



L3R Compensatory Wetland Mitigation Plan

Enbridge Energy, Limited Partnership • Line 3 Replacement Project

January 2020

ENBRIDGE®

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ACRONYMS AND ABBREVIATIONS

April 2019 Wetland Mitigation Plan	April 2019 L3R Revised Compensatory Wetland Mitigation Plan
BSA	Bank Service Area
CFR	Code of Federal Regulations
District Mitigation Policy	2009 St. Paul District USACE Mitigation Policy
Enbridge	Enbridge Energy, Limited Partnership
HCVF	High Conservation Value Forest
HUC	Hydrologic Unit Codes
Interagency Compensatory Wetland Mitigation Guidance	October 2019, USACE, MPCA and MDNR provided guidance
L3R Compensatory Wetland Mitigation Plan	November 2019 L3R Compensatory Wetland Mitigation Plan
L3R or Project	Line 3 Replacement Project
LiDAR	Light Detection and Ranging
MBS	Minnesota Biological Survey
MDNR	Minnesota Department of Natural Resources
Mitigation Rule	U.S. Army Corps of Engineers and U.S. Environmental Protection Agency Final Rule regarding Compensatory Mitigation for Losses of Aquatic Resources, 33 CFR Parts 325 and 322 and 40 CFR Part 230 (2008)
MPCA	Minnesota Pollution Control Agency
NPC	Native Plant Community
NWI	National Wetlands Inventory
October 2018 Section 401 WQC Request	Enbridge's October 29, 2018 Section 401 Water Quality Certification request
PSP	Potential Seasonal Pond
SOBS	Sites of Biological Significance
USACE	U.S. Army Corps of Engineers
USACE Application	Permit application to discharge dredged or fill material into waters of the U.S. under Section 404 of the Clean Water Act and to construct in navigable waters of the U.S. under Section 10 of the Rivers and Harbors Act
USFWS	U.S. Fish and Wildlife Service
WQC	Water Quality Certification

1.0 INTRODUCTION

Enbridge Energy, Limited Partnership ("Enbridge") submitted a permit application to the St. Paul District, U.S. Army Corps of Engineers ("USACE") in September 2018 for its Line 3 Replacement Project ("L3R or Project") to discharge dredged or fill material into waters of the U.S. under Section 404 of the Clean Water Act and to construct in navigable waters of the U.S. under Section 10 of the Rivers and Harbors Act ("USACE Application"). The USACE Application generally described Enbridge's conceptual proposal to use mitigation bank credits under a watershed approach to compensate for unavoidable permanent fill that changes a wetland to a non-wetland, permanent wetland type conversions of scrub-shrub and forested wetlands, and temporal loss of wetlands during construction in accordance with the USACE and U.S. Environmental Protection Agency Final Rule regarding Compensatory Mitigation for Losses of Aquatic Resources, Title 33 Code of Federal Regulations ("CFR") Parts 325 and 322 and 40 CFR Part 230 (2008) ("Mitigation Rule") and the 2009 St. Paul District USACE Mitigation Policy ("District Mitigation Policy").

Based on the conceptual mitigation proposal in the USACE Application, in April 2019, Enbridge submitted the "L3R Revised Compensatory Wetland Mitigation Plan" (hereafter referred to as the "April 2019 Wetland Mitigation Plan") to the USACE and to the Minnesota Pollution Control Agency ("MPCA") in connection with MPCA's antidegradation review[1] of Enbridge's October 29, 2018 Section 401 Water Quality Certification ("WQC") request ("October 2018 Section 401 WQC Request"). On September 27, 2019, MPCA denied without prejudice the October 2018 Section 401 WQC Request because "[r]esolution of the State EIS process will not be possible prior to expiration of the CWA [Clean Water Act] one-year deadline…" and because "MPCA requires additional information to provide reasonable assurance of compliance with state water quality standards." A "revised proposal for compensatory wetland mitigation" is one of the additional pieces of information MPCA required Enbridge to submit when it re-applies for a Section 401 WQC. Enbridge continued to work with USACE and MPCA on revisions to the April 2019 Wetland Mitigation Plan following MPCA's denial without prejudice of the October 2018 Section 401 WQC Request.

MPCA provided the April 2019 Wetland Mitigation Plan to the Minnesota Department of Natural Resources ("MDNR") for the purpose of soliciting MDNR input. Subsequently, USACE, MPCA and MDNR held several interagency meetings and conference calls to consider collaboratively this mitigation plan. In October 2019, USACE, MPCA and MDNR provided guidance ("Interagency Compensatory Wetland Mitigation Guidance") to Enbridge recommending categories of "special" wetlands and differentiated baseline compensatory mitigation ratios for normal (non-special) and special wetlands, be they emergent, scrub-shrub, or forested communities. The Interagency Compensatory Wetland Mitigation Guidance also proposed mitigation ratio multipliers for replacement out of Bank Service Area ("BSA") and for replacement out of kind. Based on further direction from USACE and MPCA, Enbridge agreed to revise the April 2019 Wetland Mitigation Plan consistent with the Interagency Compensatory Wetland Mitigation Guidance.

On November 15, 2019, Enbridge re-applied to MPCA for a Section 401 WQC for the Project. The November 2019 request includes this revised November 2019 L3R Compensatory Wetland Mitigation Plan ("L3R Compensatory Wetland Mitigation Plan") as a component of the Project's antidegradation assessment. The L3R Compensatory Wetland Mitigation Plan reflects the recommendations contained in the Interagency Compensatory Wetland Mitigation Guidance.

[1] Minnesota Rules 7050.0186, 7050.0265.

2.0 WETLAND DELINEATIONS

Enbridge conducted wetland delineation surveys along 99 percent of the Project between 2013 and 2019 to identify the wetlands that will be affected during Project construction. Wetlands were identified and mapped in accordance with the Great Plains, Midwest, and Northcentral and Northeast Regional Supplements of the 1987 Corps of Engineers Wetland Delineation Manual.[2] Where field-verified survey data were not available, Enbridge used U.S. Fish and Wildlife Service ("USFWS") National Wetlands Inventory ("NWI") data to identify potential wetlands that will be crossed by the Project. Through a combination of NWI and field data, Enbridge determined that the Project will cross approximately 79.5 linear miles of wetlands. Enbridge will complete the remaining field survey as soon as conditions allow (e.g., timing of growing seasons, landowner approval) in Spring 2020. Table 2.0-1 provides a detailed summary of the remaining survey areas.

Clearwater	941.0	MN-CL-C5-097.000		0.00
Hubbard	974.3	MN-HU-C5-122.000		0.52
Hubbard	974.4	MN-HU-C5-123.000		1.47
Hubbard	988.2	MN-HU-C5-189.000		4.43
Hubbard	988.2	MN-HU-C5-189.200		2.89
Cass	1037.5	MN-CA-C5-133.100		0.00
Cass	1037.5	ROW34070		0.15
Aitkin	1072.4	MN-AI-076.002		0.03
			TOTAL	**9.49**

3.0 SPECIAL WETLAND CATEGORIES

The Interagency Compensatory Wetland Mitigation Guidance identified 10 special wetland categories that warrant a higher compensatory mitigation ratio to replace the unavoidable loss of wetland and aquatic resource function (40 CFR Part 230 and 33 CFR Parts 325 and 332) and unavoidable impacts on the designated uses of the wetlands (Minnesota Rules 7050.0186, Subp. 6A) after all appropriate and practicable/prudent and feasible measures have been employed to avoid and minimize adverse impacts.

Tables 3.0-1 and 3.0-2 are both taken from the Interagency Compensatory Wetland Mitigation Guidance. Table 3.0-1 identifies the special wetland categories, and Table 3.0-2 shows the differentiated baseline compensatory mitigation ratios for normal (non-special) and special wetlands and mitigation ratio multipliers for replacement out of BSA and replacement out of kind.

Table 3.0-1
Special Wetland Categories Along the Line 3 Replacement Project

Special Wetland Category	Compensatory Wetland Mitigation Ratio Category
Cedar Swamps	Special
Wetlands with S1, S2, or S3 Native Plant Communities	Special
Forested Vernal Pools/Seasonal Ponds	Special

[2] Environmental Laboratory. 1987. Corps of Engineers Wetland Delineation Manual, Technical Report Y-87-1. U.S. Army Corps of Engineers waterways experiment Station, Vicksburg, Mississippi.

Table 3.0-1
Special Wetland Categories Along the Line 3 Replacement Project

Special Wetland Category	Compensatory Wetland Mitigation Ratio Category
Wetlands Hydrologically Connected to Trout Streams or Tributaries to Trout Streams [a]	Special
Old Growth Forested Wetlands (both Existing and Candidates)	Special
High Conservation Value Forested Wetlands	Extra Special
Wetlands with High or Outstanding Biodiversity Sites	Special
Wetlands Hydrologically Connected to Lakes of High or Outstanding Biological Significance [a]	Special
Wetlands with Known Occurrences of MDNR State-Listed Species, including Important Habitat for Four-toed Salamanders	Special
Wetlands Hydrologically Connected to Wild Rice Waters [a]	Special

[a] Enbridge received specific wetland areas from MDNR, USACE and MPCA regarding these special wetland categories.

Table 3.0-2
Compensatory Wetland Mitigation Category and Associated Ratios

Wetland Type	Normal (Baseline) Ratio	Special	High Conservation Value Forest	Replacement out of BSA [a]	Replacement out of kind [a]
Emergent					
Temporal loss during construction; access roads stock piles [b]	0.03	0.06	N/A	+0.25 multiplier	+0.25 multiplier
Permanent loss; wetland converted to non-wetland	1.00	1.50	N/A	+0.25 multiplier	+0.25 multiplier
Scrub-shrub					
Temporal loss during construction and temporary conversion of wetland type; access roads, stock piles [b]	0.06	0.09	N/A	+0.25 multiplier	+0.25 multiplier
Permanent conversion of wetland type (trenched and maintained corridor)	0.50	0.75	N/A	+0.25 multiplier	+0.25 multiplier
Permanent loss; wetland converted to non-wetland	1.50	1.75	N/A	+0.25 multiplier	+0.25 multiplier
Forested					
Temporal loss during construction and temporary conversion of wetland type; access roads, stockpiles [b]	0.1	0.25	0.5	+0.25 multiplier	+0.25 multiplier
Permanent conversion of wetland type (trenched and maintained corridor)	0.75	1.0	1.50	+0.25 multiplier	+0.25 multiplier
Permanent loss; wetland converted to non-wetland	2.0	2.5	3.0	+0.25 multiplier	+0.25 multiplier

[a] If out of BSA and/or out of kind is approved, and if multiplier is appropriate. Multiplier will be 25 percent greater than the determined ratio if one or the other multiplier is appropriate, and 50% greater than the determined ratio if both multipliers are appropriate. A starting ratio of 1.5 would become 1.875 (1.5x(1+.25)) if one or the other multiplier is applied. A starting ratio of 1.5 would become 2.25 (1.5x(1+(.25+.25))) if both multipliers are applied.

[b] If restored to same pre-construction conditions and native plant community, which will be determined via post-construction monitoring. Temporary is defined as construction impact duration being no more than one continuous growing season in emergent and scrub-shrub communities. Impacts from tree clearing outside of the trenched and maintained right-of-way corridor that are allowed to regrow are considered temporal.

This L3R Compensatory Wetland Mitigation Plan uses the special wetland categories, differentiated baseline compensatory wetland mitigation ratios, and mitigation ratio multipliers recommended in the Interagency Compensatory Wetland Mitigation Guidance.

3.1 Special Wetland Category Data Sources

Enbridge used the following publicly available data sources where they intersect delineated wetland data to identify special wetland categories for the L3R Compensatory Wetland Mitigation Plan:

- Wetland Native Plant Communities ("NPCs")[3] ranked S1, S2, or S3;
    - NPCs are defined by the MDNR's Minnesota Native Plant Community Classification (Version 2.0) (2003). The conservation rankings are assigned by MDNR plant ecologists based on a methodology developed by NatureServe and its member natural heritage programs: critically imperiled (S1), imperiled (S2), or vulnerable to extirpation (S3);
- Cedar Swamps, categorized within the MDNR NPC dataset including Northern Wet Cedar Forest (WFn53a and b) and Northern Cedar Swamp (FPn63a and b);
- Old Growth Forested Wetlands using the MDNR Forest Stand Inventory (Type 5 [Existing] and Type 8 [Nominated])[4];
- High Conservation Value Forested ("HCVF") wetlands designated by the Forest Stewardship Council and identified in the MDNR Forest Stand Inventory; and
- Wetlands within High or Outstanding Sites of Biodiversity Significance ("SOBS")[5]
    - SOBS are established by the Minnesota Biological Survey ("MBS") and are selected based on the landscape, presence of NPCs, and rare species. SOBS that are ranked as Outstanding by MBS ecologists contain the best occurrences of the rarest species, the most outstanding examples of the rarest NPCs, and/or the largest, most ecologically intact or functional landscapes. High-ranked SOBS contain very good quality occurrences of the rarest species, high-quality examples of rare NPCs, and/or important functional landscape.

In addition to the above publicly available data sources, Enbridge developed its own datasets for the following special wetland categories:

- Forested Seasonal Ponds
    - Enbridge developed a protocol and completed a desktop analysis along the entire Project to identify potential seasonal ponds ("PSPs") located within the Project survey corridor in Minnesota. Based on the February 21, 2019 MDNR letter to the USACE and subsequent discussions with the MDNR, Enbridge focused the desktop analysis on PSPs less than 2.5 acres in size and located within forested communities. PSPs may also function as breeding habitat for amphibian species, including the four-toed salamander (*Hemidactylium scutatum*), a Minnesota species of concern.

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[3] MDNR Minnesota Native Plant Community Classification (Version 2.0) (2003). Last updated July 2019. Available on-line: https://gisdata.mn.gov/dataset/biota-dnr-native-plant-comm.

[4] MDNR Forest Stand Inventory. Available on-line: https://gisdata.mn.gov/dataset/biota-dnr-forest-stand-inventory

[5] MDNR Minnesota Biological Survey. Last updated June 20, 2019. Available on-line: https://gisdata.mn.gov/dataset/biota-mcbs-sites-of-biodiversity

- Wetlands with Known Occurrences of MDNR State-Listed Species, including Important Habitat for Four-toed Salamanders
    - Enbridge has conducted periodic reviews of the MDNR Natural Heritage Information System data and other MDNR data sources to identify rare or sensitive ecological resources along the Project. Through this review process, Enbridge has conducted annual presence/absence and/or population count surveys for flora species along the Project survey corridor since 2013.
- Wetlands Hydrologically Connected to Trout Streams or Tributaries to Trout Streams, Lakes of High or Outstanding Biological Significance, Wild Rice Waters
    - Enbridge incorporated wetland areas identified by MDNR, USACE and MPCA regarding these special wetland categories

4.0 L3R COMPENSATORY WETLAND MITIGATION PLAN: WETLAND IMPACTS

Project construction will temporarily discharge fill material in 1,054.2 acres of wetland and permanently discharge fill material in 8.5 acres of wetland. Temporal loss during construction results from activities occurring within the temporary construction workspace and additional temporary workspace, including clearing, grading, spoil storage, cathodic protection areas, and installation of construction mats. Temporal loss will also occur at temporary access roads. All wetlands temporarily impacted will be restored to pre-construction conditions to be determined by post-construction monitoring.

Approximately 230.2 acres of the total acres temporarily impacted will be permanently converted from a forested or scrub-shrub vegetation community to an herbaceous vegetation community. Permanently converted areas are within the 50-foot permanent easement where the pipeline corridor will be maintained by periodic mowing and clearing activities (see Figure 4.0-1). Forested and scrub-shrub vegetation communities outside of the permanent easement will be allowed to regenerate.

Permanent fill areas occur only at pump stations and valves and their associated access roads.

Table 4.0-1 provides a summary of wetland impacts for the Project by type, and nature of wetland impact. As shown in Table 4.0-1, Enbridge characterized wetland type using the Eggers and Reed Wetland Plants and Communities of Minnesota and Wisconsin.[6]

4.1 Special Wetland Categories

The Project will impact approximately 247.7 acres of wetland within the special wetland categories identified in the Interagency Compensatory Wetland Mitigation Guidance (see Table 3.0-1). Table 4.1-1 provides a summary of special and normal (non-special) wetland impacts for the Project by BSA.[7] The special wetland impacts presented in Table 4.1-1 are included in the wetland impacts by type presented in Table 4.0-1.

[6] Eggers, S. D. and D. M. Reed. 2014. Wetland Plants and Communities of Minnesota and Wisconsin, Version 3.1.U.S. Army Corps of Engineers. St. Paul District.

[7] As stated in Section 2.1.3.3, impacts related to wetlands that are hydrologically connected to trout streams, wild rice, and lakes of high or outstanding biological significance are forthcoming.

Figure 4.0-1 Wetland Impact Diagram

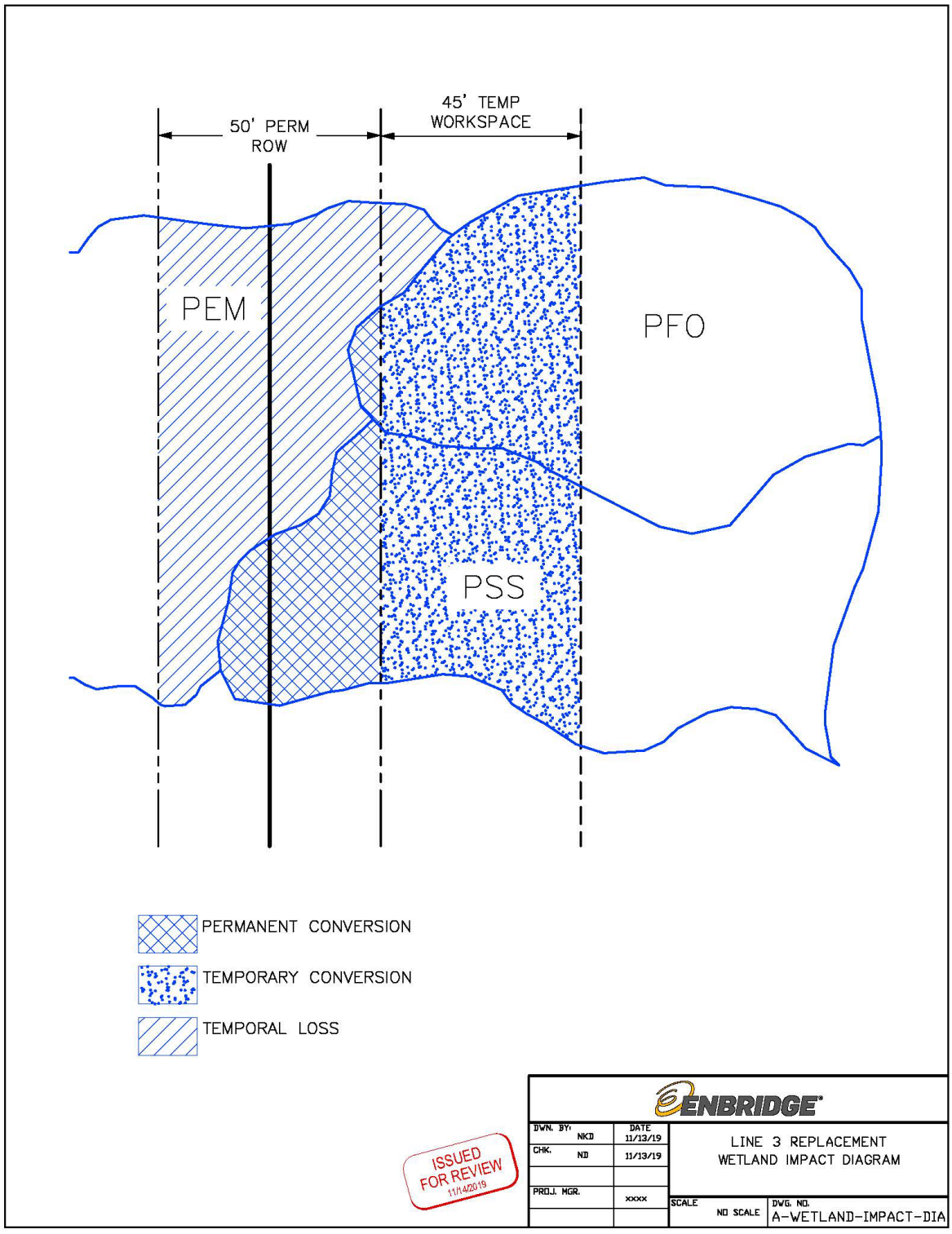


Table 4.0-1
Wetland Impacts by Type for the Line 3 Replacement Project

Wetland Type	Mainline Construction Workspace [a]		Access Roads	Pump Stations	Valves / Valve Access	TOTAL [c]
Cowardin/Eggers and Reed	*Temporary*	*Permanent Conversion [b]*	*Temporary*	*Permanent Fill*	*Permanent Fill*	
Palustrine Emergent						
Shallow Open Water	9.57	-	0.03	-	-	**9.60**
Shallow Marshes	84.93	-	2.51	0.09	0.04	**87.57**
Deep Marshes	3.39	-	0.22	-	-	**3.61**
Fresh (wet) Meadow	263.94	-	9.07	2.65	0.31	**275.97**
Sedge Meadows	82.81	-	3.00	-	-	**85.81**
Wet to Wet-Mesic Prairies	2.71	-	-	-	-	**2.71**
Calcareous Fen	0.06	-	-	-	-	**0.06**
Palustrine Emergent / Palustrine Forested						
Seasonally Flooded Basins	14.26	-	0.25	0.12	0.02	**14.65**
Palustrine Emergent / Palustrine Scrub-shrub						
Open Bogs	8.44	0.32	0.69	-	-	**9.45**
Palustrine Scrub-shrub						
Shrub-Carr	78.41	62.73	13.17	0.06	3.33	**157.70**
Alder Thicket	19.09	17.15	0.63	0.13	-	**37.00**
Palustrine Forested						
Hardwood Swamps	117.97	82.73	14.80	0.85	0.62	**216.97**
Coniferous Swamps	31.67	22.94	8.01	-	-	**62.62**
Coniferous Bogs	41.00	42.30	3.53	-	-	**86.83**
Floodplain Forest	1.04	1.98	0.34	-	0.31	**3.67**
TOTAL [c]	**759.29**	**230.15**	**56.25**	**3.90**	**4.63**	**1,054.23**

[a] Includes the area of wetland impact within the construction workspace based typically on a 95-foot-wide construction workspace, including associated ATWS and cathodic protection areas.

[b] Permanent conversion impacts includes the area within the new permanent easement where the pipeline corridor will be maintained by periodic clearing activities resulting in a change from forested or scrub-shrub wetland to an herbaceous wetland.

[c] The sum of addends may not total correctly due to rounding.

Table 4.1-1
Summary of Special and Normal (Non-Special) Wetland Impacts for the Line 3 Replacement Project by BSA

Wetland Category [a]	BSA 1			BSA 3			BSA 5			BSA 6			TOTAL			GRAND TOTAL*
	Temp	Perm Conv	Perm Fill	Temp	Perm Conv	Perm Fill	Temp	Perm Conv	Perm Fill	Temp	Perm Conv	Perm Fill	Temp	Perm Conv	Perm Fill	
Wetlands outside of FdL Reservation																
Special Wetlands Subtotal	**82.77**	**30.71**	**--**	**32.64**	**1.47**	**--**	**119.24**	**55.95**	**0.30**	**--**	**--**	**--**	**234.65**	**88.13**	**0.30**	**323.08**
Cedar Swamps	*2.38*	*2.15*	*--*	*--*	*--*	*--*	*1.39*	*1.51*	*--*	*--*	*--*	*--*	*3.77*	*3.66*	*-*	*7.43*
Native Plant Community (S1, S2, S3)	*16.13*	*7.04*	*--*	*5.32*	*--*	*--*	*15.42*	*11.12*	*--*	*--*	*--*	*--*	*36.87*	*18.16*	*-*	*55.03*
Forested Seasonal Pond	*1.68*	*0.56*	*--*	*1.36*	*0.78*	*--*	*10.07*	*7.12*	*0.30*	*--*	*--*	*--*	*13.11*	*8.46*	*0.30*	*21.87*
Wetlands Hydrologically Connected to Trout Streams or Tributaries to Trout Streams [b]	*24.81*	*2.29*	*--*	*--*	*--*	*--*	*12.03*	*7.77*	*--*	*--*	*--*	*--*	*36.84*	*10.06*	*-*	*46.90*
Old Growth	*3.77*	*3.79*	*--*	*--*	*--*	*--*	*--*	*--*	*--*	*--*	*--*	*--*	*3.77*	*3.79*	*-*	*7.56*
High Conservation Value Forested (HCVF)	*32.63*	*23.80*	*--*	*--*	*--*	*--*	*0.31*	*0.21*	*--*	*--*	*--*	*--*	*32.94*	*24.01*	*-*	*56.95*
Sites of Biodiversity Significance (SOBS) / High or Outstanding	*57.76*	*28.30*	*--*	*3.74*	*0.15*	*--*	*55.76*	*29.23*	*--*	*--*	*--*	*--*	*117.26*	*57.68*	*-*	*174.94*
Wetlands Hydrologically Connected to Lakes of High or Outstanding Biological Significance [b]	*4.70*	*2.32*	*--*	*38.35*	*11.80*	*--*	*--*	*--*	*--*	*--*	*--*	*--*	*43.05*	*14.12*	*-*	*57.17*
State-Listed Species within Wetland	*0.08*	*--*	*--*	*17.84*	*--*	*--*	*5.05*	*2.59*	*--*	*--*	*--*	*--*	*22.97*	*2.59*	*-*	*25.56*
Wetlands Hydrologically Connected to Wild Rice Waters [b]	*4.70*	*2.32*	*--*	*8.16*	*0.93*	*--*	*60.85*	*20.98*	*--*	*--*	*--*	*--*	*73.71*	*24.23*	*-*	*97.94*
Normal Wetlands Subtotal	**139.55**	**43.76**	**1.20**	**148.03**	**11.46**	**2.76**	**205.70**	**67.52**	**1.26**	**--**	**--**	**--**	**493.28**	**122.74**	**5.22**	**621.24**
Subtotal of wetlands outside of FdL Reservation	**222.32**	**74.47**	**1.20**	**180.67**	**12.93**	**2.76**	**324.94**	**123.47**	**1.56**	**-**	**-**	**-**	**727.93**	**210.87**	**5.52**	**944.32**
Wetlands within FdL Reservation																
Special Wetlands Subtotal	**64.93**	**16.83**	**0.23**	**--**	**--**	**--**	**--**	**--**	**--**	**1.65**	**0.03**	**--**	**66.58**	**16.86**	**0.23**	**83.67**
Cedar Swamps	*1.15*	*0.18*	*--*	*--*	*--*	*--*	*--*	*--*	*--*	*--*	*--*	*--*	*1.15*	*0.18*	*-*	*1.33*
Native Plant Community (S1, S2, S3)	*9.30*	*0.60*	*--*	*--*	*--*	*--*	*--*	*--*	*--*	*--*	*--*	*--*	*9.30*	*0.60*	*-*	*9.90*
Forested Seasonal Pond	*0.53*	*--*	*0.04*	*--*	*--*	*--*	*--*	*--*	*--*	*0.08*	*--*	*--*	*0.61*	*-*	*0.04*	*0.65*
Wetlands Hydrologically Connected to Trout Streams or Tributaries to Trout Streams [b]	*12.76*	*4.08*	*--*	*--*	*--*	*--*	*--*	*--*	*--*	*1.57*	*0.03*	*--*	*14.33*	*4.11*	*-*	*18.44*
Old Growth	*--*	*--*	*--*	*--*	*--*	*--*	*--*	*--*	*--*	*--*	*--*	*--*	*-*	*-*	*-*	*-*
High Conservation Value Forested (HCVF)	*--*	*--*	*--*	*--*	*--*	*--*	*--*	*--*	*--*	*--*	*--*	*--*	*-*	*-*	*-*	*-*
Sites of Biodiversity Significance (SOBS) / High or Outstanding	*18.08*	*2.75*	*--*	*--*	*--*	*--*	*--*	*--*	*--*	*--*	*--*	*--*	*18.08*	*2.75*	*-*	*20.83*
Wetlands Hydrologically Connected to Lakes of High or Outstanding Biological Significance [b]	*41.93*	*10.41*	*0.19*	*--*	*--*	*--*	*--*	*--*	*--*	*--*	*--*	*--*	*41.93*	*10.41*	*0.19*	*52.53*
State-Listed Species within Wetland	*--*	*--*	*--*	*--*	*--*	*--*	*--*	*--*	*--*	*--*	*--*	*--*	*-*	*-*	*-*	*-*
Wetlands Hydrologically Connected to Wild Rice Waters [b]	*37.07*	*9.38*	*0.19*	*--*	*--*	*--*	*--*	*--*	*--*	*--*	*--*	*--*	*37.07*	*9.38*	*0.19*	*46.64*
Normal Wetlands Subtotal	**12.29**	**2.21**	**2.78**	**--**	**--**	**--**	**--**	**--**	**--**	**8.74**	**0.21**	**--**	**21.03**	**2.42**	**2.78**	**26.23**
Subtotal of wetlands within FdL Reservation	**77.22**	**19.04**	**3.01**	**-**	**-**	**-**	**-**	**-**	**-**	**10.39**	**0.24**	**-**	**87.61**	**19.28**	**3.01**	**109.90**
Total Acres	**299.54**	**93.51**	**4.21**	**180.67**	**12.93**	**2.76**	**324.94**	**123.47**	**1.56**	**10.39**	**0.24**	**-**	**815.54**	**230.15**	**8.53**	**1,054.23**

[a] Italicized text and calculations contain overlapping datasets and does not represent a correct sum of total impacts.
[b] Enbridge incorporated the wetland areas received from MDNR, USACE, and MPCA for these special wetland categories.

5.0 L3R COMPENSATORY WETLAND MITIGATION PLAN: MITIGATION BANK CREDITS UNDER A WATERSHED APPROACH

Enbridge will provide compensatory wetland mitigation for unavoidable Project permanent fill, permanent wetland type conversion of scrub-shrub and forested wetlands, as well as temporal loss and conversion, in accordance with the Mitigation Rule, the District Mitigation Policy, as well as MPCA's antidegradation rule and compensatory wetland mitigation standards.[8]

The fundamental objective of compensatory mitigation for purposes of Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act is to offset wetland functions unavoidably lost due to authorized impacts (District Mitigation Policy, p. 6). Another guiding principle of the Mitigation Rule and the District Mitigation Policy is a watershed approach, the ultimate goal of which is to maintain and approve the quality and quantity of wetland resources within watersheds through strategic selection of compensatory mitigation sites. A watershed approach may include on-site compensatory mitigation, off-site compensatory mitigation, including mitigation banks, or a combination of on-site and off-site (District Mitigation Policy, pp. 6-7).

The Mitigation Rule and the District Mitigation Policy both specify a preference for mitigation banking over project-specific compensation. An approved banking instrument must be in place before credits can be used to compensate for authorized impacts. Mitigation banks can reduce risk and uncertainty, as well as temporal losses of wetland functions. Mitigation banks typically involve larger tracts of wetlands/uplands/riparian areas that are more ecologically diverse and resilient than typical project-specific compensation (District Mitigation Policy, pp. 7-8). It is also important to note that for linear projects, such as pipelines, the Mitigation Rule gives district engineers flexibility to determine that consolidated compensatory mitigation projects, included but not limited to mitigation banks, are environmentally preferable to requiring numerous small permittee-responsible compensatory mitigation projects along a linear project corridor.

Enbridge will restore all temporarily affected wetlands to pre-construction conditions (to be determined by post-construction monitoring), which is considered in-place compensation, but not in-kind for permanent conversions within the permanent right-of-way, and not in-advance. Consistent with the mitigation banking preference, Enbridge proposes to use mitigation banking credits to compensate for remaining unavoidable wetland functional losses. As described in Section 3.0 of this L3R Compensatory Wetland Mitigation Plan, Enbridge proposes to use the special wetland categories, differentiated baseline compensatory wetland mitigation ratios, and mitigation ratio multipliers recommended in the Interagency Compensatory Wetland Mitigation Guidance.

5.1 Enbridge-Owned Mitigation Bank Credits

As stated in the Mitigation Rule and District Mitigation Policy, there is a preference for mitigation banking using an approved banking instrument. Consistent with the watershed approach, Enbridge has purchased approved mitigation bank credits within each of the four BSAs the Project crosses: BSA 1 - Great Lakes Basin; BSA 3 - Lower Red River of the North; BSA 5 - Mississippi Headwaters; and BSA 6 - St. Croix River Basin. Table 5.1-1 provides details for each bank and

[8] Minn. R. 7050.0265, Subp. 3 and 7050.0186.

credit type that Enbridge proposes for Project compensatory wetland mitigation. The figures provided as Appendix A depict the location of the bank credits owned by Enbridge.

Table 5.1-1
Enbridge-Owned Wetland Bank Credits Proposed for Mitigation

Bank Service Area (BSA) 4- and 8-Digit Hydrologic Unit Codes (HUCs)	County	Wetland Bank Name	Wetland Credit Type	Number of Credits
BSA 1 – GREAT LAKES BASIN (0401)				
St. Louis River (04010201)	St. Louis	Minnesota Mitigation EIP (Lake Superior Bank)	Hardwood/Coniferous Swamp	120.00
BSA 3 – LOWER RED RIVER OF THE NORTH (0902)				
Upper/Lower Red Lake (09020302)	Beltrami	Agassiz Wild Rice/Stelter	Sedge Meadow	39.00
BSA 5 – MISSISSIPPI HEADWATERS (0701)				
Mississippi River – Headwaters (07010101)	Itasca	Minnesota Mitigation EIP (Deer River/Mississippi Bank II)	Fresh (wet) Meadow	113.37
			Shallow Marsh	181.60
			Shrub Carr/Alder Thicket	1.57
			Hardwood/Coniferous Swamp	0.61
			Open Bog	8.49
Mississippi River – Grand Rapids (07010103)	Itasca	Minnesota Mitigation EIP (Palisade/Mississippi Bank I)	Hardwood/Coniferous Swamp	53.50
BSA 6 – ST. CROIX RIVER BASIN (0703)				
Lower St. Croix (07030005)	Chisago	Mold Family Trust	Fresh (wet) Meadow	17.74
			TOTAL	**535.88**

5.2 Mitigation Bank Credits Required Compared to Enbridge-Owned Mitigation Bank Credits

Table 5.2-1 provides an overview of the total number of wetland mitigation bank credits required for the Project based on the special wetland categories, differentiated baseline compensatory wetland mitigation ratios, and mitigation ratio multipliers in the Interagency Compensatory Wetland Mitigation Guidance compared to the total number of mitigation bank credits owned by Enbridge.

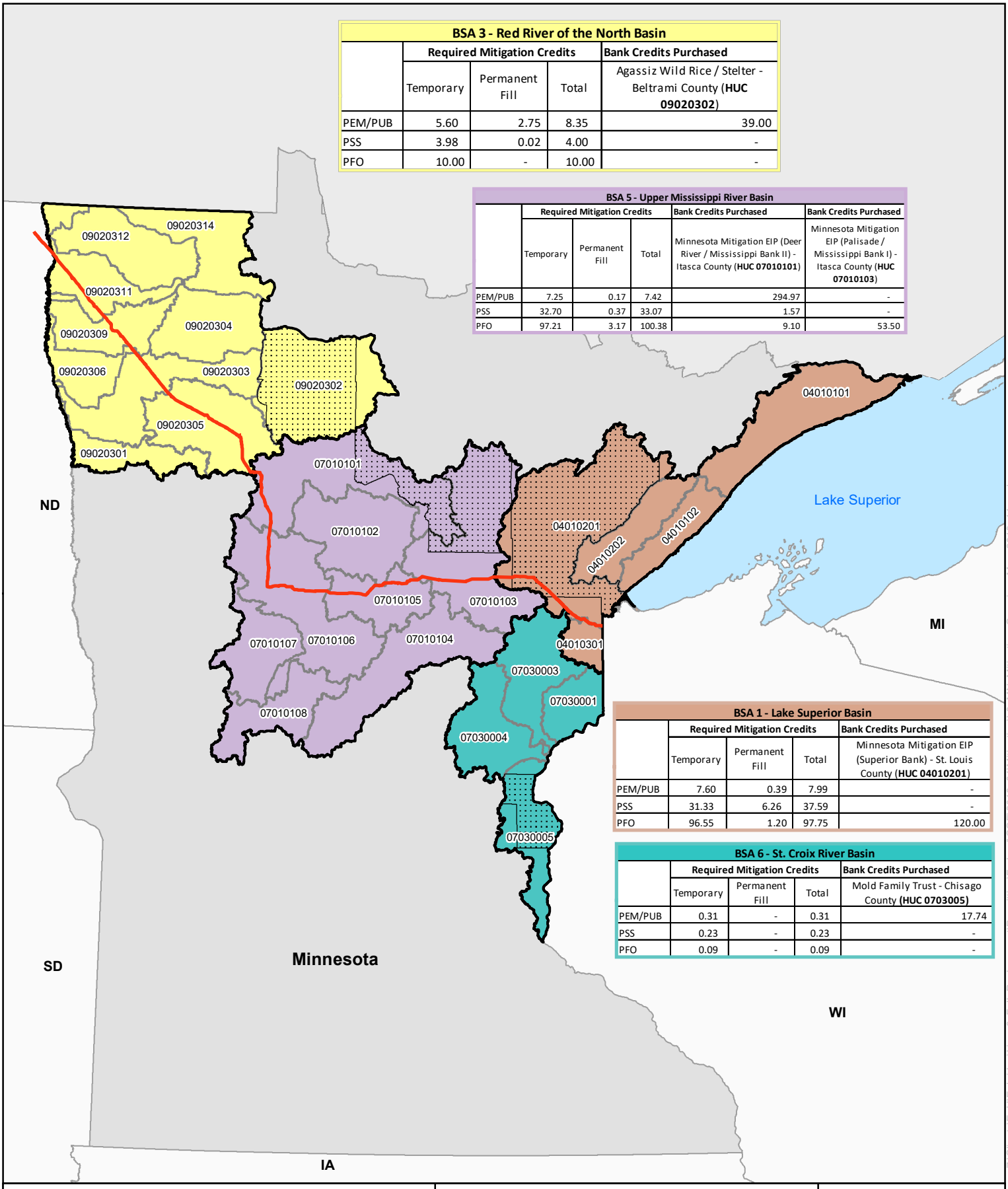
Table 5.2-1
Summary of Required Mitigation Bank Credits Compared to Enbridge-Owned Mitigation Bank Credits

		Normal Wetlands			Special Wetlands			HCVF Wetlands								
		Impact Acres	Ratio	Mitigation Credits Subtotal	Impact Acres	Ratio	Mitigation Credits Subtotal	Impact Acres	Ratio	Mitigation Credits Subtotal	Total Impact Acres	Mitigation Credits Subtotal	Out of Kind Subtotal (+0.25)	Enbridge Bank Credits Purchased	Out of BSA Subtotal (+0.25)	Total Required Mitigation Credits
Bank Service Area 1																
Emergent	Temporary Impact	68.16	0.03	2.04	67.21	0.06	4.03	-	-	-	135.37	6.08	1.52			7.60
	Permanent Fill	0.31	1.00	0.31	-	1.50	-	-	-	-	0.31	0.31	0.08			0.39
Scrub-Shrub	Temporary Impact	32.28	0.06	1.94	21.89	0.09	1.97	-	-	-	54.17	3.91	0.98			4.88
	Permanent Conversion	21.08	0.50	10.54	14.16	0.75	10.62	-	-	-	35.24	21.16	5.29			26.45
	Permanent Fill	3.11	1.50	4.67	0.19	1.75	0.34	-	-	-	3.31	5.01	1.25			6.26
Forested	Temporary Impact	51.41	0.10	5.14	25.97	0.25	6.49	32.63	0.50	16.31	110.01	27.95	-			27.95
	Permanent Conversion	24.90	0.75	18.67	9.57	1.00	9.57	23.80	1.50	35.70	58.27	63.94	-	120.00	4.67	68.61
	Permanent Fill	0.55	2.00	1.09	0.04	2.50	0.10	-	3.00	-	0.59	1.20	-			1.20
BSA 1 SUBTOTAL		**201.79**		**44.41**	**139.04**		**33.13**	**56.42**		**52.01**	**397.26**	**129.55**	**9.12**	**120.00**	**4.67**	**143.33**
Bank Service Area 3																
Emergent	Temporary Impact	129.76	0.03	3.89	28.41	0.06	1.70	-	-	-	158.17	5.60	-	39.00		5.60
	Permanent Fill	2.75	1.00	2.75	-	1.50	-	-	-	-	2.75	2.75	-			2.75
Scrub-Shrub	Temporary Impact	9.32	0.06	0.56	0.91	0.09	0.08	-	-	-	10.23	0.64	0.16			0.80
	Permanent Conversion	4.83	0.50	2.41	0.17	0.75	0.12	-	-	-	5.00	2.54	0.63			3.17
	Permanent Fill	0.01	1.50	0.02	-	1.75	-	-	-	-	0.01	0.02	0.00			0.02
Forested	Temporary Impact	8.95	0.10	0.90	3.32	0.25	0.83	-	0.50	-	12.27	1.72	0.43			2.16
	Permanent Conversion	6.63	0.75	4.97	1.31	1.00	1.31	-	1.50	-	7.94	6.28	1.57			7.85
BSA 3 SUBTOTAL		**162.25**		**15.50**	**34.11**		**4.05**	**-**		**-**	**196.37**	**19.55**	**2.80**	**39.00**	**-**	**22.35**
Bank Service Area 5																
Emergent	Temporary Impact	123.66	0.03	3.71	58.93	0.06	3.54	-	-	-	182.60	7.25	-	294.97		7.25
	Permanent Fill	0.17	1.00	0.17	-	1.50	-	-	-	-	0.17	0.17	-			0.17
Scrub-Shrub	Temporary Impact	33.78	0.06	2.03	12.58	0.09	1.13	-	-	-	46.36	3.16	0.40			3.56
	Permanent Conversion	25.91	0.50	12.96	13.82	0.75	10.36	-	-	-	39.73	23.32	5.83	1.57		29.15
	Permanent Fill	0.20	1.50	0.30	-	1.75	-	-	-	-	0.20	0.30	0.07			0.37
Forested	Temporary Impact	48.25	0.10	4.83	47.41	0.25	11.85	0.31	0.50	0.16	95.98	16.84	4.21			21.05
	Permanent Conversion	41.61	0.75	31.21	41.92	1.00	41.92	0.21	1.50	0.32	83.75	73.45	2.71	62.60		76.16
	Permanent Fill	0.89	2.00	1.79	0.30	2.50	0.75	-	3.00	-	1.19	2.54	0.63			3.17
BSA 5 SUBTOTAL		**274.48**		**56.98**	**174.96**		**69.56**	**0.53**		**0.48**	**449.97**	**127.01**	**13.86**	**359.14**	**-**	**140.87**
Bank Service Area 6																
Emergent	Temporary Impact	8.19	0.03	0.25	1.11	0.06	0.07	-	-	-	9.30	0.31	-	17.74		0.31
Scrub-Shrub	Temporary Impact	0.52	0.06	0.03	0.27	0.09	0.02	-	-	-	0.79	0.06	0.01			0.07
	Permanent Conversion	0.21	0.50	0.11	0.03	0.75	0.02	-	-	-	0.24	0.13	0.03			0.16
Forested	Temporary Impact	0.03	0.10	0.00	0.27	0.25	0.07	-	0.50	-	0.30	0.07	0.02			0.09
BSA 6 SUBTOTAL		**8.96**		**0.39**	**1.67**		**0.18**	**-**		**-**	**10.63**	**0.57**	**0.06**	**17.74**	**-**	**0.63**
PROJECT TOTALS		**647.49**		**117.28**	**349.79**		**106.92**	**56.95**		**52.49**	**1,054.23**	**276.68**	**25.84**	**535.88**		**307.19**

[a] Total required mitigation bank credits may change based on the results of Enbridge's coordination with MDNR, USACE and MPCA regarding certain special wetland categories (see Table 3.0-1, Section 3.1 and Table 4.1-1).

Appendix A

Location of Bank Credits Owned by Enbridge



BSA 3 - Red River of the North Basin

	Required Mitigation Credits			Bank Credits Purchased
	Temporary	Permanent Fill	Total	Agassiz Wild Rice / Stelter - Beltrami County (**HUC 09020302**)
PEM/PUB	5.60	2.75	8.35	39.00
PSS	3.98	0.02	4.00	-
PFO	10.00	-	10.00	-

BSA 5 - Upper Mississippi River Basin

	Required Mitigation Credits			Bank Credits Purchased	
	Temporary	Permanent Fill	Total	Minnesota Mitigation EIP (Deer River / Mississippi Bank II) - Itasca County (**HUC 07010101**)	Minnesota Mitigation EIP (Palisade / Mississippi Bank I) - Itasca County (**HUC 07010103**)
PEM/PUB	7.25	0.17	7.42	294.97	-
PSS	32.70	0.37	33.07	1.57	-
PFO	97.21	3.17	100.38	9.10	53.50

BSA 1 - Lake Superior Basin

	Required Mitigation Credits			Bank Credits Purchased
	Temporary	Permanent Fill	Total	Minnesota Mitigation EIP (Superior Bank) - St. Louis County (**HUC 04010201**)
PEM/PUB	7.60	0.39	7.99	-
PSS	31.33	6.26	37.59	-
PFO	96.55	1.20	97.75	120.00

BSA 6 - St. Croix River Basin

	Required Mitigation Credits			Bank Credits Purchased
	Temporary	Permanent Fill	Total	Mold Family Trust - Chisago County **(HUC 0703005)**
PEM/PUB	0.31	-	0.31	17.74
PSS	0.23	-	0.23	-
PFO	0.09	-	0.09	-

L3R Centerline

Location of Purchased Wetland Bank Credits

HUC 8 Boundary

Bank Service Area

BSA 1

BSA 3

BSA 5

BSA 6

N

Line 3 Replacement Project
Wetland Compensatory Mitigation Overview Map

ENBRIDGE

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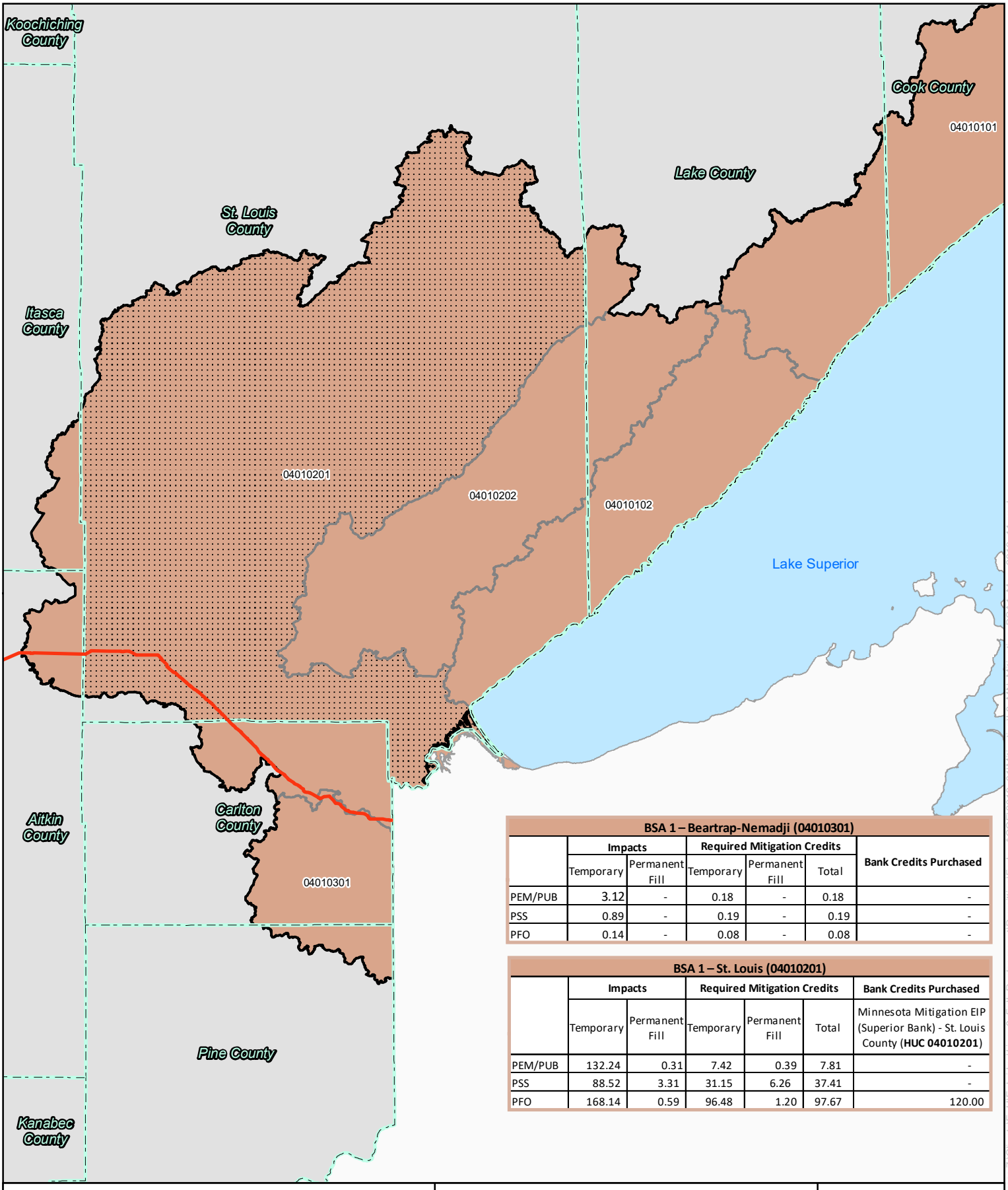

BSA 1 – Beartrap-Nemadji (04010301)						
	Impacts		Required Mitigation Credits			Bank Credits Purchased
	Temporary	Permanent Fill	Temporary	Permanent Fill	Total	
PEM/PUB	3.12	-	0.18	-	0.18	-
PSS	0.89	-	0.19	-	0.19	-
PFO	0.14	-	0.08	-	0.08	-

BSA 1 – St. Louis (04010201)						
	Impacts		Required Mitigation Credits			Bank Credits Purchased
	Temporary	Permanent Fill	Temporary	Permanent Fill	Total	Minnesota Mitigation EIP (Superior Bank) - St. Louis County (**HUC 04010201**)
PEM/PUB	132.24	0.31	7.42	0.39	7.81	-
PSS	88.52	3.31	31.15	6.26	37.41	-
PFO	168.14	0.59	96.48	1.20	97.67	120.00

L3R Centerline
County Boundary
HUC 8 Boundary
Location of Purchased Wetland Bank Credits

Bank Service Area (BSA)
BSA 1

N

Line 3 Replacement Project
Wetland Compensatory Mitigation Map
Bank Service Area 1
Rev X

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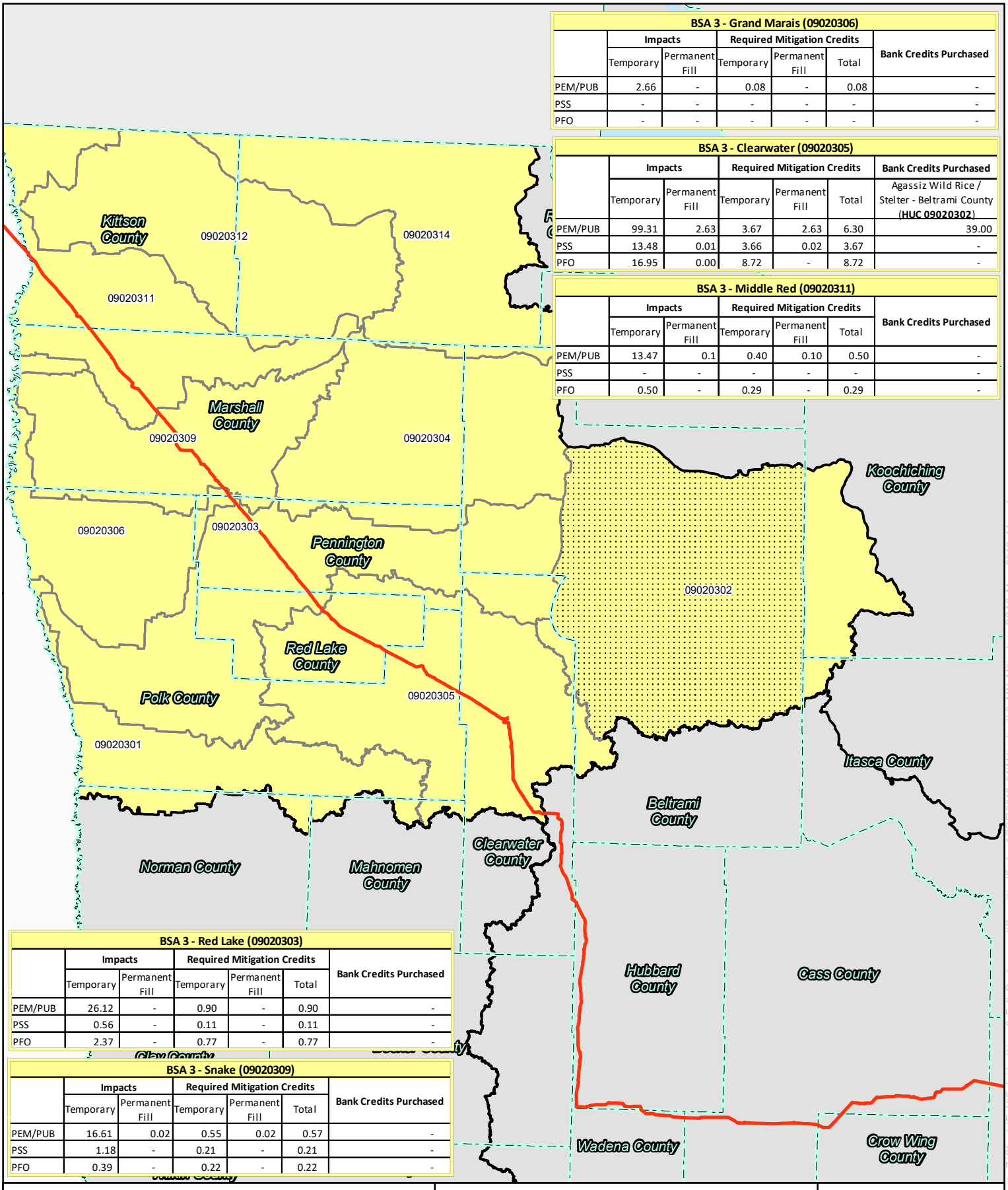

BSA 3 - Grand Marais (09020306)

	Impacts		Required Mitigation Credits			Bank Credits Purchased
	Temporary	Permanent Fill	Temporary	Permanent Fill	Total	
PEM/PUB	2.66	-	0.08	-	0.08	-
PSS	-	-	-	-	-	-
PFO	-	-	-	-	-	-

BSA 3 - Clearwater (09020305)

	Impacts		Required Mitigation Credits			Bank Credits Purchased
	Temporary	Permanent Fill	Temporary	Permanent Fill	Total	Agassiz Wild Rice / Stelter - Beltrami County (HUC 09020302)
PEM/PUB	99.31	2.63	3.67	2.63	6.30	39.00
PSS	13.48	0.01	3.66	0.02	3.67	-
PFO	16.95	0.00	8.72	-	8.72	-

BSA 3 - Middle Red (09020311)

	Impacts		Required Mitigation Credits			Bank Credits Purchased
	Temporary	Permanent Fill	Temporary	Permanent Fill	Total	
PEM/PUB	13.47	0.1	0.40	0.10	0.50	-
PSS	-	-	-	-	-	-
PFO	0.50	-	0.29	-	0.29	-

BSA 3 - Red Lake (09020303)

	Impacts		Required Mitigation Credits			Bank Credits Purchased
	Temporary	Permanent Fill	Temporary	Permanent Fill	Total	
PEM/PUB	26.12	-	0.90	-	0.90	-
PSS	0.56	-	0.11	-	0.11	-
PFO	2.37	-	0.77	-	0.77	-

BSA 3 - Snake (09020309)

	Impacts		Required Mitigation Credits			Bank Credits Purchased
	Temporary	Permanent Fill	Temporary	Permanent Fill	Total	
PEM/PUB	16.61	0.02	0.55	0.02	0.57	-
PSS	1.18	-	0.21	-	0.21	-
PFO	0.39	-	0.22	-	0.22	-

L3R Centerline
County Boundary
HUC 8 Boundary
Location of Purchased Wetland Bank Credits

Bank Service Area (BSA)
BSA 3

Line 3 Replacement Project
Wetland Compensatory Mitigation Map
Bank Service Area 3
Rev X

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BSA 5 - Crow Wing (07010106)

	Impacts		Required Mitigation Credits			Bank Credits Purchased
	Temporary	Permanent Fill	Temporary	Permanent Fill	Total	
PEM/PUB	52.75	0	1.80	-	1.80	-
PSS	23.71	0.02	13.39	0.10	13.49	-
PFO	18.39	-	16.18	-	16.18	-

BSA 5 - Leech Lake (07010102)

	Impacts		Required Mitigation Credits			Bank Credits Purchased
	Temporary	Permanent Fill	Temporary	Permanent Fill	Total	
PEM/PUB	0.01	-	0.00	-	0.00	-
PSS	0.09	-	0.01	-	0.01	-
PFO	0.80	-	0.45	-	0.45	-

BSA 5 - Pine (07010105)

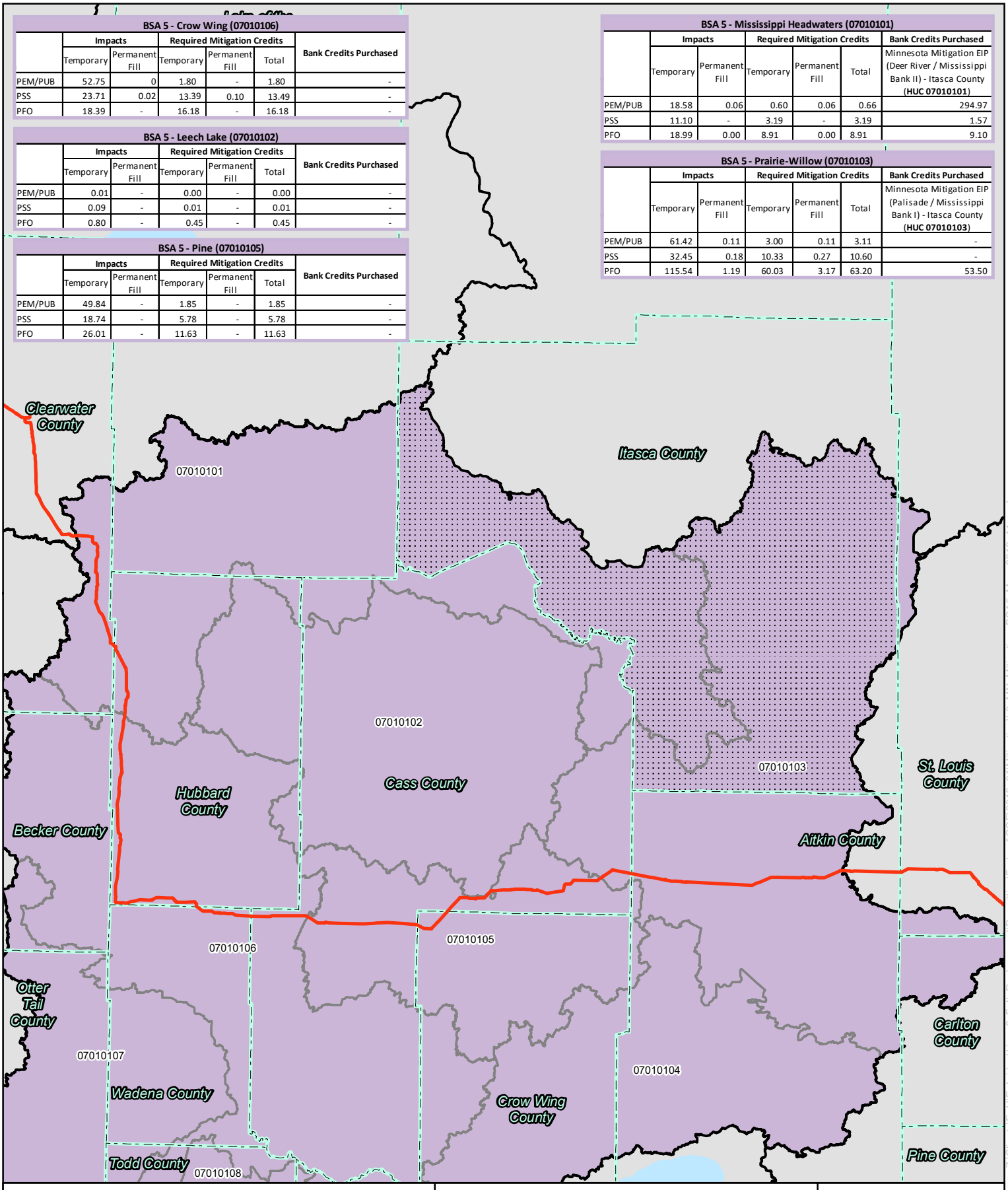
	Impacts		Required Mitigation Credits			Bank Credits Purchased
	Temporary	Permanent Fill	Temporary	Permanent Fill	Total	
PEM/PUB	49.84	-	1.85	-	1.85	-
PSS	18.74	-	5.78	-	5.78	-
PFO	26.01	-	11.63	-	11.63	-

BSA 5 - Mississippi Headwaters (07010101)

	Impacts		Required Mitigation Credits			Bank Credits Purchased
	Temporary	Permanent Fill	Temporary	Permanent Fill	Total	Minnesota Mitigation EIP (Deer River / Mississippi Bank II) - Itasca County (**HUC 07010101**)
PEM/PUB	18.58	0.06	0.60	0.06	0.66	294.97
PSS	11.10	-	3.19	-	3.19	1.57
PFO	18.99	0.00	8.91	0.00	8.91	9.10

BSA 5 - Prairie-Willow (07010103)

	Impacts		Required Mitigation Credits			Bank Credits Purchased
	Temporary	Permanent Fill	Temporary	Permanent Fill	Total	Minnesota Mitigation EIP (Palisade / Mississippi Bank I) - Itasca County (**HUC 07010103**)
PEM/PUB	61.42	0.11	3.00	0.11	3.11	-
PSS	32.45	0.18	10.33	0.27	10.60	-
PFO	115.54	1.19	60.03	3.17	63.20	53.50



L3R Centerline

County Boundary

HUC 8 Boundary

Location of Purchased Wetland Bank Credits

Bank Service Area (BSA)

BSA 5

N

Line 3 Replacement Project
Wetland Compensatory Mitigation Map
Bank Service Area 5
Rev X

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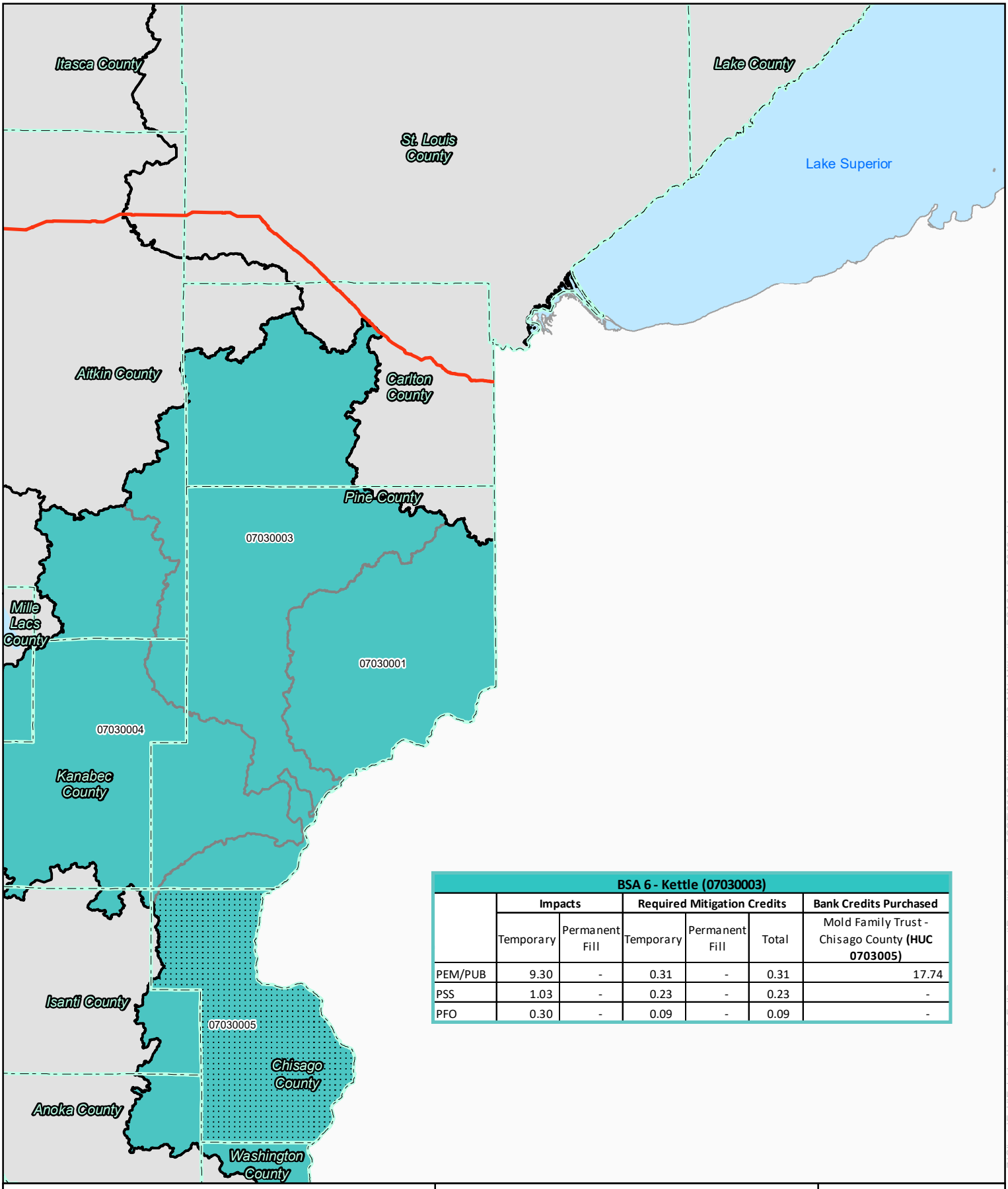

BSA 6 - Kettle (07030003)						
	Impacts		Required Mitigation Credits			Bank Credits Purchased
	Temporary	Permanent Fill	Temporary	Permanent Fill	Total	Mold Family Trust - Chisago County **(HUC 0703005)**
PEM/PUB	9.30	-	0.31	-	0.31	17.74
PSS	1.03	-	0.23	-	0.23	-
PFO	0.30	-	0.09	-	0.09	-

L3R Centerline
County Boundary
HUC 8 Boundary
Location of Purchased Wetland Bank Credits

Bank Service Area (BSA)
BSA 6

N

Line 3 Replacement Project
Wetland Compensatory Mitigation Map
Bank Service Area 6
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ENBRIDGE

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