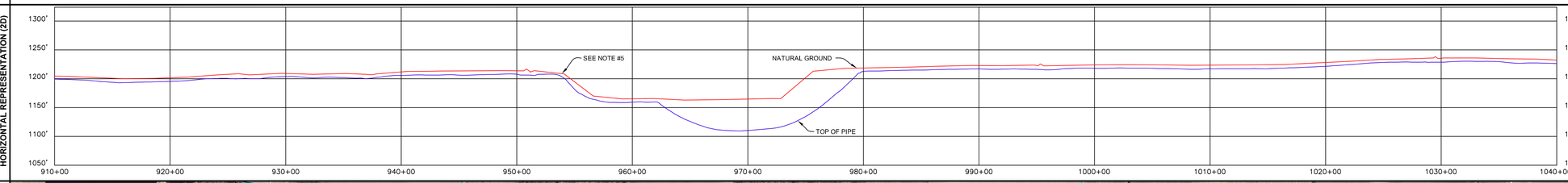
RIGHT-OF-WAY
HORIZONTAL REPRESENTATION (2D)
TRACT NUMBER
OWNERSHIP/AGENCY
LENGTH
APPLICABLE DWG. NO.

910+00 | ML-ND-PB-0045.0000 | 912+48 | ML-ND-PB-0046.0000 | 926+18 | ML-ND-PB-0047.0000 | 933+10 | 939+85 | ML-ND-PB-0047.0000 | 940+57 | ML-ND-PB-0048.0000 | ML-ND-PB-0051.0001 | 950+51 | RD-ND-PB-0051.0001 92ND STREET NE | 951+20 | ML-ND-PB-0053.0000 | 953+75 | ML-ND-PB-0053.0001 | 954+26 | ML-ND-PB-0053.0000 | 956+83 | ML-ND-PB-0053.0002 | 959+51 | 969+94 | ML-ND-PB-0053.0004 | ML-ND-PB-0053.0003 | 970+17 | ML-ND-PB-0053.0005 | 971+93 | ML-ND-PB-0053.0006 | RD-ND-PB-0053.0006 91ST STREET NE | 995+33 | ML-ND-PB-0057.0000 | 1021+58 | ML-ND-PB-0058.0000 | 1040+00

LAND USE

PIPELINE PROFILE

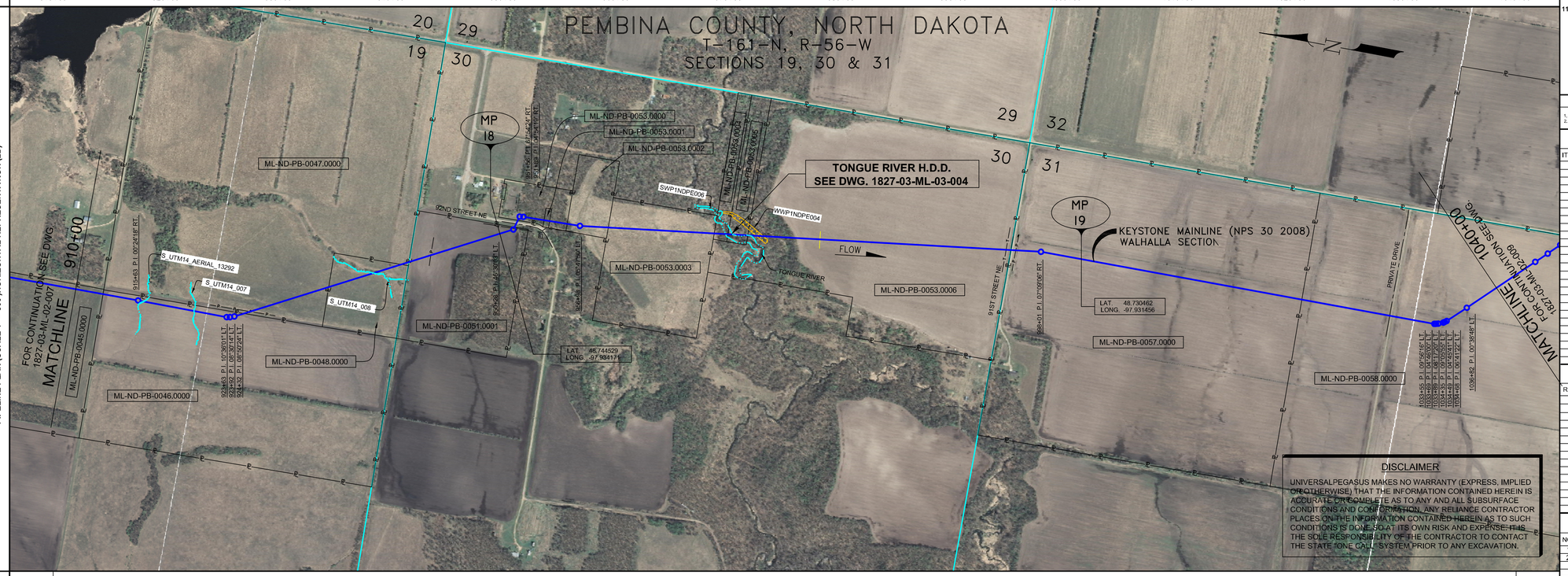
HORIZ.: 1"=500' VER.: 1"=100'
HORIZONTAL REPRESENTATION (2D)



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
- (AM) 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 910+00 | 915+63 P.I. 00°24'18" RT. | 923+63 P.I. 10°36'01" LT. | 923+92 P.I. 08°30'14" LT. | 924+32 P.I. 08°30'24" LT. | 929+76 OVERHEAD POWERLINE | 939+55 WATER EDGE 939+91 CL 92ND STREET NE 937+54 WATER EDGE | 942+59 OVERHEAD POWERLINE | 950+28 P.I. 46°30'03" LT. 950+39 TELEPHONE LINE | 950+56 ROAD BAR DITCH | 950+76 EDGE OF ROAD 950+84 CL 92ND STREET NE 951+04 EDGE OF ROAD | 951+56 P.I. 67°54'24" RT. | 951+89 P.I. 04°54'19" RT. | 956+98 P.I. 05°47'50" LT. | 969+86 WATER EDGE 969+86 CL TONGUE RIVER 972+03 WATER EDGE | 994+91 TELEPHONE LINE | 995+25 EDGE OF ROAD 995+33 CL 91ST STREET NE 995+44 EDGE OF ROAD | 995+77 OVERHEAD POWERLINE | 998+01 P.I. 07°09'06" RT. | 1029+46 EDGE OF ROAD 1029+51 CL PRIVATE DRIVE 1029+56 EDGE OF ROAD | 1033+16 P.I. 09°56'16" LT. 1033+18 P.I. 08°17'20" LT. 1033+18 P.I. 08°17'20" LT. 1033+18 P.I. 09°56'16" LT. 1034+18 P.I. 04°43'31" LT. 1034+18 P.I. 04°43'31" LT. 1034+18 P.I. 06°41'22" LT. 1036+52 P.I. 06°41'22" LT. | 1039+38 P.I. 00°36'48" LT. | MATCHLINE 1040+00

SLOPE STATIONS (3D)

MATCHLINE 911+35 | 914+17 5.1' CVR. | 916+98 P.I. 00°24'18" RT. | 917+32 6.7' CVR. | 924+59 P.I. 10°36'01" LT. | 925+28 P.I. 08°30'14" LT. | 925+39 P.I. 08°30'24" LT. | 927+12 OVERHEAD POWERLINE, HT. = 25' | 931+04 5.6' CVR. | 938+20 WATER EDGE 938+56 CL 92ND STREET NE 938+91 WATER EDGE | 943+96 OVERHEAD POWERLINE, HT. = 25' | 950+40 M.P. 18 | 951+66 P.I. 46°30'03" LT. 951+77 TELEPHONE LINE 951+94 8.3' CLR. (ABOVE) 952+13 EDGE OF ROAD 952+25 CL 92ND STREET NE 952+37 EDGE OF ROAD 952+94 P.I. 67°54'24" RT. | 953+27 P.I. 04°54'19" RT. | 958+40 P.I. 05°47'50" LT. | 960+56 6.3' CVR. | 969+29 5.3' CVR. | 971+30 WATER EDGE 971+48 CL TONGUE RIVER 973+48 WATER EDGE | 996+32 7.4' CVR. 996+45 TELEPHONE LINE 996+78 8.9' CLR. (ABOVE) 996+87 EDGE OF ROAD 996+97 EDGE OF ROAD | 997+31 OVERHEAD POWERLINE, HT. = 30' 998+86 P.I. 07°09'06" RT. 999+55 P.I. 07°09'06" RT. | 1003+29 M.P. 19 | 1029+83 6.6' CVR. | 1026+23 5.1' CVR. | 1031+01 EDGE OF ROAD 1031+06 CL PRIVATE DRIVE 1031+11 EDGE OF ROAD 1031+81 7.3' CVR. | 1035+19 P.I. 09°56'16" LT. 1035+21 P.I. 08°17'20" LT. 1035+42 P.I. 08°17'20" LT. 1035+45 P.I. 09°56'16" LT. 1036+24 P.I. 04°43'31" LT. 1036+24 P.I. 04°43'31" LT. 1036+24 P.I. 06°41'22" LT. 1038+26 P.I. 06°41'22" LT. | 1039+38 P.I. 00°36'48" LT. | 1039+88 6.6' CVR. | MATCHLINE 1041+56

PIPE SLOPE REPRESENTATION (3D)

911+35 | ① 3.017' FBE | 941+52 | ③ 80' FBE & ARO | 942+32 | ① 932' FBE | 951+66 | 951+66 | ③ 126' FBE & ARO BR. (100A) | 952+90 | 952+94 | (101) | ① 1.002' FBE | 962+92 | ③ 80' FBE & ARO | 963+72 | ④ 1.747' FBE & ARO | 981+19 | ③ 81' FBE & ARO | 982+00 | ① 1.448' FBE | 996+48 | ③ 79' FBE & ARO BR. | 997+27 | ① 4.429' FBE | 1030+87 | BR. | 1031+28 | 1041+56

CPS (3D)

TEST SECTIONS (3D) — TEST SECTION 1A-2 ILTO-019-2010

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 AUGUST 11, 2009 FOR M.P. 0.30 TO M.P. 31.03 AND AUGUST 12, 2009 FOR M.P. 31.03 TO M.P. 66.93.

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 0+00 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
1	30" O.D. X 0.438" W.T., API -5LX-70 W/FBE COATING	10,828'
3	30" O.D. X 0.516" W.T., API -5LX-70 W/FBE COATING & ABRASION RESISTANT OVERCOAT	446'
4	30" O.D. X 0.622" W.T., API -5LX-70 W/FBE COATING & ABRASION RESISTANT OVERCOAT	1,747'
100A	30" 45° 3 DIA RAD WELD FITTING 0.429" W.T., Y-70	1 EA
101	30" 70° 3 DIA RAD WELD FITTING 0.386" W.T., Y-70	1 EA
	PIPELINE MARKERS	0 EA
	PIPELINE WARNING SIGNS	4 EA
	CATHODIC TEST STATION	2 EA
	AERIAL MARKER	0 EA

REFERENCE DRAWINGS

REF. NO.	DRAWING NO.	REV. NO.	DRAWING TITLE
HDD	1827-03-ML-03-004	07	TONGUE RIVER H.D.D.

REVISIONS

NO.	DATE	REV. BY	CHCK BY	APPRD BY	ENV. APPRD	DESCRIPTION
1	5/12/08	UEI	RDG	LAG	SEC	ISSUED FOR CONSTRUCTION
2	10/11/17	UEI				ISSUED FOR AS-BUILT 1827-03-ML-02-008 REPLACES COVERAGE OF IFC DRAWINGS 1827-03-ML-02-012, 1827-03-ML-02-013

ENGINEERING RECORDS

	INITIAL	DATE		INITIAL	DATE
DRAWN BY	UEI	09/12/21	ENV. APPRD.		
CHECKED BY			APPRD. BY		
			COMPANY APPROVED		

PROFESSIONAL ENGINEER

NAME	STATE	LIC#	REV#	DATE
LOYS A. GRAY, III	ND	PE5714		

SCALE: 0 125 250 500 Feet

TransCanada — *In business to deliver*

UNIVERSAL PEGASUS INTERNATIONAL

KEYSTONE MAINLINE (NPS 30 2008) WALHALLA SECTION

PIA# 1827 | SPREAD 1A | DISCIPLINE 03

AS-BUILT ALIGNMENT

M.P. 17.26 TO M.P. 19.73

SHEET 8 OF 14 SHEETS

STA. 911+35 TO STA. 1041+56 (3D)

DRAWING NO. 1827-03-ML-02-008 | REV. 2

Z:\00_KEYSTONE_AS_BUILT\14-alignment sheets for North Dakota\ND1827_ASBUILTMD1827-008.dwg, 3/9/2011 8:02:12 AM, pdfFactory.pc3