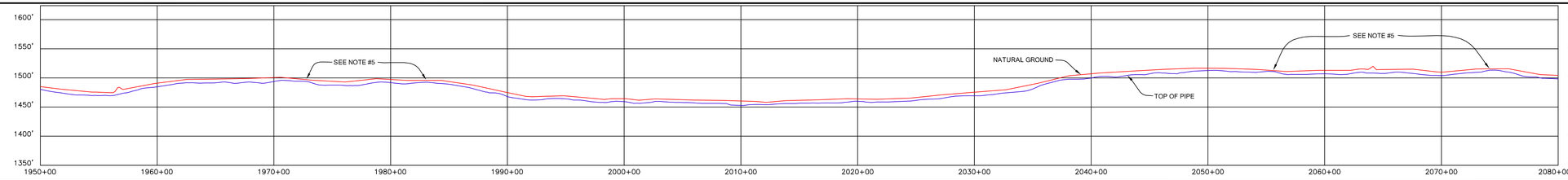
RIGHT-OF-WAY HORIZONTAL REPRESENTATION (2D)
TRACT NUMBER
OWNERSHIP/AGENCY
LENGTH
APPLICABLE DWG. NO.

1950+00	ML-ND-ST-0267.0000	RD-ND-ST-0267.0000 1ST STREET SE	ML-ND-ST-0268.0000	1963+25	ML-ND-ST-0269.0000	RD-ND-ST-0269.0000 2ND STREET SE	ML-ND-ST-0270.0000	2038+59	ML-ND-ST-0271.0000	RD-ND-ST-0271.0000 3RD STREET SE	ML-ND-ST-0272.0000	2080+00
		1956+74				2009+68				2064+14		

LAND USE

PIPELINE PROFILE

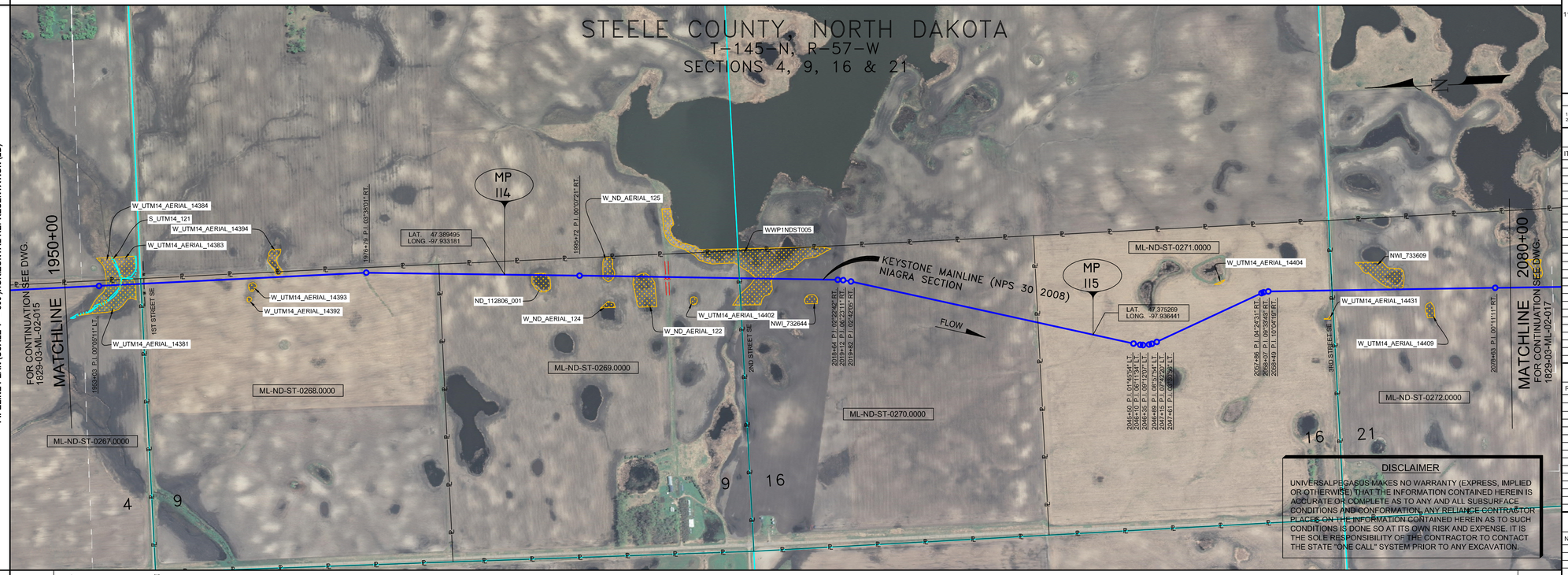
HORIZ. 1"=500' VER. 1"=100'
HORIZONTAL REPRESENTATION (2D)



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 (MP 95)
- DIRECTION OF FLOW
- HOUSE
- BUILDING (B)
- WATER WELL (W)
- MAINLINE VALVE
- ML-XX-XX-0000.0000 TRACT NUMBER

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



DISCLAIMER

UNIVERSALPEGASUS MAKES NO WARRANTY (EXPRESS, IMPLIED OR OTHERWISE) THAT THE INFORMATION CONTAINED HEREIN IS ACCURATE OR COMPLETE AS TO ANY AND ALL SUBSURFACE CONDITIONS AND/OR INFORMATION. ANY RELIANCE CONTRACTOR PLACES ON THE INFORMATION CONTAINED HEREIN AS TO SUCH CONDITIONS IS DONE SO AT ITS OWN RISK AND EXPENSE. IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO CONTACT THE STATE "ONE CALL" SYSTEM PRIOR TO ANY EXCAVATION.

PIPELINE SCHEMATIC

- HEAVYWALL PIPE
- WELD FITTING
- TRANSITION PIECE
- CASING PIPE
- CONCRETE COATING
- SET-ON WEIGHTS
- PIPELINE WARNING SIGN
- PIPELINE MARKER
- MATERIAL ITEM
- 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 1950+00
1950+36 BEGIN ROCK SHIELD
1953+03 P.I. 00°05'11" LT.
1953+41 BEGIN SLOUGH
1954+59 CL SLOUGH
1956+61 END ROCK SHIELD
1956+39 END SLOUGH
1956+46 EDGE OF ROAD
1956+74 CL 1ST STREET SE
1956+92 EDGE OF ROAD
1957+03 WATER SUPPLY LINE
1970+79 P.I. 03°38'01" RT.
1991+57 BEGIN SLOUGH
1993+74 CL SLOUGH
1994+88 END SLOUGH
1995+72 P.I. 00°07'21" RT.
1997+67 BEGIN SLOUGH
1998+29 CL SLOUGH
1998+89 END SLOUGH
2000+72 BEGIN SLOUGH
2001+15 CL SLOUGH
2001+67 END SLOUGH
2003+37 FENCE (BARBED WIRE)
2003+65 FENCE (BARBED WIRE)
2009+68 CL 2ND STREET SE
2011+18 BEGIN SLOUGH
2012+03 CL SLOUGH
2012+65 END SLOUGH
2018+64 P.I. 05°22'42" RT.
2019+12 P.I. 06°25'11" RT.
2019+62 P.I. 02°42'05" RT.
2045+50 P.I. 01°45'54" LT.
2046+10 P.I. 06°11'34" LT.
2046+35 P.I. 09°12'07" LT.
2046+89 P.I. 06°37'54" LT.
2047+41 P.I. 03°39'56" LT.
2057+86 P.I. 04°24'31" RT.
2058+07 P.I. 09°33'43" RT.
2058+49 P.I. 10°04'19" RT.
2064+07 EDGE OF ROAD
2064+12 CL 3RD STREET SE
2064+32 EDGE OF ROAD
2069+40 BEGIN SLOUGH
2070+12 CL SLOUGH
2070+45 END SLOUGH
2078+43 P.I. 00°11'11" RT.
MATCHLINE 2080+00

SLOPE STATIONS (3D)

MATCHLINE 1951+61
1951+97 BEGIN ROCK SHIELD
1954+65 P.I. 00°05'11" LT.
1953+70 BEGIN SLOUGH
1954+20 CL SLOUGH
1956+61 END ROCK SHIELD
1956+91 END SLOUGH
1956+96 EDGE OF ROAD
1956+97 CL 1ST STREET SE
1956+98 EDGE OF ROAD
1957+03 WATER SUPPLY LINE
1958+76 6.5' CVR.
1974+98 5.0' CVR.
1978+43 P.I. 03°38'01" RT.
1980+44 6.3' CVR.
1990+74 M.P. 114
1991+31 5.0' CVR.
1993+23 BEGIN SLOUGH
1993+71 CL SLOUGH
1994+17 END SLOUGH
1997+38 P.I. 00°07'21" RT.
1998+14 6.1' CVR.
1999+33 BEGIN SLOUGH
1999+59 CL SLOUGH
2000+56 END SLOUGH
2002+38 BEGIN SLOUGH
2003+62 CL SLOUGH
2004+35 END SLOUGH
2005+04 FENCE (BARBED WIRE)
2005+32 FENCE (BARBED WIRE)
2011+35 CL 2ND STREET SE
2012+77 BEGIN SLOUGH
2013+27 CL SLOUGH
2014+32 END SLOUGH
2020+80 5.9' CVR.
2021+39 P.I. 05°22'42" RT.
2021+89 P.I. 06°25'11" RT.
2022+50 P.I. 02°42'05" RT.
2023+35 4.6' CVR.
2039+79 6.1' CVR.
2043+54 M.P. 115
2047+29 P.I. 01°45'54" LT.
2048+29 P.I. 06°11'34" LT.
2047+80 6.8' CVR.
2048+05 P.I. 09°12'07" LT.
2048+89 P.I. 06°37'54" LT.
2049+41 P.I. 03°39'56" LT.
2053+26 4.6' CVR.
2059+58 P.I. 04°24'31" RT.
2059+78 P.I. 09°33'43" RT.
2060+41 P.I. 10°04'19" RT.
2065+79 EDGE OF ROAD
2066+46 CL 3RD STREET SE
2066+66 EDGE OF ROAD
2069+29 7.4' CVR.
2071+32 BEGIN SLOUGH
2071+58 CL SLOUGH
2071+84 END SLOUGH
2077+48 5.8' CVR.
2080+36 P.I. 00°11'11" RT.
MATCHLINE 2081+73

PIPE SLOPE REPRESENTATION (3D)

1951+61
② 634' FBE
1955+09
1955+79
(22)
1957+01
1957+85
③ 81' FBE & ARO O.C.
1958+76
② 5,221' FBE
2002+06
(10)
2003+26
2010+97
③ 80' FBE & ARO O.C.
2011+77
2012+56
(15)
2014+54
② 5,371' FBE
2065+48
-1°
③ 80' FBE & ARO BR.
2066+28
② 1,545' FBE
2081+73

CPS (3D)

TEST SECTIONS (3D)

TEST SECTION 1A-5
ILTO-021-2010
2005+78
PRE-TESTED PIPE
2006+04
TEST SECTION 1A-6
ILTO-021-2010

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 16, 2009 FOR M.P. 66.90 TO M.P. 88.54, SEPTEMBER 16, 2009 FOR M.P. 88.54 TO M.P. 114.00 AND SEPTEMBER 23, 2009 FOR M.P. 114.00 TO M.P. 130.00.

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 4028+46 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	12,771'
3	30" O.D. X 0.516" W.T., API -5LX-70 W/FBE COATING & ABRASION RESISTANT OVERCOAT	241'
	PIPELINE MARKERS	0 EA
	PIPELINE WARNING SIGNS	5 EA
	CATHODIC TEST STATION	3 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	10/11/23	UEI				ISSUED FOR AS-BUILT
						1829-03-ML-02-016 REPLACES COVERAGE OF IFC DRAWINGS
						1829-03-ML-02-025,
						1829-03-ML-02-026,
						1829-03-ML-02-027

ENGINEERING RECORDS

	INITIAL	DATE		INITIAL	DATE
DRAWN BY	UEI	10/01/11	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) NIAGRA SECTION

P(A)#	SPREAD	DISCIPLINE
1829	1A	03

AS-BUILT ALIGNMENT

M.P. 113.26 TO M.P. 115.72

SHEET 16 OF 20 SHEETS

STA. 1951+61 TO STA. 2081+73 (3D)

DRAWING NO. 1829-03-ML-02-016 REV. 2

Z:\00_KEYSTONE_AS_BUILT\14-alignment sheets for North Dakota\ND1829_ASBUILTWD1829-016.dwg, 3/9/2011 1:17:03 PM, pdfFactory.pc3