### KEYSTONE XL PIPELINE PROJECT

State:       SD       County:       Various       Quad Map:         Township:       Various       Centerline:       8/15/2012       MPI         REASON FOR ROUTE VARIATION (Please include reason for route variation):       MPI         This report consists of 7 proposed route refinements. These route refinements are proposed to slightly sh hrough the Pump Stations. The reason for each route variation is listed in the "Supplemental Info" tab.         The route variations have been proposed based on shapefiles received from the Facilities group, as well a         DETAIL ROUTE VARIATION (Please describe route variation in detail):         Jisted in "Supplemental Info" Tab.         No new landowners have been affected by the proposed route variations. The tracts impacted are as folk         RV-0395-01 = 3 tracts impacted: ML-SD-HA-00080.000 (State of South Dakota), ML-SD-HA-00100.000 (Harding County).         RV-0395-02 = 4 tracts impacted: ML-SD-HA-02515.000 (Mark J. Vroman), ML-SD-HA-02568 (Harding County).         RV-0395-03 = 2 tracts impacted: ML-SD-HK-00450.000 (Mark J. Vroman).         RV-0395-04 = 3 tracts impacted: ML-SD-JO-IOE-00335.000 (John & Carmen Heidler) and ML-SD-HK-00460.00         RV-0395-05 = 2 tracts impacted: ML-SD-JO-IO295.000 (West Rio Land & Cattle LTD) and ML-SD-JO-IO          RV-0395-06 = 3 tracts impacted: ML-SD-TR-10270.000 (Jorgensen Farms, Inc., A South Dakota Corpora         RV-0395-07 = 1 tract impacted: ML-SD-TR-10200.000 (Bernard Seegers & Betty Seegers Trustees).		
OCATION:         Sketch:         Attached         Pictures: No           State:         SD         County:         Various         Quad Map: No           State:         Various         Range:         Various         Quad Map: No           Section:         Various         Centerline:         8152012         MPI:           REASON FOR ROUTE VARIATION (Please include reason for route variation):         This report consists of 7 proposed route refinements. These route refinements are proposed to slightly shintrough the Pump Stations. The reason for each route variation is listed in the "Supplemental Info" tab.           The route variations have been proposed based on shapefiles received from the Facilities group, as well a           DETAIL ROUTE VARIATION (Please describe route variation in detail):           i.isted in "Supplemental Info" Tab.           No new landowners have been affected by the proposed route variations. The tracts impacted are as folk           RV-0395-01 = 3 tracts impacted: ML-SD-HA-02515.000 (Mark J. Vroman), ML-SD-HA-02568 (Harding Cd           TransCanada Keystone Pipeline LP), ML-SD-HA-02572.000 (Mark J. Vroman),           RV-0395-03 = 2 tracts impacted: ML-SD-ME-00335.000 (John & Carmen Heidler) and ML-SD-ME-00330.           RV-0395-04 = 3 tracts impacted: ML-SD-JO-10295.000 (West Rio Land & Cattle LTD) and ML-SD-JO-10.           PAr-0395-05 = 2 tracts impacted: ML-SD-TR-10270.000 (Jorgensen Farms, Inc., A South Dakota Corpora           RV-0395-06 = 3 tracts impacte	Desigr	ח:
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Originator: Engineering		
Listed in "Cost Analysis" Tab. Originator:Engineering		
Originator: Engineering	ion bends, etc.):	
Originator: Engineering		
Originator: Engineering		
Date: 11/13/2012	10 Received by:	
		/13/2012
Assigned Tracking Number: 0395-SD-P4-XXX.X-XXX.X-I	12 Filed by:	
	Date:	

## Keystone XL Pipeline - Supplemental Information for Route Variation Report 0395 Prepared: 2012-11-13

RV ID	MP Start	MP End	State	County	Section	Township	Range	Original Length (ft)	n Reroute Length (ft)	Change in Length (ft)	Max. Perp. Deviation (ft)	Reason for Variation	Brief Variation Description	Additional Impacts/Comments	Originator
0395-01	288.43	289.00	SD	Harding	016, 021, 022	022N	001E	3,028	3,028	0.57	0.87	To shift CL slightly to match the facility layout through PS-15 (Harding).	Route variation starts near MP 288 and deviates ~10° southeast from CL. It continues in this direction for ~ 19 ft. Then the reroute turns further southeast and extends for ~3,009 ft. before rejoining the current CL near MP 289.		Engineering
0395-02	336.81	337.44	SD	Harding	024, 025	017N	006E	3,324	3,322	-1.19	1.91		Route variation starts near MP 336.8 and deviates ~20° south from current CL. It continues paralleling the current CL for ~3.312 ft, then it turns slightly southeast and extends for ~11 ft. to rejoin the current CL near MP 337.4.		Engineering
0395-03	391.35	391.54	SD	Meade	022	011N	013E	1,019	1,019	-0.07	0.20	To shift CL slightly to match the facility layout through PS-17 (Faith).	Route variation starts near MP 391.4 and deviates $\sim 1.5^{\circ}$ southeast from current CL. It continues in this direction for $\sim 10 \text{ f}$ , then it turns slightly east, thus paralleling the current CL. It continues in this direction for $\sim 1,010 \text{ f}$ . prior to rejoining the current CL near MP 391.5.		Engineering
0395-04	444.53	444.70	SD	Haakon	022, 023	005N	019E	926	926	0.39	0.00	To shift CL slightly to match the facility layout through PS-18 (Haakon).	Route variation starts near MP 444.5 and deviates ~8° southeast from current CL. It continues in this direction for ~ 20 ft, then it turns slightly east, thus paralleling the current CL. It continues in this direction for ~ 906 ft. before it rejoins the current CL near MP 444.7.		Engineering
0395-05	500.31	500.84	SD	Jones	001, 002	001S	027E	2,771	2,778	6.59	12.00	To shift CL slightly to match the facility layout through PS-19 (Murdo).	Route variation starts near MP 500.3 and deviates ~8.5° southeast from current CL. It continues in this direction for ~110 ft. The recrute continues by turning east, thus intersecting the current CL. It continues in this direction for ~1,453 ft. Then it turns southeast and extends for ~1,215 ft. to rejoin the current CL near MP 500.8.		Engineering
0395-06	550.56	551.38	SD	Tripp	031, (006)	102N, (101N)	077W	4,299	4,305	6.05	1.04	To shift CL slightly to match the facility layout through PS-20 (Winner).	Route variation starts near MP 550.6 and deviates ~6.5° southwest of current CL. It extends in this direction for ~3f. Then it turns southeast, thrus paralleling the current CL. The reroute extends in this direction for ~4.293 ft. Finally, the proposed route variation turns east for ~9 ft. to rejoin the current CL near MP 551.4.		Engineering
0395-07	598.71	598.98	SD	Tripp	26	095N	074W	1,433	1,433	0.00	0.03	To shift CL slightly to match the facility layout through PS-21 (Colome).	Route variation starts near MP 598.8 and deviates ~10° southwest thus paralleling the current CL for ~1,433 ft. prior to rejoining it near MP 598.9.		Engineering

RV ID	Civil Survey Complete?	Civil Survey Needed (ft)	Moves Pump Station?	Moves Valve Site?	In Co-located Area?	Does route variation impact ABB areas?	Biological Survey Complete for Existing Corridor?	Cultural Survey Complete for Existing Corridor?	Biological Survey Complete for Proposed Corridor?	Cultural Survey Complete for Proposed Corridor?		Number of New Landowners impacted by reroute	Number of Landowners on current route impacted by reroute	Is the affected landowner a possible condemnation?	Number of tracts purchased on original route.	Does proposed route variation impact Tribal Lands?	Does proposed route variation impact any Federal/State Lands?
0395-01	NO	0	NO	NO	NO	NO	Yes	Yes	Yes	Yes	0	0	2		0	NO	YES
0395-03	NO	0	NO	NO	NO	NO	Yes	Yes	Yes	Yes	0	0	3		0	NO	NO
0395-04	NO	0	NO	NO	NO	NO	Yes	Yes	Yes	Yes	0	0	2		0	NO	NO
0395-05	NO	0	NO	NO	NO	NO	Yes	Yes	Yes	Yes	0	0	2		0	NO	NO
0395-05	NO	0	NO	NO	NO	NO	Yes	Yes	Yes	Yes	0	0	2		0	NO	NO
0395-06	NO	0	NO	NO	NO	NO	Yes	Yes	Yes	Yes	0	0	3		0	NO	NO
0395-07	NO	0	NO	NO	NO	NO	Yes	Yes	Yes	Yes	0	0	1		0	NO	NO

## Keystone XL Pipeline - Cost Analysis for Route Variation Report 0395 Prepared: 2012-11-13

RV ID	Additional length (ft)	Cost \$360/ft	Additional length of wetland construction (ft)	Cost \$195/ft	Additional length of side hill construction (ft)	\$ Cost \$19/ft	Additional bore length (ft)	Co \$54	ost 0/ft	Additional Waterbody crossings	(\$77,2 10 (\$32	Cost 50/EA btw ' - 19') 2,500/EA < 10')	Cost o Environm surve (\$5,300/r	ental y	Cost of Civil survey (\$5,000/mile)	Appro cost fo purcha curr cente	sed on rent	miscellaneous cost for	To	tal Cost
0395-01	0.57	\$ 204.35	0	\$ -	0	\$ -		\$	-	0	\$	-	\$	-		\$	-		\$	204.35
0395-02	-1.19	\$ (428.40)	0	\$ -	0	\$ -		\$	-	0	\$	-	\$	-		\$	-		\$	(428.40)
0395-03	-0.07	\$ (24.71)	0	\$ -	0	\$ -		\$	-	0	\$	-	\$	-		\$	-		\$	(24.71)
0395-04	0.39	\$ 140.45	0	\$ -	0	\$ -		\$	-	0	\$	-	\$	-		\$	-		\$	140.45
0395-05	6.59	\$ 2,373.30	0	\$ -	0	\$ -		\$	-	0	\$	-	\$	-		\$	-		\$	2,373.30
0395-06	6.05	\$ 2,177.20	0	\$ -	0	\$ -		\$	-	0	\$	-	\$	-		\$	-		\$	2,177.20
0395-07	0.00	\$ (0.17)	0	\$ -	0	\$ -		\$	-	0	\$	-	\$	-		\$	-		\$	(0.17)

Overall Estimated Costs of Routes Variations= \$ 4,442.02

## Keystone XL Pipeline - Approval form for Route Variation Report 0395 Prepared: 2012-11-13

RV ID		0395-01	0395-02	0395-03	0395-04	0395-05	0395-06	0395-07
	Approval (Y/N)	Y	9	Y	9	Ŷ	Y	9
LAND (TransCanada) Tina Half	Comments	11-27-12	11-27-12	11-27-12	11-27-12	11-27-12	11-27-12	11-27-12
	Signature	Titl. Hall	Tint. Hall	Tom Hall	Tom Hall	T-M.H.a	Tim Hall	1-m 1-0
1	Approval (Y/N)	7	4	9	Y	9	911-19	U
ENGINEERING (TransCanada) Meera Kotharl	Comments	11/25/12	11/25/12	11/25/17	11/25/14	nksin	Intain	1/127112
	Signature	n	Ten	n	2n	n.	sin	-20
ENGINEERING (exp)	Approval (Y/N)							
Kovin McGlynn	Comments							
	Signature							
ENVIRONMENTAL (TransCanada)	Approval (Y/N)	12.07.12	12.07.12	12.07.12	12.57.D		- Y - 1)	12.07-12
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(TransCanada) Robert Bradley	Signature							- 16.12
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KEYSTONE XL MANAGER (TransCanada)	Comments							
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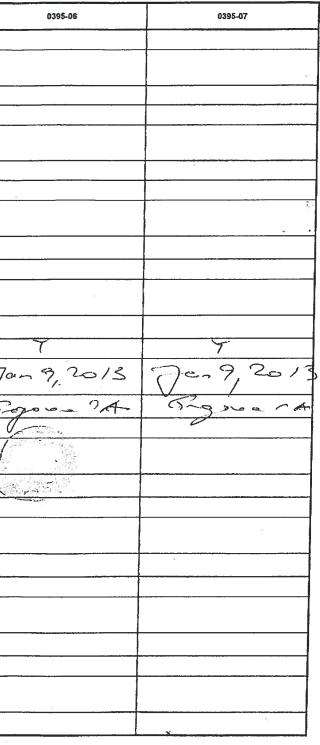
# Keystone XL Pipeline - Approval form for Route Variation Report 0395 Prepared: 2012-11-13

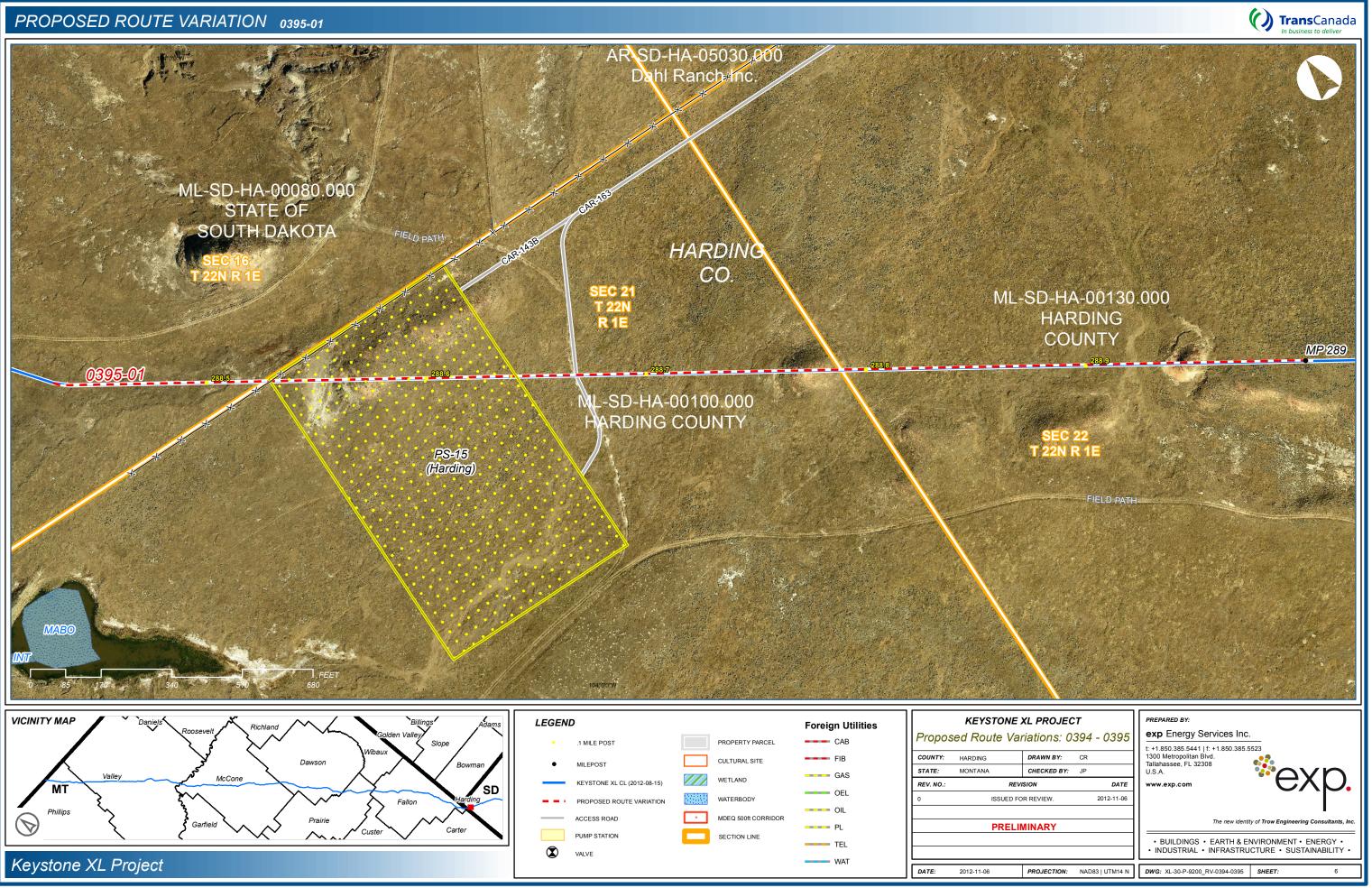
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LAND (TransCanada) Tina Hall	Comments							
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KEYSTONE XL MANAGER (TransCanada) Steve Marr	Comments							
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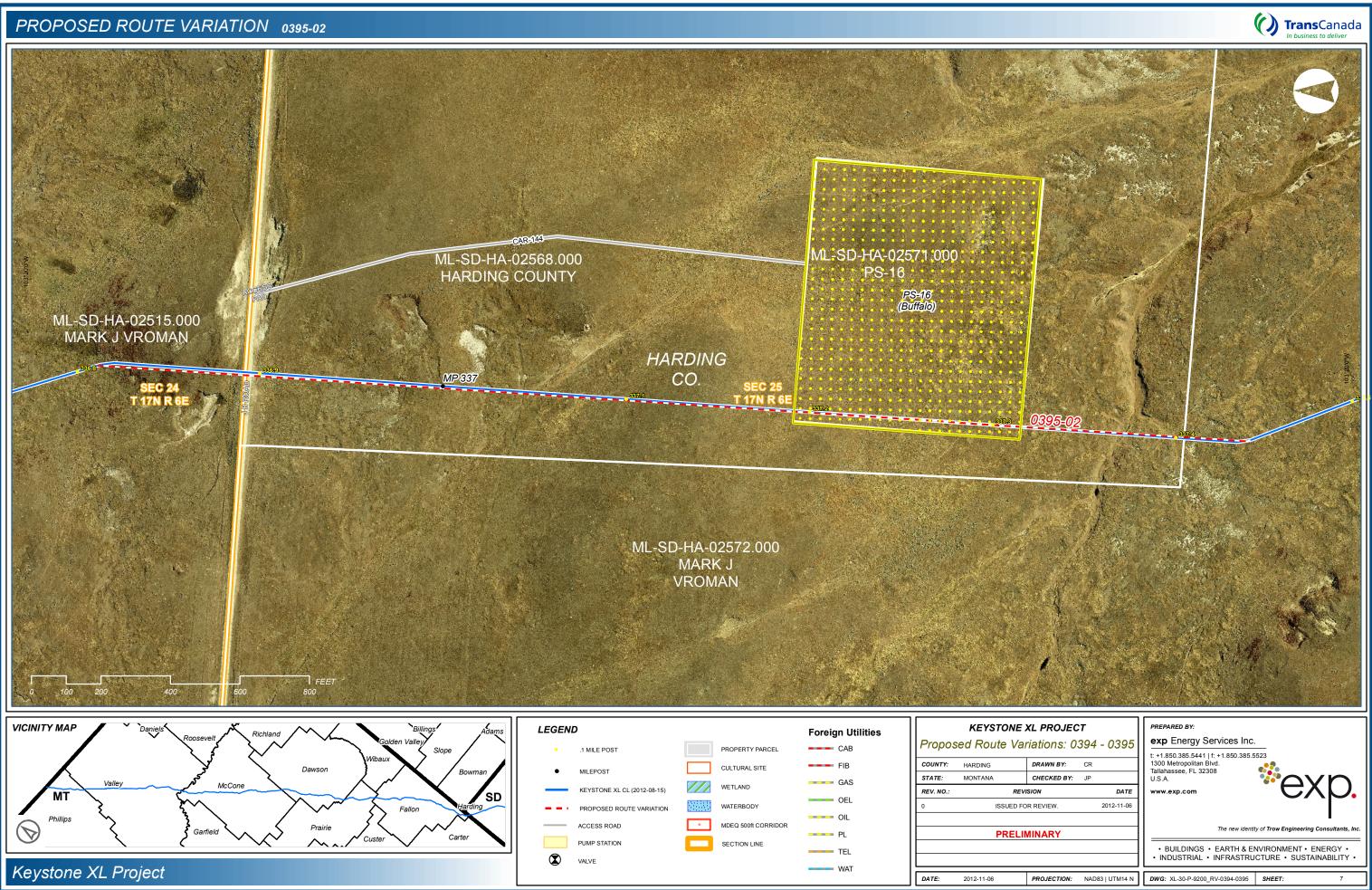
Keystone XL Pipeline - Approval form for Route Variation Report 0395 Prepared: 2012-11-13

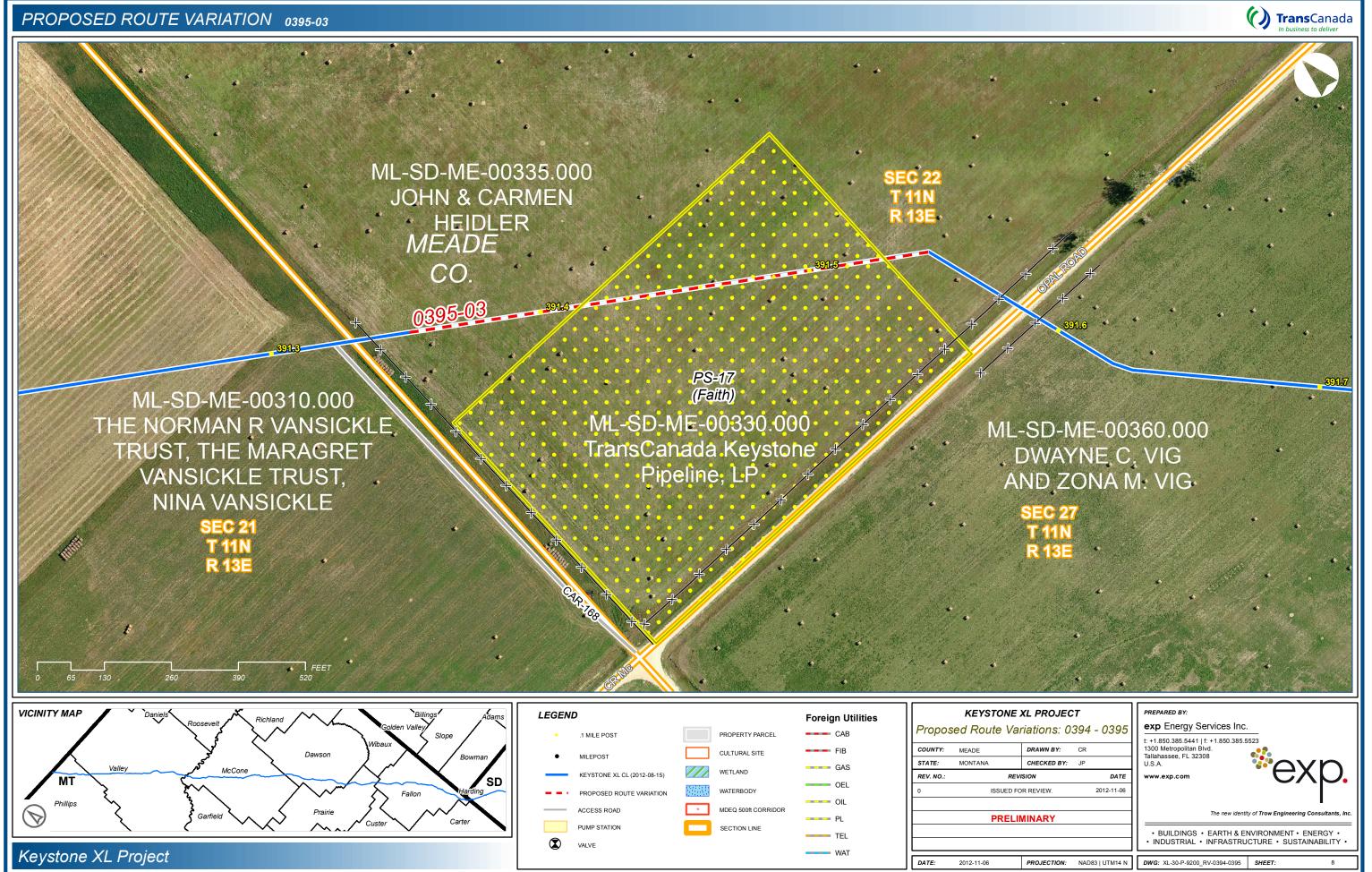
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### PROPOSED ROUTE VARIATION 0395-04

