

KEYSTONE XL PIPELINE PROJECT

0381-SD-P4-319.8-320.6-1

KEYSTONE XL PIPELINE PROJECT PIPELINE ROUTE VARIATION FORM			
1	VARIATION TYPE: Refinement: <input type="text"/> Reroute: <input checked="" type="checkbox"/> Footprint: <input type="text"/> Design: <input type="text"/> Centerline: <input checked="" type="checkbox"/> Pump Station: <input type="text"/> Valve Site: <input type="text"/> CAR: <input type="text"/>		
2	LOCATION: Sketch: <input type="text" value="Attached"/> Pictures: <input type="text" value="N/A"/> State: <input type="text" value="SD"/> County: <input type="text" value="Harding"/> Quad Map: <input type="text" value="N/A"/> Township: <input type="text" value="19N"/> Range: <input type="text" value="05E"/> Aerial Map: <input type="text" value="See attached map sheet"/> Section: <input type="text" value="021, 028"/> Centerline: <input type="text" value="8/15/2012"/> MP: <input type="text" value="319.83"/> to <input type="text" value="320.64"/>		
3	REASON FOR ROUTE VARIATION (Please include reason for route variation): The primary reason for this route variation is to shift CL/Workspaces out of and away from pond/wetland feature (MABO-S-0358) located near MP 320.45. This proposed reroute is requested by Engineering and is proposed based on the recommendations from the CPMS 60% Design Review as well as from a combination of aerial imagery, Pictometry, and LIDAR data.		
	DETAIL ROUTE VARIATION (Please describe route variation in detail): The proposed route variation starts near MP 319.8 and deviates ~12.5° east of the current centerline. The reroute extends in this direction for ~483 ft. Then, the route turns southeast and continues in this direction for ~3,240 ft. Finally, the proposed route variation turns southwest towards the centerline and extends for ~550 ft. to rejoin the current CL near MP 320.6.		
	ADDITIONAL IMPACTS (Please include any additional impacts which may affect cost; crossings, induction bends, etc.): 2 Tracts are impacted by this centerline reroute: ML-SD-HA-01770.000 and ML-SD-HA-01780.000 (both Doolittle Wagner Ranch LLC) The proposed route variation falls within the current environmental surveyed corridor, so no additional costs associated with environmental surveys will be incurred. It also does not impact MLV-16A current location. Costs savings include the elimination of a reclamation issues at the pond crossing: ~\$20,000.		
	Is there an increase/decrease in the number of crossings? Yes <input type="text"/> No <input checked="" type="checkbox"/>		
	If yes, please list: <input type="text"/> <input type="text"/>		
	COST ANALYSIS (costs incurred or saved from the route variation)		
	Additional length of route realignment:	22 ft.	\$ 7,800.33 \$ 360/ft
	Additional length of side-hill construction:	0 ft.	\$ - \$ 19/ft
	Additional length of wetland construction:	-133 ft.	\$ (25,966.42) \$ 195/ft
	Additional bore length (Road, RR):	ft.	\$ - \$ 540/ft
	Additional foreign line/pipeline crossings:	EA	\$ - \$ 30,000/EA
	Additional water body crossing (streams, ponds, etc.):		
	35 - 65' +	0 EA	\$ - \$ 185,000/EA
	10' - 19'	0 EA	\$ - \$ 77,250/EA
	Less than 10'	0 EA	\$ - \$ 32,500/EA
	Additional survey required:		
	Civil:	0.81 mile	\$ 4,046.63 \$ 5,000/mile
	Cultural:	0.00 mile	\$ - \$ 2,500/mile
	Biological:	0.00 mile	\$ - \$ 2,800/mile
	Miscellaneous costs saved or added due to route variation from ADDITIONAL IMPACTS listed above:		\$ (20,000)
	Overall estimated costs of the route variation:	\$ (34,119.46)	(See "Additional Impacts" above)

4 LAND / TransCanada <i>Tina Hall</i>	
a) Is a new landowner affected by the proposed variation?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
b) Is the affected landowner/tract a possible condemnation?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
c) Does proposed route variation impact Tribal Lands?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
d) Does proposed route variation impact any Federal/State Lands?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
-If yes, name type (i.e. USFWS, BLM, etc.): <input type="text"/>	
e) Is proposed realignment outside the easement/workspace?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
f) Is realignment proposed to satisfy landowner request?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
-If yes, name of landowner(s)/track number(s): <input type="text"/>	
g) Has all the evaluation criteria been examined/provided for this specific discipline?	
If no, please explain why:	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
<input type="text"/>	
<input type="text"/>	
5 ENGINEERING/CONSTRUCTION - TransCanada <i>Meera Kothari</i>	
a) Maximum deviation perpendicular to proposed alignment:	<input type="text" value="105"/> ft.
b) Does variation (CL) (including workspaces) falls within 500 ft. MDEQ Corridor?	Yes <input type="text" value="N/A"/> No <input type="checkbox"/>
c) Has the centerline been staked for construction?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
d) Does route variation affect HDD crossing alignment?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
e) Is realignment proposed for engineering/construction reasons?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
f) Will the route variation require the relocation of a pump station?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
g) Has all the evaluation criteria been examined/provided for this specific discipline?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
If no, please explain why: <input type="text"/>	
<input type="text"/>	
6 ENVIRONMENTAL - TransCanada <i>Sandra Barnett</i>	
a) Has the corridor been environmentally surveyed?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
b) Has the proposed variation been environmentally surveyed?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
c) Does proposed route variation impact Sage Grouse areas?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
d) Does route variation impact ABB areas?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
e) Was variation proposed to satisfy environmental issues?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
f) Was realignment proposed to satisfy agency request?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
-If yes, name of agency(s): <input type="text"/>	
g) Environmental features:	
Added (+):	Subtracted (-):
<input type="text"/>	<input type="text"/>
Wetland ID # for newly impacted wetlands: <input type="text"/>	
h) Has all the evaluation criteria been examined/provided for this specific discipline?	Yes <input type="checkbox"/> No <input type="checkbox"/>
If no, please explain why: <input type="text"/>	
<input type="text"/>	
7 ENGINEERING / FACILITIES AND HYDRAULICS (if applicable) <i>Sandra Gigovic</i>	
a) Will the route variation require the relocation of a pump station?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
b) Will route variation impact hydraulics?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
c) Are additional valves required at HCA's or water crossing?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
d) Has all the evaluation criteria been examined/provided for this specific discipline?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
If no, please explain why: <input type="text"/>	
8 STAKEHOLDER RELATIONS / TCPL (if applicable) <i>Bud Andersen</i>	
a) Does the variation result in any new stakeholders?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
b) Does the variation require follow-up with specific stakeholder groups?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
c) Was the variation proposed to satisfy stakeholder request?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
-If yes, please specify issue type (as it aligns to stakeholder database): <input type="text"/>	
d) Has all the evaluation criteria been examined/provided for this specific discipline?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
If no, please explain why: <input type="text"/>	
<input type="text"/>	
9 Originator: <input type="text" value="Engineering"/>	10 Received by: <input type="text"/>
Date: <input type="text" value="10/29/2012"/>	Date: <input type="text" value="10/29/2012"/>
Fax to: ?	
11 Assigned Tracking Number: <input type="text" value="0381-SD-P4-319.8-320.6-1"/>	12 Filed by: <input type="text"/>
Date: <input type="text"/>	
Fax to: ?	

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KEYSTONE XL PIPELINE PROJECT

KEYSTONE XL PIPELINE PROJECT ROUTE VARIATION AUTHORIZATION FORM		
Date: 10/29/2012	Tracking Number: 0381-SD-P4-319.8-320.6-1	
Description: The primary reason for this route variation is to shift CL/Workspaces out of and away from pond/wetland feature (MABO-S-0358) located near MP 320.45.	MP: 319.8 to 320.6	
	Originated By: Engineering	
	Variation Form Attached: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
<u>TransCanada - Land</u> Tina Hall	Variation: Approved <input checked="" type="checkbox"/> Rejected <input type="checkbox"/>	
Comments:	<i>Tina Hall</i> Date: 11-5-12	
	If Rejected Why?	
<u>TransCanada - Engineering</u> Meera Kothari	Variation: Approved <input checked="" type="checkbox"/> Rejected <input type="checkbox"/>	
Comments:	<i>Meera Kothari</i> Date: 11/2/12	
	If Rejected Why?	
<u>Exp - Engineering</u> Kevin McGlynn	Variation: Approved <input checked="" type="checkbox"/> Rejected <input type="checkbox"/>	
Comments:	<i>Kevin McGlynn</i> Date: 12/17/12	
	If Rejected Why?	
<u>TransCanada - Environmental</u> Sandra Barnett	Variation: Approved <input checked="" type="checkbox"/> Rejected <input type="checkbox"/>	
Comments:	<i>Sandra Barnett</i> Date: 12-5-12	
	If Rejected Why?	
<u>Stantec - Risk Assessment</u> Heidi Tillquist	Variation: Approved <input type="checkbox"/> Rejected <input type="checkbox"/>	
Comments: N/A.	Date:	
	If Rejected Why?	
<u>TransCanada - Facilities</u> Sandra Gigovic	Variation: Approved <input type="checkbox"/> Rejected <input type="checkbox"/>	
Comments: N/A. Does not affect facilities	Date:	
	If Rejected Why?	
<u>TransCanada - PM (Montana)</u> Alan Lietz	Variation: Approved <input type="checkbox"/> Rejected <input type="checkbox"/>	
Comments:	Date:	
	If Rejected Why?	
<u>TransCanada - PM (South Dakota)</u> James Odom	Variation: Approved <input checked="" type="checkbox"/> Rejected <input type="checkbox"/>	
Comments:	<i>James Odom</i> Date: 12/10/12	
	If Rejected Why?	
<u>TransCanada - PM (Nebraska)</u> Robert Bradley	Variation: Approved <input type="checkbox"/> Rejected <input type="checkbox"/>	
Comments:	Date:	
	If Rejected Why?	
<u>TransCanada - Area Manager</u> Steve Marr	Variation: Approved <input type="checkbox"/> Rejected <input type="checkbox"/>	
Comments:	Date:	
	If Rejected Why?	
Forward to: Tina Hall <input type="checkbox"/> Sandra Barnett <input type="checkbox"/> James Odom <input type="checkbox"/>	Meera Kothari <input type="checkbox"/> Heidi Tillquist <input type="checkbox"/> Robert Bradley <input type="checkbox"/>	Kevin McGlynn <input type="checkbox"/> Sandra Gigovic <input type="checkbox"/> Steve Marr <input type="checkbox"/>
	Alan Lietz <input type="checkbox"/>	

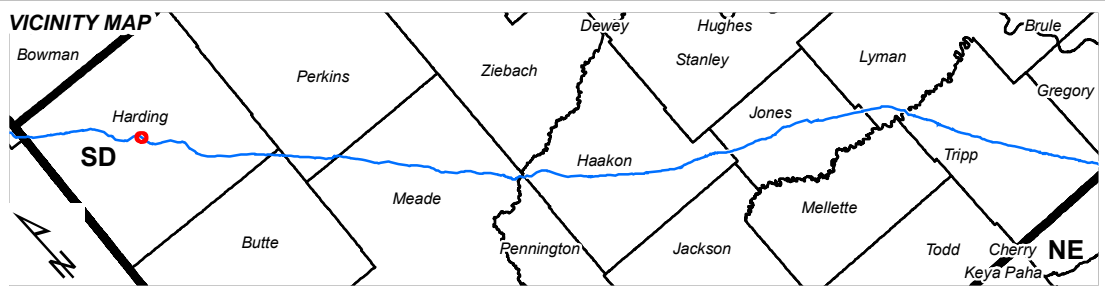
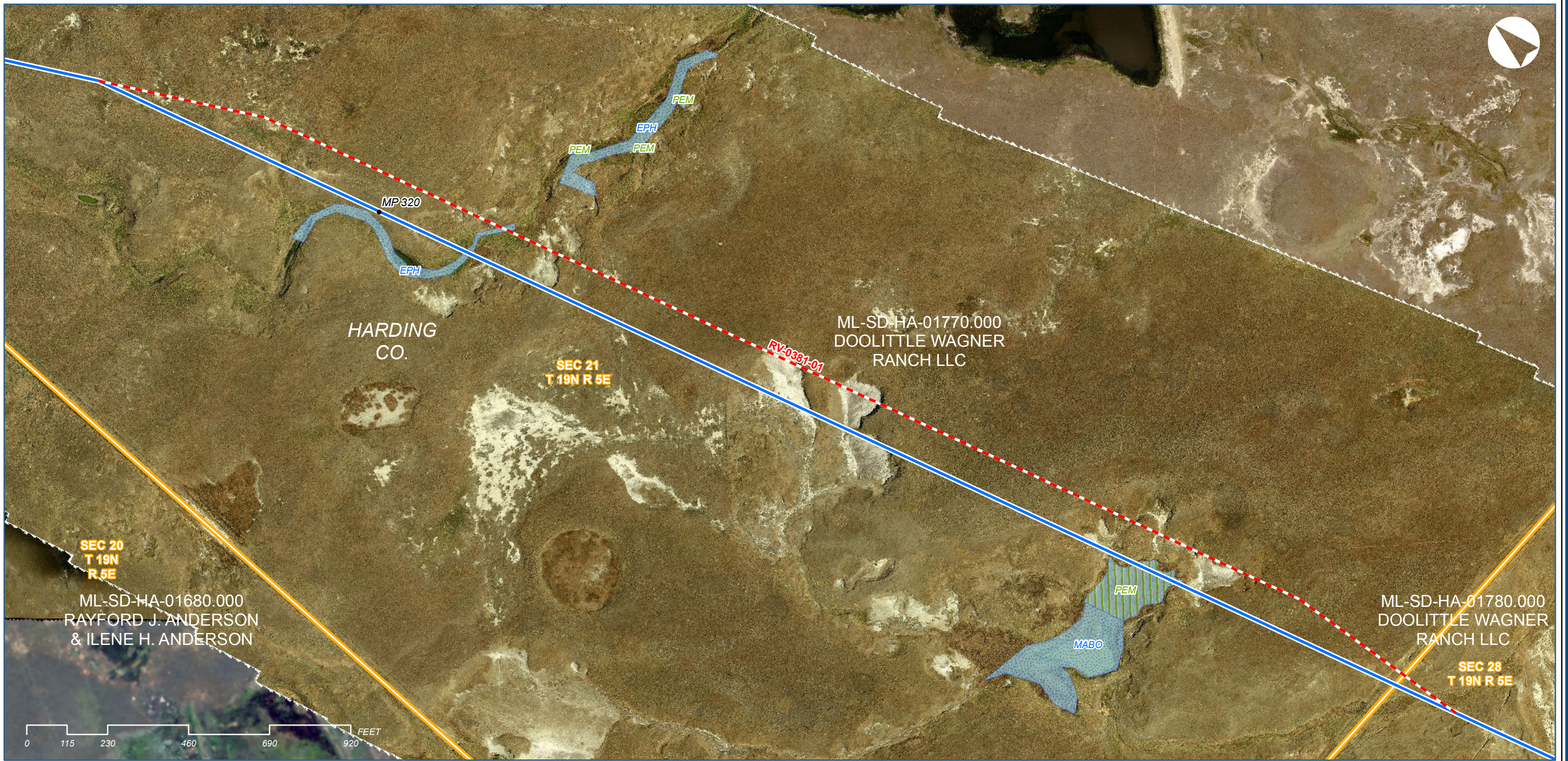
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Description: The primary reason for this route variation is to shift CLN workspaces out of and away from pond/wetland feature (MASO-9-0358) located near MP 320.45.	MP: 319.8 to 320.6
	Originated By: Engineering
	Variation Form Attached: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
TransCanada - Land Tina Hall	Variation: Approved <input type="checkbox"/> Rejected <input type="checkbox"/>
Comments:	Date:
	If Rejected Why?
TransCanada - Engineering Meera Kohad	Variation: Approved <input type="checkbox"/> Rejected <input type="checkbox"/>
Comments:	Date:
	If Rejected Why?
Exp - Engineering Kevin McGlynn	Variation: Approved <input type="checkbox"/> Rejected <input type="checkbox"/>
Comments:	Date:
	If Rejected Why?
TransCanada - Environmental Sandra Barnett	Variation: Approved <input type="checkbox"/> Rejected <input type="checkbox"/>
Comments:	Date:
	If Rejected Why?
Stanley - Risk Assessment Heidi Takquis	Variation: Approved <input type="checkbox"/> Rejected <input type="checkbox"/>
Comments: N/A	Date:
	If Rejected Why?
TransCanada - Facilities Sandra Gogoye	Variation: Approved <input checked="" type="checkbox"/> Rejected <input type="checkbox"/>
Comments: N/A, Does not affect facilities	Date: Dec 5, 2012
	If Rejected Why?
TransCanada - PM (Montana) Alan Lietz	Variation: Approved <input type="checkbox"/> Rejected <input type="checkbox"/>
Comments:	Date:
	If Rejected Why?
TransCanada - PM (South Dakota) James Odum	Variation: Approved <input type="checkbox"/> Rejected <input type="checkbox"/>
Comments:	Date:
	If Rejected Why?
TransCanada - PM (Nebraska) Robert Bradley	Variation: Approved <input type="checkbox"/> Rejected <input type="checkbox"/>
Comments:	Date:
	If Rejected Why?
TransCanada - Area Manager Steve Marr	Variation: Approved <input type="checkbox"/> Rejected <input type="checkbox"/>
Comments:	Date:
	If Rejected Why?
Forward to: Tina Hall _____ Sandra Barnett _____ James Odum _____ Meera Kohad _____ Heidi Takquis _____ Robert Bradley _____ Kevin McGlynn _____ Sandra Gogoye _____ Steve Marr _____ Alan Lietz _____	

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2012



LEGEND

- MILEPOST
- KEYSTONE XL CL (2012-08-15)
- PROPOSED ROUTE VARIATION
- SECTION LINE
- ACCESS ROAD
- PUMP STATION
- VALVE
- PROPERTY PARCEL
- CULTURAL SITE
- WETLAND
- WATERBODY

KEYSTONE XL PROJECT

Proposed Route Variation 0381-01

COUNTY:	HARDING	DRAWN BY:	CR
STATE:	SOUTH DAKOTA	CHECKED BY:	JP
REV. NO.:	REVISION	DATE	
0	ISSUED FOR REVIEW.	2012-10-26	

PRELIMINARY

DATE:	2012-10-26	PROJECTION:	NAD83 UTM13 N
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PREPARED BY:

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DWG:	XL-00-P-9200_RVS	SHEET:	1
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