

KEYSTONE XL PIPELINE PROJECT

0310-SD-P4-497.7-498.0-1

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="Jones"/> Quad Map: <input type="text" value="N/A"/>		
	Township: <input type="text" value="01N"/> Range: <input type="text" value="27E"/> Aerial Map: <input type="text" value="See attached map sheet"/>		
	Section: <input type="text" value="33"/> Centerline: <input type="text" value="7/13/2012"/> MP: <input type="text" value="497.70"/> to <input type="text" value="498.01"/>		
3	REASON FOR ROUTE VARIATION (Please include reason for route variation):		
	<p>The primary reason for this route refinement is to shift the centerline and workspaces away from paralleling a drainage and washout at a creek crossing. The Centerline is proposed to be shifted ~80' southwest to get whole ROW out of a drainage.</p> <p>This reroute is requested by Engineering and is based on recommendation by field civil survey.</p>		
	DETAIL ROUTE VARIATION (Please describe route variation in detail):		
	<p>The proposed route variation starts near MP 497.7 and deviates ~5° southeast of the current CL. It continues in this direction for ~942 ft. Then the proposed route variation turns east and extends for ~707 ft. to rejoin the current CL near MP 498.0.</p>		
	ADDITIONAL IMPACTS (Please include any additional impacts which may affect cost; crossings, induction bends, etc.):		
	<p>1 tract is impacted by the reroute: ML-SD-JO-10250.000 (Lon M. Lyman)</p> <p>Additional savings include Reclamation issues at the drainage crossing: ~40,000</p> <p>No additional costs for Civil and Environmental surveys, since proposed route variation was picked up while the crews were surveying in South Dakota during the month of July-August.</p>		
	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"/>		
	COST ANALYSIS (costs incurred or saved from the route variation)		
	Additional length of route realignment:	<input type="text" value="8"/> ft.	\$ <input type="text" value="2,836.07"/> \$ 360/ft
	Additional length of side-hill construction:	<input type="text"/> ft.	\$ <input type="text" value="-"/> \$ 19/ft
	Additional length of wetland construction:	<input type="text"/> ft.	\$ <input type="text" value="-"/> \$ 195/ft
	Additional bore length (Road, RR):	<input type="text"/> ft.	\$ <input type="text" value="-"/> \$ 540/ft
	Additional foreign line/pipeline crossings:	<input type="text"/> EA	\$ <input type="text" value="-"/> \$ 30,000/EA
	Additional water body crossing (streams, ponds, etc.):		
	35 - 65' +	<input type="text" value="0"/> EA	\$ <input type="text" value="-"/> \$ 185,000/EA
	10' - 19'	<input type="text" value="0"/> EA	\$ <input type="text" value="-"/> \$ 77,250/EA
	Less than 10'	<input type="text" value="0"/> EA	\$ <input type="text" value="-"/> \$ 32,500/EA
	Additional survey required:		
	Civil:	<input type="text" value="0.00"/> mile	\$ <input type="text" value="-"/> \$ 5,000/mile
	Cultural:	<input type="text" value="0.00"/> mile	\$ <input type="text" value="-"/> \$ 2,500/mile
	Biological:	<input type="text" value="0.00"/> mile	\$ <input type="text" value="-"/> \$ 2,800/mile
	Miscellaneous costs saved or added due to route variation from ADDITIONAL IMPACTS listed above:		\$ <input type="text" value="(40,000)"/> (40,000)
	Overall estimated costs of the route variation:	\$ <input type="text" value="(37,163.93)"/> (37,163.93)	(See "Additional Impacts" above)

4 LAND / TransCanada Tina Hall	
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"/>	
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"/>	
5 ENGINEERING/CONSTRUCTION - TransCanada Meera Kothari	
a) Maximum deviation perpendicular to proposed alignment:	<input type="text" value="80"/> 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"/>	
6 ENVIRONMENTAL - TransCanada Sandra Barnett	
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"/>	
7 ENGINEERING / FACILITIES AND HYDRAULICS (if applicable) Sandra Gigovic	
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 type="checkbox"/>
d) 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"/>	
8 STAKEHOLDER RELATIONS / TCPL (if applicable) Bud Andersen	
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 type="checkbox"/> No <input type="checkbox"/>
If no, please explain why: <input type="text"/>	
9 Originator: <input type="text" value="Engineering"/> Date: <input type="text" value="8/10/2012"/>	10 Received by: <input type="text"/> Date: <input type="text" value="8/10/2012"/> Fax to: ?
11 Assigned Tracking Number: <input type="text" value="0310-SD-P4-497.7-498-0-1"/>	12 Filed by: <input type="text"/> Date: <input type="text"/> Fax to: ?

0310-SD-P4-497.7-498-0-1

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KEYSTONE XL PIPELINE PROJECT ROUTE VARIATION AUTHORIZATION FORM		
Date: 8/19/2012	Traverse Number: 0310-SD-P4-497.7-498.0-1	
Description: The primary reason for this route refinement is to shift the centerline and workspaces away from paralleling a drainage and washout at a creek crossing.	MP: 497.7 to 498.0	Originated By: Engineering
Transverse: Land	Time: 1:00	Variation: Approved <input checked="" type="checkbox"/> Rejected <input type="checkbox"/>
Comments:		Date: 8/19/12
Transverse: Construction	Hours: 1:00	Variation: Approved <input checked="" type="checkbox"/> Rejected <input type="checkbox"/>
Comments:		Date: 8/19/12
Env - Engineering	Jeff Amatore	Variation: Approved <input checked="" type="checkbox"/> Rejected <input type="checkbox"/>
Comments:		Date: 8/19/12
Transverse: Environment	Sandra Bernat	Variation: Approved <input type="checkbox"/> Rejected <input type="checkbox"/>
Comments:		Date: 8/19/12
Statute - Risk Assessment	Neil Tilquin	Variation: Approved <input type="checkbox"/> Rejected <input type="checkbox"/>
Comments: N/A		Date: _____
Transverse: Facilities	Sandra Glavin	Variation: Approved <input type="checkbox"/> Rejected <input type="checkbox"/>
Comments: N/A. Does not impact facilities		Date: _____
Transverse: PM (Montana)	Alan Litt	Variation: Approved <input type="checkbox"/> Rejected <input type="checkbox"/>
Comments:		Date: _____
Transverse: PM (North Dakota)	James Odell	Variation: Approved <input type="checkbox"/> Rejected <input type="checkbox"/>
Comments:		Date: _____
Transverse: PM (South Dakota)	Robert Bliley	Variation: Approved <input type="checkbox"/> Rejected <input type="checkbox"/>
Comments:		Date: _____
Transverse: South Atlantic	Steve Mar	Variation: Approved <input type="checkbox"/> Rejected <input type="checkbox"/>
Comments:		Date: _____
Project to:	Tina Hill Megan Kahan Jeff Amatore	Sandra Bernat Neil Tilquin Sandra Glavin Alan Litt
	James Odell Robert Bliley Steve Mar	

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KEYSTONE XL PIPELINE PROJECT ROUTE VARIATION AUTHORIZATION FORM		
Date: 8/10/2012	Tracking Number: 0310-SD-P4-497.7-498.0-1	
Description: The primary reason for this route refinement is to shift the centerline and workspaces away from paralleling a drainage and washout at a creek crossing.	MP: 497.7 to 498.0 Originated By: Engineering	Variation Form Attached: Yes: <input checked="" type="checkbox"/> No: <input type="checkbox"/>
TransCanada - Land Tina Hall	Variation: Approved <input type="checkbox"/> Rejected <input type="checkbox"/>	Date: _____
Comments: <div style="border: 1px solid black; height: 30px; width: 100%;"></div>	If Rejected Why? <div style="border: 1px solid black; height: 30px; width: 100%;"></div>	
TransCanada- Engineering Meera Kothari	Variation: Approved <input type="checkbox"/> Rejected <input type="checkbox"/>	Date: _____
Comments: <div style="border: 1px solid black; height: 30px; width: 100%;"></div>	If Rejected Why? <div style="border: 1px solid black; height: 30px; width: 100%;"></div>	
Exp - Engineering Jeff Amelorsano	Variation: Approved <input type="checkbox"/> Rejected <input type="checkbox"/>	Date: _____
Comments: <div style="border: 1px solid black; height: 30px; width: 100%;"></div>	If Rejected Why? <div style="border: 1px solid black; height: 30px; width: 100%;"></div>	
TransCanada- Environmental Sandra Barnett	Variation: Approved <input type="checkbox"/> Rejected <input type="checkbox"/>	Date: _____
Comments: <div style="border: 1px solid black; height: 30px; width: 100%;"></div>	If Rejected Why? <div style="border: 1px solid black; height: 30px; width: 100%;"></div>	
Stantec - Risk Assessment Heidi Tikquist	Variation: Approved <input type="checkbox"/> Rejected <input type="checkbox"/>	Date: _____
Comments: N/A. <div style="border: 1px solid black; height: 30px; width: 100%;"></div>	If Rejected Why? <div style="border: 1px solid black; height: 30px; width: 100%;"></div>	
TransCanada - Facilities Sandra Givovic	Variation: Approved <input checked="" type="checkbox"/> Rejected <input type="checkbox"/>	Date: <u>Sept 7, 2012</u>
Comments: N/A. Does not impact facilities. <div style="border: 1px solid black; height: 30px; width: 100%;"></div>	If Rejected Why? <div style="border: 1px solid black; height: 30px; width: 100%;"></div>	
TransCanada - PM (Montana) Alan Lietz	Variation: Approved <input type="checkbox"/> Rejected <input type="checkbox"/>	Date: _____
Comments: <div style="border: 1px solid black; height: 30px; width: 100%;"></div>	If Rejected Why? <div style="border: 1px solid black; height: 30px; width: 100%;"></div>	
TransCanada - PM (South Dakota) James Odum	Variation: Approved <input type="checkbox"/> Rejected <input type="checkbox"/>	Date: _____
Comments: <div style="border: 1px solid black; height: 30px; width: 100%;"></div>	If Rejected Why? <div style="border: 1px solid black; height: 30px; width: 100%;"></div>	
TransCanada - PM (Nebraska) Robert Bradley	Variation: Approved <input type="checkbox"/> Rejected <input type="checkbox"/>	Date: _____
Comments: <div style="border: 1px solid black; height: 30px; width: 100%;"></div>	If Rejected Why? <div style="border: 1px solid black; height: 30px; width: 100%;"></div>	
TransCanada - Area Manager Steve Marr	Variation: Approved <input type="checkbox"/> Rejected <input type="checkbox"/>	Date: _____
Comments: <div style="border: 1px solid black; height: 30px; width: 100%;"></div>	If Rejected Why? <div style="border: 1px solid black; height: 30px; width: 100%;"></div>	
Forward to: Tina Hall _____ Meera Kothari _____ Jeff Amelorsano _____	Sandra Barnett _____ Heidi Tikquist _____ Sandra Givovic _____ Alan Lietz _____	James Odum _____ Robert Bradley _____ Steve Marr _____

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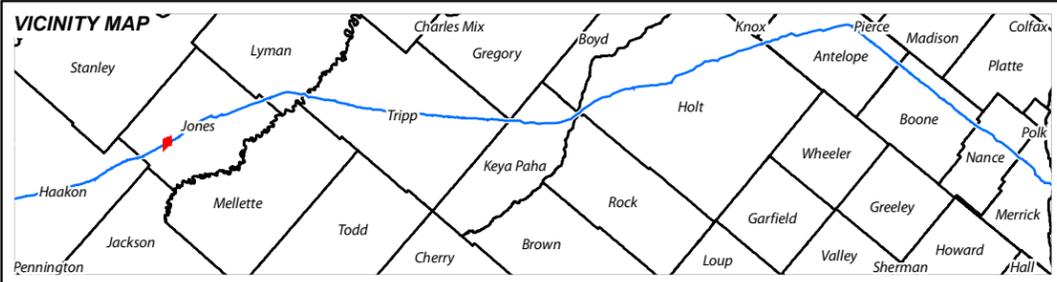
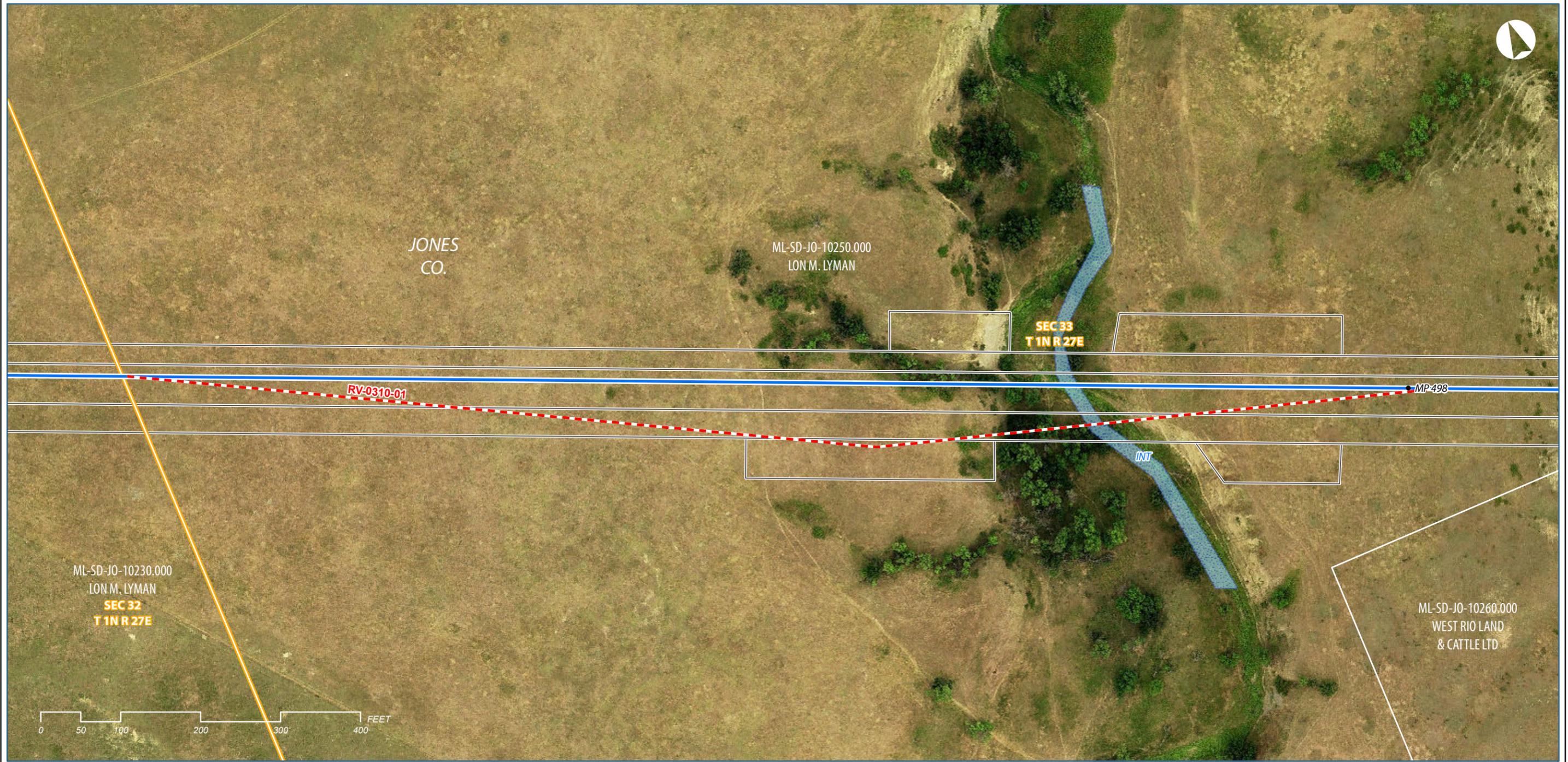
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	Variation Form Attached: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
TransCanada - Land Tina Hall	Variation: Approved <input type="checkbox"/> Rejected <input type="checkbox"/>	Date: _____
Comments: _____	If Rejected Why? _____	
TransCanada - Engineering Meera Kothari	Variation: Approved <input checked="" type="checkbox"/> Rejected <input type="checkbox"/>	Date: 8/10/12
Comments: _____	If Rejected Why? _____	
Exp - Engineering Jeff Amelorsano	Variation: Approved <input type="checkbox"/> Rejected <input type="checkbox"/>	Date: _____
Comments: _____	If Rejected Why? _____	
TransCanada - Environmental Sandra Barnett	Variation: Approved <input checked="" type="checkbox"/> Rejected <input type="checkbox"/>	Date: Aug 22/12
Comments: _____	If Rejected Why? _____	
Stantec - Risk Assessment Heidi Tillquist	Variation: Approved <input type="checkbox"/> Rejected <input type="checkbox"/>	Date: _____
Comments: N/A.	If Rejected Why? _____	
TransCanada - Facilities Sandra Gligovic	Variation: Approved <input type="checkbox"/> Rejected <input type="checkbox"/>	Date: _____
Comments: N/A. Does not impact facilities	If Rejected Why? _____	
TransCanada - PM (Montana) Alan Lietz	Variation: Approved <input type="checkbox"/> Rejected <input type="checkbox"/>	Date: _____
Comments: _____	If Rejected Why? _____	
TransCanada - PM (South Dakota) James Odum	Variation: Approved <input type="checkbox"/> Rejected <input type="checkbox"/>	Date: _____
Comments: _____	If Rejected Why? _____	
TransCanada - PM (Nebraska) Robert Bradley	Variation: Approved <input type="checkbox"/> Rejected <input type="checkbox"/>	Date: _____
Comments: _____	If Rejected Why? _____	
TransCanada - Area Manager Steve Marr	Variation: Approved <input type="checkbox"/> Rejected <input type="checkbox"/>	Date: _____
Comments: _____	If Rejected Why? _____	
Forward to: Tina Hall <input type="checkbox"/> Meera Kothari <input type="checkbox"/> Jeff Amelorsano <input type="checkbox"/>	Sandra Barnett <input type="checkbox"/> Heidi Tillquist <input type="checkbox"/> Sandra Gligovic <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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Date: <input type="text" value="8/10/2012"/>	Tracking Number: <input type="text" value="0310-SD-P4-497.7-498.0-1"/>
Description: <input type="text" value="The primary reason for this route refinement is to shift the centerline and workspaces away from paralleling a drainage and washout at a creek crossing."/>	MP: <input type="text" value="497.7"/> to <input type="text" value="498.0"/> Originated By: <input type="text" value="Engineering"/>
	Variation Form Attached: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
TransCanada - Land Tina Hall	Variation: Approved <input type="checkbox"/> Rejected <input type="checkbox"/>
Comments: <input type="text"/>	<input type="text"/> Date: <input type="text"/>
	If Rejected Why? <input type="text"/>
TransCanada- Engineering Meera Kothari	Variation: Approved <input type="checkbox"/> Rejected <input type="checkbox"/>
Comments: <input type="text"/>	<input type="text"/> Date: <input type="text"/>
	If Rejected Why? <input type="text"/>
Exp - Engineering Jeff Ameiorsano	Variation: Approved <input type="checkbox"/> Rejected <input type="checkbox"/>
Comments: <input type="text"/>	<input type="text"/> Date: <input type="text"/>
	If Rejected Why? <input type="text"/>
TransCanada- Environmental Sandra Barnett	Variation: Approved <input type="checkbox"/> Rejected <input type="checkbox"/>
Comments: <input type="text"/>	<input type="text"/> Date: <input type="text"/>
	If Rejected Why? <input type="text"/>
Stantec - Risk Assessment Heidi Tillquist	Variation: Approved <input type="checkbox"/> Rejected <input type="checkbox"/>
Comments: <input type="text" value="N/A."/>	<input type="text"/> Date: <input type="text"/>
	If Rejected Why? <input type="text"/>
TransCanada - Facilities Sandra Gigovic	Variation: Approved <input type="checkbox"/> Rejected <input type="checkbox"/>
Comments: <input type="text" value="N/A. Does not impact facilities"/>	<input type="text"/> Date: <input type="text"/>
	If Rejected Why? <input type="text"/>
TransCanada - PM (Montana) Alan Lietz	Variation: Approved <input type="checkbox"/> Rejected <input type="checkbox"/>
Comments: <input type="text"/>	<input type="text"/> Date: <input type="text"/>
	If Rejected Why? <input type="text"/>
TransCanada - PM (South Dakota) James Odom	Variation: Approved <input type="checkbox"/> Rejected <input type="checkbox"/>
Comments: <input type="text"/>	<input type="text"/> Date: <input type="text"/>
	If Rejected Why? <input type="text"/>
TransCanada - PM (Nebraska) Robert Bradley	Variation: Approved <input type="checkbox"/> Rejected <input type="checkbox"/>
Comments: <input type="text"/>	<input type="text"/> Date: <input type="text"/>
	If Rejected Why? <input type="text"/>
TransCanada - Area Manager Steve Marr	Variation: Approved <input type="checkbox"/> Rejected <input type="checkbox"/>
Comments: <input type="text"/>	<input type="text"/> Date: <input type="text"/>
	If Rejected Why? <input type="text"/>
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"/> Jeff Ameiorsano <input type="checkbox"/> Sandra Gigovic <input type="checkbox"/> Steve Marr <input type="checkbox"/> Alan Lietz <input type="checkbox"/>	



LEGEND

- MILEPOST
- KEYSTONE XL CL (2012-07-13)
- PROPOSED ROUTE VARIATION
- SECTION LINE
- ACCESS ROAD
- PUMP STATION
- POWER POLE
- OVERHEAD POWER LINE
- PROPERTY PARCEL
- CULTURAL SITE
- WETLAND
- WATERBODY

KEYSTONE XL PROJECT

Proposed Route Variation 0310-01

COUNTY: JONES	DRAWN BY: PD	
STATE: SOUTH DAKOTA	CHECKED BY: JP	
REV. NO.: 0	REVISION: ISSUED FOR REVIEW.	DATE: 2012-08-09
PRELIMINARY		
DATE: 2012-08-09	PROJECTION: NAD83 UTM14 N	DWG: XL-30-P-9200

PREPARED BY:

exp Energy Services Inc.

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U.S.A.

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