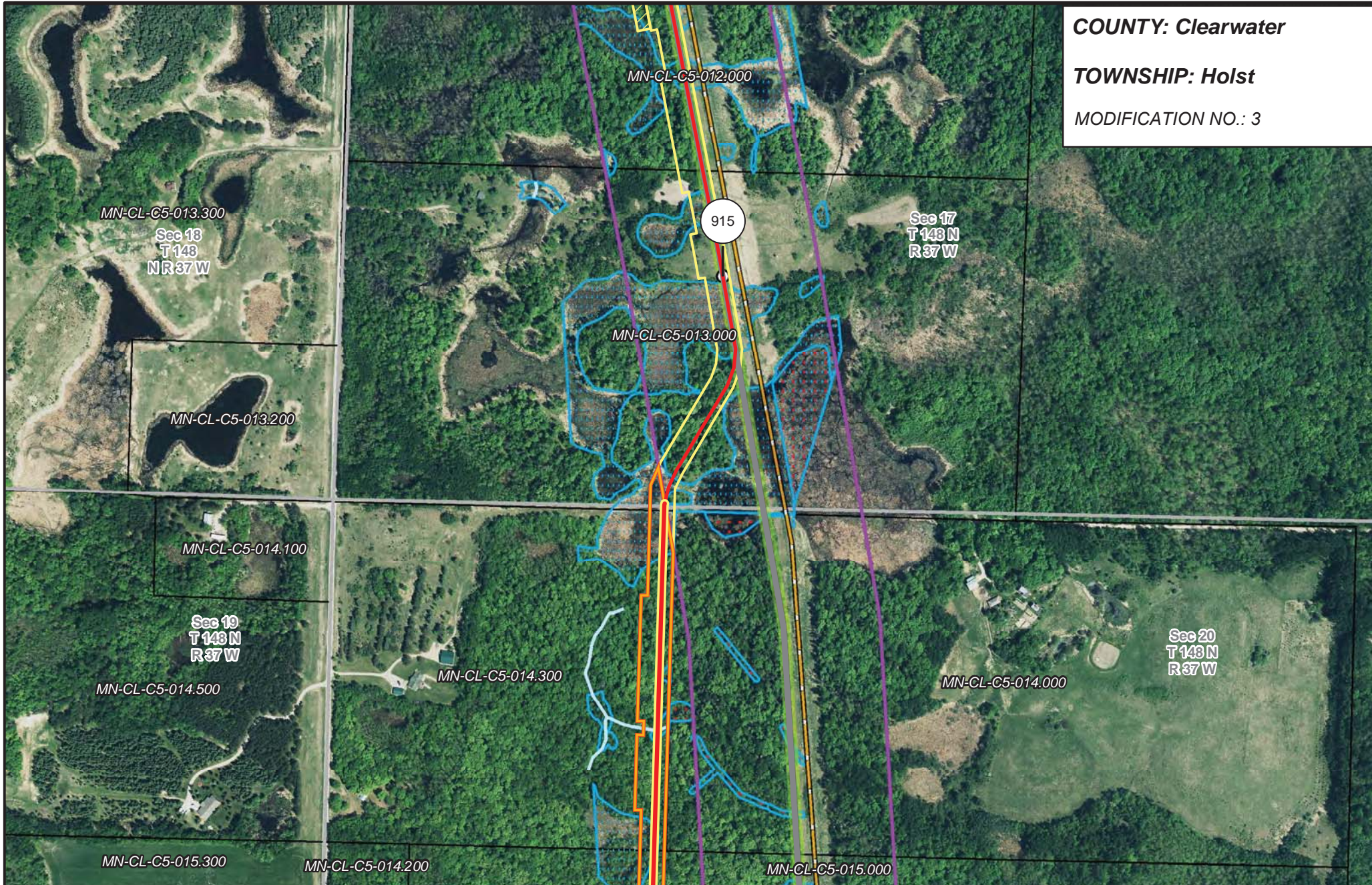
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Map 080 of 378

COUNTY: Clearwater

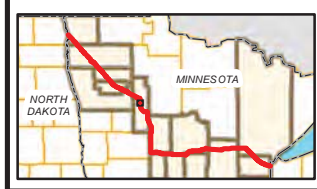
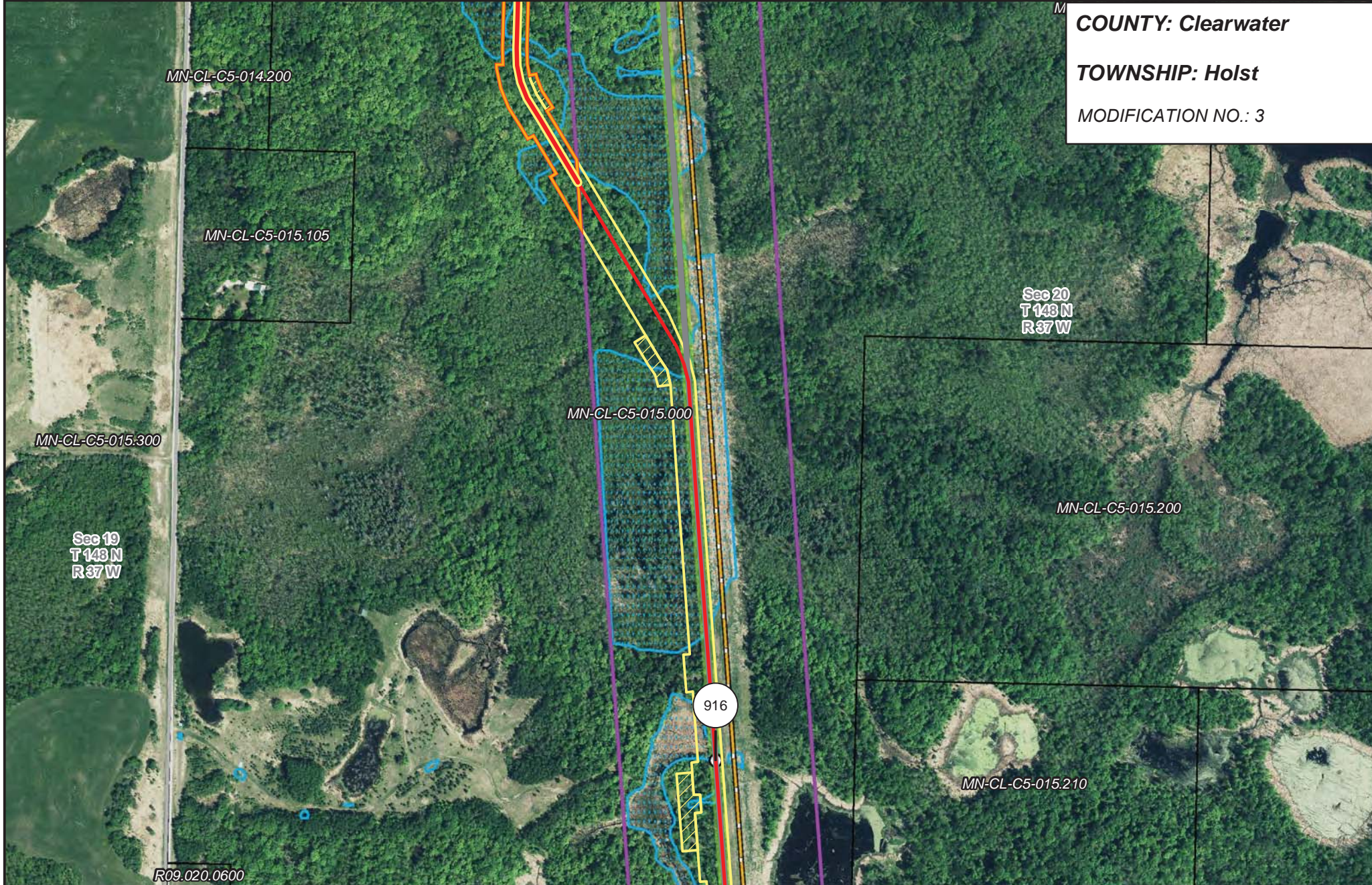
TOWNSHIP: Holst

MODIFICATION NO.: 3



	<ul style="list-style-type: none">PUC Designated RouteROWLine 3R PipelineValve LocationEnbridge Pump Station	<ul style="list-style-type: none">Mile PostDeviated Temporary WorkspaceDeviated Additional Temporary WorkspaceExisting Enbridge PipelinesExisting Electric TransmissionExisting Third Party Pipelines	<ul style="list-style-type: none">Pipeline Outside PUC CorridorSurveyed WaterbodiesESASurveyed WetlandsNWI WetlandsWorkspace Outside PUC Corridor	<ul style="list-style-type: none">Tract BoundaryMN Section BoundaryTownship/City BoundaryCounty Boundary	<p>LINE 3 REPLACEMENT PIPELINE ROUTE AMENDMENT</p> <p>DRAWN: CLS CHECKED: -- DATE: January 24, 2019 SCALE: 1:6,000</p> <p>0 250 500 Feet</p> <p>Map 134 of 378</p>
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COUNTY: Clearwater
TOWNSHIP: Holst
MODIFICATION NO.: 3

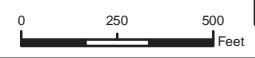


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|-----------------------|---|--------------------------------|------------------------|
| PUC Designated Route | Mile Post | Pipeline Outside PUC Corridor | Tract Boundary |
| ROW | Deviated Temporary Workspace | Surveyed Waterbodies | MN Section Boundary |
| Line 3R Pipeline | Deviated Additional Temporary Workspace | ESA | Township/City Boundary |
| Valve Location | Existing Enbridge Pipelines | Surveyed Wetlands | County Boundary |
| Enbridge Pump Station | Existing Electric Transmission | NWI Wetlands | |
| | Existing Third Party Pipelines | Workspace Outside PUC Corridor | |

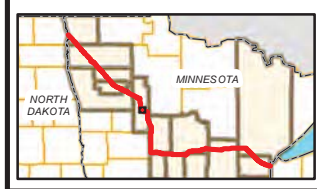
LINE 3 REPLACEMENT PIPELINE ROUTE AMENDMENT

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 DATE: January 24, 2019 SCALE: 1:6,000

Map 135 of 378



COUNTY: Clearwater
TOWNSHIP: Copley & Nora
MODIFICATION NO.: 4



- | | | | |
|-----------------------|---|--------------------------------|------------------------|
| PUC Designated Route | Mile Post | Pipeline Outside PUC Corridor | Tract Boundary |
| ROW | Deviated Temporary Workspace | Surveyed Waterbodies | MN Section Boundary |
| Line 3R Pipeline | Deviated Additional Temporary Workspace | ESA | Township/City Boundary |
| Valve Location | Existing Enbridge Pipelines | Surveyed Wetlands | County Boundary |
| Enbridge Pump Station | Existing Electric Transmission | NWI Wetlands | |
| | Existing Third Party Pipelines | Workspace Outside PUC Corridor | |

LINE 3 REPLACEMENT PIPELINE ROUTE AMENDMENT

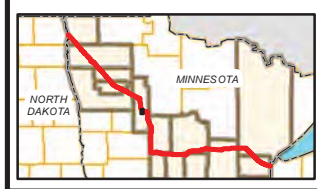
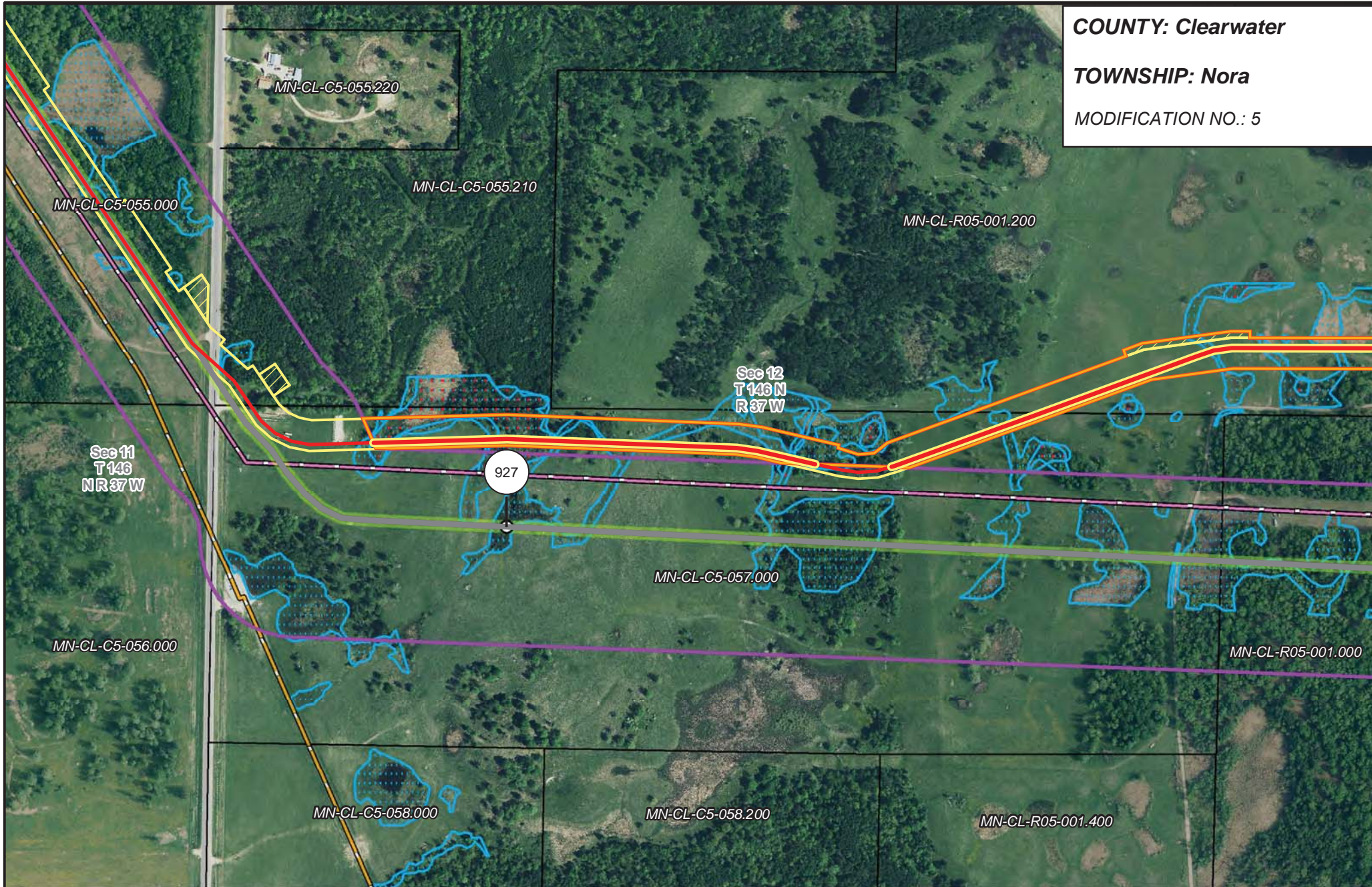
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Map 148 of 378

COUNTY: Clearwater

TOWNSHIP: Nora

MODIFICATION NO.: 5



PUC Designated Route	Mile Post	Pipeline Outside PUC Corridor	Tract Boundary
ROW	Deviated Temporary Workspace	Surveyed Waterbodies	MN Section Boundary
Line 3R Pipeline	Deviated Additional Temporary Workspace	ESA	Township/City Boundary
Valve Location	Existing Enbridge Pipelines	Surveyed Wetlands	County Boundary
Enbridge Pump Station	Existing Electric Transmission	NWI Wetlands	
	Existing Third Party Pipelines	Workspace Outside PUC Corridor	

LINE 3 REPLACEMENT PIPELINE ROUTE AMENDMENT

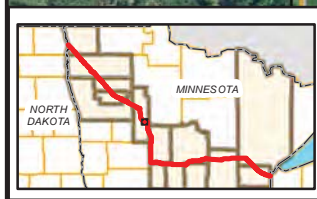
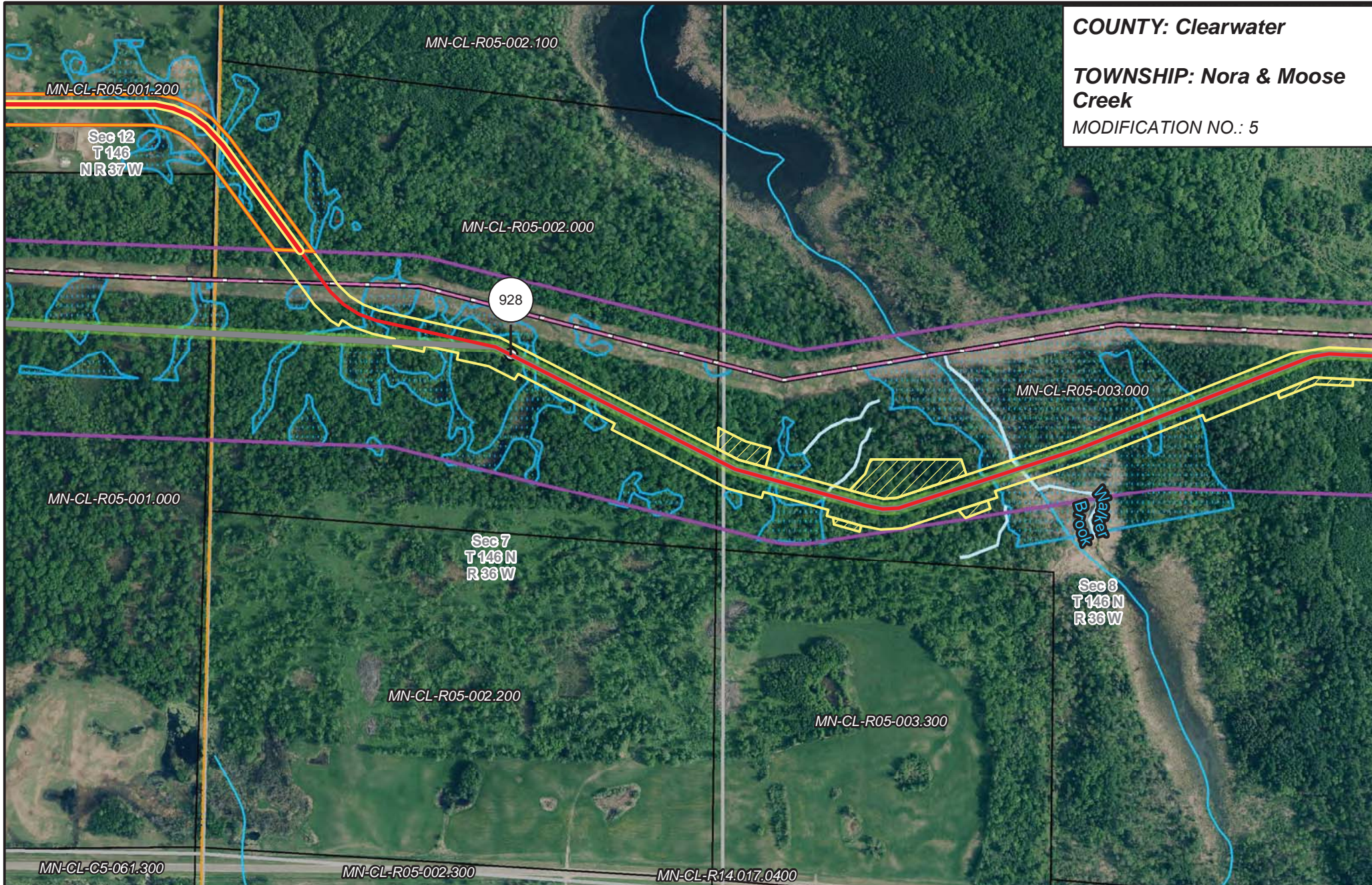
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Map 151 of 378

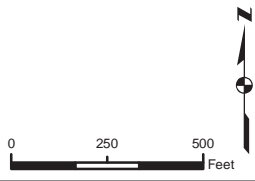
COUNTY: Clearwater

TOWNSHIP: Nora & Moose
Creek

MODIFICATION NO.: 5



- | | | | |
|-----------------------|---|--------------------------------|------------------------|
| PUC Designated Route | Mile Post | Pipeline Outside PUC Corridor | Tract Boundary |
| ROW | Deviated Temporary Workspace | Surveyed Waterbodies | MN Section Boundary |
| Line 3R Pipeline | Deviated Additional Temporary Workspace | ESA | Township/City Boundary |
| Valve Location | Existing Enbridge Pipelines | Surveyed Wetlands | County Boundary |
| Enbridge Pump Station | Existing Electric Transmission | NWI Wetlands | |
| | Existing Third Party Pipelines | Workspace Outside PUC Corridor | |

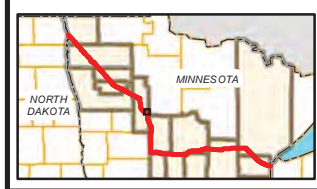
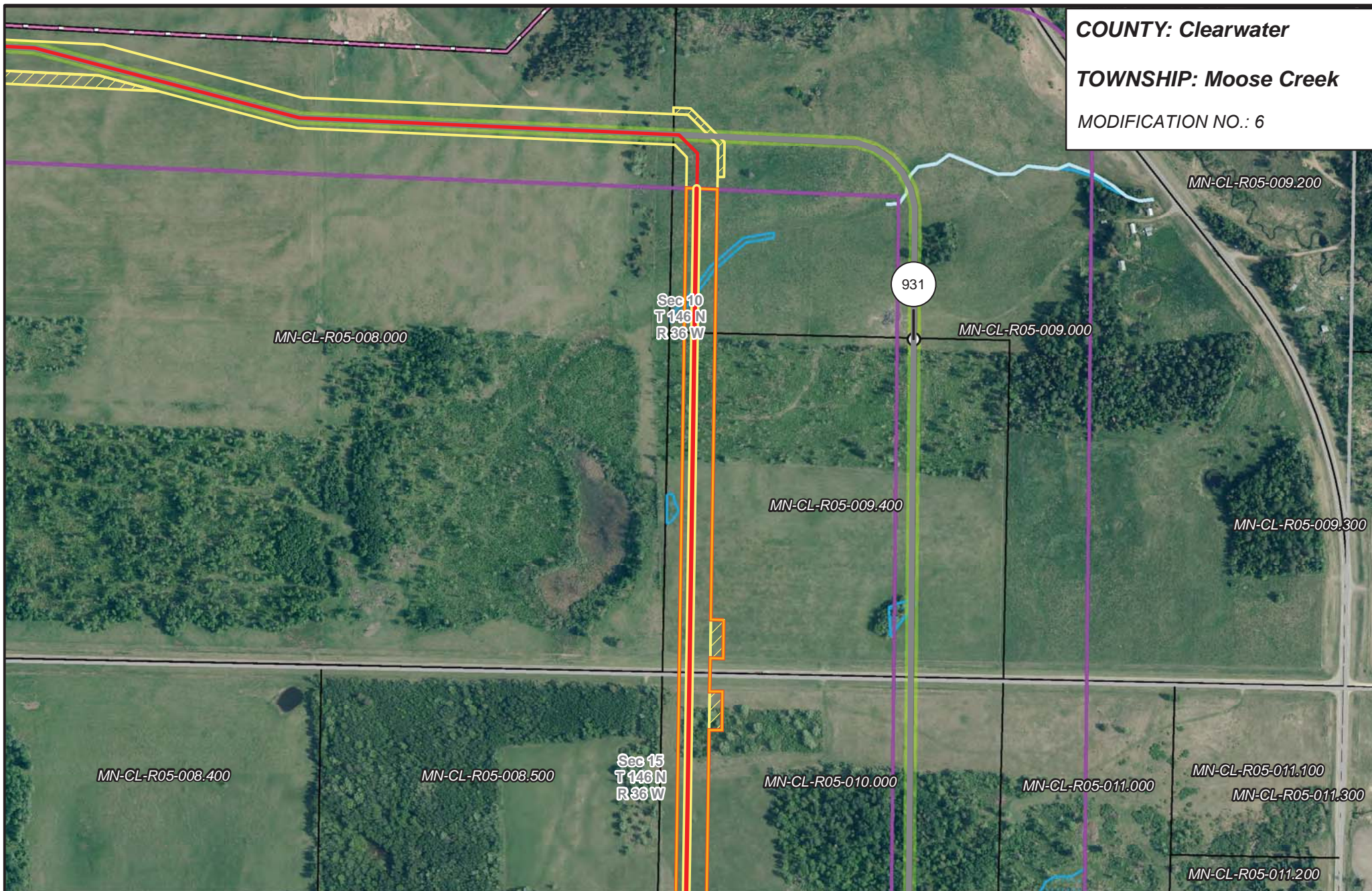


**LINE 3 REPLACEMENT
PIPELINE ROUTE
AMENDMENT**

DRAWN: CLS	CHECKED: --
DATE: January 24, 2019	SCALE: 1:6,000

Map 152 of 378

COUNTY: Clearwater
TOWNSHIP: Moose Creek
MODIFICATION NO.: 6

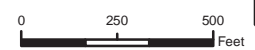


- | | | | |
|-----------------------|---|--------------------------------|------------------------|
| PUC Designated Route | Mile Post | Pipeline Outside PUC Corridor | Tract Boundary |
| ROW | Deviated Temporary Workspace | Surveyed Waterbodies | MN Section Boundary |
| Line 3R Pipeline | Deviated Additional Temporary Workspace | ESA | Township/City Boundary |
| Valve Location | Existing Enbridge Pipelines | Surveyed Wetlands | County Boundary |
| Enbridge Pump Station | Existing Electric Transmission | NWI Wetlands | |
| | Existing Third Party Pipelines | Workspace Outside PUC Corridor | |

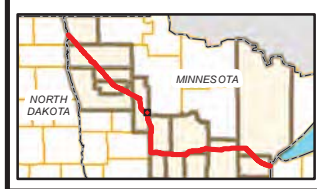
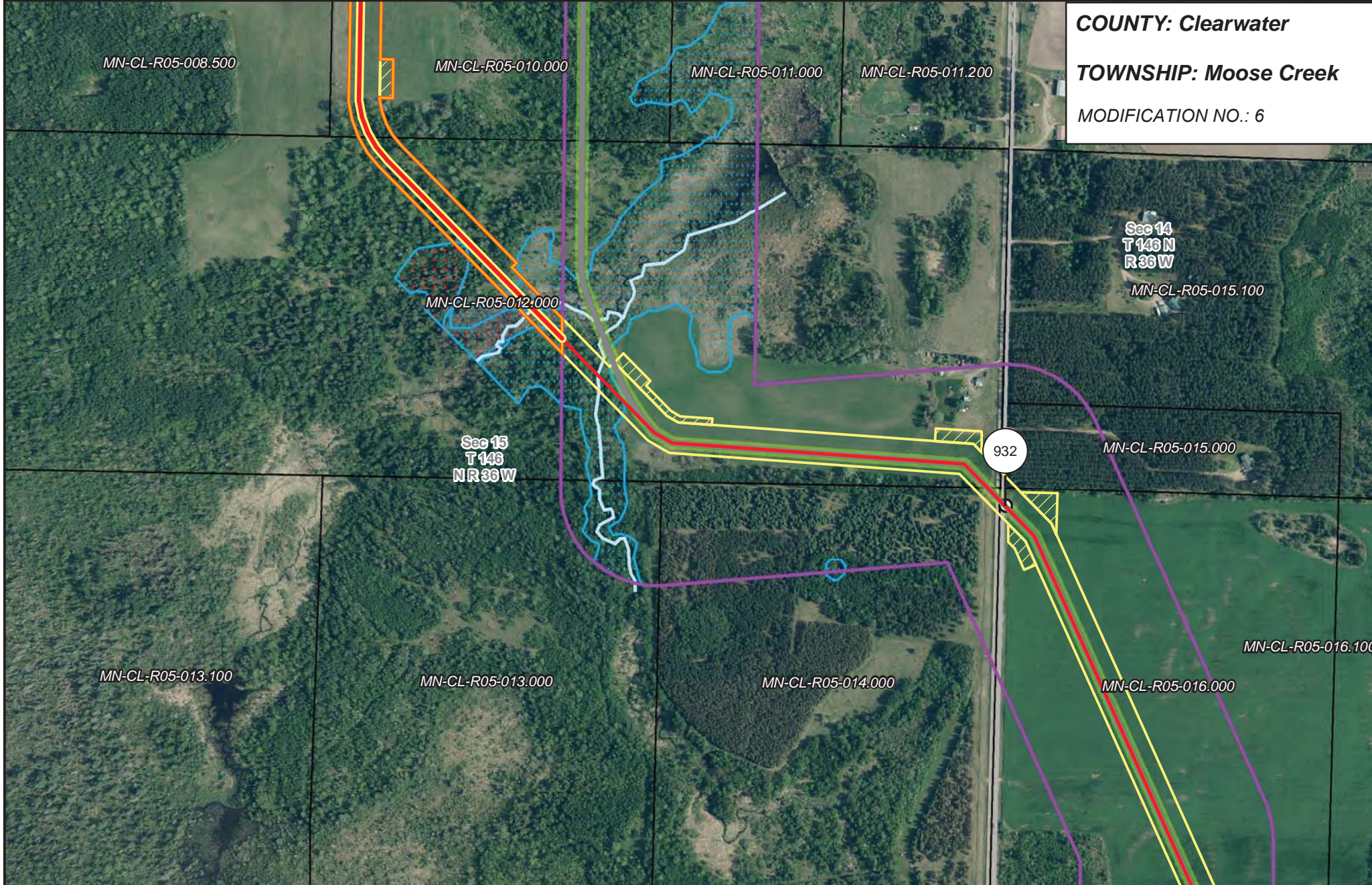
LINE 3 REPLACEMENT PIPELINE ROUTE AMENDMENT

DRAWN: CLS CHECKED: --
 DATE: January 24, 2019 SCALE: 1:6,000

Map 155 of 378



COUNTY: Clearwater
TOWNSHIP: Moose Creek
MODIFICATION NO.: 6

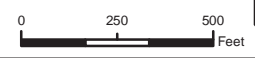


PUC Designated Route	Mile Post	Pipeline Outside PUC Corridor	Tract Boundary
ROW	Deviated Temporary Workspace	Surveyed Waterbodies	MN Section Boundary
Line 3R Pipeline	Deviated Additional Temporary Workspace	ESA	Township/City Boundary
Valve Location	Existing Enbridge Pipelines	Surveyed Wetlands	County Boundary
Enbridge Pump Station	Existing Electric Transmission	NWI Wetlands	
	Existing Third Party Pipelines	Workspace Outside PUC Corridor	

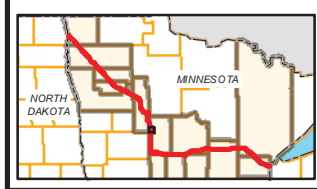
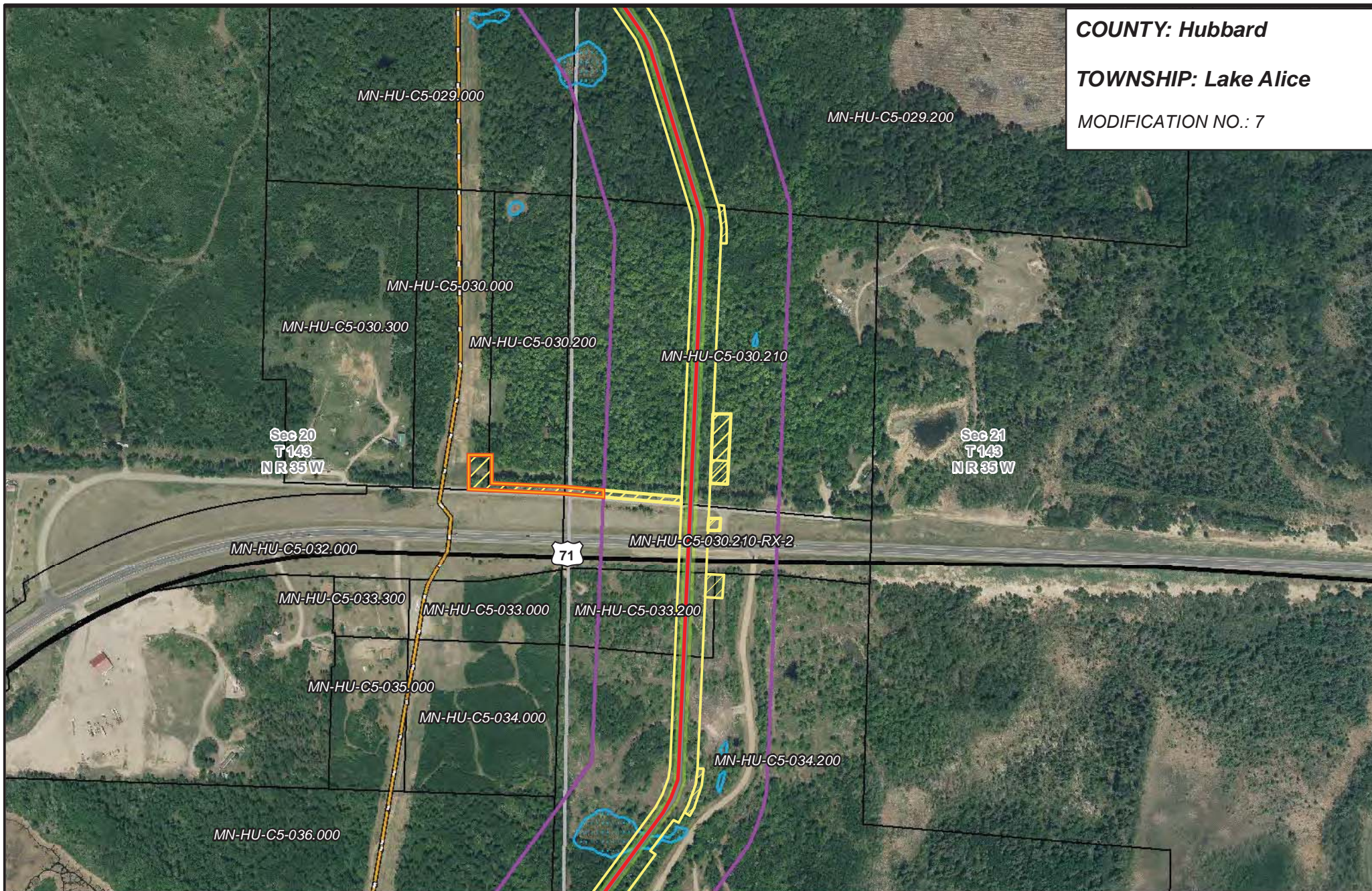
LINE 3 REPLACEMENT PIPELINE ROUTE AMENDMENT

DRAWN: CLS CHECKED: --
 DATE: January 24, 2019 SCALE: 1:6,000

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COUNTY: Hubbard
TOWNSHIP: Lake Alice
MODIFICATION NO.: 7



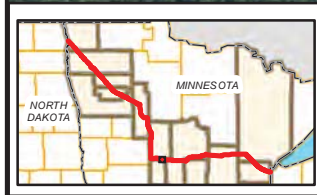
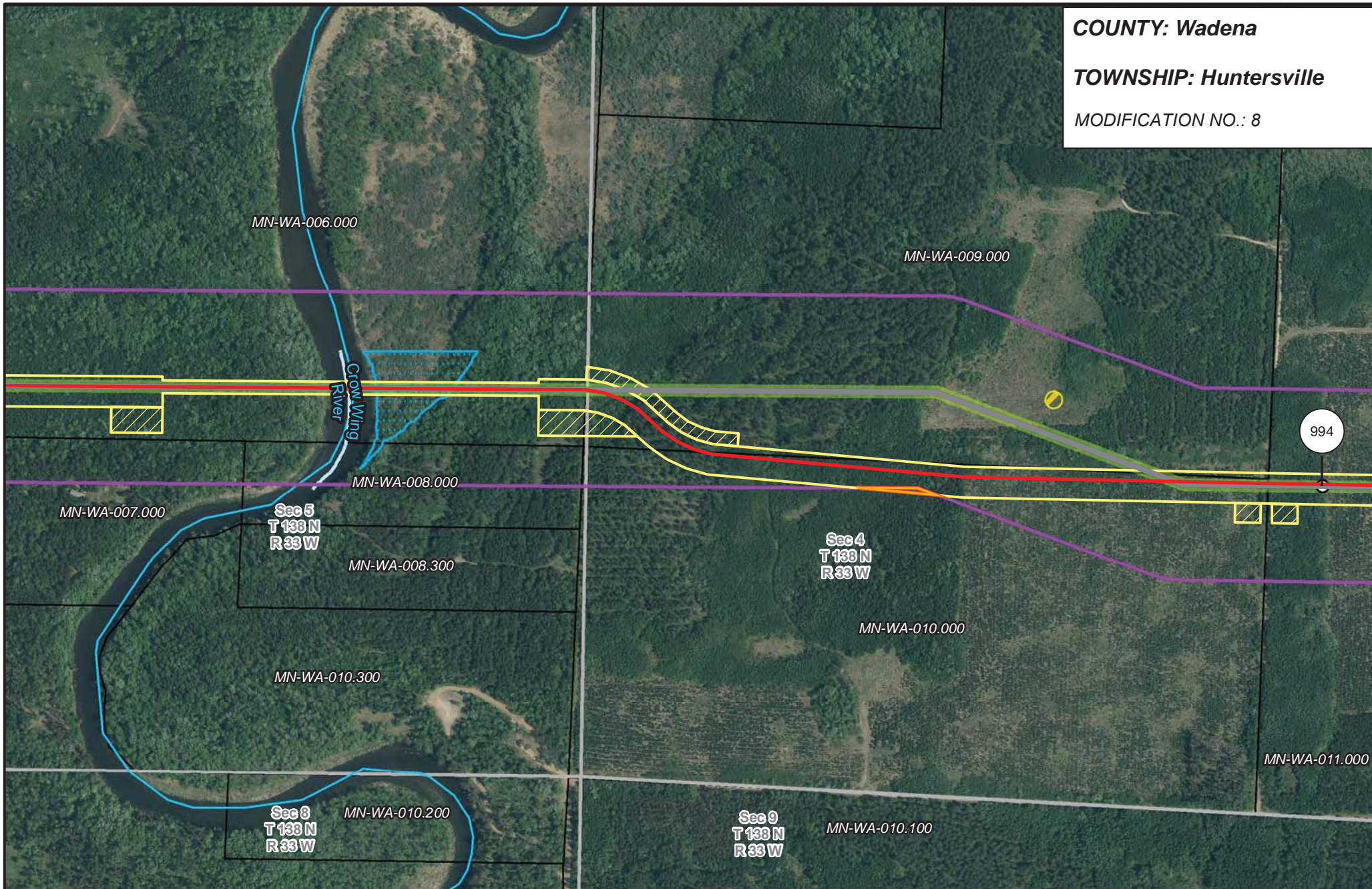
- | | | | |
|-----------------------|---|--------------------------------|------------------------|
| PUC Designated Route | Mile Post | Pipeline Outside PUC Corridor | Tract Boundary |
| ROW | Deviated Temporary Workspace | Surveyed Waterbodies | MN Section Boundary |
| Line 3R Pipeline | Deviated Additional Temporary Workspace | ESA | Township/City Boundary |
| Valve Location | Existing Enbridge Pipelines | Surveyed Wetlands | County Boundary |
| Enbridge Pump Station | Existing Electric Transmission | NWI Wetlands | |
| | Existing Third Party Pipelines | Workspace Outside PUC Corridor | |

LINE 3 REPLACEMENT PIPELINE ROUTE AMENDMENT

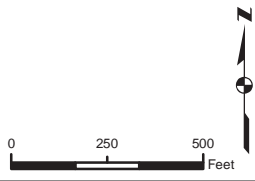
DRAWN: CLS CHECKED: --
 DATE: January 28, 2019 SCALE: 1:6,000

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COUNTY: Wadena
TOWNSHIP: Huntersville
MODIFICATION NO.: 8



- | | | | |
|-----------------------|---|--------------------------------|------------------------|
| PUC Designated Route | Mile Post | Pipeline Outside PUC Corridor | Tract Boundary |
| ROW | Deviated Temporary Workspace | Surveyed Waterbodies | MN Section Boundary |
| Line 3R Pipeline | Deviated Additional Temporary Workspace | ESA | Township/City Boundary |
| Valve Location | Existing Enbridge Pipelines | Surveyed Wetlands | County Boundary |
| Enbridge Pump Station | Existing Electric Transmission | NWI Wetlands | |
| | Existing Third Party Pipelines | Workspace Outside PUC Corridor | |



LINE 3 REPLACEMENT PIPELINE ROUTE AMENDMENT

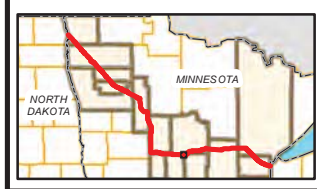
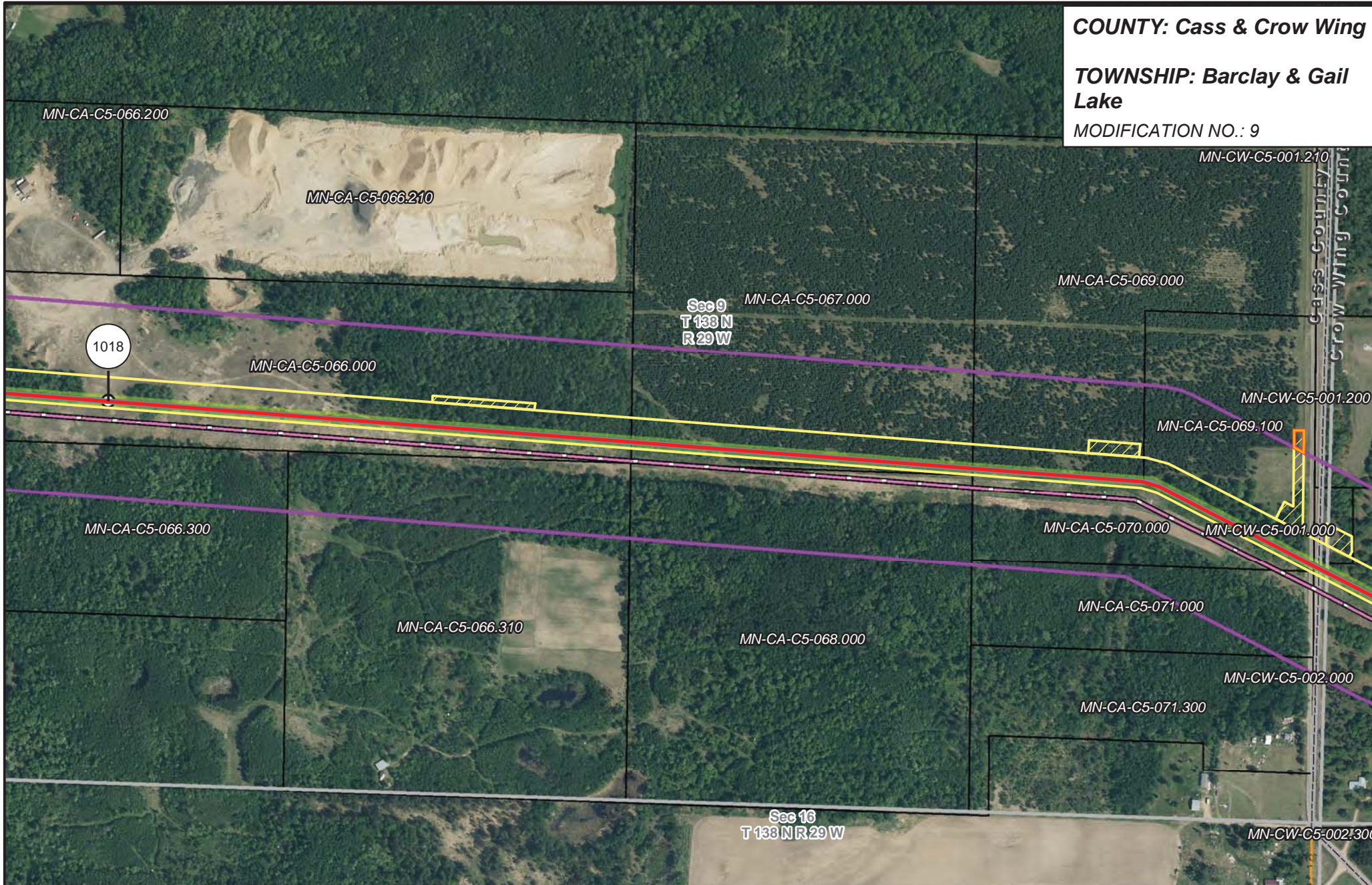
<small>DRAWN:</small> CLS	<small>CHECKED:</small> --
<small>DATE:</small> January 24, 2019	<small>SCALE:</small> 1:6,000

Map 241 of 378

COUNTY: Cass & Crow Wing

TOWNSHIP: Barclay & Gail Lake

MODIFICATION NO.: 9



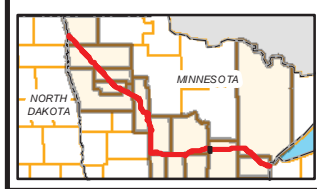
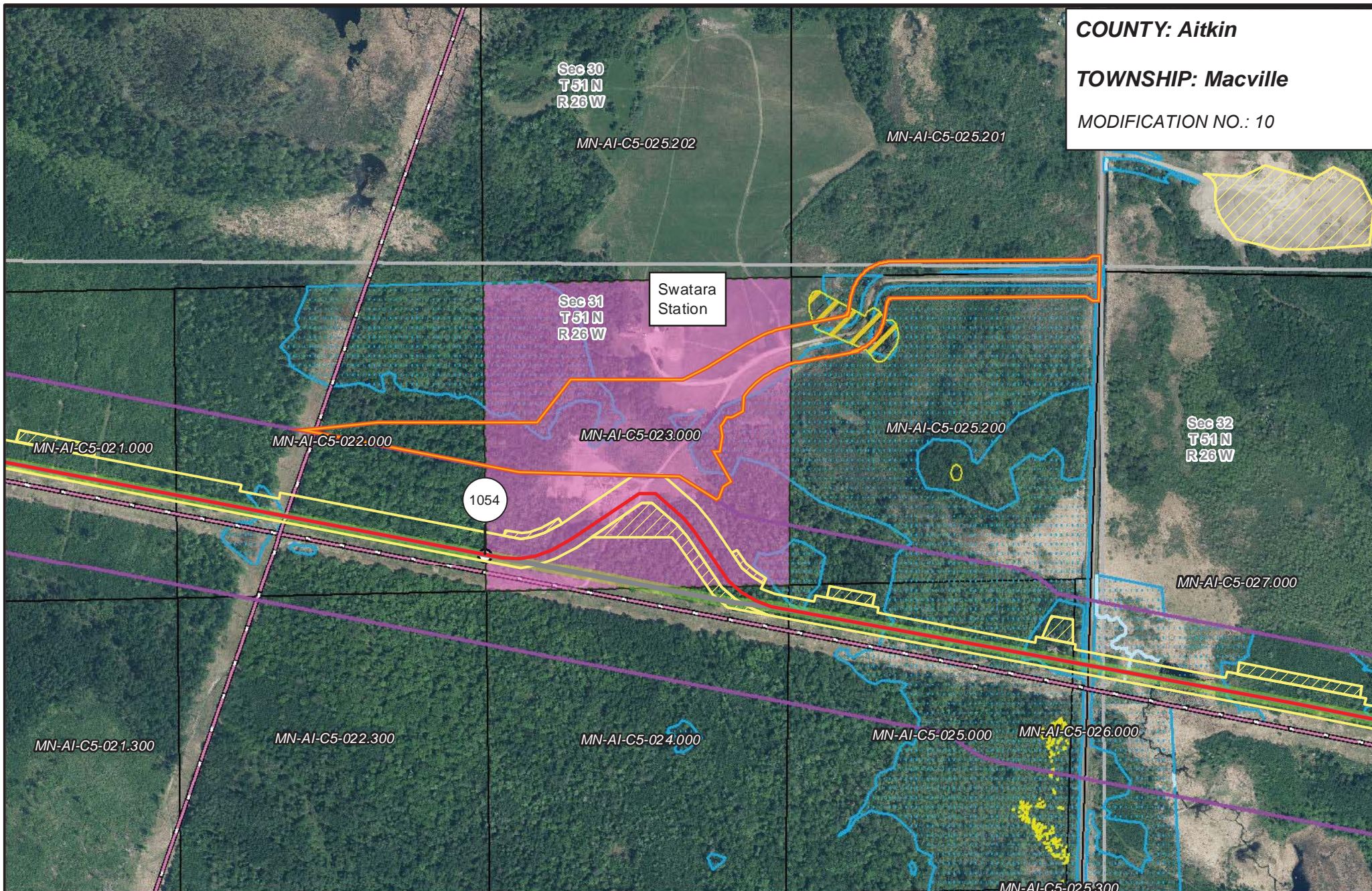
PUC Designated Route	Mile Post	Pipeline Outside PUC Corridor	Tract Boundary
ROW	Deviated Temporary Workspace	Surveyed Waterbodies	MN Section Boundary
Line 3R Pipeline	Deviated Additional Temporary Workspace	ESA	Township/City Boundary
Valve Location	Existing Enbridge Pipelines	Surveyed Wetlands	County Boundary
Enbridge Pump Station	Existing Electric Transmission	NWI Wetlands	
	Existing Third Party Pipelines	Workspace Outside PUC Corridor	

LINE 3 REPLACEMENT PIPELINE ROUTE AMENDMENT

DRAWN: CLS CHECKED: --
DATE: January 24, 2019 SCALE: 1:6,000

Map 266 of 378

COUNTY: Aitkin
TOWNSHIP: Macville
MODIFICATION NO.: 10



- | | | | |
|-----------------------|---|--------------------------------|------------------------|
| PUC Designated Route | Mile Post | Pipeline Outside PUC Corridor | Tract Boundary |
| ROW | Deviated Temporary Workspace | Surveyed Waterbodies | MN Section Boundary |
| Line 3R Pipeline | Deviated Additional Temporary Workspace | ESA | Township/City Boundary |
| Valve Location | Existing Enbridge Pipelines | Surveyed Wetlands | County Boundary |
| Enbridge Pump Station | Existing Electric Transmission | NWI Wetlands | |
| | Existing Third Party Pipelines | Workspace Outside PUC Corridor | |

**LINE 3 REPLACEMENT
PIPELINE ROUTE
AMENDMENT**

DRAWN: CLS CHECKED: ---
DATE: April 2nd, 2019 SCALE: 1:6,000

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COUNTY: Aitkin
TOWNSHIP: Northwest Aitkin
MODIFICATION NO.: 11

MN-AI-046.001

MN-AI-046.002

Sec 32
 T51 N
 R25 W

1061

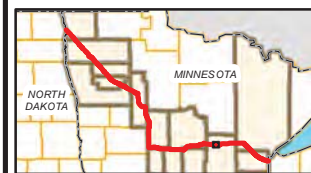
MN-AI-046.000

MN-AI-045.000

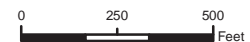
MN-AI-047.000

MN-AI-48-0-051200

MN-AI-48-0-052300



- PUC Designated Route
- ROW
- Line 3R Pipeline
- Valve Location
- Enbridge Pump Station
- Mile Post
- Deviated Temporary Workspace
- Deviated Additional Temporary Workspace
- Existing Enbridge Pipelines
- Existing Electric Transmission
- Existing Third Party Pipelines
- Pipeline Outside PUC Corridor
- Surveyed Waterbodies
- ESA
- Surveyed Wetlands
- NWI Wetlands
- Workspace Outside PUC Corridor
- Tract Boundary
- MN Section Boundary
- Township/City Boundary
- County Boundary

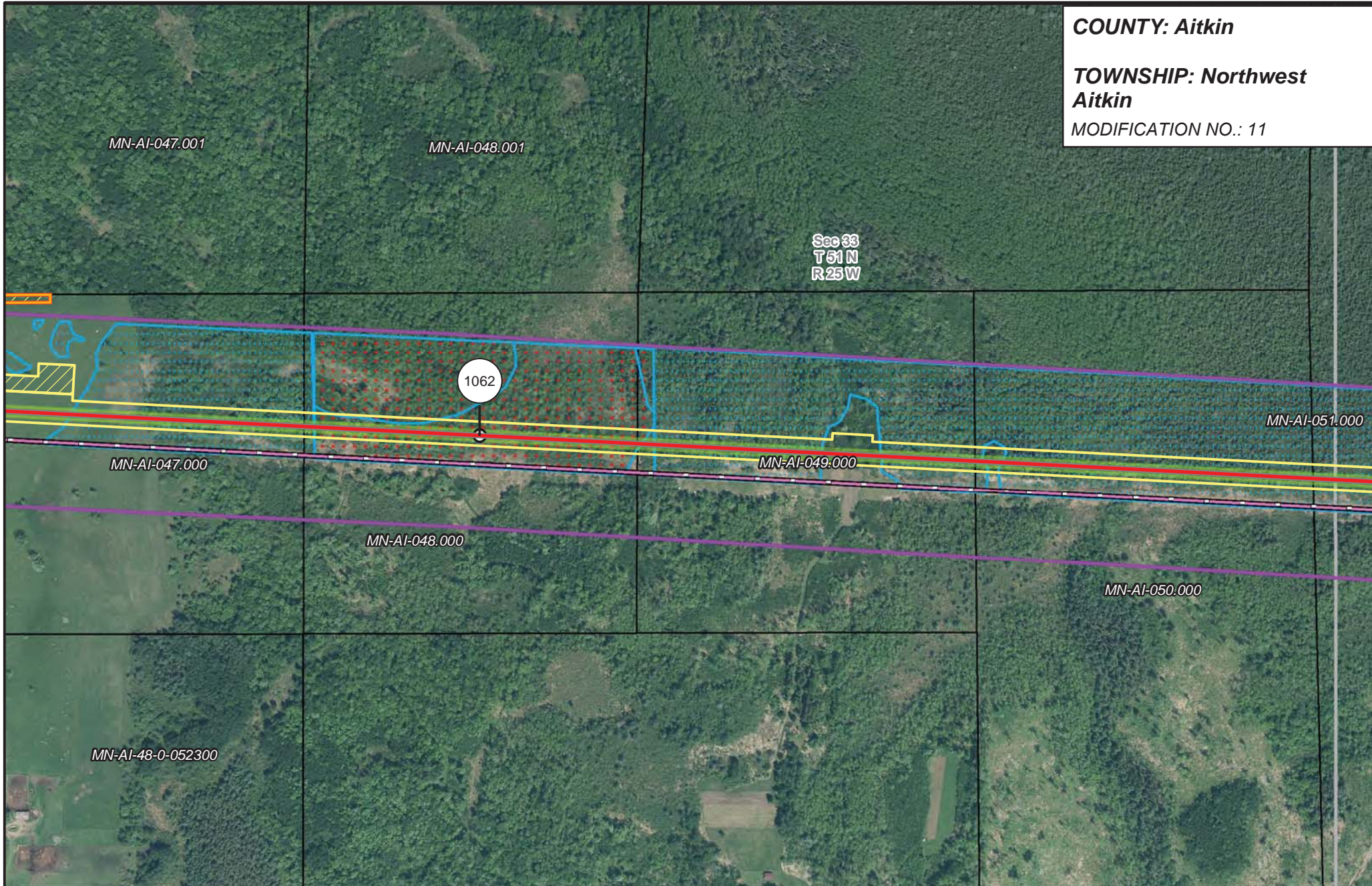


LINE 3 REPLACEMENT PIPELINE ROUTE AMENDMENT

DRAWN: CLS CHECKED: --
 DATE: January 24, 2019 SCALE: 1:6,000

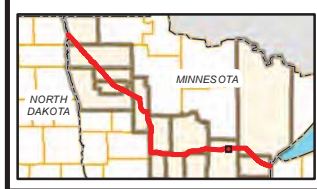
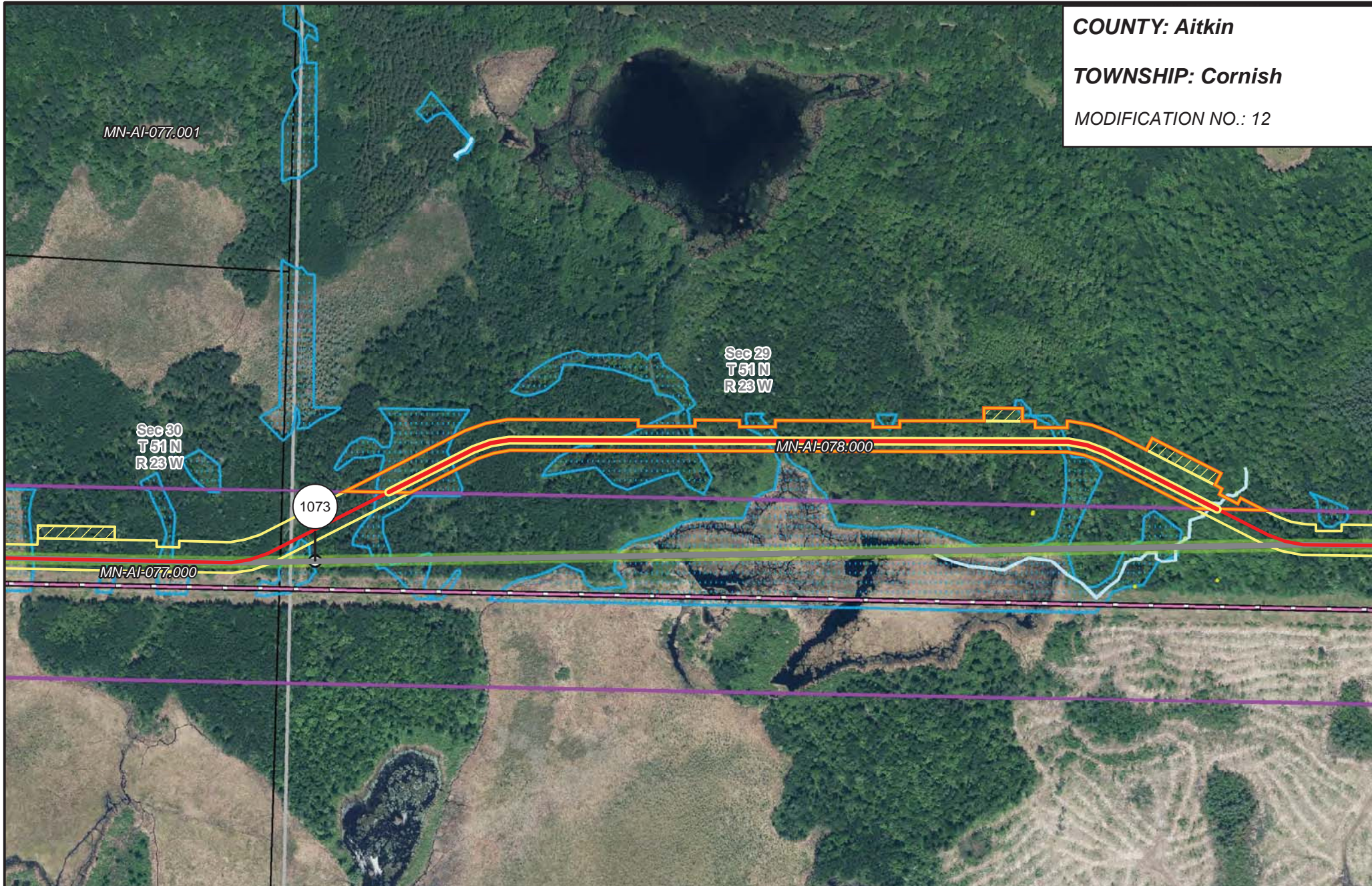
Map 309 of 378

COUNTY: Aitkin
TOWNSHIP: Northwest Aitkin
MODIFICATION NO.: 11



	<ul style="list-style-type: none"> PUC Designated Route ROW Line 3R Pipeline Valve Location Enbridge Pump Station 	<ul style="list-style-type: none"> Mile Post Deviated Temporary Workspace Deviated Additional Temporary Workspace Existing Enbridge Pipelines Existing Electric Transmission Existing Third Party Pipelines 	<ul style="list-style-type: none"> Pipeline Outside PUC Corridor Surveyed Waterbodies ESA Surveyed Wetlands NWI Wetlands Workspace Outside PUC Corridor 	<ul style="list-style-type: none"> Tract Boundary MN Section Boundary Township/City Boundary County Boundary 		<p>LINE 3 REPLACEMENT PIPELINE ROUTE AMENDMENT</p> <p>DRAWN: CLS CHECKED: -- DATE: January 24, 2019 SCALE: 1:6,000</p> <p>Map 310 of 378</p>
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COUNTY: Aitkin
TOWNSHIP: Cornish
MODIFICATION NO.: 12



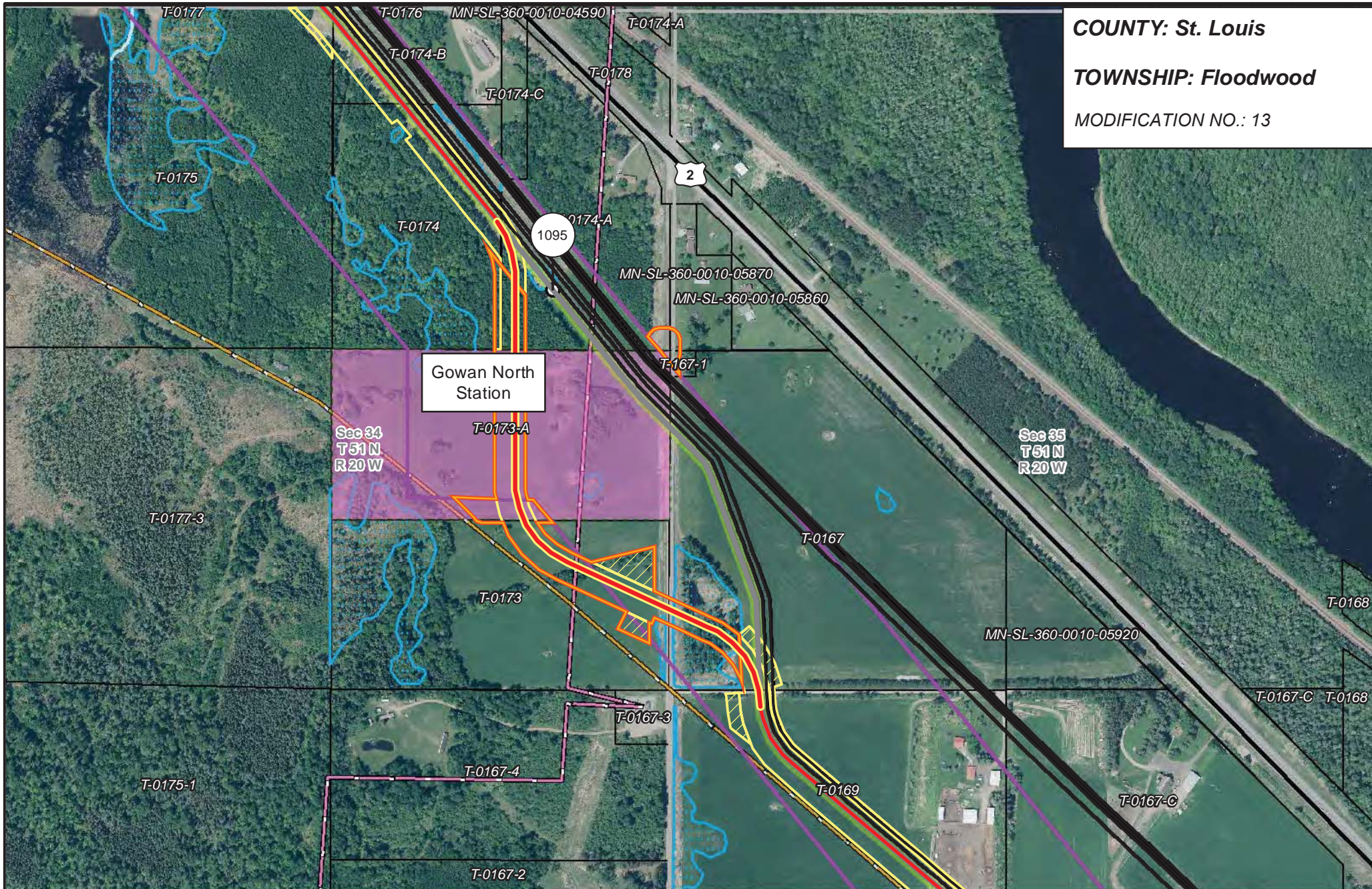
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|-----------------------|---|--------------------------------|------------------------|
| PUC Designated Route | Mile Post | Pipeline Outside PUC Corridor | Tract Boundary |
| ROW | Deviated Temporary Workspace | Surveyed Waterbodies | MN Section Boundary |
| Line 3R Pipeline | Deviated Additional Temporary Workspace | ESA | Township/City Boundary |
| Valve Location | Existing Enbridge Pipelines | Surveyed Wetlands | County Boundary |
| Enbridge Pump Station | Existing Electric Transmission | NWI Wetlands | |
| | Existing Third Party Pipelines | Workspace Outside PUC Corridor | |

LINE 3 REPLACEMENT PIPELINE ROUTE AMENDMENT

DRAWN: CLS CHECKED: --
 DATE: January 24, 2019 SCALE: 1:6,000

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COUNTY: St. Louis
TOWNSHIP: Floodwood
MODIFICATION NO.: 13



- | | | | |
|-----------------------|---|--------------------------------|------------------------|
| PUC Designated Route | Mile Post | Pipeline Outside PUC Corridor | Tract Boundary |
| ROW | Deviated Temporary Workspace | Surveyed Waterbodies | MN Section Boundary |
| Line 3R Pipeline | Deviated Additional Temporary Workspace | ESA | Township/City Boundary |
| Valve Location | Existing Enbridge Pipelines | Surveyed Wetlands | County Boundary |
| Enbridge Pump Station | Existing Electric Transmission | NWI Wetlands | |
| | Existing Third Party Pipelines | Workspace Outside PUC Corridor | |

LINE 3 REPLACEMENT PIPELINE ROUTE AMENDMENT

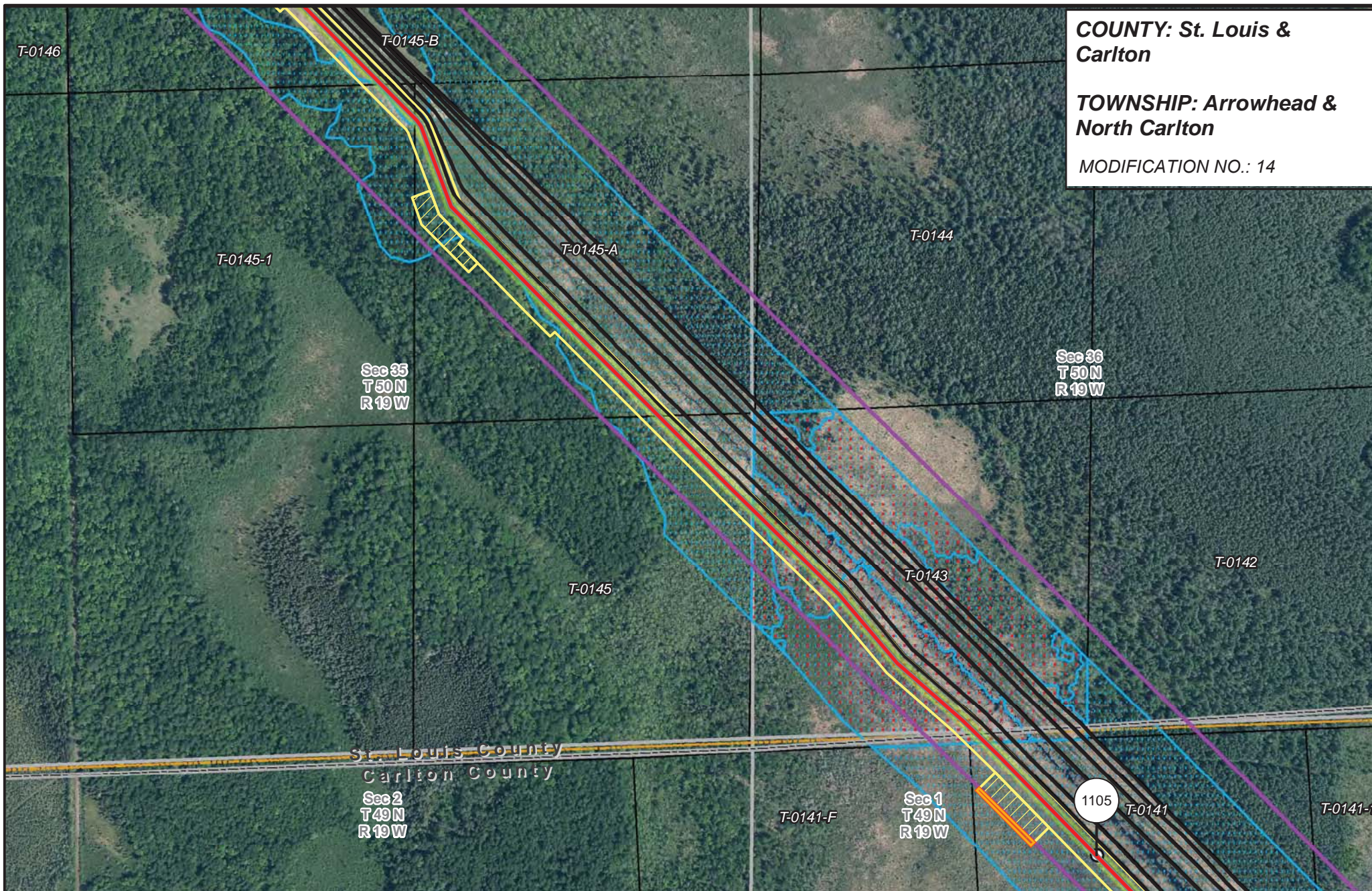
DRAWN: CLS CHECKED: --
 DATE: January 28, 2019 SCALE: 1:6,000

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COUNTY: St. Louis & Carlton

TOWNSHIP: Arrowhead & North Carlton

MODIFICATION NO.: 14



PUC Designated Route	Mile Post	Pipeline Outside PUC Corridor	Tract Boundary
ROW	Deviated Temporary Workspace	Surveyed Waterbodies	MN Section Boundary
Line 3R Pipeline	Deviated Additional Temporary Workspace	ESA	Township/City Boundary
Valve Location	Existing Enbridge Pipelines	Surveyed Wetlands	County Boundary
Enbridge Pump Station	Existing Electric Transmission	NWI Wetlands	
	Existing Third Party Pipelines	Workspace Outside PUC Corridor	

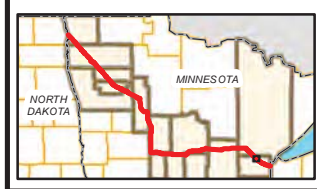
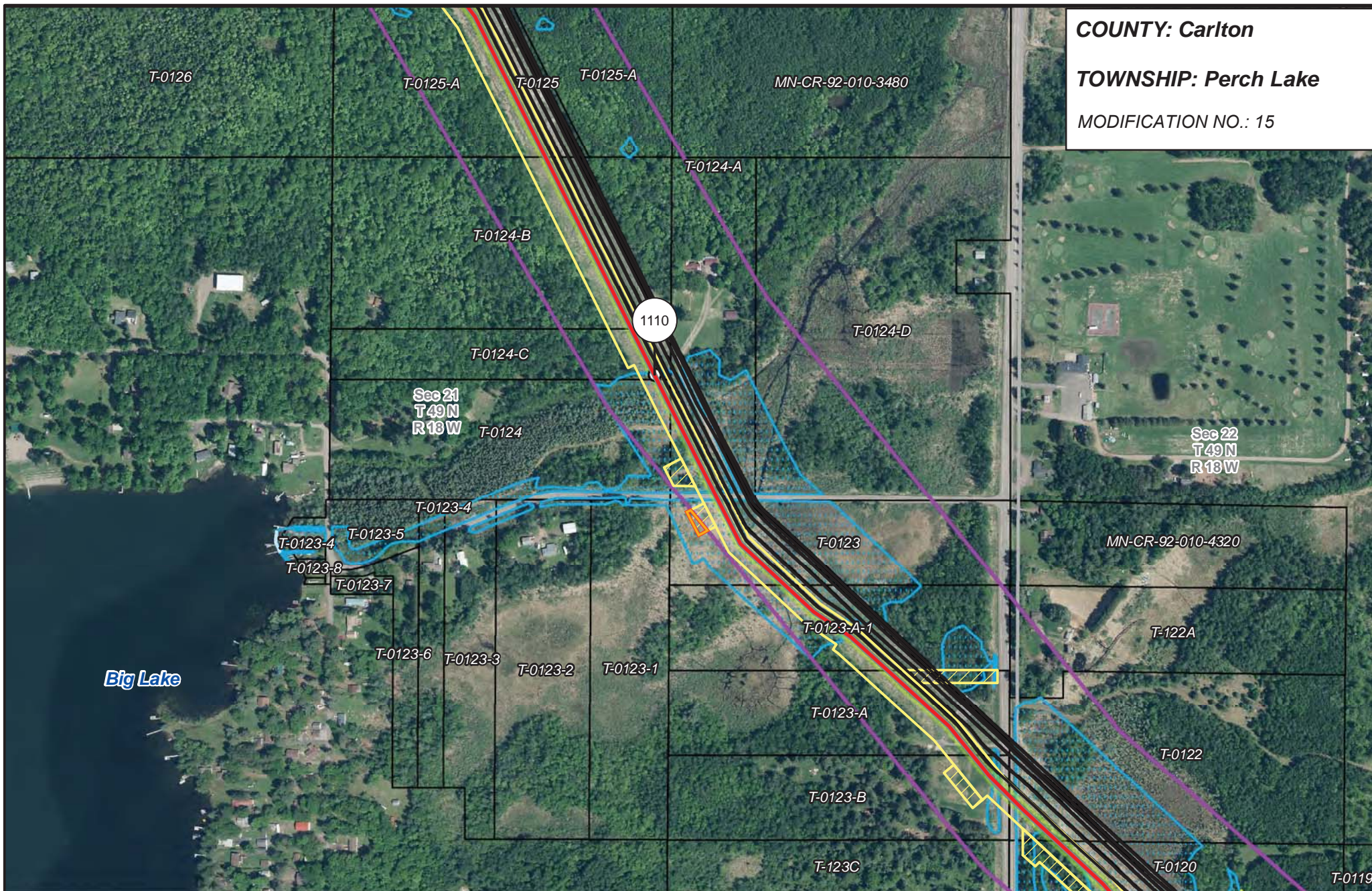
LINE 3 REPLACEMENT PIPELINE ROUTE AMENDMENT

DRAWN: CLS CHECKED: --
DATE: January 24, 2019 SCALE: 1:6,000

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A north arrow pointing upwards and a scale bar showing 0, 250, and 500 feet.

COUNTY: Carlton
TOWNSHIP: Perch Lake
MODIFICATION NO.: 15



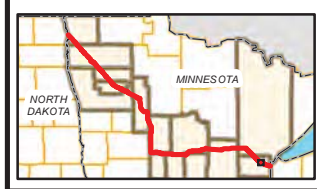
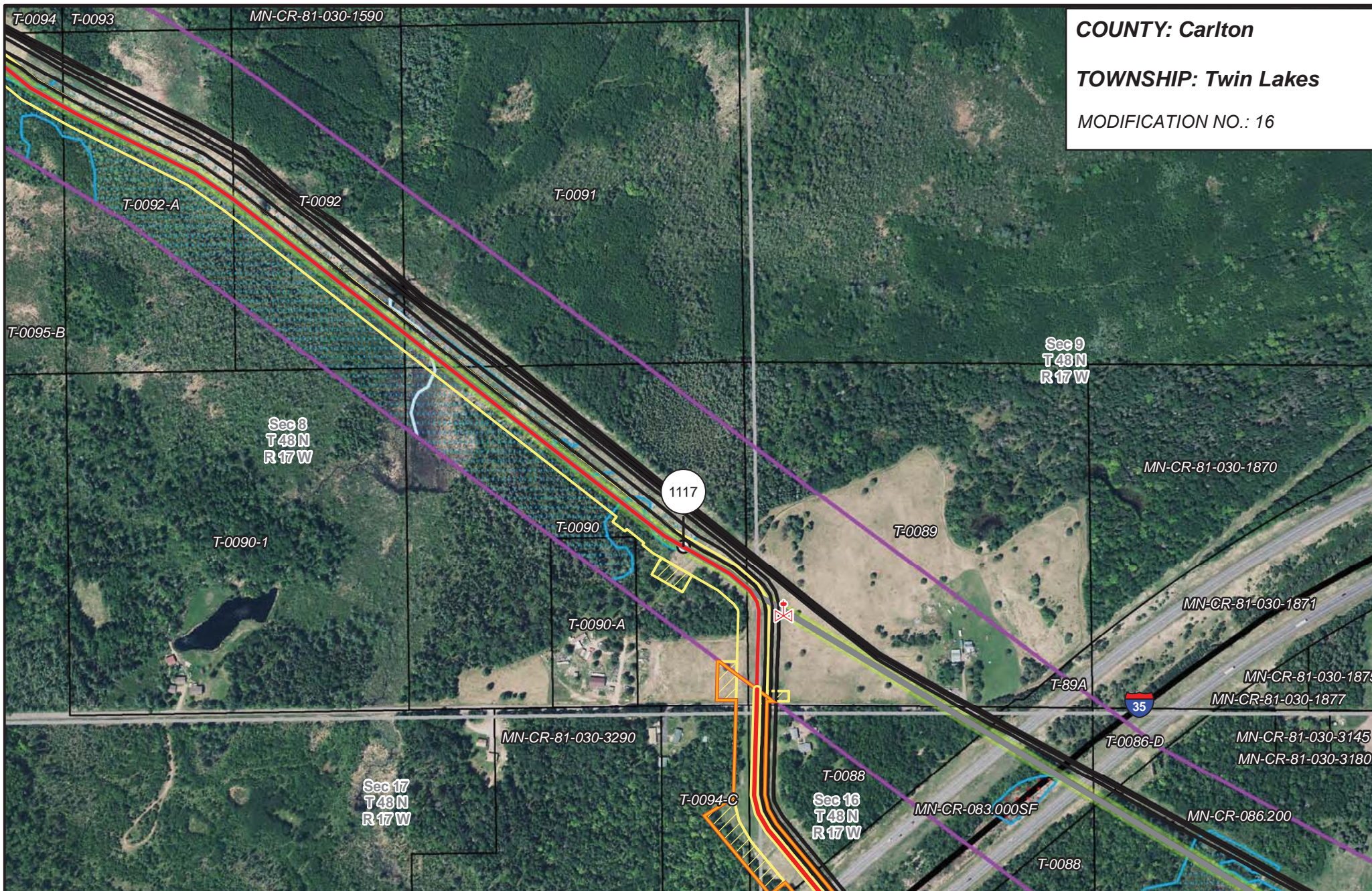
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|-----------------------|---|--------------------------------|------------------------|
| PUC Designated Route | Mile Post | Pipeline Outside PUC Corridor | Tract Boundary |
| ROW | Deviated Temporary Workspace | Surveyed Waterbodies | MN Section Boundary |
| Line 3R Pipeline | Deviated Additional Temporary Workspace | ESA | Township/City Boundary |
| Valve Location | Existing Enbridge Pipelines | Surveyed Wetlands | County Boundary |
| Enbridge Pump Station | Existing Electric Transmission | NWI Wetlands | |
| | Existing Third Party Pipelines | Workspace Outside PUC Corridor | |

**LINE 3 REPLACEMENT
PIPELINE ROUTE
AMENDMENT**

DRAWN: CLS CHECKED: --
DATE: January 24, 2019 SCALE: 1:6,000

Map 359 of 378

COUNTY: Carlton
TOWNSHIP: Twin Lakes
 MODIFICATION NO.: 16

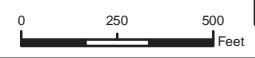


PUC Designated Route	Mile Post	Pipeline Outside PUC Corridor	Tract Boundary
ROW	Deviated Temporary Workspace	Surveyed Waterbodies	MN Section Boundary
Line 3R Pipeline	Deviated Additional Temporary Workspace	ESA	Township/City Boundary
Valve Location	Existing Enbridge Pipelines	Surveyed Wetlands	County Boundary
Enbridge Pump Station	Existing Electric Transmission	NWI Wetlands	
	Existing Third Party Pipelines	Workspace Outside PUC Corridor	

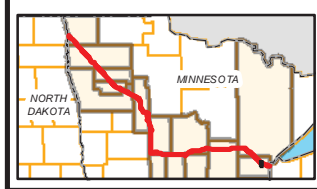
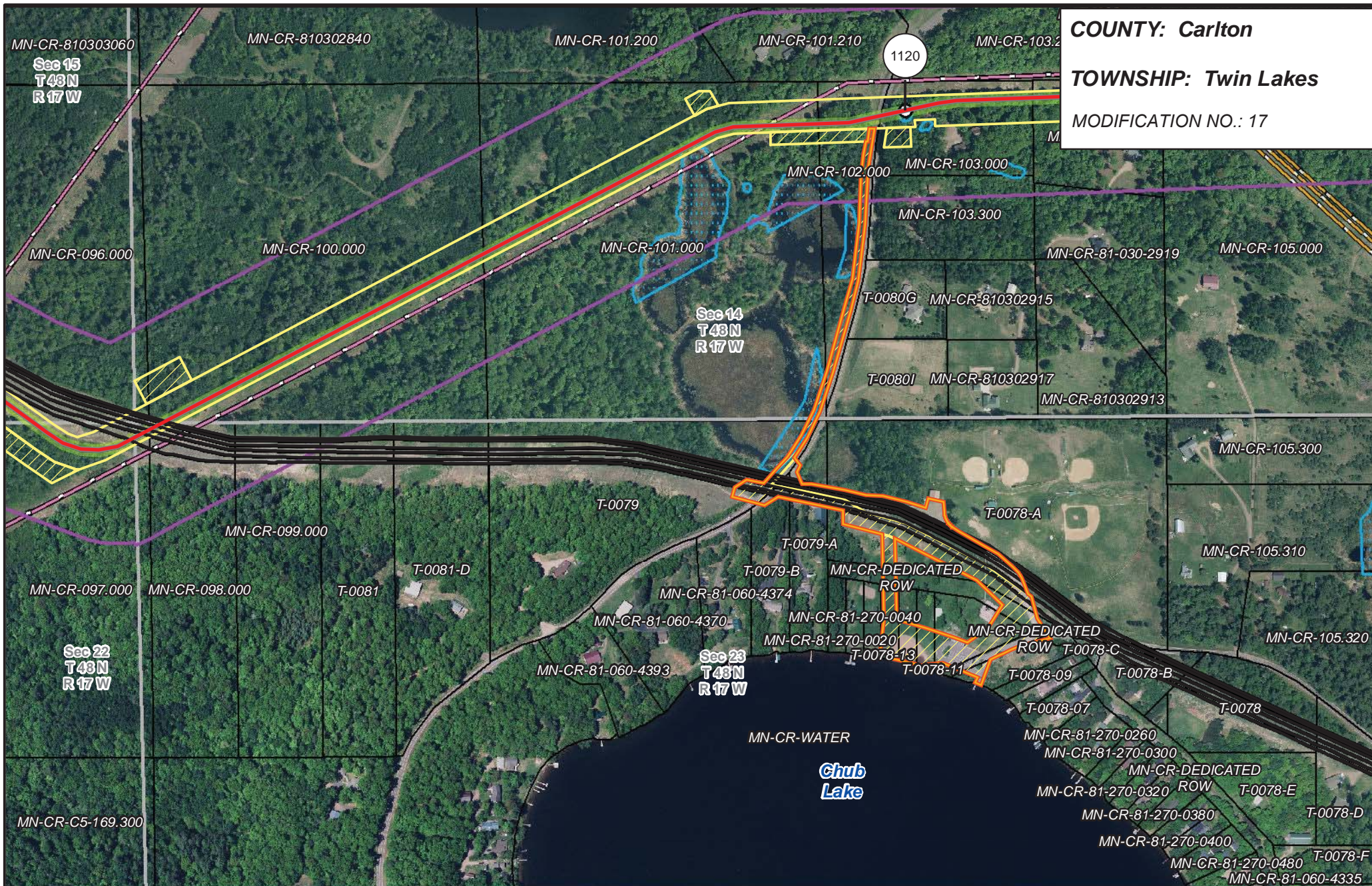
LINE 3 REPLACEMENT PIPELINE ROUTE AMENDMENT

DRAWN: CLS CHECKED: --
 DATE: January 24, 2019 SCALE: 1:6,000

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COUNTY: Carlton
TOWNSHIP: Twin Lakes
 MODIFICATION NO.: 17



- | | | | |
|-----------------------|---|--------------------------------|------------------------|
| PUC Designated Route | Mile Post | Pipeline Outside PUC Corridor | Tract Boundary |
| ROW | Deviated Temporary Workspace | Surveyed Waterbodies | MN Section Boundary |
| Line 3R Pipeline | Deviated Additional Temporary Workspace | ESA | Township/City Boundary |
| Valve Location | Existing Enbridge Pipelines | Surveyed Wetlands | County Boundary |
| Enbridge Pump Station | Existing Electric Transmission | NWI Wetlands | |
| | Existing Third Party Pipelines | Workspace Outside PUC Corridor | |

LINE 3 REPLACEMENT PIPELINE ROUTE AMENDMENT

DRAWN: CLS CHECKED: --
 DATE: May 2, 2019 SCALE: 1:6,000

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