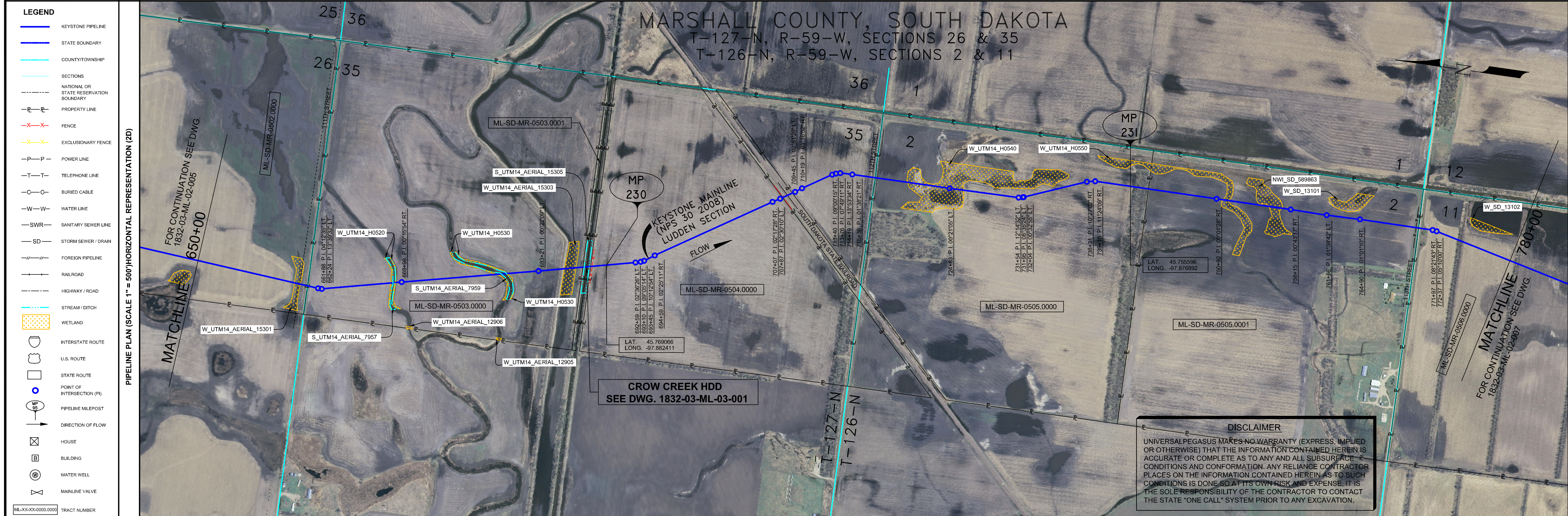


- GENERAL NOTES**
- 1) ALL CHAINAGES ARE IN FEET UNLESS OTHERWISE SPECIFIED.
 - 2) DATUM ELEVATION AND PROJECTION ARE BASED ON MEAN SEA LEVEL AND NAD 83.
 - 3) FIELD PIPE LOCATING REQUIRED TO DETERMINE PLACEMENT OF PIPELINE WITHIN PERMANENT EASEMENT.
 - 4) UNLESS OTHERWISE NOTED, 48 INCHES MINIMUM COVER EXCEPT 36 INCHES IN AREAS OF CONSOLIDATED ROCK.
 - 5) NO ACTUAL AS-BUILT GROUND SHOTS WERE TAKEN AT THIS LOCATION. THE PROFILE REPRESENTS A PROJECTION FROM SHOTS TAKEN AT 150' TO 250' INTERVALS.
 - 6) THE TYPE OF COATING APPLIED TO THE FIELD WELDS DURING THE ORIGINAL CONSTRUCTION WAS TWO COMPONENT LIQUID EPOXY. THE COATING PRODUCTS USED WERE DENSOL 7200 OR SPC SP-2888.
 - 7) THE SUBSTANTIAL CONSTRUCTION COMPLETION DATE, BASED ON CALIPER PIG RUN, WAS SEPTEMBER 01, 2009 FOR M.P. 195.68 TO M.P. 218.50, SEPTEMBER 02, 2009 FOR M.P. 218.50 TO M.P. 259.00 AND OCTOBER 08, 2009 FOR M.P. 259.21 TO M.P. 301.75.
 - 8) ORIGINAL IN-SERVICE DATE OF THE KEYSTONE PIPELINE (PHASE 1): JUNE 30, 2010.
 - 9) CPS CALCULATION DATE: MAY 2010.
 - 10) ORION STATION SERIES NUMBER: 1182700.
 - 11) TO DETERMINE THE MILE POST AT A GIVEN LOCATION, ADD THE 3D STATION NUMBER FROM THIS SEGMENT TO STATION NUMBER 11453+73 AND DIVIDE BY 5280.



- OPERATING AND TEST PRESSURE**
1. THE MAXIMUM OPERATING PRESSURE (MOP) IS 1440 PSIG.
 2. THE MINIMUM TEST PRESSURE WAS 1601 PSIG.

BILL OF MATERIALS (3D)

ITEM NO.	DESCRIPTION	QUANTITY
2	30" O.D. X 0.388" W.T. API 5L-X70 W/FBE COATING	11,667'
3	30" O.D. X 0.516" W.T. API 5L-X70 W/FBE COATING & ABRASION RESISTANT OVERCOAT	364'
4	30" O.D. X 0.622" W.T. API 5L-X70 W/FBE COATING & ABRASION RESISTANT OVERCOAT	987'

REFERENCE DRAWINGS

REF. NO.	DRAWING NO.	REV. NO.	DRAWING TITLE
HDD	1832-03-ML-03-001	5	CROW CREEK HDD

REVISIONS

NO.	DATE	REV. BY	CHKD BY	APPRD. BY	DESCRIPTION
1	5/17/08	UEI	RDG	LAG	ISSUED FOR CONSTRUCTION
2	8/17/08	UEI	RDG	LAG	ISSUED FOR AS-BUILT
					1832-03-ML-02-005
					REPLACES COVERAGE OF IFC DRAWINGS
					1832-03-ML-02-008
					1832-03-ML-02-010

LEGEND

- KEYSTONE PIPELINE
- STATE BOUNDARY
- COUNTY/TOWNSHIP
- SECTIONS
- NATIONAL OR STATE RESERVATION BOUNDARY
- PROPERTY LINE
- FENCE
- EXCLUSIONARY FENCE
- POWER LINE
- TELEPHONE LINE
- BURIED CABLE
- WATER LINE
- SANITARY SEWER LINE
- STORM SEWER / DRAIN
- FOREIGN PIPELINE
- RAILROAD
- HIGHWAY / ROAD
- STREAM / DITCH
- WETLAND
- INTERSTATE ROUTE
- U.S. ROUTE
- STATE ROUTE
- POINT OF INTERSECTION (PI)
- PIPELINE MILEPOST
- DIRECTION OF FLOW
- HOUSE
- BUILDING
- WATER WELL
- MANLINE VALVE

PIPELINE SCHEMATIC

STATION	DESCRIPTION
650+00	HEAVY WALL PIPE
650+00	WELD FITTING
650+00	TRANSITION PIECE
650+00	CASING PIPE
650+00	CONCRETE COATING
650+00	SET ON WEIERS
650+00	PIPELINE WARNING SIGN
650+00	PIPELINE MARKER
650+00	MATERIAL ITEM
650+00	GROUNDING MAT
650+00	ZINC RIBBON
650+00	AERIAL MARKER
650+00	CATHODIC TEST STATION
650+00	MANLINE VALVE
650+00	CHECK VALVE
650+00	OPEN CUT
650+00	BORER
650+00	DRINKING WATER USA
650+00	ECOLOGICAL USA
650+00	HIGHLY POPULATED AREA
650+00	OPERATOR (KEYSTONE) DEFINED
650+00	OTHER POPULATED AREA
650+00	SOURCE WATER PROTECTION AREA
650+00	WELLHEAD PROTECTION AREA

TEST SECTIONS (3D)

STATION	TEST SECTION
650+00	TEST SECTION 2A-4 LTG-024-2010

ENVIRONMENTAL MITIGATION/RECLAMATION STATIONS (2D)

STATION	MITIGATION/RECLAMATION
650+00	TOPSOIL SALVAGE METHOD
650+00	STREAMS
650+00	WETLANDS
650+00	TIMING CONSTRAINTS
650+00	MONITORING
650+00	RECLAMATION
650+00	SPECIAL CONSIDERATIONS

ENGINEERING RECORDS

DRAWN BY	INITIAL	DATE	ENY APPRD.	INITIAL	DATE
UEI		10/02/01			

PROFESSIONAL ENGINEER

NAME	STATE	LIC#	REV#	DATE
LOYDS ALVIN GRAY, III	SD	CE9004		

SCALE: 0 125 250 500 Feet

TransCanada
In business to deliver

KEYSTONE MAINLINE (NPS 30 2008) LUDDEN SECTION

AS-BUILT ALIGNMENT
M.P. 229.25 TO M.P. 231.71
SHEET 6 OF 19 SHEETS
STA. 650+42 TO STA. 780+53 (3D)

DRAWING NO. 1832-03-ML-02-006