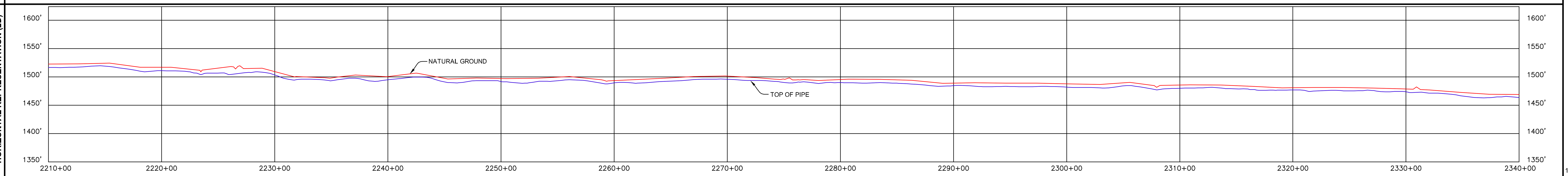
RIGHT-OF-WAY
HORIZONTAL REPRESENTATION (2D)
TRACT NUMBER
OWNERSHIP/AGENCY
LENGTH
APPLICABLE DWG. NO.

Station	Tract
2210+00	ML-ND-ST-0278.0000
2226+92	RD-ND-ST-0278.0000 COUNTY ROAD 5 (6TH STREET SE)
	ML-ND-ST-0279.0000
2251+69	ML-ND-ST-0280.0000
2263+65	ML-ND-ST-0281.0000
2275+50	RD-ND-ST-0281.0000 7TH STREET SE
	ML-ND-ST-0282.0000
2302+28	ML-ND-ST-0283.0000
2330+92	RD-ND-ST-0283.0000 8TH STREET SE
	ML-ND-ST-0284.0000
2340+00	

LAND USE

PIPELINE PROFILE

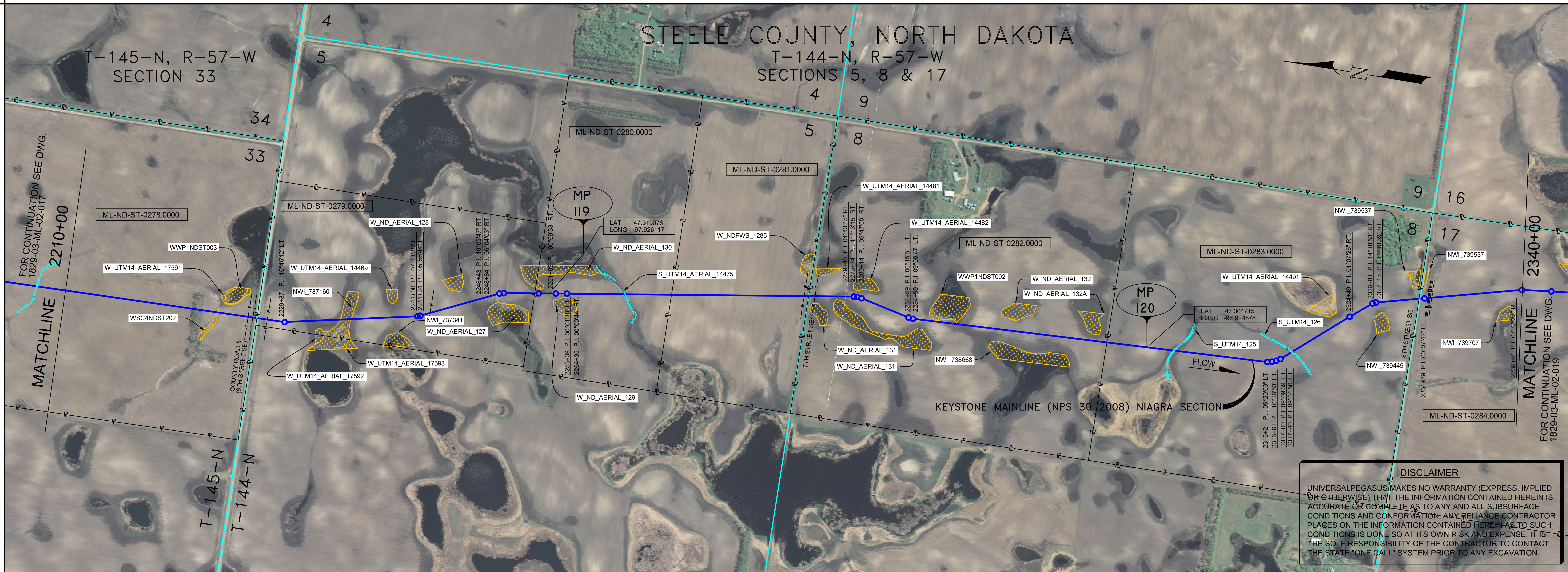
HORIZ: 1"=500' VER: 1"=100'
HORIZONTAL REPRESENTATION (2D)



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
- 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

STATION/DESCRIPTION
PIPELINE DATA

- 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

HORIZONTAL STATIONS (2D)

MATCHLINE 2210+00
2223+40 BEGIN SLOUGH
2223+47 CL SLOUGH
2223+58 END SLOUGH
2226+15 TELEPHONE LINE
2226+56 ROAD BAR DITCH, TELEPHONE LINE
2226+79 EDGE OF ROAD
2226+92 CL COUNTY ROAD 5 (6TH STREET SE)
2227+07 EDGE OF ROAD
2227+84 UNDERGROUND POWERLINE
2229+37 P.I. 10°46'12" LT.
2231+72 BEGIN SLOUGH
2231+78 CL SLOUGH
2231+88 END SLOUGH
2234+28 BEGIN SLOUGH
2234+90 CL SLOUGH
2235+52 END SLOUGH
2241+00 P.I. 07°11'38" LT.
2241+24 P.I. 05°56'44" LT.
2242+15 UNDERGROUND POWERLINE
2248+43 P.I. 10°03'47" RT.
2248+84 P.I. 06°04'03" RT.
2251+89 P.I. 00°09'33" RT.
2253+39 P.I. 00°01'10" LT.
2254+35 P.I. 00°00'44" RT.
2259+10 TOP BANK
2259+35 CL DITCH
2259+47 TOP BANK
2275+11 WATER SUPPLY LINE
2275+45 EDGE OF ROAD
2275+50 CL 7TH STREET SE
2275+55 EDGE OF ROAD
2276+06 TELEPHONE LINE
2279+46 P.I. 04°43'45" RT.
2279+74 P.I. 11°13'15" RT.
2280+14 P.I. 05°47'00" RT.
2284+59 P.I. 06°15'01" LT.
2284+99 P.I. 09°08'47" LT.
2307+74 TOP BANK
2307+97 CL DITCH
2308+23 TOP BANK
2316+21 P.I. 09°20'03" LT.
2316+61 P.I. 10°16'53" LT.
2317+00 P.I. 09°09'39" LT.
2317+40 P.I. 09°34'50" LT.
2324+49 P.I. 01°07'25" RT.
2326+81 P.I. 14°18'53" RT.
2327+13 P.I. 11°10'39" RT.
2330+81 EDGE OF ROAD
2330+92 CL 8TH STREET SE
2331+02 EDGE OF ROAD
2331+39 P.I. 00°07'42" LT.
2331+68 OVERHEAD POWERLINE
2331+90 UNDERGROUND POWERLINE
2332+02 UNDERGROUND POWERLINE
2332+16 UNDERGROUND POWERLINE
2339+94 P.I. 07°43'27" RT.
MATCHLINE 2340+00

SLOPE STATIONS (3D)

MATCHLINE 2211+82
2214+47 5.8' CVR.
2225+24 BEGIN SLOUGH
2225+32 CL SLOUGH
2225+43 END SLOUGH
2227+98 13.8' CVR.
2228+00 TELEPHONE LINE 6.3' CVR. CLR. UNK.
2228+41 ROAD BAR DITCH, TELEPHONE LINE 7.0' CVR. CLR. UNK.
2228+64 EDGE OF ROAD
2228+77 CL COUNTY ROAD 5 (6TH STREET SE)
2228+92 EDGE OF ROAD
2229+70 UNDERGROUND POWERLINE 7.0' CVR. CLR. UNK.
2230+75 6.8' CVR.
2231+22 P.I. 10°46'12" LT.
2233+58 BEGIN SLOUGH
2233+63 CL SLOUGH
2233+74 END SLOUGH
2236+14 BEGIN SLOUGH
2236+76 CL SLOUGH
2237+38 END SLOUGH
2242+87 P.I. 07°11'38" LT.
2243+11 P.I. 05°56'44" LT.
2244+01 UNDERGROUND POWERLINE 5.1' CVR. CLR. UNK.
2244+53 6.6' CVR.
2249+71 4.7' CVR.
2250+31 P.I. 10°03'47" RT.
2250+71 P.I. 06°04'03" RT.
2253+77 P.I. 00°09'33" RT.
2254+74 M.P. 119
2255+27 P.I. 00°01'10" LT.
2256+23 P.I. 00°00'44" RT.
2260+74 6.0' CVR.
2260+98 TOP BANK
2261+23 CL DITCH
2261+35 TOP BANK
2274+49 5.2' CVR.
2277+00 WATER SUPPLY LINE 5.7' CVR. CLR. UNK.
2277+34 EDGE OF ROAD 8.9' CVR.
2277+38 CL 7TH STREET SE,
2277+39 EDGE OF ROAD
2277+44 TELEPHONE LINE 4.6' CVR.
2277+95 1.9' CLR., (ABOVE)
2279+96 5.2' CVR.
2281+35 P.I. 04°43'45" RT.
2281+63 P.I. 11°13'15" RT.
2282+04 P.I. 05°47'00" RT.
2286+48 P.I. 06°15'01" LT.
2286+89 P.I. 09°08'47" LT.
2288+21 6.4' CVR.
2290+96 5.2' CVR.
2307+54 M.P. 120
2309+65 TOP BANK
2309+88 CL DITCH
2310+14 TOP BANK
2310+21 6.8' CVR.
2318+13 P.I. 09°20'03" LT.
2318+53 P.I. 10°16'53" LT. 5.8' CVR.
2318+92 P.I. 09°09'39" LT.
2319+31 P.I. 09°34'50" LT.
2326+42 P.I. 01°07'25" RT.
2328+74 P.I. 14°18'53" RT.
2329+06 P.I. 11°10'39" RT. 4.4' CVR.
2332+74 EDGE OF ROAD
2332+85 CL 8TH STREET SE
2332+95 EDGE OF ROAD
2333+32 P.I. 00°07'42" LT.
2333+62 OVERHEAD POWERLINE HT. = 35' UNDERGROUND POWERLINE 4.2' CVR. CLR. UNK.
2333+83
2333+95 UNDERGROUND POWERLINE 4.2' CVR. CLR. UNK.
2334+09 UNDERGROUND POWERLINE 4.2' CVR. CLR. UNK.
2336+76 6.2' CVR.
2341+87 P.I. 07°43'27" RT.
MATCHLINE 2341+93

PIPE SLOPE REPRESENTATION (3D)

2211+82
(2) 1,616' FBE
2223+52
2225+21
2227+98
(3) 159' FBE & ARO BR.
2229+57
2244+90
(2) 4,742' FBE
2276+99
(3) 80' FBE & ARO O.C.
2277+79
(2) 5,465' FBE
2309+99
2332+44
(120)
(3) 76' FBE & ARO BR.
2333+20
(2) 873' FBE
2341+93

CPS (3D)

TEST SECTIONS (3D): 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	12,696'
3	30" O.D. X 0.516' W.T., API -5LX-70 W/FBE COATING & ABRASION RESISTANT OVERCOAT	315'
	PIPELINE MARKERS	2 EA
	PIPELINE WARNING SIGNS	8 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-02-018 REPLACES COVERAGE OF IFC DRAWINGS 1829-03-ML-02-028, 1829-03-ML-02-029, 1829-03-ML-02-030

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

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UNIVERSAL ENSCO, INC.

KEYSTONE MAINLINE (NPS 30 2008) NIAGRA SECTION
FIA# 1829 | SPREAD 1A | DISCIPLINE 03

AS-BUILT ALIGNMENT

M.P. 118.19 TO M.P. 120.65
SHEET 18 OF 20 SHEETS
STA. 2211+82 TO STA. 2341+93 (3D)
DRAWING NO. 1829-03-ML-02-018 REV. 2

Z:\00_KEYSTONE_AS_BUILT\4-alignment sheets for North Dakota\ND1829_ASBUILT\ND1829-018.dwg, 3/9/2011 1:20:24 PM, pdfFactory.pc3