



PIPELINE SCHEMATIC	HORIZONTAL STATIONS (2D)	SLOPE STATIONS (3D)	PIPELINE DATA
HEAVY WALL PIPE	260+00 MATCHLINE	260+00 M.P. 5	260+00 M.P. 5
WELD FITTING	260+25 FENCE (ELECTRIC)	267+43 FENCE (ELECTRIC)	267+43 FENCE (ELECTRIC)
TRANSITION PIECE	260+49 P.I. 0273.047 RT.	267+43 WATER EDGE	267+43 WATER EDGE
CASING PIPE	260+49 P.I. 0273.047 RT.	267+43 WATER EDGE	267+43 WATER EDGE
CONCRETE COATING	260+49 P.I. 0273.047 RT.	267+43 WATER EDGE	267+43 WATER EDGE
SECTION WEIGHTS	260+49 P.I. 0273.047 RT.	267+43 WATER EDGE	267+43 WATER EDGE
PIPELINE MARKING SIGN	260+49 P.I. 0273.047 RT.	267+43 WATER EDGE	267+43 WATER EDGE
PIPELINE MARKER	260+49 P.I. 0273.047 RT.	267+43 WATER EDGE	267+43 WATER EDGE
MATERIAL ITEM	260+49 P.I. 0273.047 RT.	267+43 WATER EDGE	267+43 WATER EDGE
GROUNDING MAT	260+49 P.I. 0273.047 RT.	267+43 WATER EDGE	267+43 WATER EDGE
ZINC RIBBON	260+49 P.I. 0273.047 RT.	267+43 WATER EDGE	267+43 WATER EDGE
AERIAL MARKER	260+49 P.I. 0273.047 RT.	267+43 WATER EDGE	267+43 WATER EDGE
CATHODIC TEST STATION	260+49 P.I. 0273.047 RT.	267+43 WATER EDGE	267+43 WATER EDGE
MAINLINE VALVE	260+49 P.I. 0273.047 RT.	267+43 WATER EDGE	267+43 WATER EDGE
CHECK VALVE	260+49 P.I. 0273.047 RT.	267+43 WATER EDGE	267+43 WATER EDGE
OPEN CULVERT	260+49 P.I. 0273.047 RT.	267+43 WATER EDGE	267+43 WATER EDGE
BORING	260+49 P.I. 0273.047 RT.	267+43 WATER EDGE	267+43 WATER EDGE
DRINKING WATER USA	260+49 P.I. 0273.047 RT.	267+43 WATER EDGE	267+43 WATER EDGE
ECOLOGICAL USA	260+49 P.I. 0273.047 RT.	267+43 WATER EDGE	267+43 WATER EDGE
HIGHLY POPULATED AREA	260+49 P.I. 0273.047 RT.	267+43 WATER EDGE	267+43 WATER EDGE
OPERATOR (KEYSTONE) DEFINED	260+49 P.I. 0273.047 RT.	267+43 WATER EDGE	267+43 WATER EDGE
OTHER POPULATED AREA	260+49 P.I. 0273.047 RT.	267+43 WATER EDGE	267+43 WATER EDGE
SOURCE WATER PROTECTION AREA	260+49 P.I. 0273.047 RT.	267+43 WATER EDGE	267+43 WATER EDGE
WELLHEAD PROTECTION AREA	260+49 P.I. 0273.047 RT.	267+43 WATER EDGE	267+43 WATER EDGE

- 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 DENSOL 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: 11827000.
  - 11) TO DETERMINE THE MILE POST AT A GIVEN LOCATION, ADD THE 30 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 140 PSIG.
2. THE MINIMUM TEST PRESSURE WAS 180 PSIG.

**BILL OF MATERIALS (3D)**

ITEM NO.	DESCRIPTION	QUANTITY
1	30" O.D. X 0.438" W.T., API -5LX-70 W/FBE COATING	9.311'
3	30" O.D. X 0.516" W.T., API -5LX-70 W/FBE COATING & ABRASION RESISTANT OVERCOAT	281'
4	30" O.D. X 0.622" W.T., API -5LX-70 W/FBE COATING & ABRASION RESISTANT OVERCOAT	3,452'
400	MAINLINE VALVE ASSEMBLY	1 EA
	WALHL+05 6-A0-MLV-001 (-24")	
	PIPELINE MARKERS	1 EA
	PIPELINE WARNING SIGNS	6 EA
	CATHODIC TEST STATION	2 EA
	AERIAL MARKER	1 EA

**REFERENCE DRAWINGS**

REF. NO.	DRAWING NO.	REV. NO.	DRAWING TITLE
400	1827-01-ML-03-100	05	MAINLINE VALVE
	1827-01-ML-03-101	00	MAINLINE VALVE
	1827-01-ML-03-102	00	WALHL+05 6-A0-MLV-001
HDD	1827-03-ML-03-001	09	PEMBINA RIVER HDD

**REVISIONS**

NO.	DATE	REV. BY	CHKD. BY	APP'D. BY	ENV. APP'D. BY	DESCRIPTION
1	5/17/08	UEI	RDG	LAG	SEC	ISSUED FOR CONSTRUCTION
2	9/17/10	UEI				ISSUED FOR AS-BUILT
						REPLACES COVERAGE OF IFC DRAWINGS
						1827-03-ML-02-003
						1827-03-ML-02-004
						1827-03-ML-02-005

**ENGINEERING RECORDS**

DRAWN BY	INITIAL	DATE	ENV. APP'D. BY	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

AS-BUILT ALIGNMENT  
M.P. 4.93 TO M.P. 7.40  
SHEET 3 OF 14 SHEETS  
STA. 260+20 TO STA. 390+88 (3D)  
DRAWING NO. 1827-03-ML-02-003 REV. 2

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