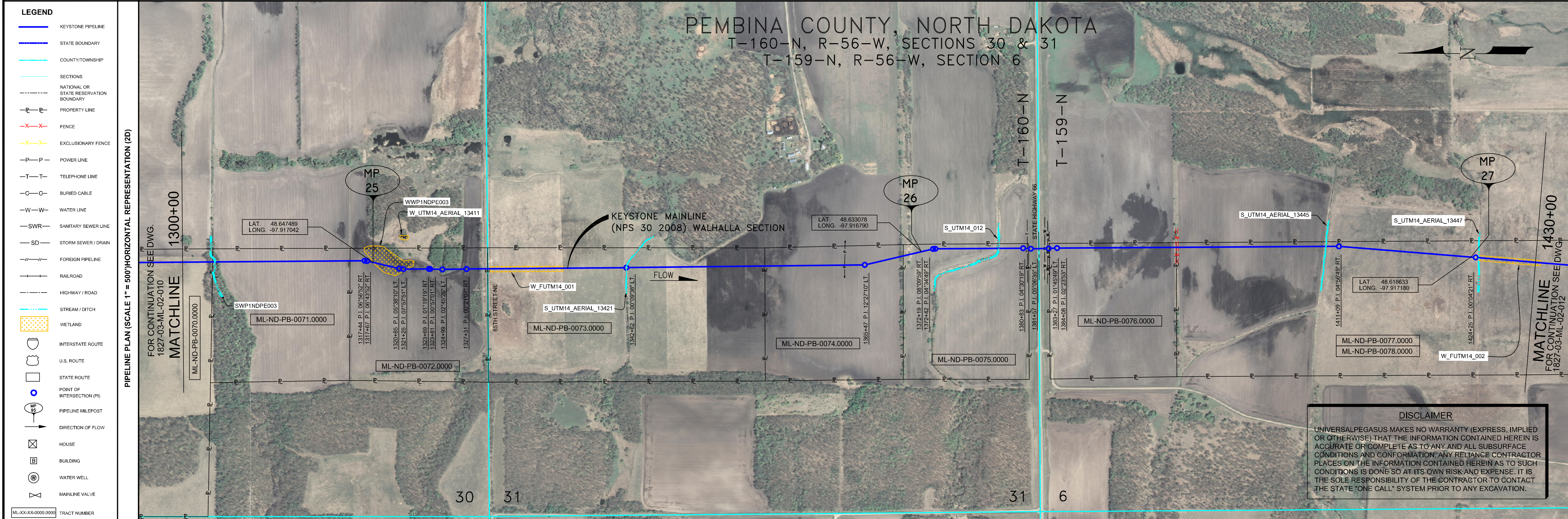


- GENERAL NOTES**
- 1) ALL CHAINAGES ARE IN FEET UNLESS OTHERWISE SPECIFIED.
 - 2) DATUM ELEVATION AND PROJECTION ARE BASED ON MEAN SEA LEVEL AND NAD 83.
 - 3) FIELD PIPE LOCATING REQUIRED TO DETERMINE PLACEMENT OF PIPELINE WITHIN PERMANENT EASEMENT.
 - 4) UNLESS OTHERWISE NOTED, 48 INCHES MINIMUM COVER 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 DENS0 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 1400 PSIG.
2. THE MINIMUM TEST PRESSURE WAS 180 PSIG.

BILL OF MATERIALS (3D)

| ITEM NO. | DESCRIPTION | QUANTITY |
|----------|---|----------|
| 2 | 30" O.D. X 0.386" W.T. API 5LX-70 W/FBE COATING | 12,684' |
| 3 | 30" O.D. X 0.516" W.T. API 5LX-70 W/FBE COATING & ABRASION RESISTANT OVERCOAT | 323' |
| 101C | 30" 15' 3" DIA RAD WELD FITTING 0.429" W.T. Y-70 | 1 EA |
| 101D | 30" 15' 3" DIA RAD WELD FITTING 0.429" W.T. Y-70 | 1 EA |

REFERENCE DRAWINGS

| REF. NO. | DRAWING NO. | REV. NO. | DRAWING TITLE |
|----------|-------------|----------|---------------|
| | | | |
| | | | |

REVISIONS

| NO. | DATE | REV. BY | CHKD. BY | APP'D. BY | ENV. APP'D. | DESCRIPTION |
|-----|---------|---------|----------|-----------|-------------|--|
| 1 | 5/17/08 | UEI | RDG | LAG | SEC | ISSUE FOR CONSTRUCTION |
| 2 | 8/27/08 | UEI | GTC | LAG | SEC | ADD'D CROSSING DETAILS |
| 3 | 9/11/10 | UEI | | | | ISSUED FOR AS-BUILT 1827-03-MI-02-011 REPLACES COVERAGE OF IFC DRAWINGS 1827-03-MI-02-017, 1827-03-MI-02-018 |

| PIPELINE SCHEMATIC | HORIZONTAL STATIONS (2D) | SLOPE STATIONS (3D) | PIPELINE DATA |
|------------------------------|----------------------------|----------------------------|--|
| HEAVY WALL PIPE | 1300+00 | 1302+38 7.2 C.V.R. | 1317+44 P.I. 0.052592' RT. 1317+45 P.I. 0.052592' RT. 1317+46 P.I. 0.052592' RT. |
| WELD FITTING | 1302+49 WATER EDGE | 1304+49 WATER EDGE | 1304+49 WATER EDGE |
| TRANSITION PIECE | 1304+57 CL CREEK | 1304+58 WATER EDGE | 1304+58 WATER EDGE |
| CASING PIPE | 1304+58 WATER EDGE | 1310+28 5.9 C.V.R. | 1315+77 6.6 C.V.R. |
| CONCRETE COATING | 1310+28 5.9 C.V.R. | 1315+77 6.6 C.V.R. | 1319+42 5.9 C.V.R. |
| SECTION WEIGHTS | 1319+42 5.9 C.V.R. | 1324+59 P.I. 0.052592' RT. | 1324+59 P.I. 0.052592' RT. |
| PIPELINE MARKING SIGN | 1324+59 P.I. 0.052592' RT. | 1324+59 P.I. 0.052592' RT. | 1324+59 P.I. 0.052592' RT. |
| PIPELINE MARKER | 1324+59 P.I. 0.052592' RT. | 1324+59 P.I. 0.052592' RT. | 1324+59 P.I. 0.052592' RT. |
| MATERIAL ITEM | 1324+59 P.I. 0.052592' RT. | 1324+59 P.I. 0.052592' RT. | 1324+59 P.I. 0.052592' RT. |
| GROUNDING MAT | 1324+59 P.I. 0.052592' RT. | 1324+59 P.I. 0.052592' RT. | 1324+59 P.I. 0.052592' RT. |
| ZINC RIBBON | 1324+59 P.I. 0.052592' RT. | 1324+59 P.I. 0.052592' RT. | 1324+59 P.I. 0.052592' RT. |
| AERIAL MARKER | 1324+59 P.I. 0.052592' RT. | 1324+59 P.I. 0.052592' RT. | 1324+59 P.I. 0.052592' RT. |
| CATHODIC TEST STATION | 1324+59 P.I. 0.052592' RT. | 1324+59 P.I. 0.052592' RT. | 1324+59 P.I. 0.052592' RT. |
| MANLINE VALVE | 1324+59 P.I. 0.052592' RT. | 1324+59 P.I. 0.052592' RT. | 1324+59 P.I. 0.052592' RT. |
| CHECK VALVE | 1324+59 P.I. 0.052592' RT. | 1324+59 P.I. 0.052592' RT. | 1324+59 P.I. 0.052592' RT. |
| OPEN CUT | 1324+59 P.I. 0.052592' RT. | 1324+59 P.I. 0.052592' RT. | 1324+59 P.I. 0.052592' RT. |
| BORE | 1324+59 P.I. 0.052592' RT. | 1324+59 P.I. 0.052592' RT. | 1324+59 P.I. 0.052592' RT. |
| DRINKING WATER USA | 1324+59 P.I. 0.052592' RT. | 1324+59 P.I. 0.052592' RT. | 1324+59 P.I. 0.052592' RT. |
| ECOLOGICAL USA | 1324+59 P.I. 0.052592' RT. | 1324+59 P.I. 0.052592' RT. | 1324+59 P.I. 0.052592' RT. |
| HIGHLY POPULATED AREA | 1324+59 P.I. 0.052592' RT. | 1324+59 P.I. 0.052592' RT. | 1324+59 P.I. 0.052592' RT. |
| OPERATOR (KEYSTONE) DEFINED | 1324+59 P.I. 0.052592' RT. | 1324+59 P.I. 0.052592' RT. | 1324+59 P.I. 0.052592' RT. |
| OTHER POPULATED AREA | 1324+59 P.I. 0.052592' RT. | 1324+59 P.I. 0.052592' RT. | 1324+59 P.I. 0.052592' RT. |
| SOURCE WATER PROTECTION AREA | 1324+59 P.I. 0.052592' RT. | 1324+59 P.I. 0.052592' RT. | 1324+59 P.I. 0.052592' RT. |
| WELLHEAD PROTECTION AREA | 1324+59 P.I. 0.052592' RT. | 1324+59 P.I. 0.052592' RT. | 1324+59 P.I. 0.052592' RT. |

ENGINEERING RECORDS

| DRAWN BY | INITIAL | DATE | ENV. APP'D. | INITIAL | DATE |
|----------|---------|----------|-------------|---------|------|
| UEI | | 09/12/21 | | | |

PROFESSIONAL ENGINEER

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

SCALE: 0 125 250 500 Feet

TransCanada
In business to deliver

KEYSTONE MAINLINE (NPS 30 2008) WALHALLA SECTION

FR# 1827 SPREAD 1A DISCIPLINE 03

AS-BUILT ALIGNMENT

M.P. 24.65 TO M.P. 27.12
SHEET 11 OF 14 SHEETS
STA. 1301+73 TO STA. 1431+80 (3D)

DRAWING NO. 1827-03-MI-02-011 REV. 3

Z:\00_KEYSTONE_AS_BUILT\14-alignment sheets for North Dakota\ND1827-01.dwg, 3/9/2011 8:13:53 AM, pdfFactory.pd