

ATTACHMENT A

Natural Resource and Water Supply Summary Tables and Figures

Line 3 Replacement Project Route Segment Alternative (RSA)-23

DRAFT

Table 1 Line 3 Replacement Project – RSA-23-L3 Summary of Public Waters Inventory Streams Crossed by the Proposed Route Segment Alternative Centerline and within the 2,000-ft-wide Route Segment Alternative Corridor in Minnesota		
Watershed County	Number Crossed by the Proposed Route Segment Alternative Centerline^a	Miles Within the 2,000-ft-wide Route Segment Alternative Corridor^b
Prairie-Willow	4	2.7
Aitkin	4	2.7
Grand Total^c	4	2.7
<i>Public Waters Inventory (PWI) Stream Data Source: https://gisdata.mn.gov/dataset/water-mn-public-waters</i> a Number of Public Waters Inventory streams crossed by the proposed Route Segment Alternative centerline. b Total miles of Public Waters Inventory stream segment(s) crossed by the 2000-ft-wide Route Segment Alternative corridor. c Numbers may not total consistently due to rounding.		

Table 2
Line 3 Replacement Project - RSA-23-L3
Summary of Waterbodies Crossed by the Proposed Route Segment Alternative Centerline
and within the 2,000-ft-wide Route Segment Alternative Corridor in Minnesota

Watershed County	Number Crossed by the Proposed Route Segment Alternative Centerline ^a				Miles Within the 2,000-ft-wide Route Segment Alternative Corridor ^b			
	Perennial	Intermittent	Canal/Ditch/ Artificial Path/ Connector	Total ^c	Perennial	Intermittent	Canal/Ditch/ Artificial Path/ Connector	Total ^c
Prairie-Willow	-	-	1	1	3.6	3.7	6.1	13.4
Aitkin	-	-	1	1	3.6	3.7	6.1	13.4
Elk-Nokasippi	6	3	7	16	-	0.2	1.0	1.2
Aitkin	6	3	7	16	-	0.2	1.0	1.2
Grand Total ^c	6	3	8	17	3.6	3.8	7.2	14.5

USGS National Hydrography Dataset (NHD) Data Source: <ftp://nhdftp.usgs.gov/DataSets/Staged/States/FileGDB/HighResolution/>

a Number of NHD waterbodies crossed by the proposed Route Segment Alternative centerline.

b Miles of NHD stream segment(s) crossed by the 2000-ft-wide Route Segment Alternative corridor.

c Numbers may not total consistently due to rounding.

Table 3
Line 3 Replacement Project – RSA-23-L3
Summary of USFWS National Wetlands Inventory Crossed by the Proposed Route Segment Alternative Centerline
and within the 2,000-ft-wide Route Segment Alternative Corridor in Minnesota

Watershed County	Miles Crossed by the Proposed Route Segment Alternative Centerline ^a				Acres Within the 2,000-ft-wide Route Segment Alternative Corridor ^b			
	PEM ^c	PFO/PSS ^c	Pond/Lake/ Riverine	Total ^d	PEM ^c	PFO/PSS ^c	Pond/Lake/ Riverine	Total ^d
Prairie-Willow	4.8	13.5	<0.1	18.3	1075.0	3130.2	78.3	4283.5
Aitkin	4.8	13.5	<0.1	18.3	1075.0	3130.2	78.3	4283.5
Elk-Nokasippi	0.8	0.6	-	1.4	151.4	254.1	-	405.4
Aitkin	0.8	0.6	-	1.4	151.4	254.1	-	405.4
Grand Total ^d	5.6	14.2	<0.1	19.8	1226.4	3384.3	78.3	4689.0

USFWS National Wetlands Inventory (NWI) Data Source: <http://www.fws.gov/wetlands/data/Data-Download.html>

a Total miles of NWI crossed by the proposed Route Segment Alternative centerline.

b Total acres of NWI within the 2000-ft-wide Route Segment Alternative corridor.

c PEM = Palustrine Emergent; PSS = Palustrine Scrub Shrub; PFO = Palustrine Forested (Cowardin et al. 1979).

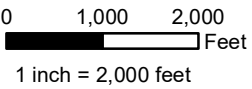
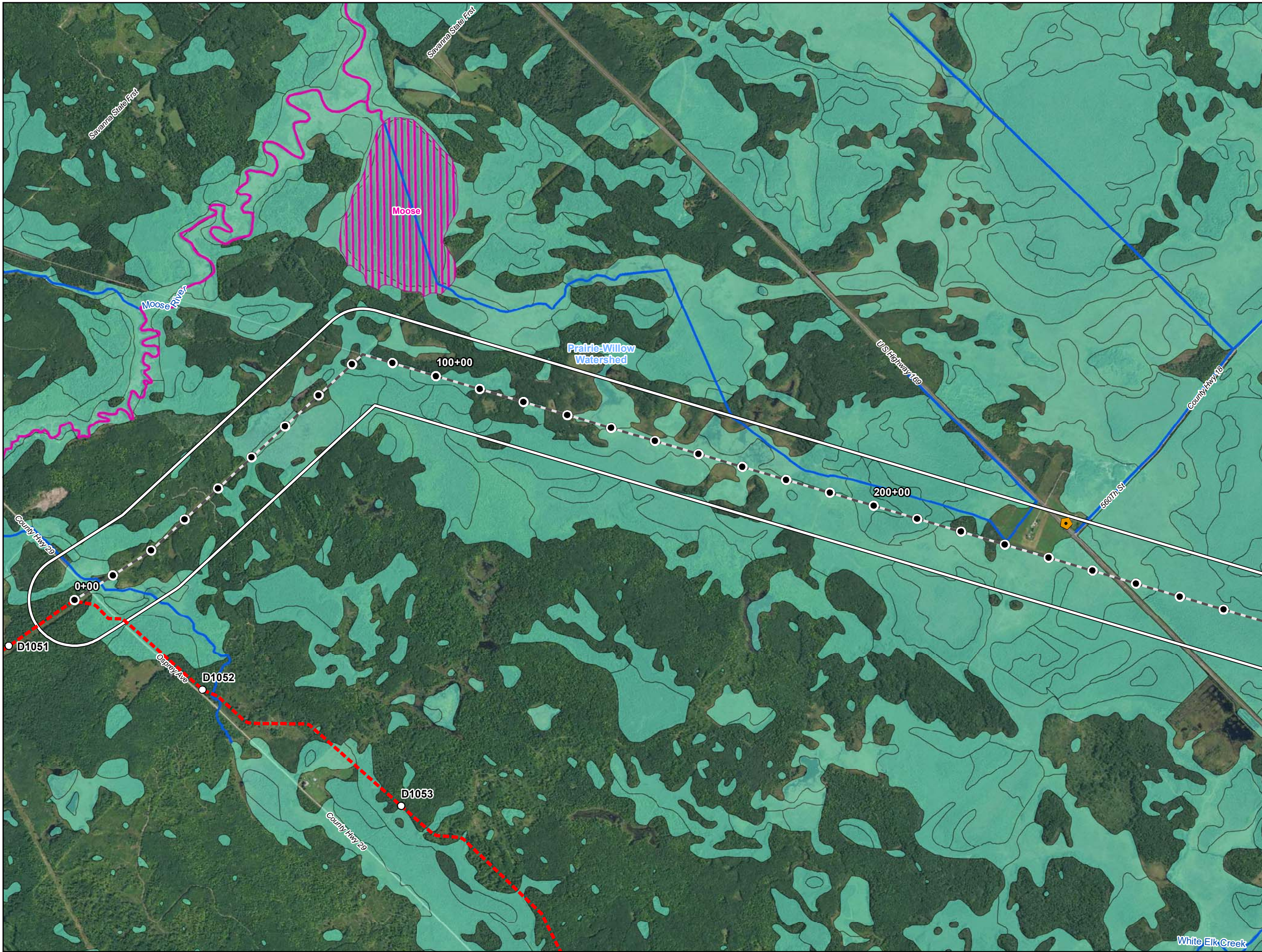
d Numbers may not total consistently due to rounding.

Table 4 Line 3 Replacement Project – RSA-23-L3 Summary of Public Waters Inventory Wetlands and Basins Crossed by the Proposed Route Segment Alternative Centerline and within the 2,000-ft-wide Route Segment Alternative Corridor in Minnesota				
Watershed County	Miles Crossed by the Proposed Route Segment Alternative Centerline ^a		Acres Within the Route Segment Alternative Corridor ^b	
	Wetlands	Basins	Wetlands	Basins
Prairie-Willow	-	0.4	-	131.6
Aitkin	-	0.4	-	131.6
Grand Total ^c	-	0.4	-	131.6
<i>PWI Wetland and Basin Data Source: https://gisdata.mn.gov/dataset/water-mn-public-waters</i> a Total miles of PWI wetlands and basins crossed by the proposed Route Segment Alternative centerline. b Total acres of PWI wetlands and basins crossed by the 2000-ft-wide Route Segment Alternative corridor. c Numbers may not total consistently due to rounding.				

Table 5				
Line 3 Replacement Project – RSA-23-L3				
Wells within the 2,000-ft-wide Route Segment Alternative Corridor in Minnesota ^a				
Watershed Name	County	Well Type	Distance from Centerline (feet)	Total Number of Wells
Prairie-Willow	Aitkin	Abandoned	750	8
			747	
			859	
			337	
			394	
			224	
			315	
			90	
		Domestic	840	18
			192	
			284	
			125	
			964	
			923	
			323	
			769	
			617	
			699	
			399	
			730	
			611	
			85	
			877	
			734	
			957	
			619	
		Unknown	414	1
County Well Index (CWI) Data Source: ftp://mgssun6.mnngs.umn.edu/pub2/cwi4/cwilocs_nps.zip				
^a Municipal wells are not included in the source data.				

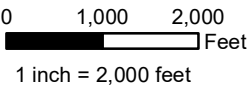
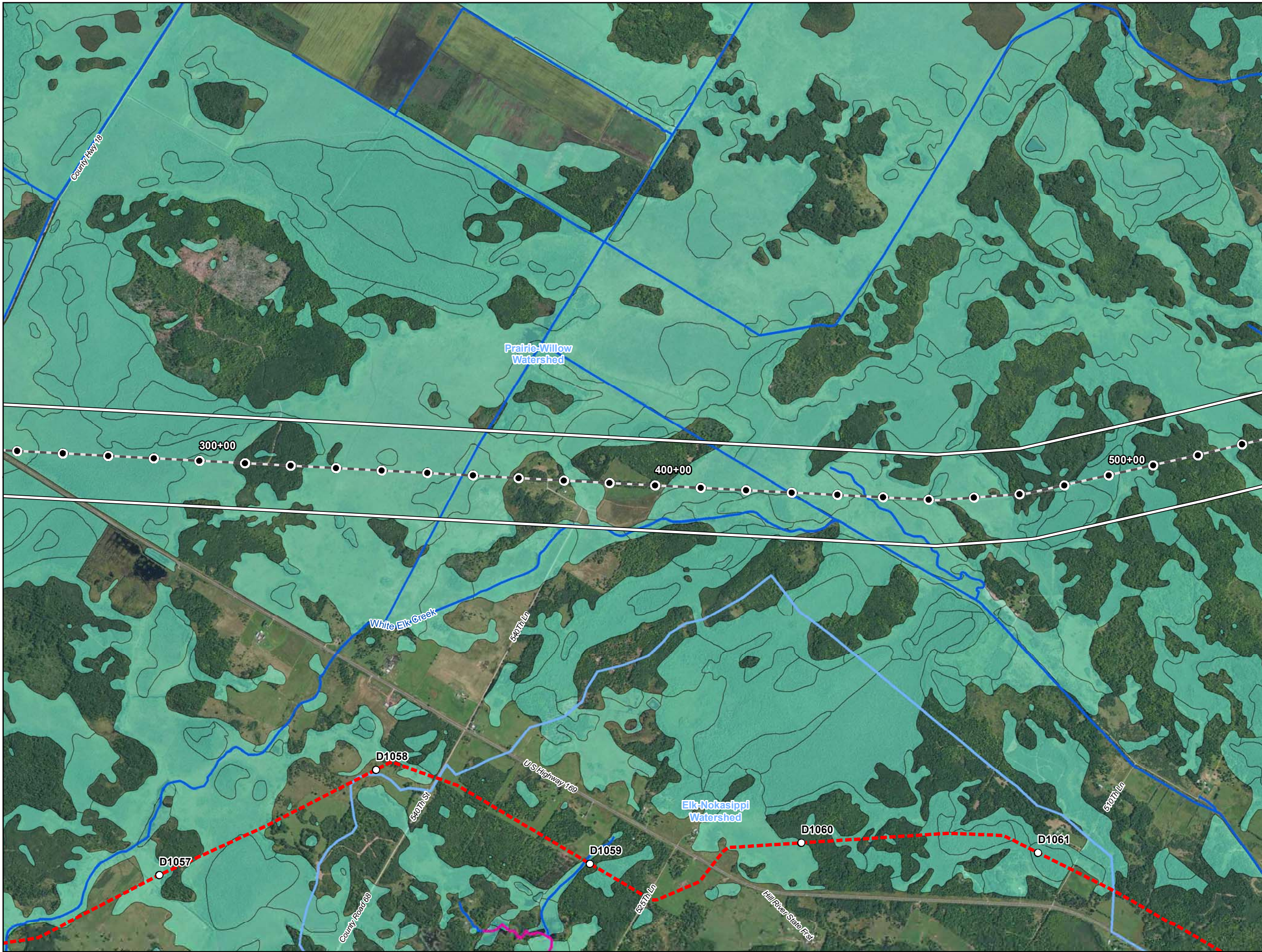
Table 6 Line 3 Replacement Project – RSA-23-L3 Drinking Water Supply Management Areas (DWSMA) and Wellhead Protection Areas (WHPA) Crossed by the Proposed Route Segment Alternative Centerline and within the 2,000-ft-wide Route Segment Alternative Corridor in Minnesota					
Watershed	County	Approximate Stationing ^a	Name	Miles Crossed by the Proposed Route Segment Alternative Centerline ^b	Acres Within the Route Segment Alternative Corridor ^c
Prairie Willow	Aitkin	1366+00	McGregor WHPA	-	2.87
			McGregor DWSMA	-	22.61
DWSMA Data Source: https://gisdata.mn.gov/dataset/water-drinking-water-supply WHPA Data Source: https://gisdata.mn.gov/dataset/water-wellhead-protection-areas a Stationing for features not crossed by the centerline are interpolated based on the closest proposed Route Segment Alternative centerline stationing. b Total miles of DWSMA and WHPA crossed by the proposed Route Segment Alternative centerline. c Total acres of DWSMA and WHPA crossed by the 2000-ft-wide Route Segment Alternative corridor.					

Table 7				
Line 3 Replacement Project – RSA-23-L3				
Surface Water Intakes within the 2,000-ft-wide Route Segment Alternative Corridor in Minnesota ^a				
Watershed Name	County	Permit Type	Permit Status	Total
Prairie-Willow	Aitkin	General Permit Authorization	Inactive	1
		Individual Permit	Active	2
			Inactive	1
MPARS Minnesota DNR, Ecological and Water Resources, Sean Hunt, 651-259-5679				
a Municipal wells are not included in the source data.				



- Water Well
- Surface Water Intake
- Calcareous Fen
- Line 3 Milepost
- Alternative Stationing
- Proposed Line 3 Replacement Pipeline
- Alternative Centerline
- 2,000 ft Alternative Corridor
- Trout Stream
- PWI Stream
- NHD Stream
- PWI Basin
- NWI
- Watershed Boundary
- WHPA
- DWSMA
- County Boundary

Figure 1
Line 3 Replacement Project
RSA-23-L3
Enbridge
Aitkin County, Minnesota



- Water Well
- Surface Water Intake
- Calcareous Fen
- Line 3 Milepost
- Alternative Stationing
- Proposed Line 3 Replacement Pipeline
- Alternative Centerline
- 2,000 ft Alternative Corridor
- Trout Stream
- PWI Stream
- NHD Stream
- PWI Basin
- NWI
- Watershed Boundary
- WHPA
- DWSMA
- County Boundary

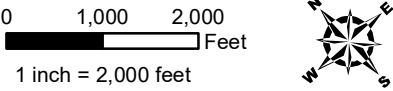
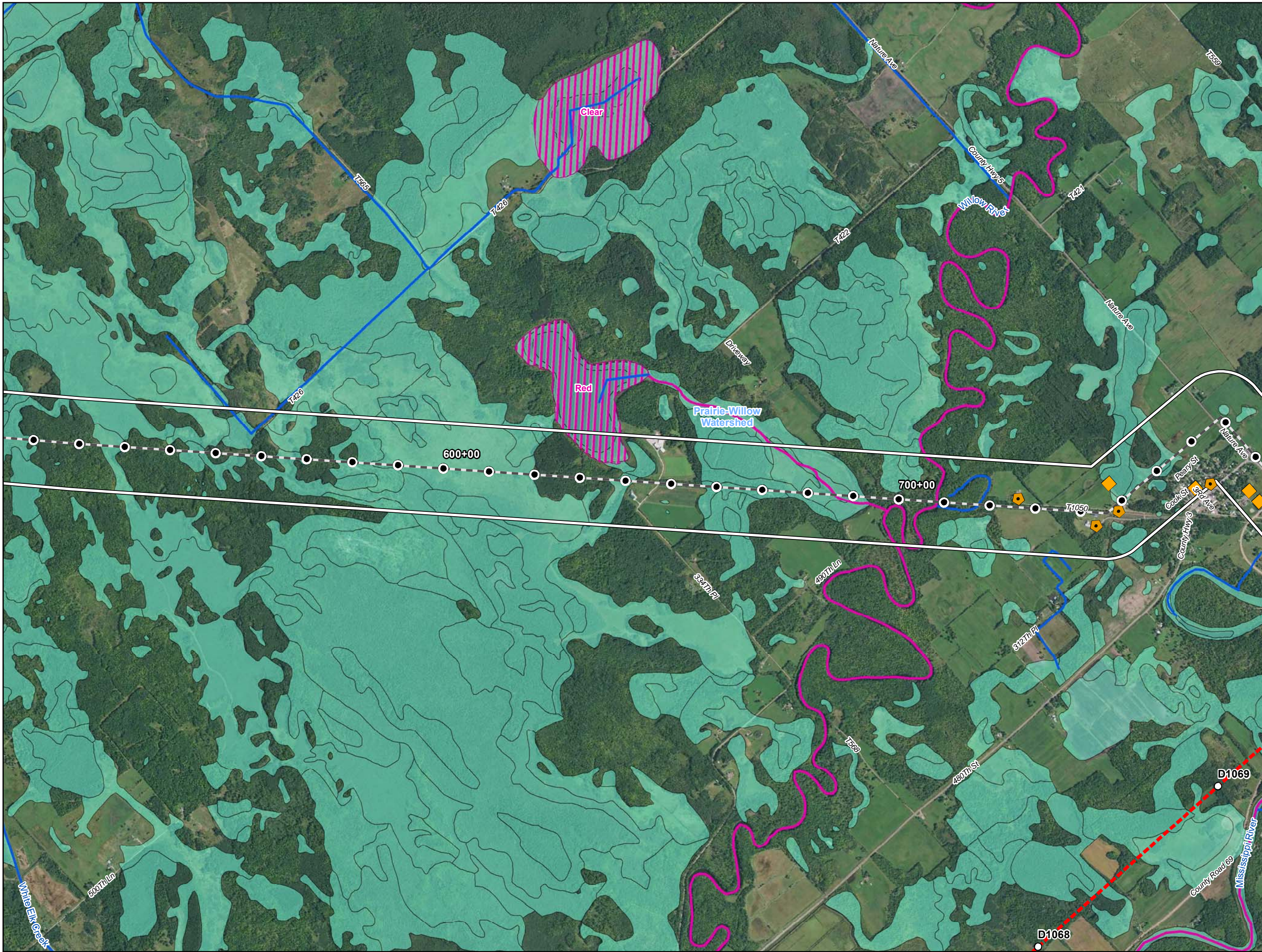
Figure 2

Line 3 Replacement Project

RSA-23-L3

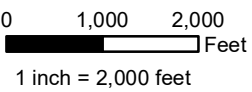
Enbridge

Aitkin County, Minnesota



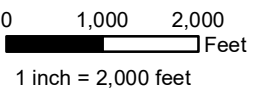
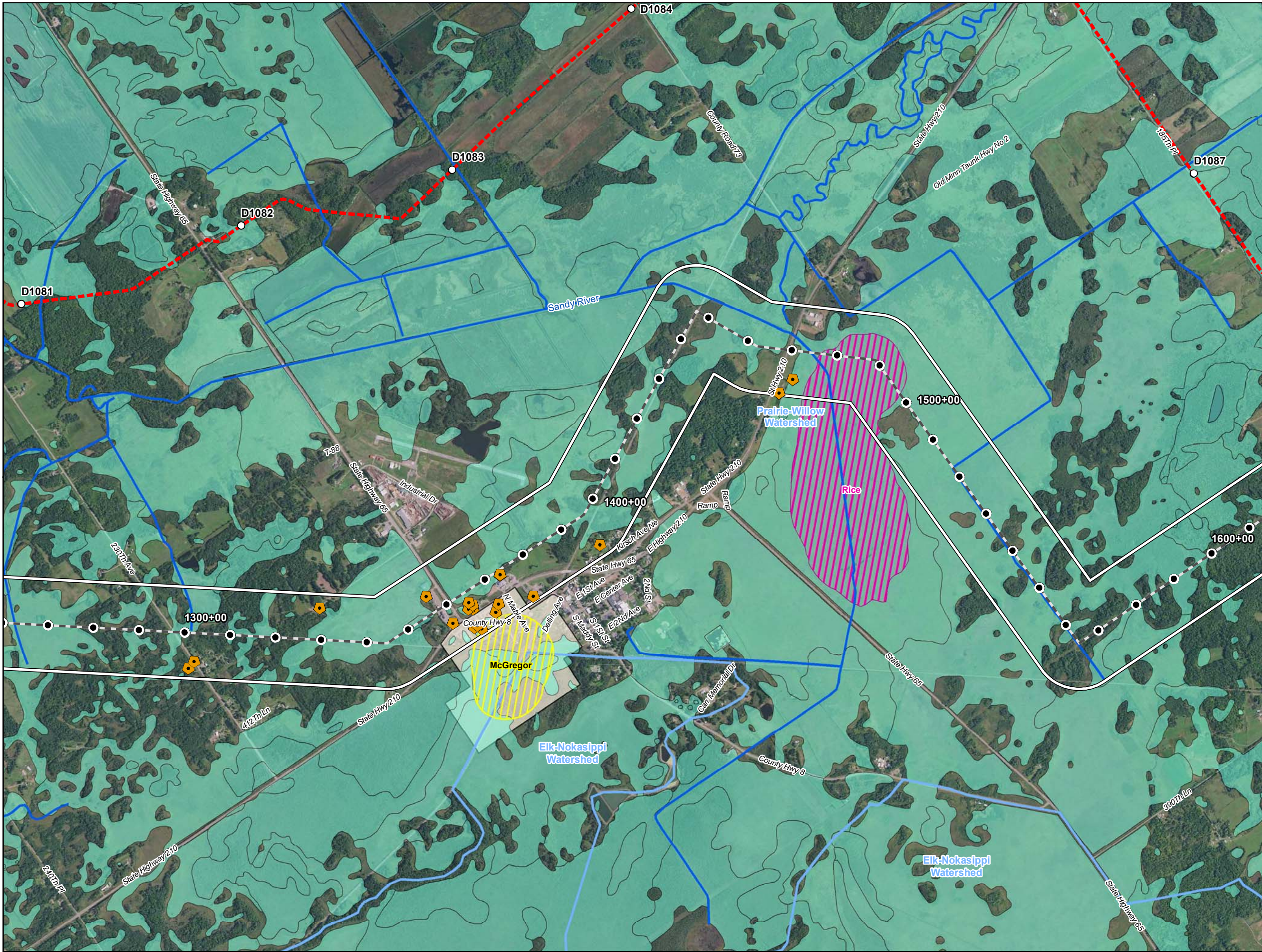
- Water Well
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- Calcareous Fen
- Line 3 Milepost
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- Proposed Line 3 Replacement Pipeline
- Alternative Centerline
- 2,000 ft Alternative Corridor
- Trout Stream
- PWI Stream
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- PWI Basin
- NWI
- Watershed Boundary
- WHPA
- DWSMA
- County Boundary

Figure 3
Line 3 Replacement Project
RSA-23-L3
Enbridge
Aitkin County, Minnesota



- Water Well
- Surface Water Intake
- Calcareous Fen
- Line 3 Milepost
- Alternative Stationing
- Proposed Line 3 Replacement Pipeline
- Alternative Centerline
- 2,000 ft Alternative Corridor
- Trout Stream
- PWI Stream
- NHD Stream
- PWI Basin
- NWI
- Watershed Boundary
- WHPA
- DWSMA
- County Boundary

Figure 4
Line 3 Replacement Project
RSA-23-L3
Enbridge
Aitkin County, Minnesota




















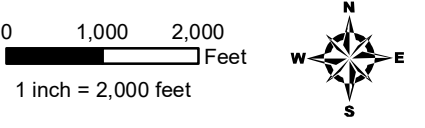
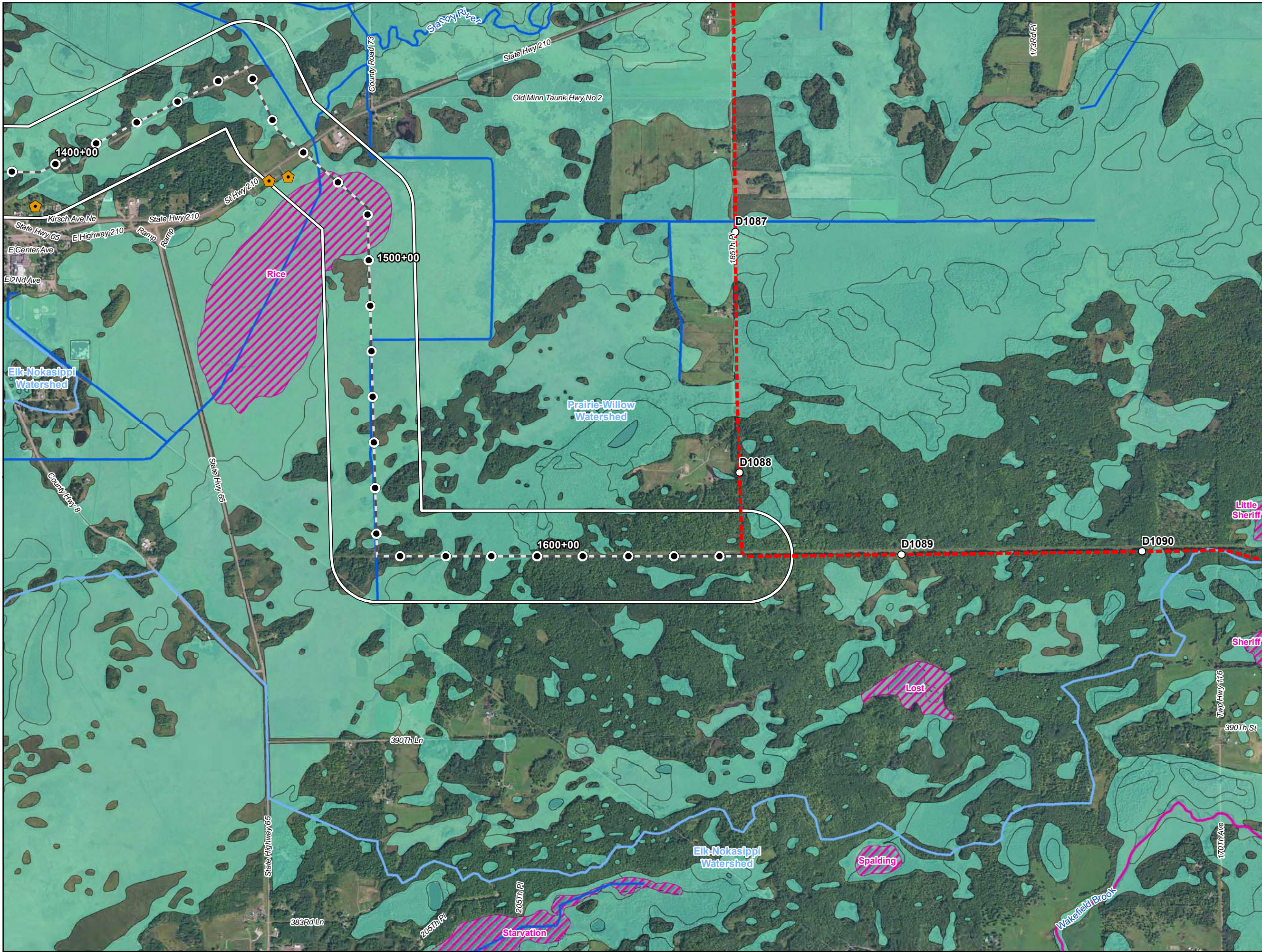
-  Water Well
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-  Alternative Centerline
-  2,000 ft Alternative Corridor
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-  PWI Stream
-  NHD Stream
-  PWI Basin
-  NWI
-  Watershed Boundary
-  WHPA
-  DWSMA
-  County Boundary

Figure 6
Line 3 Replacement Project
RSA-23-L3
Enbridge
Aitkin County, Minnesota



- Water Well
- Surface Water Intake
- Calcareous Fen
- Line 3 Milepost
- Alternative Stationing
- Proposed Line 3 Replacement Pipeline
- Alternative Centerline
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- DWSMA
- County Boundary

Figure 7

Line 3 Replacement Project

RSA-23-L3

Enbridge

Aitkin County, Minnesota

ATTACHMENT A

Natural Resource and Water Supply Summary Tables and Figures

Line 3 Replacement Project Route Segment Alternative (RSA)-27

DRAFT

Table 1 Line 3 Replacement Project – RSA-27-L3 Summary of Public Waters Inventory Streams Crossed by the Proposed Route Segment Alternative Centerline and within the 2,000-ft-wide Route Segment Alternative Corridor in Minnesota		
Watershed County	Number Crossed by the Proposed Route Segment Alternative Centerline^a	Miles Within the 2,000-ft-wide Route Segment Alternative Corridor^b
Prairie-Willow	1	0.7
Aitkin	1	0.7
Grand Total^c	1	0.7
<i>Public Waters Inventory (PWI) Stream Data Source: https://gisdata.mn.gov/dataset/water-mn-public-waters</i> a Number of Public Waters Inventory streams crossed by the proposed Route Segment Alternative centerline. b Total miles of Public Waters Inventory stream segment(s) crossed by the 2000-ft-wide Route Segment Alternative corridor. c Numbers may not total consistently due to rounding.		

Table 2
Line 3 Replacement Project - RSA-27-L3
Summary of Waterbodies Crossed by the Proposed Route Segment Alternative Centerline
and within the 2,000-ft-wide Route Segment Alternative Corridor in Minnesota

Watershed County	Number Crossed by the Proposed Route Segment Alternative Centerline ^a				Miles Within the 2,000-ft-wide Route Segment Alternative Corridor ^b			
	Perennial	Intermittent	Canal/Ditch/ Artificial Path/ Connector	Total ^c	Perennial	Intermittent	Canal/Ditch/ Artificial Path/ Connector	Total ^c
Elk-Nokasippi	-	-	1	1	-	0.2	1.0	1.2
Aitkin	-	-	1	1	-	0.2	1.0	1.2
Prairie-Willow	1	2	5	8	0.5	1.0	4.2	5.7
Aitkin	1	2	5	8	0.5	1.0	4.2	5.7
Grand Total ^c	1	2	6	9	0.5	1.2	5.2	6.8

USGS National Hydrography Dataset (NHD) Data Source: <ftp://nhdftp.usgs.gov/DataSets/Staged/States/FileGDB/HighResolution/>

a Number of NHD waterbodies crossed by the proposed Route Segment Alternative centerline.

b Miles of NHD stream segment(s) crossed by the 2000-ft-wide Route Segment Alternative corridor.

c Numbers may not total consistently due to rounding.

Table 3
Line 3 Replacement Project – RSA-27-L3
Summary of USFWS National Wetlands Inventory Crossed by the Proposed Route Segment Alternative Centerline
and within the 2,000-ft-wide Route Segment Alternative Corridor in Minnesota

Watershed County	Miles Crossed by the Proposed Route Segment Alternative Centerline ^a				Acres Within the 2,000-ft-wide Route Segment Alternative Corridor ^b			
	PEM ^c	PFO/PSS ^c	Pond/Lake/ Riverine	Total ^d	PEM ^c	PFO/PSS ^c	Pond/Lake/ Riverine	Total ^d
Elk-Nokasippi	0.8	0.6	-	1.4	460.3	1417.6	50.3	1928.2
Aitkin	0.8	0.6	-	1.4	460.3	1417.6	50.3	1928.2
Prairie-Willow	1.6	6.5	-	8.1	145.5	230.3	-	375.8
Aitkin	1.6	6.5	-	8.1	145.5	230.3	-	375.8
Grand Total ^d	2.4	7.1	-	9.6	605.8	1647.9	50.3	2304.1

USFWS National Wetlands Inventory (NWI) Data Source: <http://www.fws.gov/wetlands/data/Data-Download.html>

a Total miles of NWI crossed by the proposed Route Segment Alternative centerline.

b Total acres of NWI within the 2000-ft-wide Route Segment Alternative corridor.

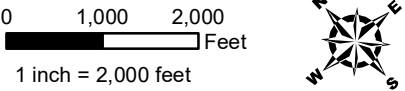
c PEM = Palustrine Emergent; PSS = Palustrine Scrub Shrub; PFO = Palustrine Forested (Cowardin et al. 1979).

d Numbers may not total consistently due to rounding.

Table 4 Line 3 Replacement Project – RSA-27-L3 Summary of Public Waters Inventory Wetlands and Basins Crossed by the Proposed Route Segment Alternative Centerline and within the 2,000-ft-wide Route Segment Alternative Corridor in Minnesota				
Watershed County	Miles Crossed by the Proposed Route Segment Alternative Centerline ^a		Acres Within the Route Segment Alternative Corridor ^b	
	Wetlands	Basins	Wetlands	Basins
Prairie-Willow	-	0.3	-	111.0
Aitkin	-	0.3	-	111.0
Grand Total ^c	-	0.3	-	111.0
<i>PWI Wetland and Basin Data Source: https://gisdata.mn.gov/dataset/water-mn-public-waters</i> a Total miles of PWI wetlands and basins crossed by the proposed Route Segment Alternative centerline. b Total acres of PWI wetlands and basins crossed by the 2000-ft-wide Route Segment Alternative corridor. c Numbers may not total consistently due to rounding.				

Table 5				
Line 3 Replacement Project – RSA-27-L3				
Wells within the 2,000-ft-wide Route Segment Alternative Corridor in Minnesota ^a				
Watershed Name	County	Well Type	Distance from Centerline (feet)	Total Number of Wells
Prairie-Willow	Aitkin	Abandoned	750	8
			747	
			859	
			337	
			394	
			224	
			315	
			90	
		Domestic	923	13
			323	
			769	
			617	
			699	
			399	
			730	
			611	
			85	
			877	
			734	
			957	
619				
Unknown	414	1		
County Well Index (CWI) Data Source: ftp://mgssun6.mnngs.umn.edu/pub2/cwi4/cwilocs_nps.zip				
a Municipal wells are not included in the source data.				

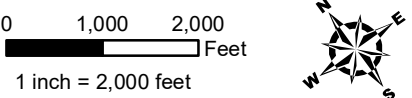
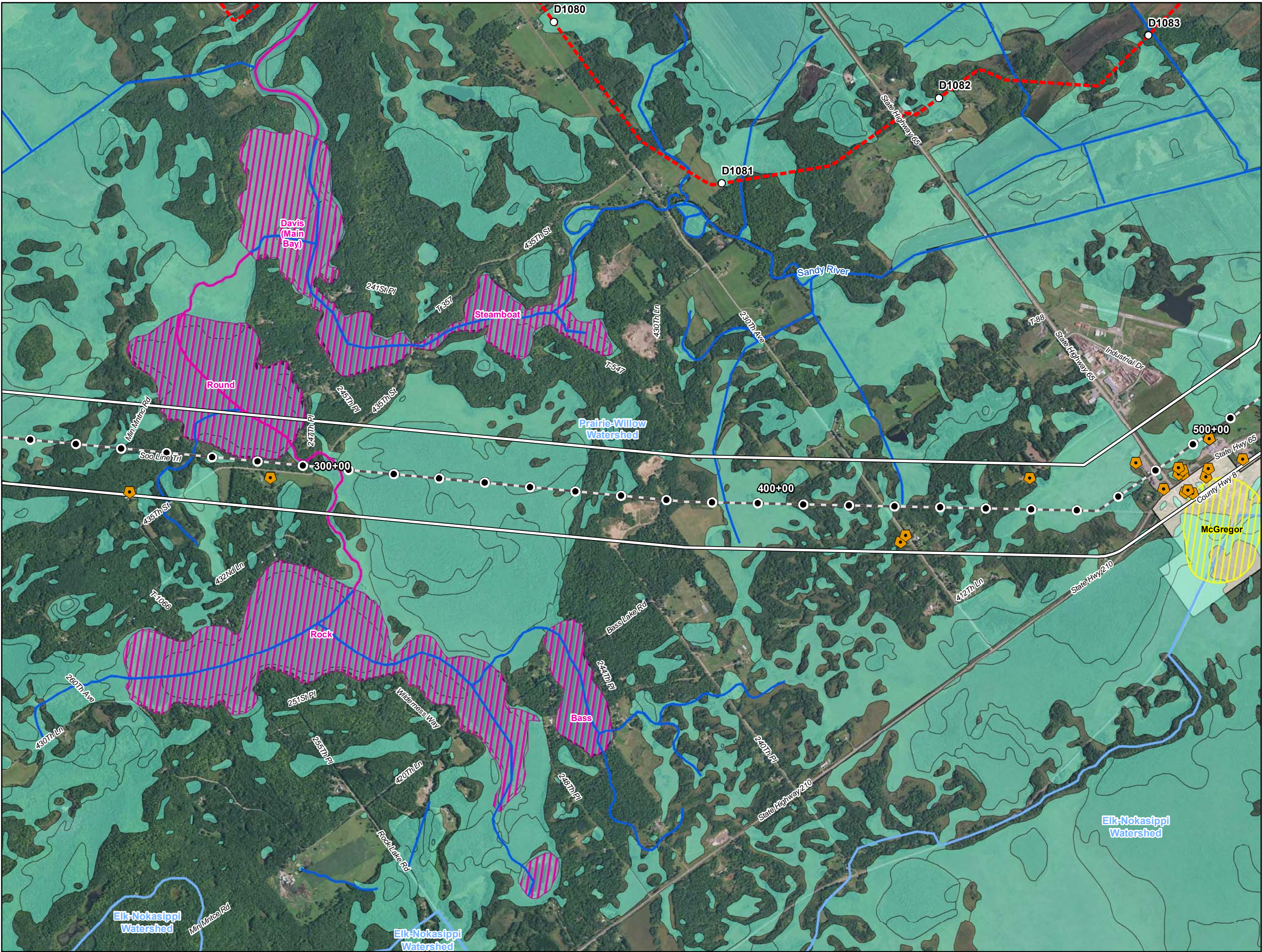
Table 6 Line 3 Replacement Project – RSA-27-L3 Drinking Water Supply Management Areas (DWSMA) and Wellhead Protection Areas (WHPA) Crossed by the Proposed Route Segment Alternative Centerline and within the 2,000-ft-wide Route Segment Alternative Corridor in Minnesota					
Watershed	County	Approximate Stationing ^a	Name	Miles Crossed by the Route Segment Alternative Centerline ^b	Acres Within the Route Segment Alternative Corridor ^c
Prairie Willow	Aitkin	496+00	McGregor WHPA	-	2.87
			McGregor DWSMA	-	22.61
DWSMA Data Source: https://gisdata.mn.gov/dataset/water-drinking-water-supply WHPA Data Source: https://gisdata.mn.gov/dataset/water-wellhead-protection-areas a Stationing for features not crossed by the centerline are interpolated based on the closest proposed Route Segment Alternative centerline stationing. b Total miles of DWSMA and WHPA crossed by the proposed Route Segment Alternative centerline. c Total acres of DWSMA and WHPA crossed by the 2000-ft-wide Route Segment Alternative corridor.					



- Water Well
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- Calcareous Fen
- Line 3 Milepost
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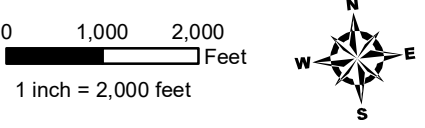
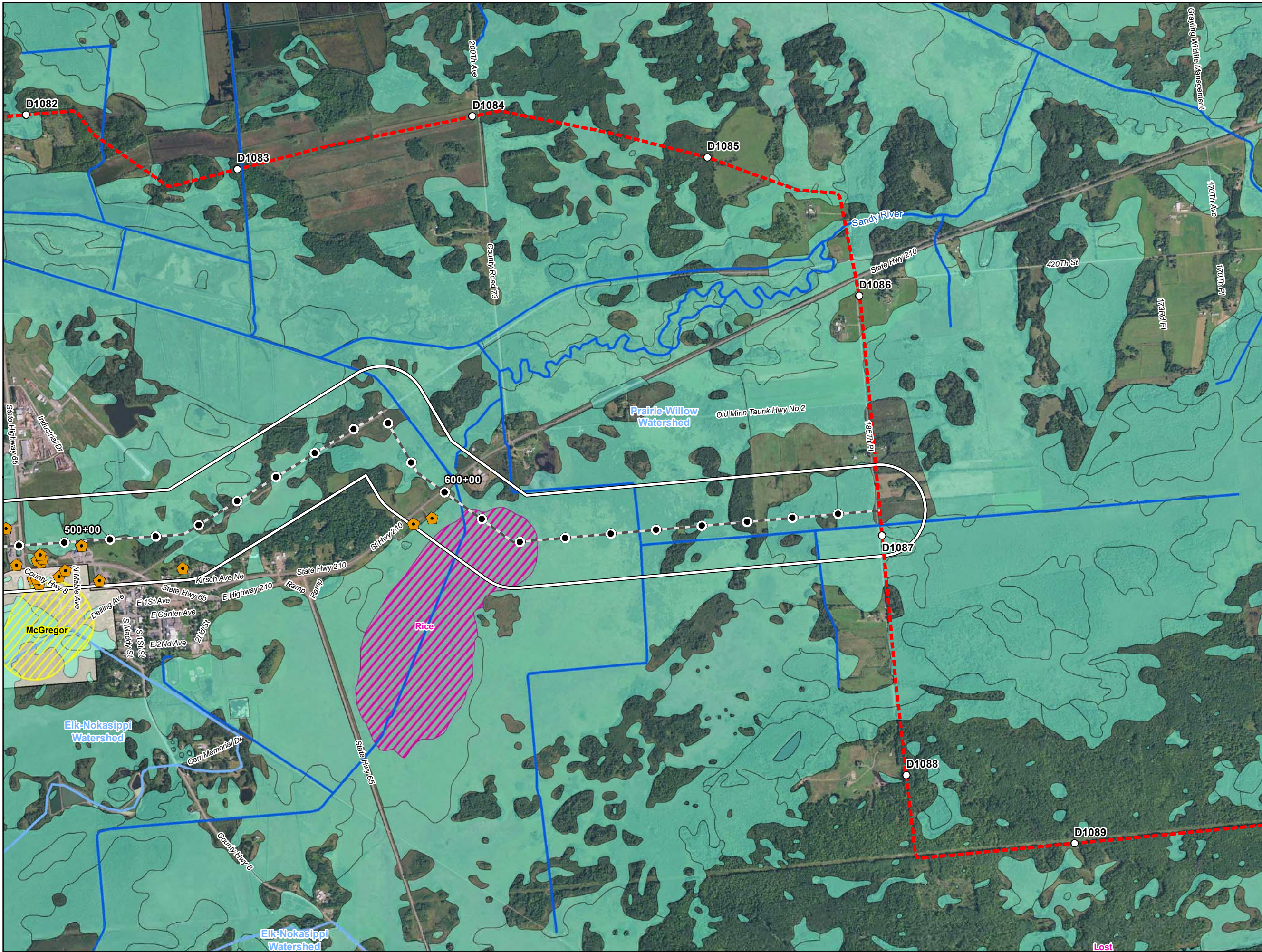
Figure 1
Line 3 Replacement Project
RSA-27-L3
Enbridge
Aitkin County, Minnesota





- Water Well
- Surface Water Intake
- Calcareous Fen
- Line 3 Milepost
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- 2,000 ft Alternative Corridor
- Trout Stream
- PWI Stream
- NHD Stream
- PWI Basin
- NWI
- Watershed Boundary
- WHPA
- DWSMA
- County Boundary

Figure 2
Line 3 Replacement Project
RSA-27-L3
Enbridge
Aitkin County, Minnesota



- Water Well
- Surface Water Intake
- Calcareous Fen
- Line 3 Milepost
- Alternative Stationing
- Proposed Line 3 Replacement Pipeline
- Alternative Centerline
- 2,000 ft Alternative Corridor
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- DWSMA
- County Boundary

Figure 3
Line 3 Replacement Project
RSA-27-L3
Enbridge
Aitkin County, Minnesota

ATTACHMENT A

Natural Resource and Water Supply Summary Tables and Figures

Line 3 Replacement Project Route Segment Alternative (RSA)-28

DRAFT

Table 1
Line 3 Replacement Project - RSA-28-L3
Summary of Waterbodies Crossed by the Proposed Route Segment Alternative Centerline
and within the 2,000-ft-wide Route Segment Alternative Corridor in Minnesota

Watershed County	Number Crossed by the Proposed Route Segment Alternative Centerline ^a				Miles Within the 2,000-ft-wide Route Segment Alternative Corridor ^b			
	Perennial	Intermittent	Canal/Ditch/ Artificial Path/ Connector	Total ^c	Perennial	Intermittent	Canal/Ditch/ Artificial Path/ Connector	Total ^c
Prairie-Willow	-	-	7	7	-	-	4.3	4.3
Aitkin	-	-	7	7	-	-	4.3	4.3
Grand Total ^c	-	-	7	7	-	-	4.3	4.3

USGS National Hydrography Dataset (NHD) Data Source: <ftp://nhdftp.usgs.gov/DataSets/Staged/States/FileGDB/HighResolution/>

a Number of NHD waterbodies crossed by the proposed Route Segment Alternative centerline.

b Miles of NHD stream segment(s) crossed by the 2000-ft-wide Route Segment Alternative corridor.

c Numbers may not total consistently due to rounding.

Table 2
Line 3 Replacement Project – RSA-28-L3
Summary of USFWS National Wetlands Inventory Crossed by the Proposed Route Segment Alternative Centerline
and within the 2,000-ft-wide Route Segment Alternative Corridor in Minnesota

Watershed County	Miles Crossed by the Proposed Route Segment Alternative Centerline ^a				Acres Within the 2,000-ft-wide Route Segment Alternative Corridor ^b			
	PEM ^c	PFO/PSS ^c	Pond/Lake/ Riverine	Total ^d	PEM ^c	PFO/PSS ^c	Pond/Lake/ Riverine	Total ^d
Prairie-Willow	1.1	-	-	1.1	347.3	5.3	-	352.6
Aitkin	1.1	-	-	1.1	347.3	5.3	-	352.6
Grand Total ^d	1.1	-	-	1.1	347.3	5.3	-	352.6

USFWS National Wetlands Inventory (NWI) Data Source: <http://www.fws.gov/wetlands/data/Data-Download.html>

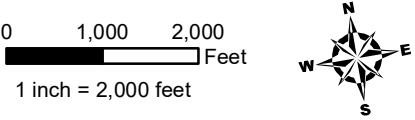
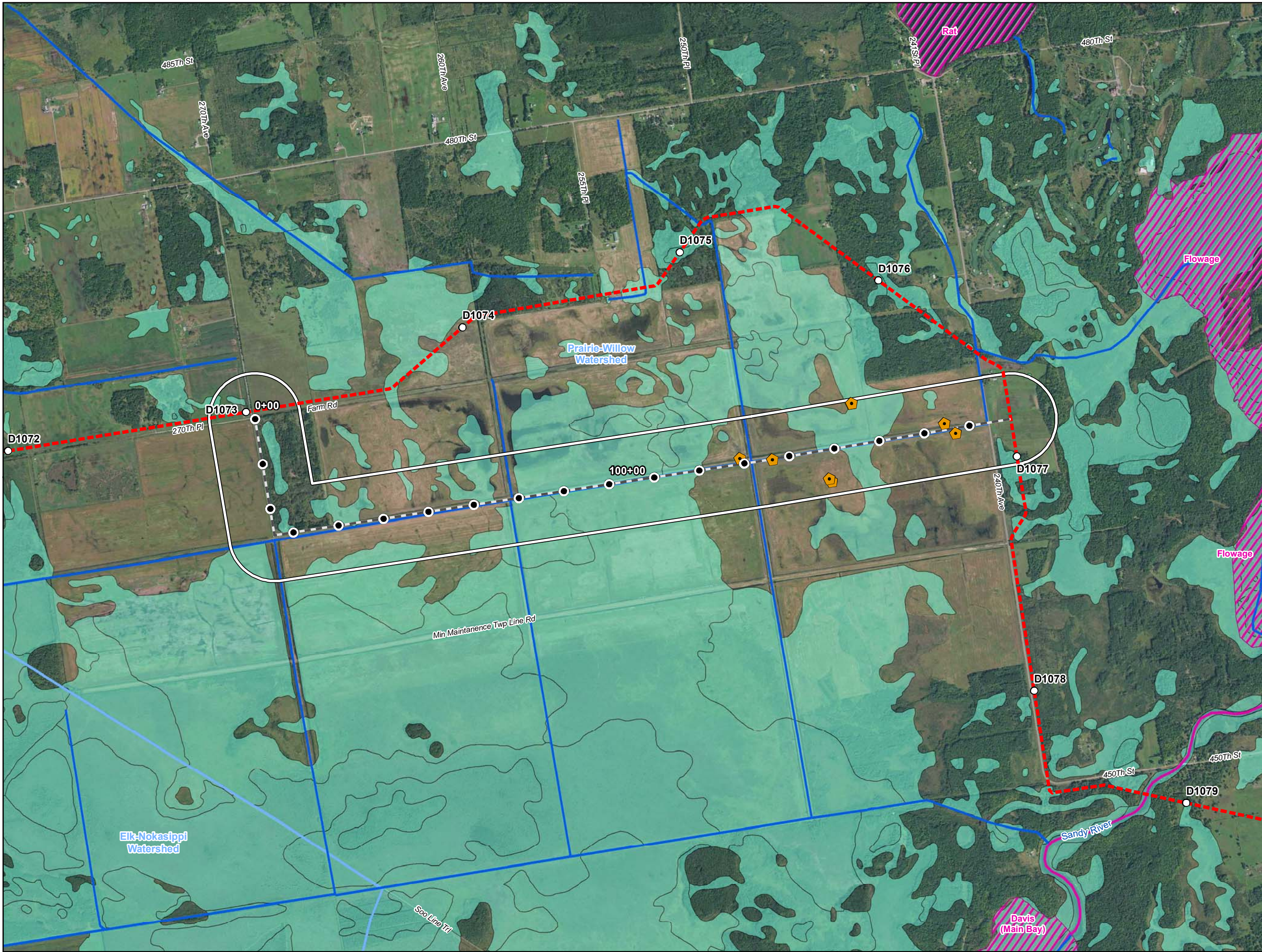
a Total miles of NWI crossed by the proposed Route Segment Alternative centerline.

b Total acres of NWI within the 2000-ft-wide Route Segment Alternative corridor.

c PEM = Palustrine Emergent; PSS = Palustrine Scrub Shrub; PFO = Palustrine Forested (Cowardin et al. 1979).

d Numbers may not total consistently due to rounding.

Table 3				
Line 3 Replacement Project – RSA-28-L3				
Wells within the 2,000-ft-wide Route Segment Alternative Corridor in Minnesota ^a				
Watershed Name	County	Well Type	Distance from Centerline (feet)	Total Number of Wells
Prairie-Willow	Aitkin	Other	921	2
			154	
		Piezometer	137	6
			2	
			627	
			696	
			924	
			101	
County Well Index (CWI) Data Source: ftp://mgssun6.mnngs.umn.edu/pub2/cwi4/cwilocs_nps.zip				
a Municipal wells are not included in the source data.				



- Water Well
- Surface Water Intake
- Calcareous Fen
- Line 3 Milepost
- Alternative Stationing
- Proposed Line 3 Replacement Pipeline
- Alternative Centerline
- 2,000 ft Alternative Corridor
- Trout Stream
- PWI Stream
- NHD Stream
- PWI Basin
- NWI
- Watershed Boundary
- WHPA
- DWSMA
- County Boundary

Figure 1
Line 3 Replacement Project
RSA-28-L3
Enbridge
Aitkin County, Minnesota

ATTACHMENT A

Natural Resource and Water Supply Summary Tables and Figures

Line 3 Replacement Project Route Segment Alternative (RSA)-31

DRAFT

Table 1 Line 3 Replacement Project – RSA-31-L3 Summary of Public Waters Inventory Streams Crossed by the Proposed Route Segment Alternative Centerline and within the 2,000-ft-wide Route Segment Alternative Corridor in Minnesota		
Watershed County	Crossed by the Proposed Route Alternative Centerline	Miles Within the 2,000-ft-wide Route Alternative Corridor ^b
Prairie-Willow	1	0.5
Aitkin	1	0.5
Grand Total	1	0.5
<i>Public Waters Inventory (PWI) Stream Data Source: https://gisdata.mn.gov/dataset/water-mn-public-waters</i> a Number of Public Waters Inventory streams crossed by the proposed Route Segment Alternative centerline. b Total miles of Public Waters Inventory stream segment(s) crossed by the 2000-ft-wide Route Segment Alternative corridor. c Numbers may not total consistently due to rounding.		

Table 2
Line 3 Replacement Project - RSA-31-L3
Summary of Waterbodies Crossed by the Proposed Route Segment Alternative Centerline
and within the 2,000-ft-wide Route Segment Alternative Corridor in Minnesota

Watershed County	Number Crossed by the Proposed Route Segment Alternative Centerline ^a				Miles Within the 2,000-ft-wide Route Segment Alternative Corridor ^b			
	Perennial	Intermittent	Canal/Ditch/ Artificial Path/ Connector	Total ^c	Perennial	Intermittent	Canal/Ditch/ Artificial Path/ Connector	Total ^c
Prairie-Willow	1	2	-	3	0.5	1.0	0.2	1.8
Aitkin	1	2	-	3	0.5	1.0	0.2	1.8
Grand Total ^c	1	2	-	3	0.5	1.0	0.2	1.8

USGS National Hydrography Dataset (NHD) Data Source: <ftp://nhdftp.usgs.gov/DataSets/Staged/States/FileGDB/HighResolution/>

a Number of NHD waterbodies crossed by the proposed Route Segment Alternative centerline.

b Miles of NHD stream segment(s) crossed by the 2000-ft-wide Route Segment alternative corridor.

c Numbers may not total consistently due to rounding.

Table 3
Line 3 Replacement Project – RSA-31-L3
Summary of USFWS National Wetlands Inventory Crossed by the Proposed Route Segment Alternative Centerline
and within the 2,000-ft-wide Route Segment Alternative Corridor in Minnesota

Watershed County	Miles Crossed by the Proposed Route Segment Alternative Centerline ^a				Acres Within the 2,000-ft-wide Route Segment Alternative Corridor ^b			
	PEM ^c	PFO/PSS ^c	Pond/Lake/ Riverine	Total ^d	PEM ^c	PFO/PSS ^c	Pond/Lake/ Riverine	Total ^d
Prairie-Willow	0.3	2.1	0.1	2.6	62.2	571.9	14.4	648.5
Aitkin	0.3	2.1	0.1	2.6	62.2	571.9	14.4	648.5
Grand Total ^d	0.3	2.1	0.1	2.6	62.2	571.9	14.4	648.5

USFWS National Wetlands Inventory (NWI) Data Source: <http://www.fws.gov/wetlands/data/Data-Download.html>

a Total miles of NWI crossed by the proposed Route Segment Alternative centerline.

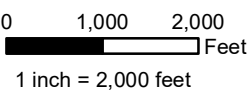
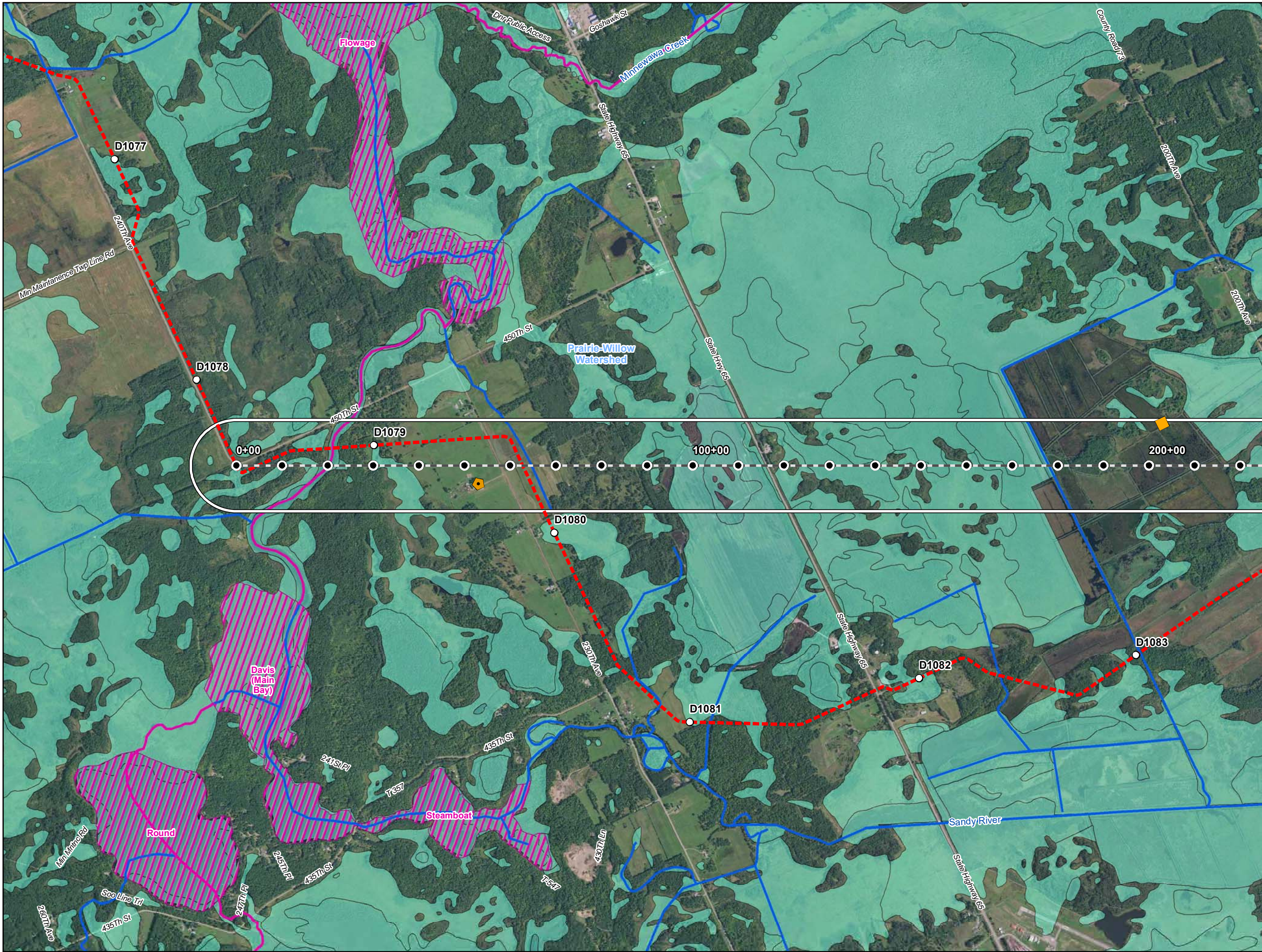
b Total acres of NWI within the 2000-ft-wide Route Segment Alternative corridor.

c PEM = Palustrine Emergent; PSS = Palustrine Scrub Shrub; PFO = Palustrine Forested (Cowardin et al. 1979).

d Numbers may not total consistently due to rounding.

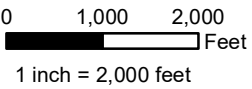
Table 4 Line 3 Replacement Project – RSA-31-L3 Wells within the 2,000-ft-wide Route Segment Alternative Corridor in Minnesota^a				
Watershed Name	County	Well Type	Distance from Centerline (feet)	Total Number of Wells
Prairie-Willow	Aitkin	Domestic	385	1
County Well Index (CWI) Data Source: ftp://mgssun6.mngs.umn.edu/pub2/cwi4/cwilocs_nps.zip ^a Municipal wells are not included in the source data.				

Table 5 Line 3 Replacement Project – RSA-31-L3 Surface Water Intakes within the 2,000-ft-wide Route Segment Alternative Corridor in Minnesota^a				
Watershed Name	County	Permit Type	Permit Status	Total
Prairie-Willow	Aitkin	Individual Permit	Inactive	1
MPARS Minnesota DNR, Ecological and Water Resources, Sean Hunt, 651-259-5679 ^a Municipal wells are not included in the source data.				



- Water Well
- Surface Water Intake
- Calcareous Fen
- Line 3 Milepost
- Alternative Stationing
- Proposed Line 3 Replacement Pipeline
- Alternative Centerline
- 2,000 ft Alternative Corridor
- Trout Stream
- PWI Stream
- NHD Stream
- PWI Basin
- NWI
- Watershed Boundary
- WHPA
- DWSMA
- County Boundary

Figure 1
Line 3 Replacement Project
RSA-31-L3
Enbridge
Aitkin County, Minnesota



- Water Well
- Surface Water Intake
- Calcareous Fen
- Line 3 Milepost
- Alternative Stationing
- Proposed Line 3 Replacement Pipeline
- Alternative Centerline
- 2,000 ft Alternative Corridor
- Trout Stream
- PWI Stream
- NHD Stream
- PWI Basin
- NWI
- Watershed Boundary
- WHPA
- DWSMA
- County Boundary

Figure 2
Line 3 Replacement Project
RSA-31-L3
Enbridge
Aitkin County, Minnesota

ATTACHMENT A

Natural Resource and Water Supply Summary Tables and Figures

Line 3 Replacement Project Route Segment Alternative (RSA)-33

DRAFT

Table 1
Line 3 Replacement Project – RSA-33-L3
Summary of Waterbodies Crossed by the Proposed Route Segment Alternative Centerline
and within the 2,000-ft-wide Route Segment Alternative Corridor in Minnesota

Watershed County	Number Crossed by the Proposed Route Segment Alternative Centerline ^a				Miles Within the 2,000-ft-wide Route Segment Alternative Corridor ^b			
	Perennial	Intermittent	Canal/Ditch/ Artificial Path/ Connector	Total ^c	Perennial	Intermittent	Canal/Ditch/ Artificial Path/ Connector	Total ^c
Prairie-Willow	-	3	-	3	-	1.2	-	1.2
Aitkin	-	3	-	3	-	1.2	-	1.2
Grand Total ^c	-	3	-	3	-	1.2	-	1.2

USGS National Hydrography Dataset (NHD) Data Source: <ftp://nhdftp.usgs.gov/DataSets/Staged/States/FileGDB/HighResolution/>

a Number of NHD waterbodies crossed by the proposed Route Segment Alternative centerline.

b Miles of NHD stream segment(s) crossed by the 2000-ft-wide Route Segment Alternative corridor.

c Numbers may not total consistently due to rounding.

Table 2
Line 3 Replacement Project – RSA-33-L3
Summary of USFWS National Wetlands Inventory Crossed by the Proposed Route Segment Alternative Centerline
and within the 2,000-ft-wide Route Segment Alternative Corridor in Minnesota

Watershed County	Miles Crossed by the Proposed Route Segment Alternative Centerline ^a				Acres Within the 2,000-ft-wide Route Segment Alternative Corridor ^b			
	PEM ^c	PFO/PSS ^c	Pond/Lake/ Riverine	Total ^d	PEM ^c	PFO/PSS ^c	Pond/Lake/ Riverine	Total ^d
Prairie-Willow	-	0.8	-	0.8	-	212.3	-	212.3
Aitkin	-	0.8	-	0.8	-	212.3	-	212.3
Grand Total ^d	-	0.8	-	0.8	-	212.3	-	212.3

USFWS National Wetlands Inventory (NWI) Data Source: <http://www.fws.gov/wetlands/data/Data-Download.html>

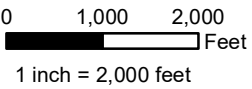
a Total miles of NWI crossed by the proposed Route Segment Alternative centerline.

b Total acres of NWI within the 2000-ft-wide Route Segment Alternative corridor.

c PEM = Palustrine Emergent; PSS = Palustrine Scrub Shrub; PFO = Palustrine Forested (Cowardin et al. 1979).

d Numbers may not total consistently due to rounding.

Table 3 Line 3 Replacement Project – RSA-33-L3 Surface Water Intakes within the 2,000-ft-wide Route Segment Alternative Corridor in Minnesota^a				
Watershed Name	County	Permit Type	Permit Status	Total
Prairie-Willow	Aitkin	Individual Permit	Active	1
MPARS Minnesota DNR, Ecological and Water Resources, Sean Hunt, 651-259-5679 ^a Municipal wells are not included in the source data.				



- Water Well
- Surface Water Intake
- Calcareous Fen
- Line 3 Milepost
- Alternative Stationing
- Proposed Line 3 Replacement Pipeline
- Alternative Centerline
- 2,000 ft Alternative Corridor
- Trout Stream
- PWI Stream
- NHD Stream
- PWI Basin
- NWI
- Watershed Boundary
- WHPA
- DWSMA
- County Boundary

Figure 1
Line 3 Replacement Project
RSA-33-L3
Enbridge
Aitkin County, Minnesota



ATTACHMENT A

Natural Resource and Water Supply Summary Tables and Figures

Line 3 Replacement Project Route Segment Alternative (RSA)-34

DRAFT

Table 1
Line 3 Replacement Project - RSA-34-L3
Summary of Waterbodies Crossed by the Proposed Route Segment Alternative Centerline
and within the 2,000-ft-wide Route Segment Alternative Corridor in Minnesota

Watershed County	Number Crossed by the Proposed Route Segment Alternative Centerline ^a				Miles Within the 2,000-ft-wide Route Segment Alternative Corridor ^b			
	Perennial	Intermittent	Canal/Ditch/ Artificial Path/ Connector	Total ^c	Perennial	Intermittent	Canal/Ditch/ Artificial Path/ Connector	Total ^c
Prairie-Willow	-	3	-	3	-	2.0	-	2.0
Aitkin	-	3	-	3	-	2.0	-	2.0
Grand Total ^c	-	3	-	3	-	2.0	-	2.0

USGS National Hydrography Dataset (NHD) Data Source: <ftp://nhdftp.usgs.gov/DataSets/Staged/States/FileGDB/HighResolution/>

a Number of NHD waterbodies crossed by the proposed Route Segment Alternative centerline.

b Miles of NHD stream segment(s) crossed by the 2000-ft-wide Route Segment Alternative corridor.

c Numbers may not total consistently due to rounding.

Table 2
Line 3 Replacement Project – RSA-34-L3
Summary of USFWS National Wetlands Inventory Crossed by the Proposed Route Segment Alternative Centerline
and within the 2,000-ft-wide Route Segment Alternative Corridor in Minnesota

Watershed County	Miles Crossed by the Proposed Route Segment Alternative Centerline ^a				Acres Within the 2,000-ft-wide Route Segment Alternative Corridor ^b			
	PEM ^c	PFO/PSS ^c	Pond/Lake/ Riverine	Total ^d	PEM ^c	PFO/PSS ^c	Pond/Lake/ Riverine	Total ^d
Prairie-Willow	0.1	1.0	-	1.0	24.1	276.8	-	300.9
Aitkin	0.1	1.0	-	1.0	24.1	276.8	-	300.9
Grand Total ^d	0.1	1.0	-	1.0	24.1	276.8	-	300.9

USFWS National Wetlands Inventory (NWI) Data Source: <http://www.fws.gov/wetlands/data/Data-Download.html>

a Total miles of NWI crossed by the proposed Route Segment Alternative centerline.

b Total acres of NWI within the 2000-ft-wide Route Segment Alternative corridor.

c PEM = Palustrine Emergent; PSS = Palustrine Scrub Shrub; PFO = Palustrine Forested (Cowardin et al. 1979).

d Numbers may not total consistently due to rounding.

Table 3				
Line 3 Replacement Project – RSA-34-L3				
Wells within the 2,000-ft-wide Route Segment Alternative Corridor in Minnesota ^a				
Watershed Name	County	Well Type	Distance from Centerline (feet)	Total Number of Wells
Prairie-Willow	Aitkin	Domestic	783	3
			348	
			548	
County Well Index (CWI) Data Source: ftp://mgssun6.mnngs.umn.edu/pub2/cwi4/cwilocs_nps.zip				
^a Municipal wells are not included in the source data.				

Table 4 Line 3 Replacement Project -RSA-34-L3 Surface Water Intakes within the 2,000-ft-wide Route Segment Alternative Corridor in Minnesota^a				
Watershed Name	County	Permit Type	Permit Status	Total
Prairie-Willow	Aitkin	Individual Permit	Active	1
MPARS Minnesota DNR, Ecological and Water Resources, Sean Hunt, 651-259-5679 ^a Municipal wells are not included in the source data.				



0 1,000 2,000 Feet
1 inch = 2,000 feet



- Water Well
- Surface Water Intake
- Calcareous Fen
- Line 3 Milepost
- Alternative Stationing
- Proposed Line 3 Replacement Pipeline
- Alternative Centerline
- 2,000 ft Alternative Corridor
- Trout Stream
- PWI Stream
- NHD Stream
- PWI Basin
- NWI
- Watershed Boundary
- WHPA
- DWSMA
- County Boundary

Figure 1
Line 3 Replacement Project
RSA-34-L3
Enbridge
Aitkin County, Minnesota



ATTACHMENT A

Natural Resource and Water Supply Summary Tables and Figures

Line 3 Replacement Project Route Segment Alternative (RSA)-35

DRAFT

Table 1
Line 3 Replacement Project – RSA-35-L3
Summary of Waterbodies Crossed by the Proposed Route Segment Alternative Centerline
and within the 2,000-ft-wide Route Segment Alternative Corridor in Minnesota

Watershed County	Number Crossed by the Proposed Route Segment Alternative Centerline ^a				Miles Within the 2,000-ft-wide Route Segment Alternative Corridor ^b			
	Perennial	Intermittent	Canal/Ditch/ Artificial Path/ Connector	Total ^c	Perennial	Intermittent	Canal/Ditch/ Artificial Path/ Connector	Total ^c
Prairie-Willow	-	1	-	1	0.7	0.8	0.3	1.8
Aitkin	-	1	-	1	0.7	0.8	0.3	1.8
Grand Total ^c	-	1	-	1	0.7	0.8	0.3	1.8

USGS National Hydrography Dataset (NHD) Data Source: <ftp://nhdftp.usgs.gov/DataSets/Staged/States/FileGDB/HighResolution/>

a Number of NHD waterbodies crossed by the proposed Route Segment Alternative centerline.

b Miles of NHD stream segment(s) crossed by the 2000-ft-wide Route Segment Alternative corridor.

c Numbers may not total consistently due to rounding.

Table 2
Line 3 Replacement Project – RSA-35-L3
Summary of USFWS National Wetlands Inventory Crossed by the Proposed Route Segment Alternative Centerline
and within the 2,000-ft-wide Route Segment Alternative Corridor in Minnesota

Watershed County	Miles Crossed by the Proposed Route Segment Alternative Centerline ^a				Acres Within the 2,000-ft-wide Route Segment Alternative Corridor ^b			
	PEM ^c	PFO/PSS ^c	Pond/Lake/ Riverine	Total ^d	PEM ^c	PFO/PSS ^c	Pond/Lake/ Riverine	Total ^d
Prairie-Willow	0.9	0.2	-	1.1	181.0	70.5	-	251.5
Aitkin	0.9	0.2	-	1.1	181.0	70.5	-	251.5
Grand Total ^d	0.9	0.2	-	1.1	181.0	70.5	-	251.5

USFWS National Wetlands Inventory (NWI) Data Source: <http://www.fws.gov/wetlands/data/Data-Download.html>

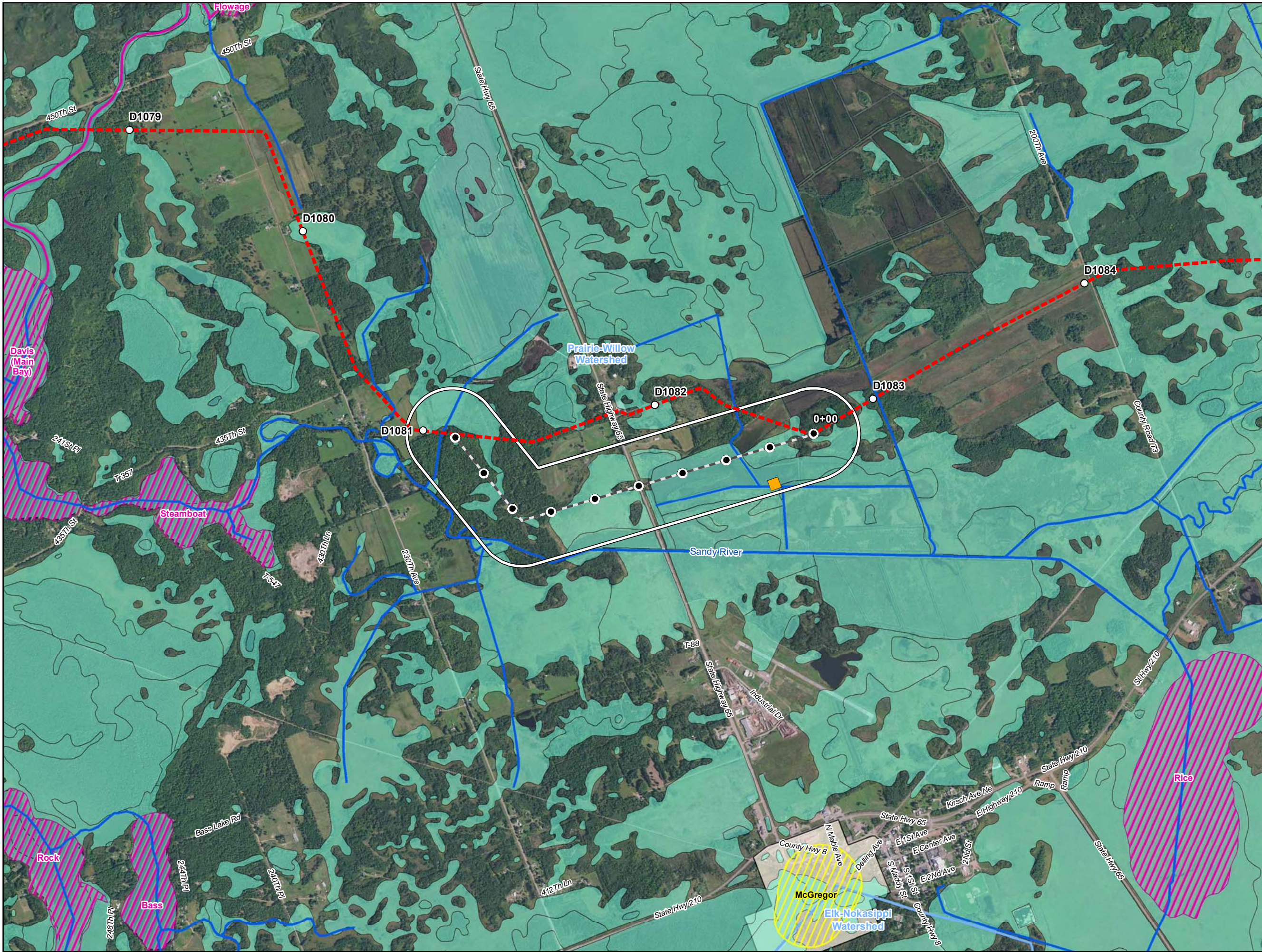
a Total miles of NWI crossed by the proposed Route Segment Alternative centerline.

b Total acres of NWI within the 2000-ft-wide Route Segment Alternative corridor.

c PEM = Palustrine Emergent; PSS = Palustrine Scrub Shrub; PFO = Palustrine Forested (Cowardin et al. 1979).

d Numbers may not total consistently due to rounding.

Table 3 Line 3 Replacement Project – RSA-35-L3 Surface Water Intakes within the 2,000-ft-wide Route Segment Alternative Corridor in Minnesota^a				
Watershed Name	County	Permit Type	Permit Status	Total
Prairie-Willow	Aitkin	Individual Permit	Inactive	1
MPARS Minnesota DNR, Ecological and Water Resources, Sean Hunt, 651-259-5679 ^a Municipal wells are not included in the source data.				



0 1,000 2,000 Feet
1 inch = 2,000 feet



- Water Well
- Surface Water Intake
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- Line 3 Milepost
- Alternative Stationing
- Proposed Line 3 Replacement Pipeline
- Alternative Centerline
- 2,000 ft Alternative Corridor
- Trout Stream
- PWI Stream
- NHD Stream
- PWI Basin
- NWI
- Watershed Boundary
- WHPA
- DWSMA
- County Boundary

Figure 1
Line 3 Replacement Project
RSA-35-L3
Enbridge
Aitkin County, Minnesota

