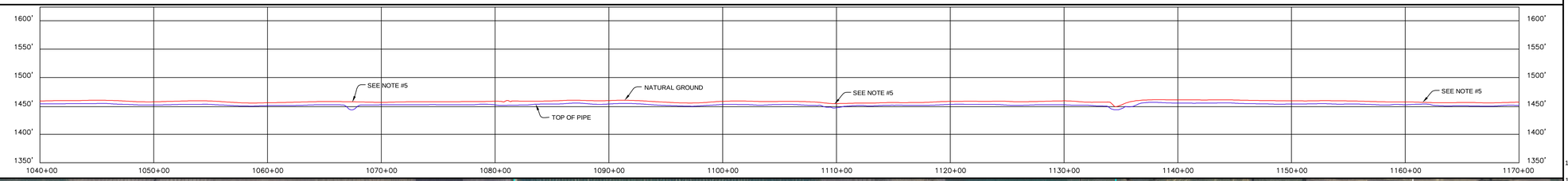
RIGHT-OF-WAY
HORIZONTAL REPRESENTATION (2D)
TRACT NUMBER
OWNERSHIP/AGENCY
LENGTH
APPLICABLE DWG. NO.

LAND USE

1040+00 | ML-SD-CK-0637.0000 | 1054+54 | ML-SD-CK-0638.0000 | RD-SD-CK-0638.0000 COUNTY ROAD 22 (184TH STREET) 1081+01 | ML-SD-CK-0639.0000 | 1107+66 | ML-SD-CK-0640.0000 | 1133+77 | ML-SD-CK-0641.0000 | 1170+00

PIPELINE PROFILE

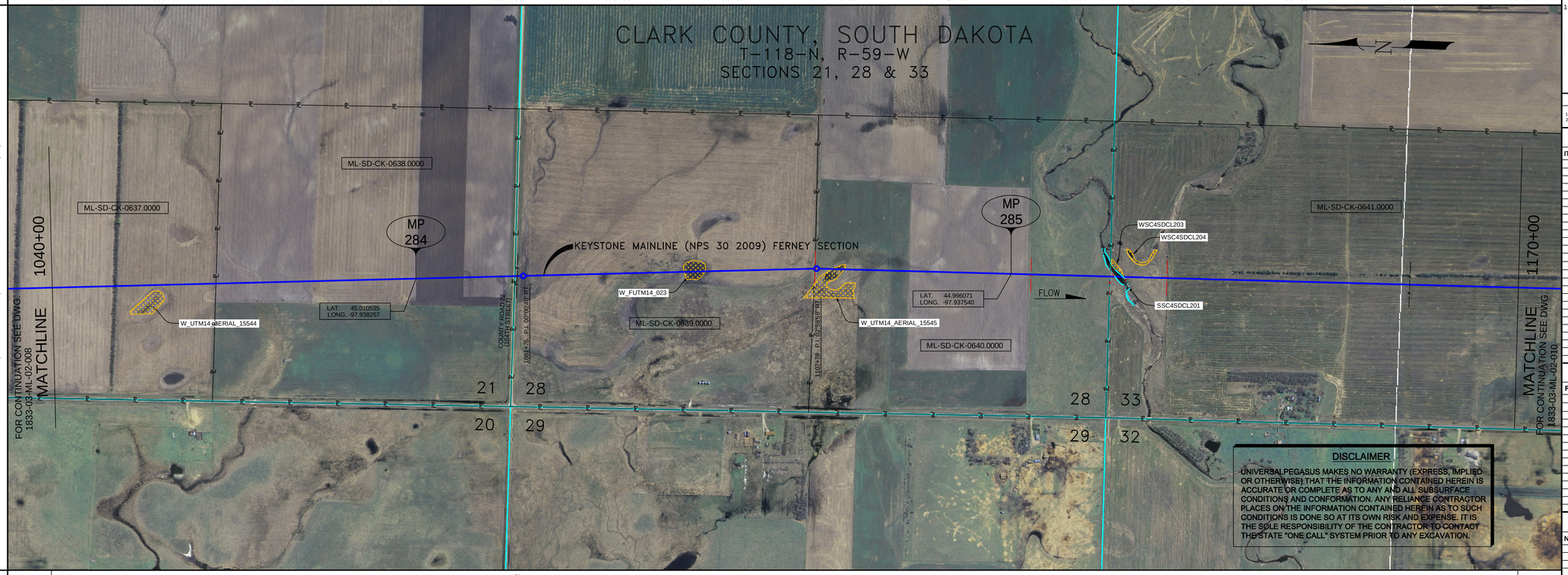
HORIZ: 1"=500' VER: 1"=100'
HORIZONTAL REPRESENTATION (2D)



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
- MAINLINE VALVE
- ML-XX-XX-0000.0000 TRACT NUMBER

PIPELINE PLAN (SCALE 1" = 500')HORIZONTAL REPRESENTATION (2D)



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PIPELINE SCHEMATIC

- HEAVYWALL PIPE
- WELD FITTING
- TRANSITION PIECE
- CASING PIPE
- CONCRETE COATING
- (3) SET-ON WEIGHTS
- PIPELINE WARNING SIGN
- PIPELINE MARKER
- (1) MATERIAL ITEM
- (GM) GROUNDING MAT
- ZINC RIBBON
- AERIAL MARKER
- CATHODIC TEST STATION
- MAINLINE VALVE
- CHECK VALVE
- O.C. OPEN CUT
- BR. BORE
- D DRINKING WATER USA
- E ECOLOGICAL USA
- H HIGHLY POPULATED AREA
- K OPERATOR (KEYSTONE) DEFINED
- O OTHER POPULATED AREA
- S SOURCE WATER PROTECTION AREA
- W WELLHEAD PROTECTION AREA

STATION/DESCRIPTION | PIPELINE DATA

HORIZONTAL STATIONS (2D)

MATCHLINE 1040+00 | 1080+90 EDGE OF ROAD CL COUNTY ROAD 22 (184TH STREET) 1081+01 | 1081+12 EDGE OF ROAD 1081+23 POWERLINE | 1081+76, P.I. 00°00'40" RT. | 1107+50 WATER EDGE 1107+66 FENCE (BARBED WIRE) | 1107+78 P.I. 02°58'58" RT. 1109+97 CL CREEK | 1111+77 WATER EDGE | 1126+79 FENCE (BARBED WIRE) | 1133+77 FENCE (BARBED WIRE) 1134+24 WATER EDGE 1134+60 CL CREEK 1135+41 WATER EDGE 1139+83 FENCE (BARBED WIRE) | 1160+37 UNDERGROUND POWERLINE | MATCHLINE 1170+00

SLOPE STATIONS (3D)

MATCHLINE 1040+73 | 1049+38 5.5' CVR. | 1055+64 6.2' CVR. | 1073+04 M.P. 284 1073+24 5.2' CVR. | 1081+26 6.0' CVR. 1081+45 EDGE OF ROAD 1081+76 CL COUNTY ROAD 22 (184TH STREET) 1081+89 EDGE OF ROAD 1082+06 POWERLINE 5.9' CVR. 1082+43 P.I. 00°00'40" RT. | 1082+53 5.3' CVR. (ABOVE) | 1086+29 5.7' CVR. | 1108+29 WATER EDGE 1108+45 FENCE (BARBED WIRE) 1108+55 P.I. 01°58'58" RT. | 1110+76 CL CREEK | 1112+56 WATER EDGE | 1125+84 M.P. 285 | 1127+59 FENCE (BARBED WIRE) 1128+83 5.9' CVR. | 1134+57 FENCE (BARBED WIRE) | 1135+05 WATER EDGE 1135+40 CL CREEK 1136+22 WATER EDGE 1139+64 FENCE (BARBED WIRE) | 1147+39 5.8' CVR. | 1161+13 UNDERGROUND POWERLINE 1161+43 5.0' CVR. (ABOVE) 1162+05 4.9' CVR. | MATCHLINE 1170+84

PIPE SLOPE REPRESENTATION (2D)

1040+73 | 1057'-36 (2') 1060+99 ② 4,045' FBE | 1080+43 (7') 1081+10 1081+18 ③ 119' FBE & ARO BR. 1082+37 1083+04 1084+32 | 1108+45 ② 5,179' FBE | 1127+60 | 1134+16 ③ 81' FBE & ARO 1134+97 1135+23 1135+59 285 1139+64 1139+66 | 3,587' FBE | 1154+43 (10') 1155+96 | 1170+84

CPS (3D)

TEST SECTIONS (3D) | TEST SECTION 3B-1 ILTO-025-2010

ENVIRONMENTAL MITIGATION/RECLAMATION STATIONS (2D)

- TOPSOIL SALVAGE METHOD
- STREAMS
- WETLANDS
- TIMING CONSTRAINTS
- **STATIONS**
- MONITORING
- RECLAMATION
- SPECIAL CONSIDERATIONS

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 DENSO 7200 OR SPC SP-2888.

7) THE SUBSTANTIAL CONSTRUCTION COMPLETION DATE, BASED ON CALIPER PIG RUN, WAS OCTOBER 08, 2009 FOR M.P. 259.21 TO M.P. 301.75 AND OCTOBER 10, 2009 FOR M.P. 301.75 TO M.P. 343.98.

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 13922+16 AND DIVIDE BY 5280.

OPERATING AND TEST PRESSURE

1. THE MAXIMUM OPERATING PRESSURE (MOP) IS 1440 PSIG.
2. THE MINIMUM TEST PRESSURE WAS 1801 PSIG.

BILL OF MATERIALS (3D)

ITEM NO.	DESCRIPTION	QUANTITY
2	30" O.D. X 0.386" W.T., API-5LX-70 W/FBE COATING	12,811'
3	30" O.D. X 0.516" W.T., API-5LX-70 W/FBE COATING & ABRASION RESISTANT OVERCOAT	200'
	PIPELINE MARKERS	0 EA
	PIPELINE WARNING SIGNS	7 EA
	CATHODIC TEST STATION	2 EA
	AERIAL MARKER	1 EA

REFERENCE DRAWINGS

REF. NO.	DRAWING NO.	REV. NO.	DRAWING TITLE

REVISIONS

NO.	DATE	REV. BY	CHCK BY	APPRD BY	ENV. APPRD.	DESCRIPTION
1	5/12/08	UEI	RDG	LAG	SEC	ISSUED FOR CONSTRUCTION
2	10/12/08	UEI				ISSUED FOR AS-BUILT
						1833-03-ML-02-009
						REPLACES COVERAGE OF
						IFC DRAWINGS
						1833-03-ML-02-013,
						1833-03-ML-02-014,
						1833-03-ML-02-015

ENGINEERING RECORDS

	INITIAL	DATE		INITIAL	DATE
DRAWN BY	UEI	10/02/08	ENV. APPRD.		
CHECKED BY			APPRD. BY		
			COMPANY APPROVED		

PROFESSIONAL ENGINEER

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

SCALE: 0 125 250 500 Feet

TransCanada
In business to deliver

UNIVERSAL PEGASUS INTERNATIONAL

KEYSTONE MAINLINE (NPS 30 2009) FERNEY SECTION

FIA#	SPREAD	DISCIPLINE
1833	SPREAD 3B	DISCIPLINE 03

AS-BUILT ALIGNMENT

M.P. 283.39 TO M.P. 285.85

SHEET 9 OF 20 SHEETS

STA. 1040+73 TO STA. 1170+84 (3D)

DRAWING NO.	REV.
1833-03-ML-02-009	2