

KEYSTONE XL PIPELINE PROJECT

0439-SD-P4-534.1-534.1-1

KEYSTONE XL PIPELINE PROJECT PIPELINE ROUTE VARIATION FORM			
1	<b>VARIATION TYPE:</b> Refinement: <input type="text"/> Reroute: <input type="text"/> Footprint: <input checked="" type="checkbox"/> Design: <input type="text"/> Centerline: <input type="text"/> Pump Station: <input type="text"/> Valve Site: <input type="text"/> CAR: <input checked="" type="checkbox"/>		
2	<b>LOCATION:</b> Sketch: <input type="text" value="Attached"/> Pictures: <input type="text" value="N/A"/> State: <input type="text" value="SD"/> County: <input type="text" value="LYMAN"/> Quad Map: <input type="text" value="N/A"/> Township: <input type="text" value="104N"/> Range: <input type="text" value="79W"/> Aerial Map: <input type="text" value="See attached map sheet"/> Section: <input type="text" value="26"/> Centerline: <input type="text" value="3/14/2012"/> MP: <input type="text" value="534.10"/> to <input type="text" value="534.12"/>		
3	<b>REASON FOR ROUTE VARIATION</b> (Please include reason for route variation): The primary reason for this footprint change is to shift Valve Access Road VAR-22 ~ 9 ft. south to avoid VAR easement impact to ML-SD-LY-10160 (Thomas Lands, Inc.). Per land, this shift will avoid a gate at the property line between the two tracts. The landowners are afraid of livestock getting mixed if the gate was left open, and would prefer the access road stay on tract LY-10170.000  This footprint change is requested by Land.		
	<b>DETAIL ROUTE VARIATION</b> (Please describe route variation in detail): VAR-022 = Current length ~119.4 ft. and perpendicular distance from SD-LY-10160 southern property boundary of ~1 ft. Thus leaving ~14 ft. of AR easement inside SD-LY-10160. Proposed VAR length is ~ 117.3 ft. and offset (measured perpendicularly) to SD-LY-10160 southern boundary is ~9 ft. Proposed VAR-022 starts at 294th St. and continues for approximately 59 ft. prior to turning southeast and thus following the original VAR-022 path towards MLV-22 Valve Site.		
	<b>ADDITIONAL IMPACTS</b> (Please include any additional impacts which may affect cost; crossings, induction bends, etc.): 2 tracts are impacted by the reroute: ML-SD-LY-10160.000 (Thomas Lands, Inc.) ML-SD-LY-10170.000 (Steven Juhnke & Dennis Juhnke)  No additional costs associated with environmental survey.  Additionally, costs associated with CAR acquisition costs are as follows: To acquire a 15 ft. CAR is estimated a \$3300/acre of affected area (1 acre = 43,560 sq.ft.). So, for VAR-022: (not including permanent ROW portions) to acquire was ~14.3 ft x 15 ft = 213.95 sq.ft. For a total CAR acquisition costs of ~\$16.18.		
	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"/>		
	<b>COST ANALYSIS</b> (costs incurred or saved from the route variation)		
	Additional length of route realignment:	<input type="text" value="0"/> ft.	\$ - \$ 360/ft
	Additional length of side-hill construction:	<input type="text"/> ft.	\$ - \$ 19/ft
	Additional length of wetland construction:	<input type="text"/> ft.	\$ - \$ 195/ft
	Additional bore length (Road, RR):	<input type="text"/> ft.	\$ - \$ 540/ft
	Additional foreign line/pipeline crossings:	<input type="text"/> EA	\$ - \$ 30,000/EA
	Additional water body crossing (streams, ponds, etc.):		
	35 - 65' +	<input type="text" value="0"/> EA	\$ - \$ 185,000/EA
	10' - 19'	<input type="text" value="0"/> EA	\$ - \$ 77,250/EA
	Less than 10'	<input type="text" value="0"/> EA	\$ - \$ 32,500/EA
	Additional survey required:		
	Civil:	<input type="text" value="0.02"/> mile	\$ 84.34 \$ 5,000/mile
	Cultural:	<input type="text" value="0.00"/> mile	\$ - \$ 2,500/mile
	Biological:	<input type="text" value="0.00"/> mile	\$ - \$ 2,800/mile
	Miscellaneous costs saved or added due to route variation from <b>ADDITIONAL IMPACTS</b> listed above:		\$ 16.18
	Overall estimated costs of the route variation:	<input type="text" value="100.52"/>	(See "Additional Impacts" above)

<b>4 LAND / TransCanada</b> <span style="float: right;"><i>Tina Hall</i></span>		
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 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"/>		
<input type="text"/>		
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"/>		
<b>5 ENGINEERING/CONSTRUCTION - TransCanada</b> <span style="float: right;"><i>Meera Kothari</i></span>		
a) Maximum deviation perpendicular to proposed alignment:	<input type="text" value="N/A"/> 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"/>		
<b>6 ENVIRONMENTAL - TransCanada</b> <span style="float: right;"><i>Sandra Barnett</i></span>		
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 (+):	<input type="text"/>	Subtracted (-): <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"/>		
<b>7 ENGINEERING / FACILITIES AND HYDRAULICS (if applicable)</b> <span style="float: right;"><i>Sandra Gigovic</i></span>		
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"/>		
<b>8 STAKEHOLDER RELATIONS / TCPL (if applicable)</b> <span style="float: right;"><i>Bud Andersen</i></span>		
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="Land"/> Date: <input type="text" value="5/20/2013"/>	10 Received by: <input type="text"/> Date: <input type="text" value="5/20/2013"/> Fax to: ?	
11 Assigned Tracking Number: <input type="text" value="0439-SD-P4-534.1-534.1-1"/>	12 Filed by: <input type="text"/> Date: <input type="text"/> Fax to: ?	

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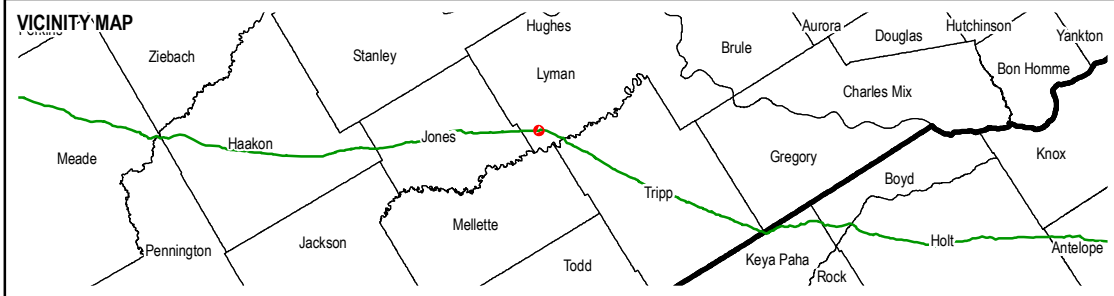
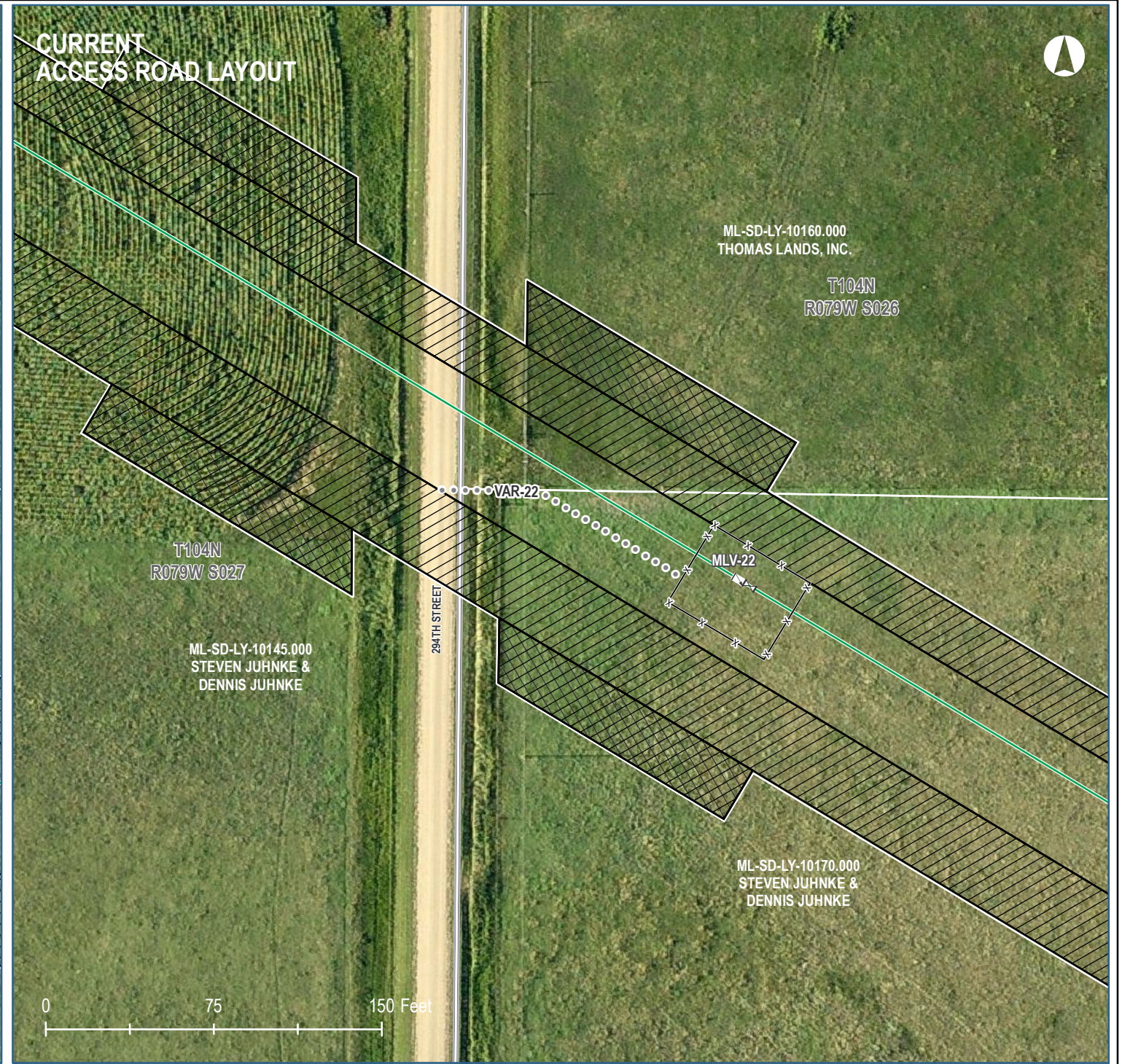
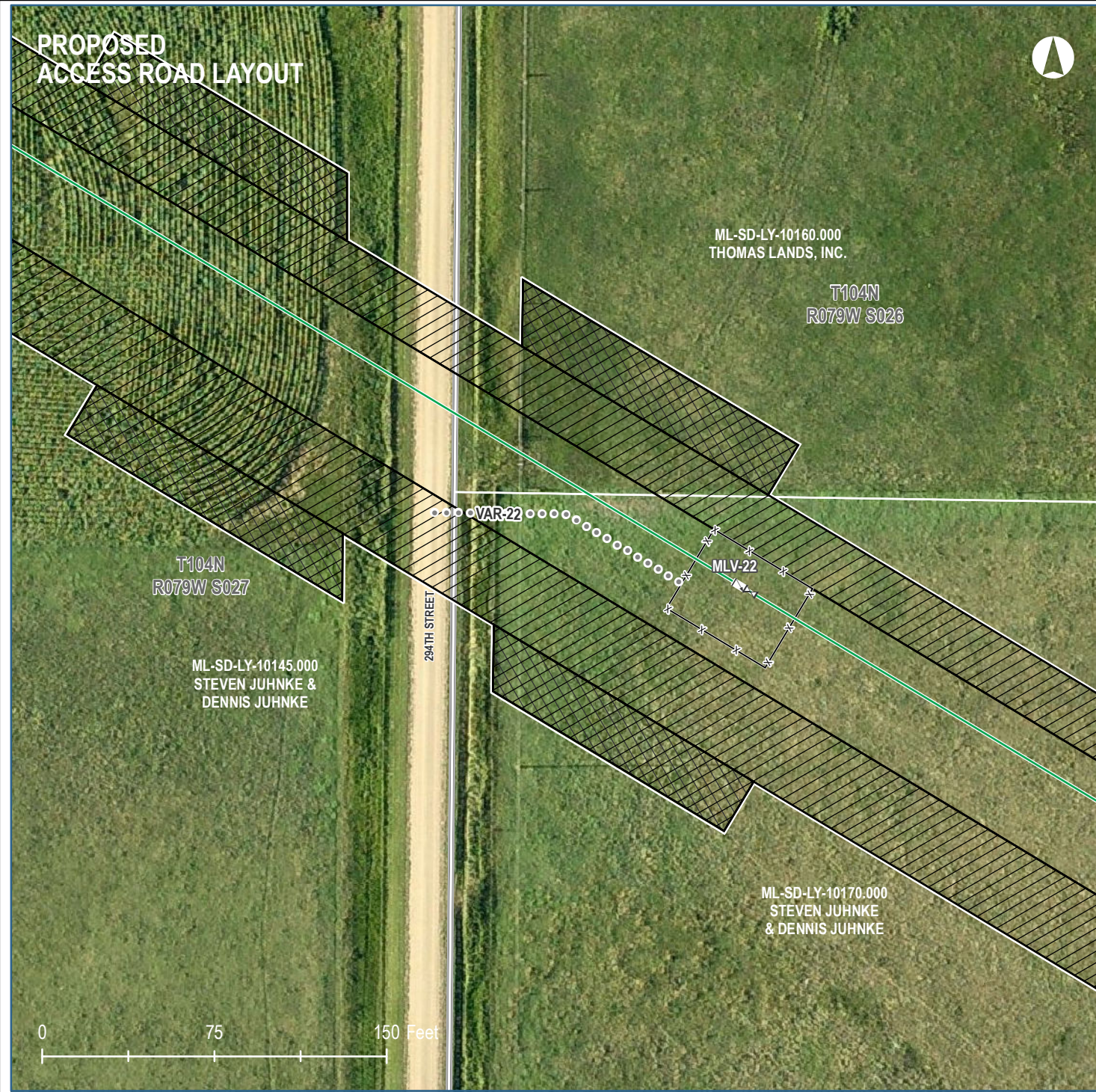
KEYSTONE XL PIPELINE PROJECT ROUTE VARIATION AUTHORIZATION FORM			
Date:	5/20/2013	Tracking Number:	0439-SD-P4-534.1-534.1-1
Description:	The primary reason for this footprint change is to shift Valve Access Road VAR-22 ~ 9 ft. south to avoid VAR easement impact to ML-SD-LY-10160 (Thomas Lands, Inc.)	MP:	534.1 to 534.1
		Originated By:	Land
		Variation Form Attached:	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
<b>TransCanada - Land</b>	Tina Hall	Variation:	Approved <input checked="" type="checkbox"/> Rejected <input type="checkbox"/>
Comments:		Date:	5/22/13
		If Rejected Why?	
<b>TransCanada - Engineering</b>	Meera Kothari	Variation:	Approved <input checked="" type="checkbox"/> Rejected <input type="checkbox"/>
Comments:		Date:	5-25-13
		If Rejected Why?	
<b>Exp - Engineering</b>	Kevin McGlynn	Variation:	Approved <input type="checkbox"/> Rejected <input type="checkbox"/>
Comments:		Date:	
		If Rejected Why?	
<b>TransCanada - Environmental</b>	Sandra Barnett	Variation:	Approved <input checked="" type="checkbox"/> Rejected <input type="checkbox"/>
Comments:		Date:	5/29/13
		If Rejected Why?	Approved
<b>Stantec - Risk Assessment</b>	Heidi Tillquist	Variation:	Approved <input type="checkbox"/> Rejected <input type="checkbox"/>
Comments:	N/A.	Date:	
		If Rejected Why?	
<b>TransCanada - Facilities</b>	Sandra Gigovic	Variation:	Approved <input type="checkbox"/> Rejected <input type="checkbox"/>
Comments:	N/A. Does not affect facilities	Date:	
		If Rejected Why?	see 4/12
<b>TransCanada - PM (Montana)</b>	Alan Lietz	Variation:	Approved <input type="checkbox"/> Rejected <input type="checkbox"/>
Comments:		Date:	
		If Rejected Why?	
<b>TransCanada - PM (South Dakota)</b>	James Odum	Variation:	Approved <input checked="" type="checkbox"/> Rejected <input type="checkbox"/>
Comments:		Date:	10 June 13
		If Rejected Why?	
<b>TransCanada - PM (Nebraska)</b>	Robert Bradley	Variation:	Approved <input type="checkbox"/> Rejected <input type="checkbox"/>
Comments:		Date:	
		If Rejected Why?	
<b>TransCanada - Area Manager</b>	Steve Marr	Variation:	Approved <input type="checkbox"/> Rejected <input type="checkbox"/>
Comments:		Date:	
		If Rejected Why?	
Forward to:	Tina Hall <input type="checkbox"/> Meera Kothari <input type="checkbox"/> Kevin McGlynn <input type="checkbox"/>	Sandra Barnett <input type="checkbox"/> Heidi Tillquist <input type="checkbox"/> Sandra Gigovic <input type="checkbox"/> Alan Lietz <input type="checkbox"/>	James Odum <input type="checkbox"/> Robert Bradley <input type="checkbox"/> Steve Marr <input type="checkbox"/>

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KEYSTONE XL PIPELINE PROJECT ROUTE VARIATION AUTHORIZATION FORM	
Date: 5/20/2013	Tracking Number: 0439-SD-P4-534.1-534.1-1
Description: The primary reason for this footprint change is to shift Valve Access Road VAR-22 - 9 ft south to avoid VAR easement impact to ML-SD-LV-10169 (Thomas Lands Inc.)	MP: 534.1 to 534.1 Originated By: Land Variation Form Attached: Yes <input checked="" type="checkbox"/> No
<b>TransCanada - Land</b> Tina Ha'l	Variation: Approved _____ Rejected _____ Date: _____ If Rejected Why? _____
<b>TransCanada - Engineering</b> Meera Kothari	Variation: Approved _____ Rejected _____ Date: _____ If Rejected Why? _____
<b>Exp - Engineering</b> Kevin McGlynn	Variation: Approved _____ Rejected _____ Date: _____ If Rejected Why? _____
<b>TransCanada - Environmental</b> Sandra Barnett	Variation: Approved _____ Rejected _____ Date: _____ If Rejected Why? _____
<b>Stantec - Risk Assessment</b> Heidi Tilquist	Variation: Approved _____ Rejected _____ Date: _____ If Rejected Why? _____
<b>TransCanada - Facilities</b> Sandra Gigovic Comments: N/A Does not affect facilities	Variation: Approved <input checked="" type="checkbox"/> Rejected _____ Signature: _____ Date: May 20, 2013 If Rejected Why? _____
<b>TransCanada - PH (Montana)</b> Alan Lletz	Variation: Approved _____ Rejected _____ Date: _____ If Rejected Why? _____
<b>TransCanada - PH (South Dakota)</b> James Odom	Variation: Approved _____ Rejected _____ Date: _____ If Rejected Why? _____
<b>TransCanada - PH (Nebraska)</b> Robert Bradley	Variation: Approved _____ Rejected _____ Date: _____ If Rejected Why? _____
<b>TransCanada - Area Manager</b> Steve Marr	Variation: Approved _____ Rejected _____ Date: _____ If Rejected Why? _____
Forward to: Tina Ha'l _____ Meera Kothari _____ Kevin McGlynn _____	Sandra Barnett _____ Heidi Tilquist _____ Sandra Gigovic _____ Alan Lletz _____
	James Odom _____ Robert Bradley _____ Steve Marr _____

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**LEGEND**

- MILEPOST
- KEystone XL PROJECT
- ⌵ VALVE
- ⌵ VALVE SITE AREA (FENCED)
- ACCESS ROAD
- ▭ PROPERTY PARCEL
- ▭ SECTION LINE

**KEYSTONE XL PROJECT**  
RV-0439-01 (VAR-22 MODIFICATION)

COUNTY:	LYMAN	DRAWN BY:	PD
STATE:	SOUTH DAKOTA	CHECKED BY:	JP
REV. NO.:	REVISION	DATE	
A	ISSUED FOR REVIEW.	2013-05-08	
<b>PRELIMINARY</b>			
DATE:	2013-05-08	PROJECTION:	NAD83   UTM14 N

PREPARED BY:  
**exp Energy Services Inc.**  
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DWG: XL-30-P-9200 SHEET: 1