WETLAND DETERMINATION DATA FORM Great Plains Region

Project/Site:		L3R								Date:	08/15/14	
Applicant:		Enbridge			0 1 1	(1.41 D.4		1415450		County:	Marshall	
Investigators		BEH/MRK			_Subregio	`	A or LRR):	MLRA 56		State:	MN	
Soil Unit:	I24A				l D . l' . (I Classification	າ:			450: 40:::00 -4	•
Landform:	Talf 0 - 2%		Latituda, 10		ocal Relief:		7762254	Deture		Sample Point	u-156n46w20-c1	
Slope (%):		anditions on the city	Latitude: 48.		Longitude			Datum:	□ No	Cootion		
		onditions on the site			ai: (ii no, ex					Section:		
Are Vegetati		□, or Hydrology	•	•		Are	e normal circuı ☑ Yes	-	esent?	Township:	Dir:	
Are Vegetati SUMMARY		□, or Hydrology	□aturally p	iobiematic?			✓ Yes	□ INO		Range:	DII.	
	Vegetation P		No					Hydric Soi	Is Present?	No		
	drology Prese		No		_					t Within A W	/etland? No	
Remarks:		sample point is lo		corner of a he	an field ac	liacent to	n a drainage di				Charle: NO	
rtemants.	The upland	Sample point is to	cated in the	corner or a be	an noid ac	ijacent te	o a drainage di	ton and a mi	ige wet mee	adow.		
HYDROLOG	Y											
		inatana (Obsali all	l the et e e e le u	Aireines une of au				in a all a				
_		icators (Check all	i that apply; i	viinimum of oi	ne primary	or two s	econdary requ	iirea):	Socondon.			
<u>Primary</u> □	<u>/.</u>	Water		П	B11 - Salt	Crust			Secondary:	B6 - Surface S	Soil Cracks	
	A2 - High Wa				B13 - Aqua		ì				Vegetated Concave S	Surface
	A3 - Saturation	n			C1 - Hydro	gen Sulfic	de Odor			B10 - Drainag	e Patterns	
	B1 - Water M				C2 - Dry S			5			Rhizospheres on Livin	ng Roots (tilled)
	B2 - Sedimer B3 - Drift Dep	•					spheres on Living educed Iron	g Roots (not till	l€	C8 - Crayfish	Burrows _' n Visible on Aerial Ima	agory.
	B4 - Algal Ma				C7 - Thin I				ä	D2 - Geomorp		igery
	B5 - Iron Dep	osits			Other (Exp					D5 - FAC-Neu		
		on Visible on Aerial Im	nagery							D7 - Frost-He	aved Hummocks (LRF	R F)
	B9 - Water-S	tained Leaves										
Field Observe												
Field Obser		–	_		(!.a. \							
	ter Present?		Dep		_ (in.)			Wetland F	lydrology I	Present?	N	
Water Table		Yes	•	th:	_ (in.)				, ,,			
Saturation Present? Yes Depth: (in.)												
			<u>'</u>		_ ` ′							
Describe Rec	corded Data (stream gauge, moni	itoring well, a		_ ` ′	pections),	, if available:					
Describe Rec Remarks:	<u> </u>	stream gauge, moni		erial photos, p	revious insp	pections),	, if available:					
Remarks:	<u> </u>			erial photos, p	revious insp	pections),	, if available:					
Remarks:	No primary	or secondary hydr	rological indi	erial photos, po cators were o	revious insposerved.	•						
Remarks: SOILS Profile Descr	No primary	or secondary hydr	rological indi	erial photos, pocators were of	revious insposerved.	onfirm th	e absence of i					
Remarks: SOILS Profile Descr	No primary	or secondary hydr	rological indi	erial photos, pocators were of	revious insposerved.	onfirm th	e absence of i					
Remarks: SOILS Profile Descr	No primary	or secondary hydr ibe to the depth ne etion, RM=Reduced Ma	rological indi	erial photos, pocators were of	revious insposerved.	onfirm th	e absence of i					
Remarks: SOILS Profile Descr (Type: C=Conce	No primary	or secondary hydr ibe to the depth ne etion, RM=Reduced Ma Matrix	rological indi eeded to doc atrix, CS=Cove	erial photos, pocators were of cators were of cator	revious insposerved. icator or co	onfirm th tion: PL=P Mottl	ne absence of income Lining, M=Mat	trix)	Texture		Remarks	
Remarks: SOILS Profile Descr (Type: C=Conce	No primary	or secondary hydrological be to the depth neetion, RM=Reduced Matrix Color (Moist)	eeded to doc atrix, CS=Cove	erial photos, picators were of the cators were of t	revious insposerved.	onfirm th	e absence of i		Texture		Remarks	
Remarks: SOILS Profile Descr (Type: C=Conce	No primary ription (Descrentration, D=Depl	or secondary hydrological ibe to the depth neetion, RM=Reduced Matrix Color (Moist) 2/1	eeded to doc atrix, CS=Cove	erial photos, portion of the color of the co	revious insposerved. icator or configurations; Local (Moist)	onfirm th tion: PL=P Mottl	e absence of increase of incre	Location	FSL		Remarks	
Remarks: SOILS Profile Descr (Type: C=Conce	No primary	or secondary hydrological be to the depth neetion, RM=Reduced Matrix Color (Moist)	eeded to doc atrix, CS=Cove	erial photos, proceed where of the content of the c	revious insposerved. icator or configurations; Locations; Locatio	onfirm th	e absence of interest of the control	Location M	FSL LFS		Remarks	
Remarks: SOILS Profile Descr (Type: C=Conce	No primary ription (Descrentration, D=Depl	or secondary hydrological ibe to the depth neetion, RM=Reduced Matrix Color (Moist) 2/1	eeded to doc atrix, CS=Cove	erial photos, portion of the color of the co	revious insposerved. icator or configurations; Locations; Locatio	onfirm th tion: PL=P Mottl	e absence of increase of incre	Location	FSL		Remarks	
Remarks: SOILS Profile Descr (Type: C=Conce	No primary ription (Descrentration, D=Depl	or secondary hydrological ibe to the depth neetion, RM=Reduced Matrix Color (Moist) 2/1	eeded to doc atrix, CS=Cove	erial photos, proceed where of the content of the c	revious insposerved. icator or configurations; Locations; Locatio	onfirm th	e absence of interest of the control	Location M	FSL LFS		Remarks	
Remarks: SOILS Profile Descr (Type: C=Conce	No primary ription (Descrentration, D=Depl	or secondary hydrological ibe to the depth neetion, RM=Reduced Matrix Color (Moist) 2/1	eeded to doc atrix, CS=Cove	erial photos, proceed where of the content of the c	revious insposerved. icator or configurations; Locations; Locatio	onfirm th	e absence of interest of the control	Location M	FSL LFS		Remarks	
Remarks: SOILS Profile Descr (Type: C=Conce) Depth (In.) 0-14 14-21	No primary ription (Descrentration, D=Depl Hue_10YR Hue_2.5Y	or secondary hydrological between the depth neetion, RM=Reduced Matrix Color (Moist) 2/1 5/4	eeded to doc atrix, CS=Cove	erial photos, picators were of cators were of cator	revious insposerved. icator or configurations; Locations; Locatio	onfirm the stion: PL=P	e absence of increase of incre	Location M	FSL LFS		Remarks	
Remarks: SOILS Profile Descr (Type: C=Conce) Depth (In.) 0-14 14-21	No primary ription (Descrentration, D=Depl	or secondary hydrological between the depth neetion, RM=Reduced Matrix Color (Moist) 2/1 5/4	eeded to doc atrix, CS=Cove	erial photos, proceed where of the content of the c	revious insposerved. icator or configurations; Locations; Locatio	onfirm the stion: PL=P	e absence of interest of the control	Location M	FSL LFS FSL	or Problemati	,	
Remarks: SOILS Profile Descr (Type: C=Conce	No primary iption (Descrentration, D=Deplementation, D=Deplementation) Hue_10YR Hue_2.5Y	or secondary hydrological between the depth neetion, RM=Reduced Matrix Color (Moist) 2/1 5/4	eeded to doc atrix, CS=Cove	erial photos, processor were of cators were of cators were of cators were of cators and cators are of cators were of cators were of cators are of cators are	revious insposerved. icator or configurations; Locations; Locatio	onfirm the stion: PL=P	e absence of increase of incre	Location M M	FSL LFS FSL	or Problemati	ic Soils¹	
Remarks: SOILS Profile Descr (Type: C=Conce) Depth (In.) 0-14 14-21 NRCS Hydr	No primary ription (Description, D=Depl Hue_10YR Hue_2.5Y ric Soil Field A1- Histosol	or secondary hydrological between the depth neetion, RM=Reduced Matrix Color (Moist) 2/1 5/4 Indicators (ch	eeded to doc atrix, CS=Cove	erial photos, processor were of cators were of cators were of cators were of cators and cators are cators are	revious insposerved. icator or configurations; Local (Moist) R 6/8 R 2/1 not preser	onfirm the stion: PL=P	e absence of increase of incre	Location M M	FSL LFS FSL Indicators f A9 - 1 cm M	uck (LRR I, J)	ic Soils ¹	
Remarks: SOILS Profile Descr (Type: C=Conce	No primary iption (Descrentration, D=Deplementation, D=Deplementation) Hue_10YR Hue_2.5Y	or secondary hydrological between the depth neetion, RM=Reduced Matrix Color (Moist) 2/1 5/4 Indicators (chappedon	eeded to doc atrix, CS=Cove	erial photos, processor were of cators were of cators were of cators were of cators and cators are of cators were of cators were of cators are of cators are	revious insposerved. icator or configurations; Local (Moist) 6/8 2/1 not preserved.	onfirm the tion: PL=P Mottl % 1 10 at):	e absence of increase of incre	Location M M	FSL LFS FSL Indicators f A9 - 1 cm M A16 - Coast	uck (LRR I, J)	i c Soils ¹ (LRR F, G, H)	
Remarks: SOILS Profile Descr (Type: C=Conce	Hue_10YR Hue_2.5Y Tic Soil Field A1- Histosol A2 - Histic Ep A3 - Black His A4 - Hydroge	or secondary hydrological hydrological secondary hydrological hydrologica	eeded to doc atrix, CS=Cove	cators were of the control of the co	revious insposerved. icator or configurations; Local (Moist) R 6/8 R 2/1 not preserved.	monfirm the stion: PL=P Mottl % 1 10 at):	e absence of increase of incre	Location M M ————————————————————————————————	FSL LFS FSL Indicators f A9 - 1 cm M A16 - Coast S7 - Dark St F16 - High F	uck (LRR I, J) Prairie Redox urface (LRR G) Plains Depressi	i c Soils ¹ (LRR F, G, H)	73)
Remarks: SOILS Profile Descr (Type: C=Conce	Hue_10YR Hue_2.5Y A1- Histosol A2 - Histic Ep A3 - Black His A4 - Hydroge A5 - Stratified	or secondary hydrological between the depth neetion, RM=Reduced Matrix Color (Moist) 2/1 5/4 Indicators (chapted on Sulfide I Layers (LRR F)	eeded to doc atrix, CS=Cove	cators were of the control of the co	revious insposerved. icator or configurations; Locations; Locatio	onfirm the tion: PL=P Mottl % 1 10 at):	e absence of increase of incre	Location	FSL LFS FSL Indicators f A9 - 1 cm M A16 - Coast S7 - Dark St F16 - High F F18 - Reduce	uck (LRR I, J) Prairie Redox urface (LRR G) Plains Depressi ed Vertic	i <mark>c Soils¹</mark> (LRR F, G, H)	73)
Remarks: SOILS Profile Descr (Type: C=Conce) Depth (In.) 0-14 14-21	Hue_10YR Hue_2.5Y Tic Soil Field A1- Histosol A2 - Histic Ep A3 - Black His A4 - Hydroge A5 - Stratified A9 - 1 cm Mu	or secondary hydrological secondary hydrologi	eeded to doc atrix, CS=Cove	cators were of cators and cators are cators ar	revious insposerved. icator or configurations; Local (Moist) R 6/8 2/1 not preserved. Redox d Matrix Mucky Miner Gleyed Matrix Dark Surface	onfirm the tion: PL=P Mottl % 1 10 tt):	e absence of increase of incre	Location	FSL LFS FSL Indicators f A9 - 1 cm M A16 - Coast S7 - Dark St F16 - High F F18 - Reduct TF2 - Red P	uck (LRR I, J) Prairie Redox urface (LRR G) Plains Depressi ed Vertic arent Material	(LRR F, G, H) Ons (LRR H, outside MLRA 72,	73)
Remarks: SOILS Profile Descr (Type: C=Conce	Hue_10YR Hue_2.5Y Tic Soil Field A1- Histosol A2 - Histic Ep A3 - Black His A4 - Hydroge A5 - Stratified A9 - 1 cm Mu A11 - Deplete	or secondary hydrological secondary hydrologi	eeded to doc atrix, CS=Cove	cators were of the control of the co	revious insposerved. icator or congrains; Local (Moist) 6/8 2/1 not preserved. Redox d Matrix Mucky Miner Gleyed Matrix Dark Surfaced Dark Surfaced Dark Surfaced	monfirm the stion: PL=P Mottl % 1 10 at):	e absence of increase of incre	Location	FSL LFS FSL Indicators f A9 - 1 cm M A16 - Coast S7 - Dark St F16 - High F F18 - Reduct TF2 - Red P TF12 - Very	uck (LRR I, J) Prairie Redox urface (LRR G) Plains Depressi ed Vertic arent Material Shallow Dark	ic Soils ¹ (LRR F, G, H)) Ons (LRR H, outside MLRA 72,	73)
Remarks: SOILS Profile Descr (Type: C=Conce	Hue_10YR Hue_2.5Y Tic Soil Field A1- Histosol A2 - Histic Ep A3 - Black His A4 - Hydroge A5 - Stratified A9 - 1 cm Mu	or secondary hydrological between the depth neetion, RM=Reduced Minimum Matrix Color (Moist) 2/1 5/4 Indicators (characteristic on Sulfide	eeded to doc atrix, CS=Cove	cators were of the control of the co	revious insposerved. icator or configurations; Locations; Locatio	onfirm the tion: PL=P Mottl % 1 10 at):	e absence of increase of incre	Location	FSL LFS FSL Indicators f A9 - 1 cm M A16 - Coast S7 - Dark St F16 - High F F18 - Reduct TF2 - Red P TF12 - Very	uck (LRR I, J) Prairie Redox urface (LRR G) Plains Depressi ed Vertic arent Material	ic Soils ¹ (LRR F, G, H)) Ons (LRR H, outside MLRA 72,	73)
Remarks: SOILS Profile Descr (Type: C=Conce	Hue_10YR Hue_2.5Y Hue_2.5Y A1- Histosol A2 - Histic Ep A3 - Black His A4 - Hydroge A5 - Stratified A9 - 1 cm Mu A11 - Deplete A12 - Thick D S1 - Sandy M S2 - 2.5 cm N	or secondary hydrological secondary hydrologi	rological indi eeded to doc atrix, CS=Cove // 10 89 neck here if i	cators were of the control of the co	revious insposerved. icator or configurations; Locations; Locatio	onfirm the tion: PL=P Mottl % 1 10 at):	es Type C C	Location	FSL LFS FSL Indicators f A9 - 1 cm M A16 - Coast S7 - Dark St F16 - High F F18 - Reduct TF2 - Red P TF12 - Very	uck (LRR I, J) Prairie Redox urface (LRR G) Plains Depressi ed Vertic arent Material Shallow Dark	ic Soils ¹ (LRR F, G, H)) Ons (LRR H, outside MLRA 72,	73)
Remarks: SOILS Profile Descr (Type: C=Conce	Hue_10YR Hue_2.5Y Tic Soil Field A1- Histosol A2 - Histic Ep A3 - Black His A4 - Hydroge A5 - Stratified A9 - 1 cm Mu A11 - Deplete A12 - Thick D S1 - Sandy M S2 - 2.5 cm M S3 - 5 cm Mu	or secondary hydrometric ibe to the depth neetion, RM=Reduced Minimum Matrix Color (Moist) 2/1 5/4 Indicators (characteristic in Sulfide in Layers (LRR F) ck (LRR FGH) cd Below Dark Surface in S	rological indi eeded to doc atrix, CS=Cove // 10 89 neck here if i	cators were of the control of the co	revious insposerved. icator or configurations; Locations; Locatio	onfirm the tion: PL=P Mottl % 1 10 at):	es Type C C	Location	FSL LFS FSL Indicators f A9 - 1 cm M A16 - Coast S7 - Dark St F16 - High F F18 - Reduct TF2 - Red P TF12 - Very Other (Expla	uck (LRR I, J) Prairie Redox urface (LRR G) Plains Depressi ed Vertic arent Material Shallow Dark (ain in Remarks)	ic Soils ¹ (LRR F, G, H) ons (LRR H, outside MLRA 72, Surface)	
Remarks: SOILS Profile Descr (Type: C=Conce	Hue_10YR Hue_2.5Y Hue_2.5Y A1- Histosol A2 - Histic Ep A3 - Black His A4 - Hydroge A5 - Stratified A9 - 1 cm Mu A11 - Deplete A12 - Thick D S1 - Sandy M S2 - 2.5 cm N	or secondary hydrometric ibe to the depth neetion, RM=Reduced Minimum Matrix Color (Moist) 2/1 5/4 Indicators (characteristic in Sulfide in Layers (LRR F) ck (LRR FGH) cd Below Dark Surface in S	rological indi eeded to doc atrix, CS=Cove // 10 89 neck here if i	cators were of the control of the co	revious insposerved. icator or configurations; Locations; Locatio	onfirm the tion: PL=P Mottl % 1 10 at):	es Type C C	Location	FSL LFS FSL Indicators f A9 - 1 cm M A16 - Coast S7 - Dark St F16 - High F F18 - Reduct TF2 - Red P TF12 - Very Other (Expla	uck (LRR I, J) Prairie Redox urface (LRR G) Plains Depressi ed Vertic arent Material Shallow Dark (ain in Remarks)	ic Soils ¹ (LRR F, G, H) ons (LRR H, outside MLRA 72, Surface)	
Remarks: SOILS Profile Descr (Type: C=Conce	Hue_10YR Hue_2.5Y Hue_2.5Y A1- Histosol A2 - Histic Ep A3 - Black His A4 - Hydroge A5 - Stratified A9 - 1 cm Mu A11 - Deplete A12 - Thick D S1 - Sandy M S2 - 2.5 cm M S3 - 5 cm Mu S4 - Sandy G	or secondary hydrological secondary hydrologi	rological indi eeded to doc atrix, CS=Cove // 10 89 neck here if i	cators were of the control of the co	revious insposerved. icator or configurations; Local (Moist) Redox d Matrix Mucky Miner Gleyed Matrix Dark Surface d Dark Surface Depressions Plains Depressions	onfirm the tion: PL=P Mottl % 1 10 at):	es Type C C	Location	FSL LFS FSL Indicators f A9 - 1 cm M A16 - Coast S7 - Dark St F16 - High F F18 - Reduct TF2 - Red P TF12 - Very Other (Expla	uck (LRR I, J) Prairie Redox urface (LRR G) Plains Depressi ed Vertic arent Material Shallow Dark (ain in Remarks)	ic Soils ¹ (LRR F, G, H) ons (LRR H, outside MLRA 72, Surface)	
Remarks: SOILS Profile Descr (Type: C=Conce	Hue_10YR Hue_2.5Y Hue_2.5Y A1- Histosol A2 - Histic Ep A3 - Black His A4 - Hydroge A5 - Stratified A9 - 1 cm Mu A11 - Deplete A12 - Thick D S1 - Sandy M S2 - 2.5 cm M S3 - 5 cm Mu S4 - Sandy G	or secondary hydrological secondary hydrologi	rological indi eeded to doc atrix, CS=Cove // 10 89 neck here if i	cators were of the control of the co	revious insposerved. icator or configurations; Local (Moist) Redox d Matrix Mucky Miner Gleyed Matrix Dark Surface d Dark Surface Depressions Plains Depressions	onfirm the tion: PL=P Mottl % 1 10 at):	es Type C C C A A A A A A A A A A A A A A A A	Location	FSL LFS FSL Indicators f A9 - 1 cm M A16 - Coast S7 - Dark St F16 - High F F18 - Reduct TF2 - Red P TF12 - Very Other (Expla	uck (LRR I, J) Prairie Redox urface (LRR G) Plains Depressi ed Vertic arent Material Shallow Dark (ain in Remarks)	ic Soils ¹ (LRR F, G, H) ons (LRR H, outside MLRA 72, Surface)	

WETLAND DETERMINATION DATA FORM

Great Plains Region

Project/Site:	L3R				Sample Point: u-156n46w20-c1
					<u> </u>
VEGETATIO	N (Species identified in all uppercase	e are non-native	species.)		
Tree Stratum	(Plot size: 30 ft. radius)				
	Species Name	% Cover	Dominant	Ind.Status	Dominance Test Worksheet
1.					
2.					Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)
3.					
4.					Total Number of Dominant Species Across All Strata: 1 (B)
5.					
6.					Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)
7.					(742)
8.	<u> </u>				Prevalence Index Worksheet
9.					
10.	Total Cava		OBL spp. $0 x 1 = 0$ FACW spp. $0 x 2 = 0$		
	Total Cove	er = <u>0</u>	FACW spp. $0 X 2 = 0$		
0 11 /01					FAC spp. $0 X 3 = 0$
	Stratum (Plot size: 15 ft. radius)				FACU spp. $\frac{13}{13}$ $\times 4 = \frac{52}{13}$
1.					UPL spp. 15 $x 5 = 75$
2.					
3.					Total <u>28</u> (A) <u>127</u> (B)
4.					
5.					Prevalence Index = B/A = 4.536
6.					
7.					
8.					Hydrophytic Vegetation Indicators:
9.					Rapid Test for Hydrophytic Vegetation
10.					Dominance Test is > 50%
	Total Cove	er = O			Prevalence Index is ≤ 3.0 *
	Total Gove				
Llank Otratura /	Diet sies. 5 th redive)				Morphological Adaptations (Explain) *
Herb Stratum (Plot size: 5 ft. radius)	1 45	V	NI	Problem Hydrophytic Vegetation (Explain) *
1.	Phaseolus vulgaris	15	T NI		* In disperse of budgio politicad watered budgetons govern
2.	Amaranthus retroflexus	5	N	FACU	 * Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
3.	Elymus repens	5	N N	FACU	· · · · · · · · · · · · · · · · · · ·
4.	Ambrosia artemisiifolia	3	N	FACU	Definitions of Vegetation Strata:
5.					
6					Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast
7.					height (DBH), regardless of height.
8.					
9.					Sapling/Shrub - Woody plants less than 3 in. DBH, regardless of height.
10.					
11.					
12.		=			Herb - All herbaceous (non-woody) plants, regardless of size.
13.	<u></u>				
14.	I	1			
15.					Woody Vines - All woody vines, regardless of height.
13.	Total Cove	- 00			vvoody vinies - 7 iii woody vinies, regulaliese si neligini.
	Total Cove	er = <u>28</u>	_		
Woody Vine St	ratum (Plot size: 30 ft. radius)	_			
1.					
2.					
3.					Hydrophytic Vegetation Present?N
5.					
4.					
	Total Cove	er = 0			
Remarks:	The site is dominated by scattered green	bean; other w	veedy plan	ts are also	present.
	3	,	7		
A al al!4! a ! =	Damaulaa.				
Additional F	kemarks:				