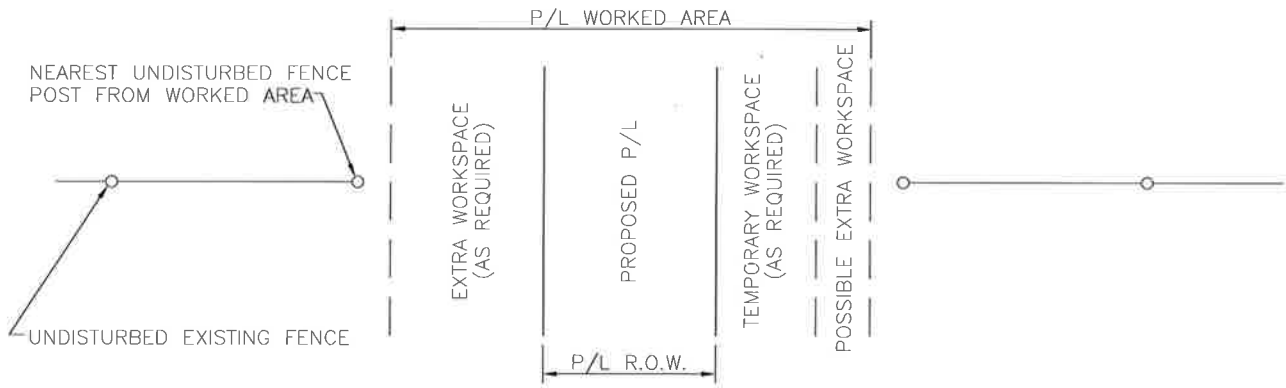


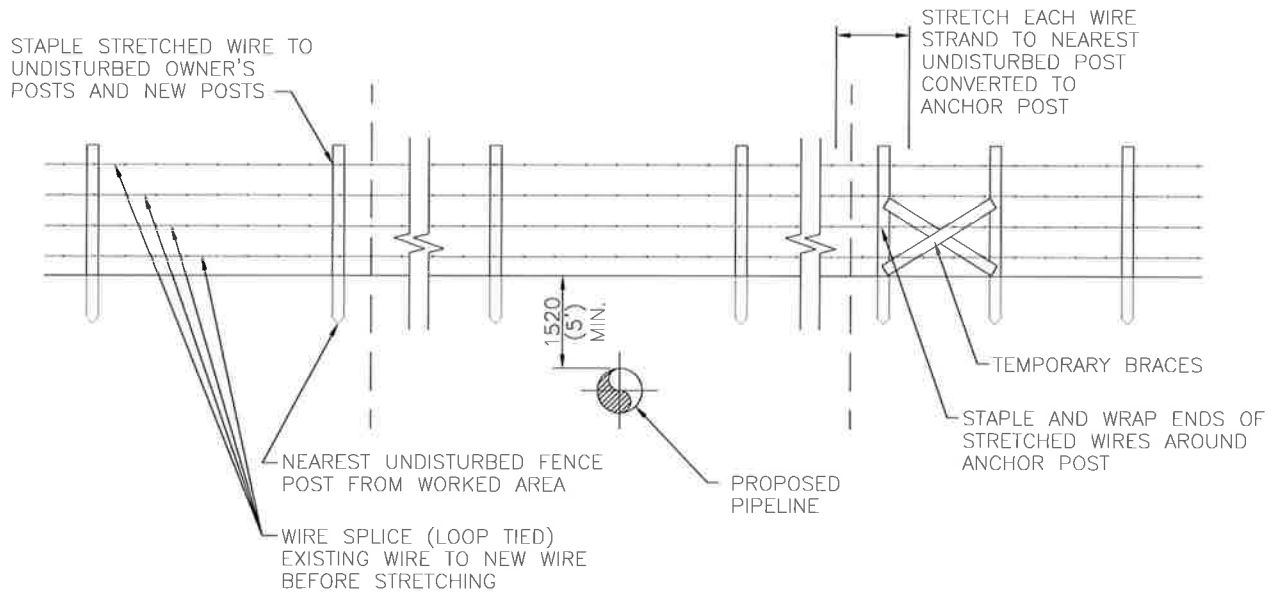


VANTAGE WEST SPUR LATERAL PIPELINE
TABLE OF CONTENTS

Exhibit B	ROW Construction Details
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PLAN

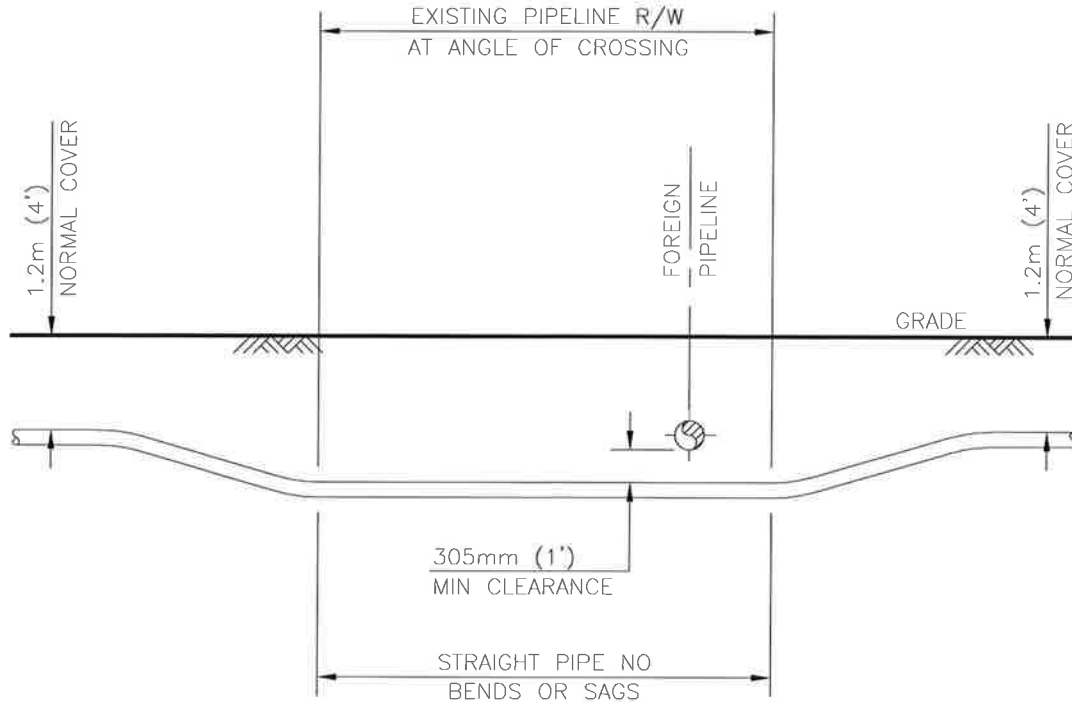


ELEVATION

NOTES:

1. DIMENSIONS ARE IN METRIC UNITS mm's & IMPERIAL UNITS ARE IN BRACKETS.
2. HEIGHT, NUMBER OF STRANDS, AND POST SPACING OF NEW FENCE SHOULD MATCH OR EXCEED EXISTING FENCE.
3. QUALITY OF MATERIALS USED SHOULD MATCH OR EXCEED EXISTING FENCE.

Pembina Pipeline Corporation		A TYPICAL CROSSING PRIVATE FENCE RECLAMATION AND REPAIR			
DR. BY C. GRAY	DATE 2015.06.08	FILE NO. A	A.F.E. NO.	DWG. NO. B8000.01-16A-0002	REV. NO.
CHK BY C. SCHROETER	SCALE	PRINT ISSUED		SHEET NO. —	0
APPR. BY C. VINCENT					

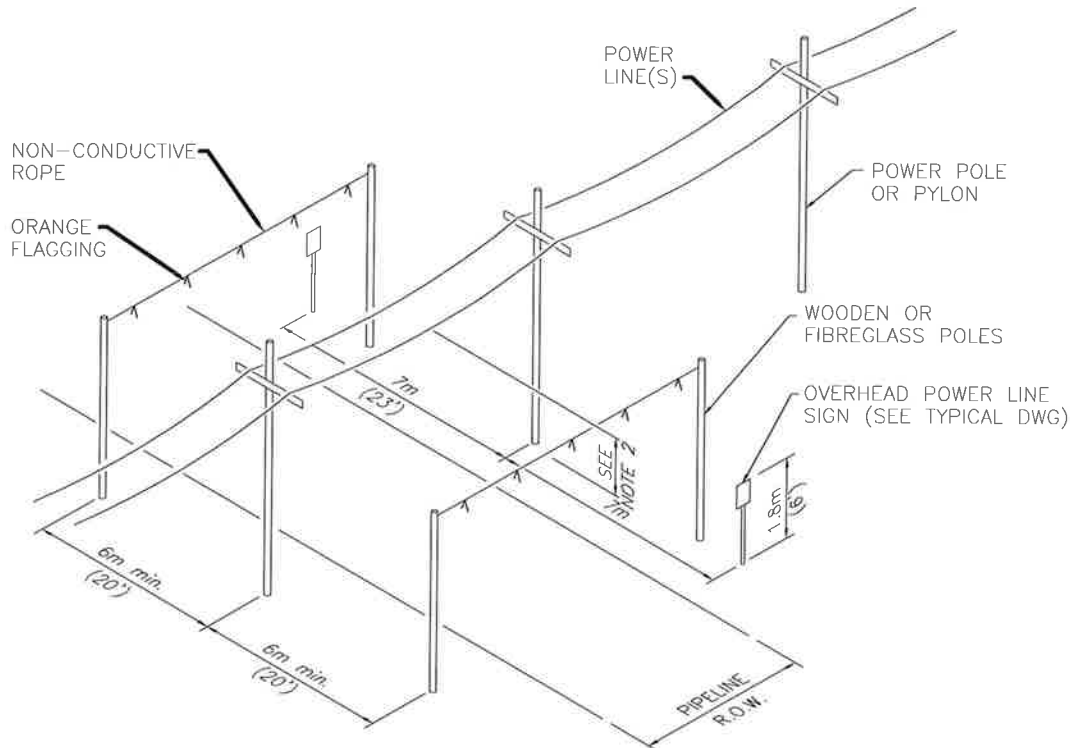


PROFILE OF PIPELINE

NOTES:

1. FOREIGN PIPELINE LOCATIONS AND DEPTHS TO BE DETERMINED BY ELECTRICAL MEANS IN ADVANCE OF PIPELINE OPERATION AND CONFIRMED BY CAREFULLY EXPOSING BY HAND DIGGING OR "HYDRO VAC".
2. OWNER OF FOREIGN PIPELINE(S) SHALL BE NOTIFIED AT LEAST 48 HOURS IN ADVANCE OF EXCAVATION OF CROSSING, OR AS REQUIRED BY THE CROSSING LINE LIST. THE OWNER OR HIS REPRESENTATIVE SHALL BE PRESENT ON SITE WHEN THE CROSSING OPERATION TAKES PLACE UNLESS OTHERWISE APPROVED IN WRITING BY THE FOREIGN PIPELINE OWNER.
3. PROPOSED PIPELINE MAY ONLY CROSS ABOVE FOREIGN PIPELINE(S) WHERE REQUESTED BY OR APPROVED BY FOREIGN PIPELINE OWNER IN WRITING, PROVIDED THAT MINIMUM CLEARANCE AND COVER IS MAINTAINED.
4. CROSSING SHALL BE CONSTRUCTED IN ACCORDANCE WITH CAN/CSA Z662-03 (LATEST EDITION) OR B31.4 (LATEST EDITION) AND ERCB PIPELINE ACT AND REGULATIONS, AND NORTH DAKOTA REGULATIONS.
5. PLASTIC PIPELINES SHALL BE SUPPORTED AS REQUESTED BY THE FOREIGN PIPELINE OWNER. IF THE FOREIGN LINE OWNER HAS NO SPECIFIC REQUIREMENTS, ANGLE IRON 75mm x 75mm x 6mm (3" x 3" x ¼") SHALL BE USED.
6. ALL BACKFILL WITHIN 3m (10') OF A PLASTIC PIPELINE CROSSING TO BE DEPOSITED IN 150mm (6") LIFTS AND COMPACTED TO 85% STANDARD PROCTOR DENSITY.

Pembina Pipeline Corporation		B TYPICAL FOREIGN PIPELINE CROSSING			
DR. BY C. GRAY	DATE 2015.06.08	FILE NO. A	A.F.E. NO.	DWG. NO. B8000.01-16A-0003	REV. NO.
CHK BY C. SCHROETER	SCALE	PRINT ISSUED		SHEET NO. —	0
APPR. BY C. VINCENT					



NOTES:

1. OVERHEAD POWER LINE SIGNS SHALL BE PLACED APPROXIMATELY 7m (23') ON EITHER SIDE OF THE OVERHEAD POWER LINES IN PLAIN VIEW OF THOSE TRAVELLING IN EITHER DIRECTION UNDER THE LINES.
2. THE ABOVE CLEARANCES APPLY IN ALL DIRECTIONS, VERTICAL OR HORIZONTAL.
3. ALL POLES, SIGNS, FLAGGING, ETC. TO BE REMOVED FROM CROSSING SITE AFTER CLEAN-UP.

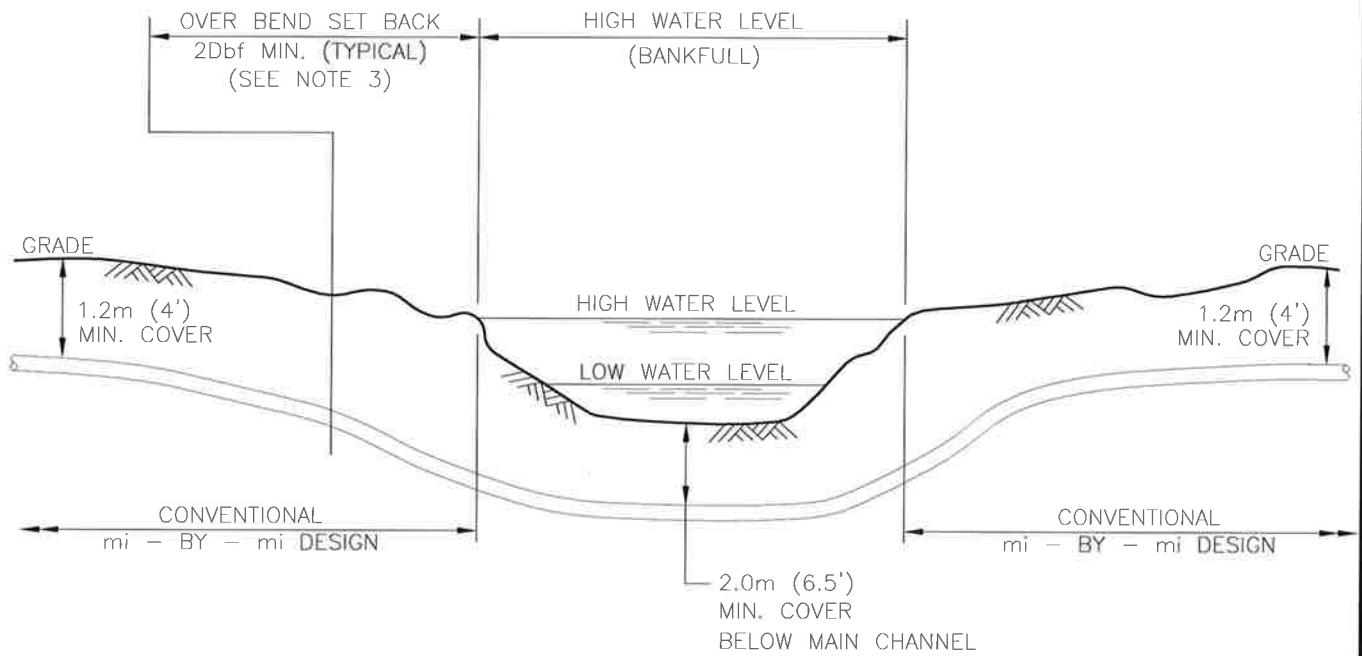
MINIMUM SAFE LIMITS OF APPROACH DISTANCES FOR PERSONS AND EQUIPMENT		
OPERATING VOLTAGE OF OVERHEAD POWER LINE BETWEEN CONDUCTORS	DISTANCE IN METRES	DISTANCE IN feet
0 - 750 V (INSULATED OR POLYETHYLENE COVERED CONDUCTORS - NOTE 4)	0.3	1'
ABOVE 750 V (INSULATED CONDUCTORS - NOTES 4,5)	1.0	3'
0 - 40 000 V	3.0	10'
69 000 - 72 000 V	3.5	11'
138 000 - 144 000 V	4.0	13'
230 000 - 240 000 V	5.0	16'
500 000 V	7.0	23'

4. CONDUCTORS MUST BE INSULATED OR COVERED THROUGHOUT THEIR ENTIRE LENGTH TO COMPLY WITH THESE GROUPS.
5. CONDUCTORS MUST BE MANUFACTURED TO RATED AND TESTED INSULATION LEVELS.

Pembina Pipeline Corporation

C TYPICAL CROSSING POWER TRANSMISSION LINE (S)

DR. BY C. GRAY	DATE 2015.06.08	FILE NO. A	A.F.E. NO.	DWG. NO. B8000.01-16A-0004	REV. NO.
CHK BY C. SCHROETER	SCALE	PRINT ISSUED		SHEET NO. —	0
APPR. BY C. VINCENT					

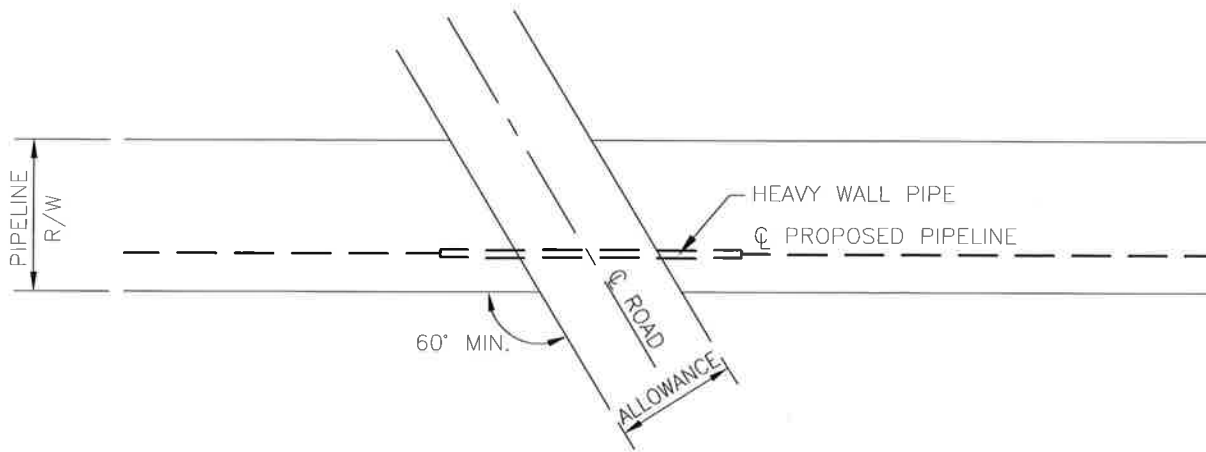


TYPICAL SINGLE SAG CROSSING

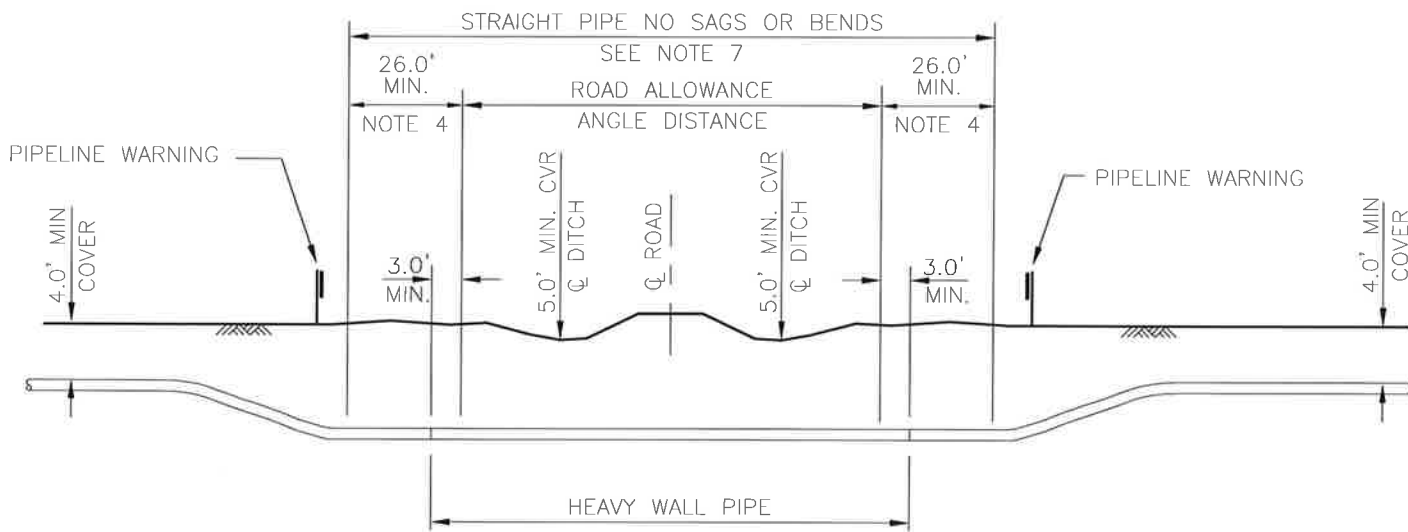
NOTES:

1. NORMALLY USE SINGLE SAG CROSSING WHERE IT IS POSSIBLE TO MAINTAIN MINIMUM COVER AND WHERE THERE IS NO EVIDENCE OF CAVING BANKS, WASH, SCOUR OR SHIFTING BOTTOM.
2. NORMALLY USE DOUBLE SAG CROSSING WHERE THE WIDTH PROHIBITS USE OF SINGLE SAG OR WHERE BANKS ARE WASHING AND PIPELINE MUST BE CARRIED INTO THE BANKS TO MAINTAIN MINIMUM COVER.
3. Dbf (BANK FULL DEPTH) IS THE VERTICAL DISTANCE FROM THE LOWEST BANK TO THE LOWEST BED ELEVATION.

Pembina Pipeline Corporation		D TYPICAL STREAM CROSSING			
DR. BY C. GRAY	DATE 2015.06.08	FILE NO. A	A.F.E. NO.	DWG. NO. B8000.01-16A-0005	REV. NO.
CHK BY C. SCHROETER	SCALE	PRINT ISSUED		SHEET NO. —	0
APPR. BY C. VINCENT					



PLAN



PROFILE ALONG ϕ OF PIPELINE

NOTES:

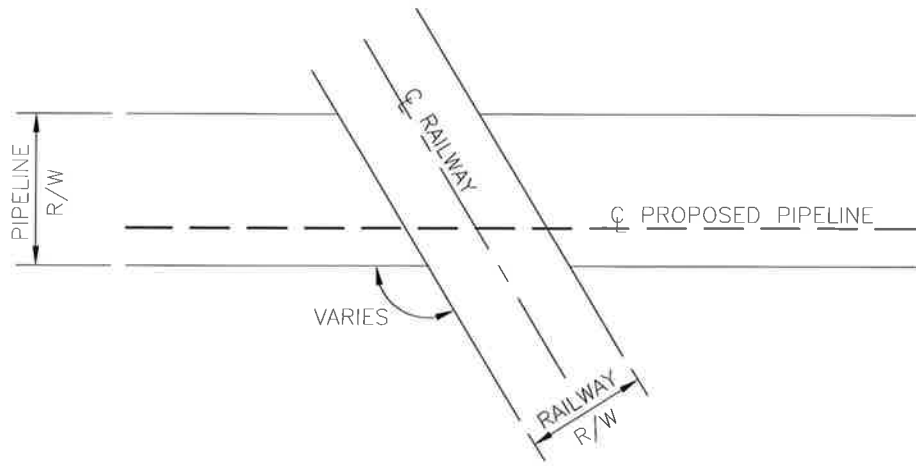
1. NO OPEN CUTS PERMITTED UNLESS SOIL CONDITIONS PREVENT BORING, THE PREFERRED INSTALLATION METHOD IS BY BORING. WHERE THIS LEAVES EXCESSIVE CLEARANCE BETWEEN PIPE AND HOLE OR WHEN DIRECTED BY THE ENGINEER, THE VOID SHALL BE FILLED BY PRESSURE GROUTING OR ANY OTHER APPROVED METHOD WHICH WILL PROVIDE PROPER SUPPORT. ON AN OPEN-CUT CROSSING, BACKFILL WITH SOIL TO A COVER OF 6" OVER TOP OF PIPE. COMPLETE BACKFILLING WITH PIT-RUN GRAVEL, COMPACTED IN 6" LIFTS, TO 95% STANDARD PROCTOR DENSITY.
2. THE ROAD SURFACE AND DITCHES AT THE PIPELINE CROSSING SHALL BE RESTORED TO THE APPROVAL OF THE LOCAL AUTHORITIES AND/OR ROAD OWNER.
3. CORROSION CONTROL SHALL CONSIST OF DUAL ABRASION PIPE COATING AS WELL AS FUTURE CATHODIC PROTECTION.
4. CROSSING AS SHOWN MUST BE SPECIFICALLY APPROVED BY THE LOCAL AUTHORITY. NO VERTICAL OR HORIZONTAL BEND SHALL BE WITHIN THE ROAD ALLOWANCE OR WITHIN 8m OF THE ROAD BOUNDARIES UNLESS OTHERWISE APPROVED.
5. PIPELINE CONSTRUCTION SHALL COMPLY WITH THE REQUIREMENTS OF THE LATEST EDITION OF ASME B31.4 AND THE REGULATIONS OF LOCAL AUTHORITIES.
6. THE PIPE COATING SHALL BE INSPECTED IMMEDIATELY PRIOR TO INSTALLATION AND ALL DAMAGED AREAS MUST BE REPAIRED.
7. NO OPEN EXCAVATION SHALL BE CLOSER THAN 13.0' FROM THE SHOULDER OF THE ROAD WHEN USING BORING TECHNIQUES.

Pembina Pipeline Corporation

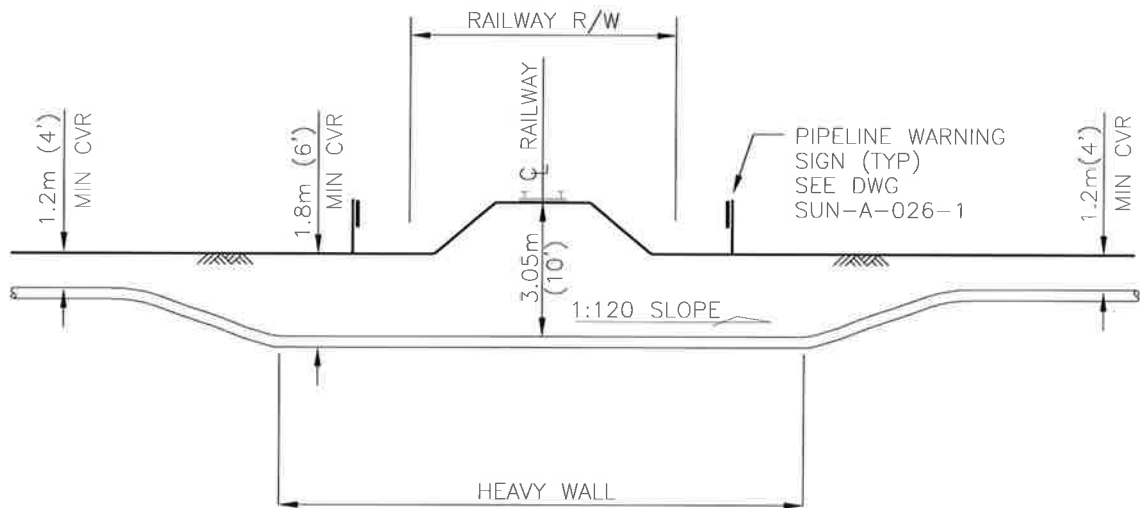
E

TYPICAL
ROAD CROSSING

DR. BY C. GRAY	DATE 2015.06.08	FILE NO. A	A.F.E. NO.	DWG. NO. B8000.01-16A-0006	REV. NO.
CHK BY C. SCHROETER	SCALE	PRINT ISSUED		SHEET NO. —	0
APPR. BY C. VINCENT					



PLAN

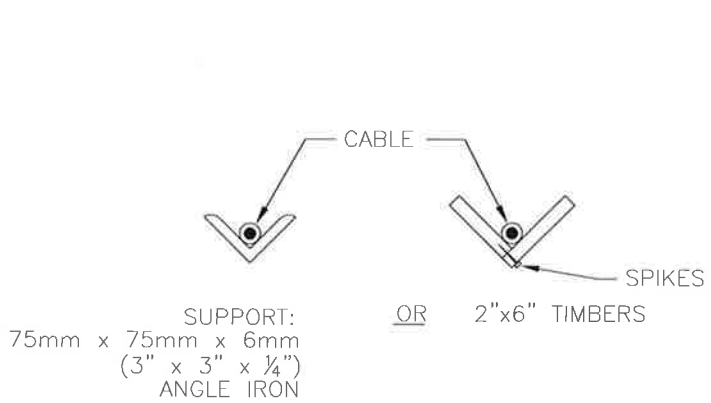
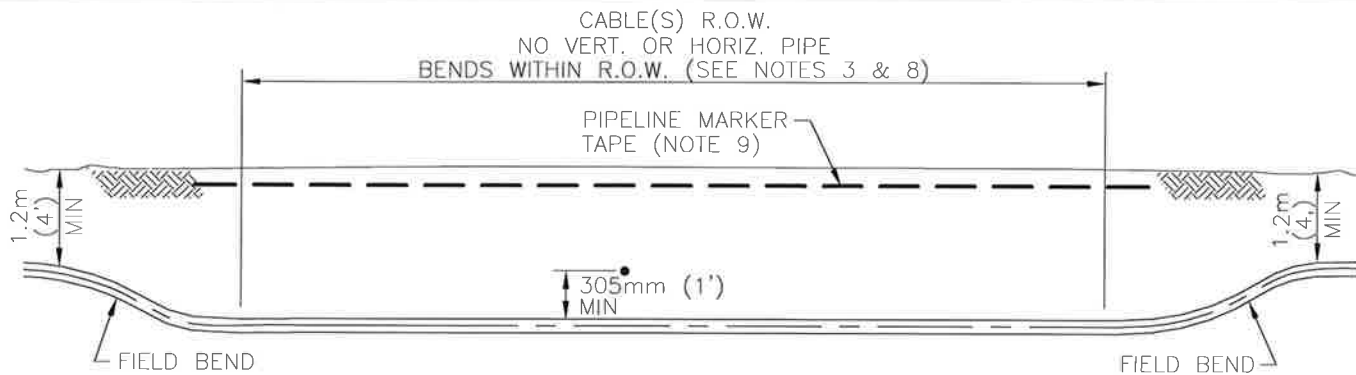


PROFILE ALONG C OF PIPELINE

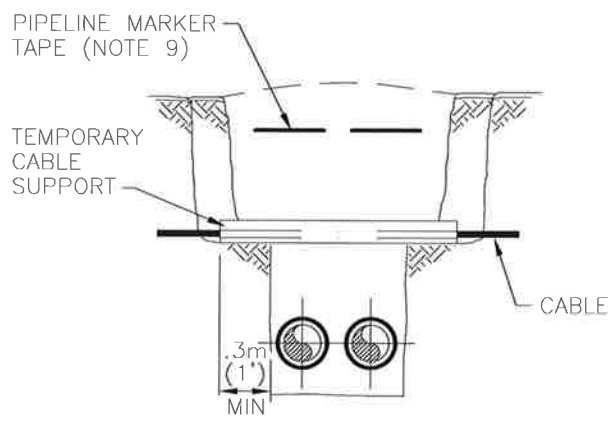
NOTES:

1. PIPELINE CONSTRUCTION AND MAINTENANCE SHALL COMPLY WITH THE REGULATIONS OF LOCAL AUTHORITIES AND "RAC STANDARDS RESPECTING PIPELINE CROSSINGS UNDER RAILWAYS TC-E-10 AND CSA STANDARDS".

Pembina Pipeline Corporation		F TYPICAL RAILWAY CROSSING			
DR. BY C. GRAY	DATE 2015.06.08	FILE NO. A	A.F.E. NO.	DWG. NO. B8000.01-16A-0007	REV. NO.
CHK BY C. SCHROETER	SCALE	PRINT ISSUED		SHEET NO. —	0
APPR. BY C. VINCENT					



**SECTION THROUGH
TEMPORARY CABLE SUPPORT**

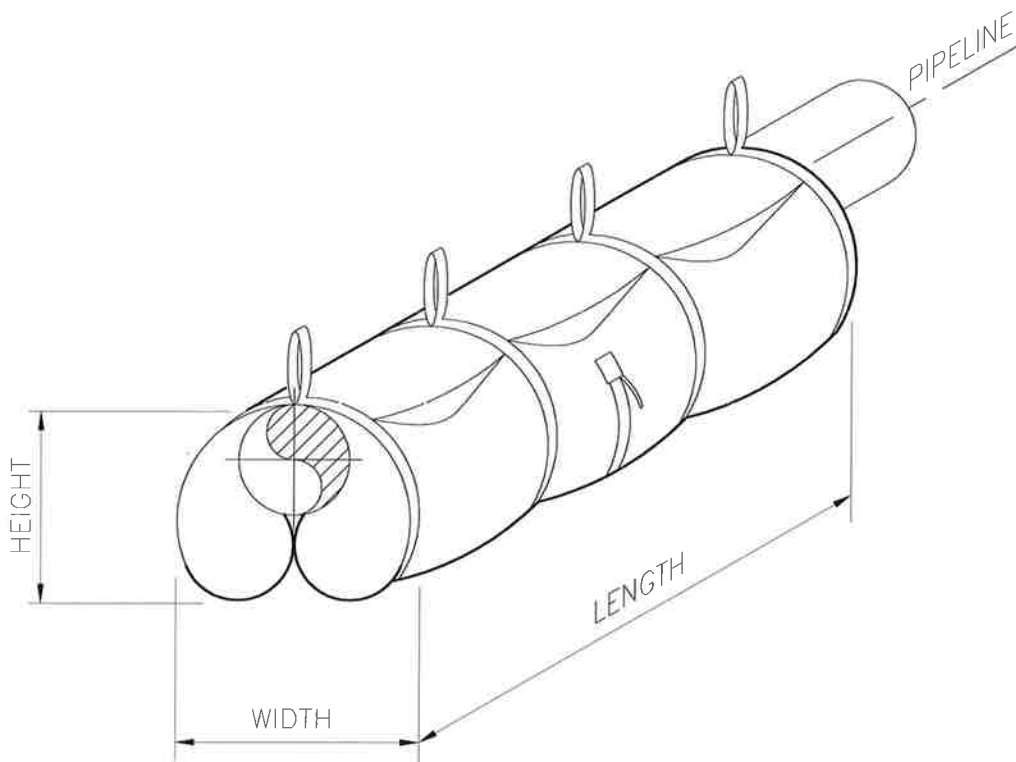


**SECTION THROUGH
PIPELINE TRENCH**

NOTES:

1. BURIED CABLE LOCATIONS & DEPTHS TO BE DETERMINED BY ELECTRONIC MEANS IN ADVANCE OF PIPELINE OPERATION AND CONFIRMED BY CAREFULLY EXPOSING BY HAND DIGGING OR "HYDRO VAC".
2. OWNER SHALL BE NOTIFIED AT LEAST 72 HOURS IN ADVANCE OF CROSSING EXCAVATION, OR AS SPECIFIED ON THE CROSSING LINE LIST. THE OWNER OR HIS REPRESENTATIVE SHALL BE PRESENT WHEN THE CROSSING OPERATION IS TO TAKE PLACE, UNLESS NOTIFIED BY OWNER.
3. 305mm (1') CLEARANCE SHALL BE MAINTAINED FOR THE FULL ANGULAR WIDTH OF BURIED CABLE R.O.W.
4. WHERE REQUESTED BY OWNER THE PIPELINE MAY CROSS ABOVE THE EXISTING CABLE(S).
5. CROSSING SHALL BE CONSTRUCTED IN ACCORDANCE WITH CAN/CSA Z662-03 OIL OR B31.4 LATEST EDITION OIL & GAS PIPELINE STANDARD, ALSO AEUB REGULATIONS AND NORTH DAKOTA REGULATIONS.
6. CABLE SHALL BE TEMPORARILY SUPPORTED AS REQUIRED BY THE CABLE OWNER. ANGLE IRON 75mm x 75mm x 6mm (3" x 3" x 1/4") OR 2" x 2" x 6" TIMBERS SHALL BE USED.
7. ALL BACKFILL WITHIN 3m (10') OF THE CABLE CROSSING TO BE DEPOSITED IN LIFTS NOT EXCEEDING 152mm (6") AND COMPACTED TO 85% STANDARD PROCTOR DENSITY.
8. WHERE NO R.O.W. EXISTS, STRAIGHT PIPE SHALL EXTEND 7.5m (25') MIN. ON BOTH SIDES OF THE CABLE CENTERLINE.
9. PIPELINE MARKER TAPE TO BE PLACED OVER PIPELINE 0.3m (1'), EXTENDING FROM BOUNDARY TO BOUNDARY OF THE FOREIGN CABLE R.O.W.

Pembina Pipeline Corporation		G TYPICAL CROSSING BURIED CABLE(S)			
DR. BY C. GRAY	DATE 2015.06.08	FILE NO. A	A.F.E. NO.	DWG. NO. B8000.01-16A-0008	REV. NO.
CHK BY C. SCHROETER		PRINT ISSUED		SHEET NO. —	0
APPR. BY C. VINCENT	SCALE				



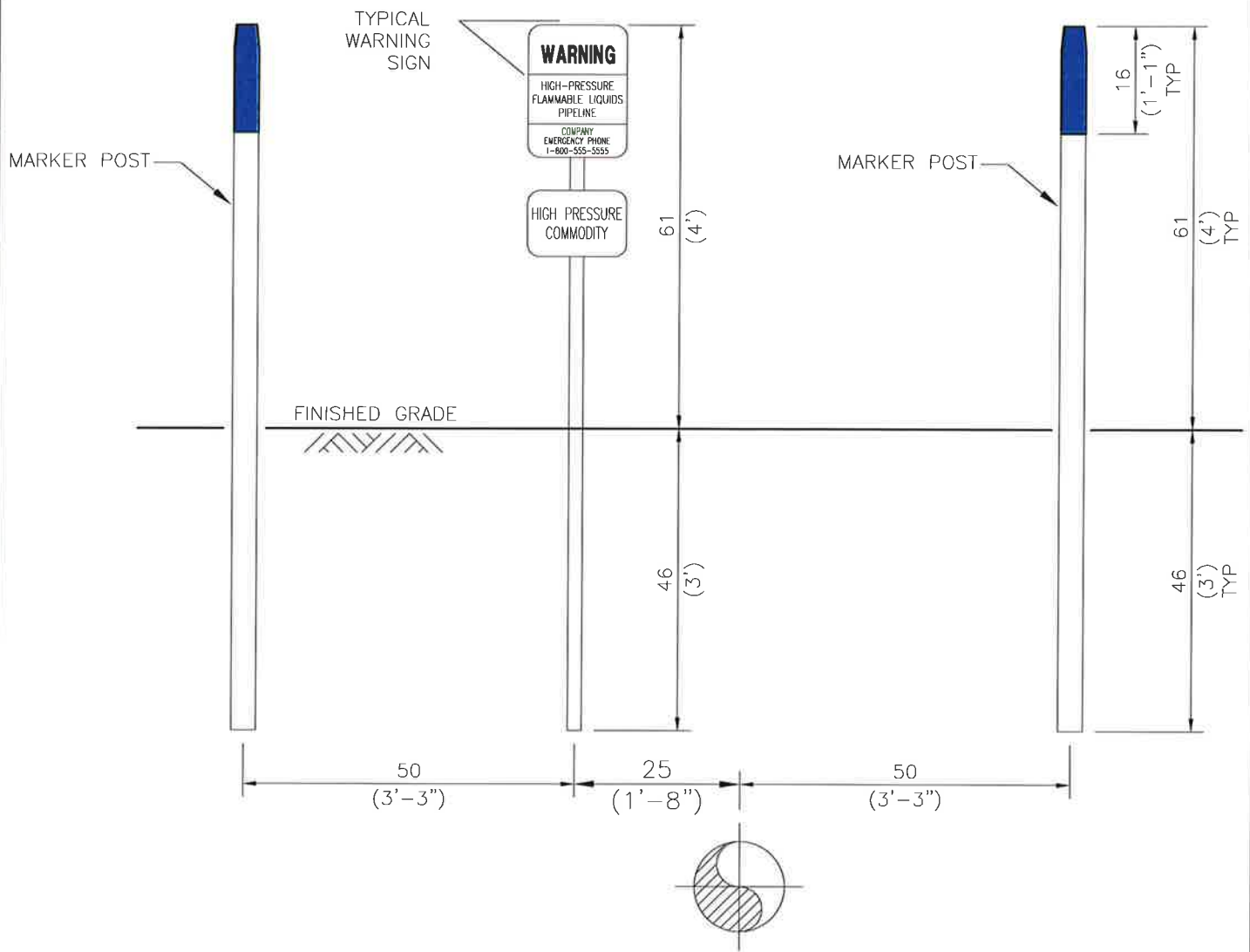
TYPICAL STRAP-ON WEIGHT

PIPE SIZE NOMINAL	NPS 2 (60.3)	NPS 3-4 (88.9-114.3)	NPS 6 (168.3)	NPS 8 (219.1)	NPS 10 (273.1)	NPS 12 (323.9)	NPS 16 (406.4)	NPS 24 (604)
WEIGHT	50 Lbs (23 kg)	220 Lbs (100 kg)	440 Lbs (200 kg)	660 Lbs (300 kg)	1100 Lbs (500 kg)	1600 Lbs (725 kg)	2500 Lbs (1135 kg)	700 Lbs (2300 kg)
LENGTH	21 (533.4)	42 (1006.8)	52 (1320.8)	56 (1422.4)	64 (1625.6)	90/70 (2286/1778)	80 (2032)	96 (2438)
WIDTH	10 (254)	14 (355.6)	17 (431.8)	20 (508)	32 (812.8)	32/38 (812.8/965.2)	40 (1016)	58 (1475)
HEIGHT	6 (152.4)	9 (228.6)	11 (279.4)	12 (304.8)	14 (355.6)	14/16 (355.6/406.4)	36 (914.4)	50 (1270)

NOTES:

1. ALL DIMENSION AND SIZES ARE SHOWN IN INCHES AND MILLIMETERS IN BRACKETS.

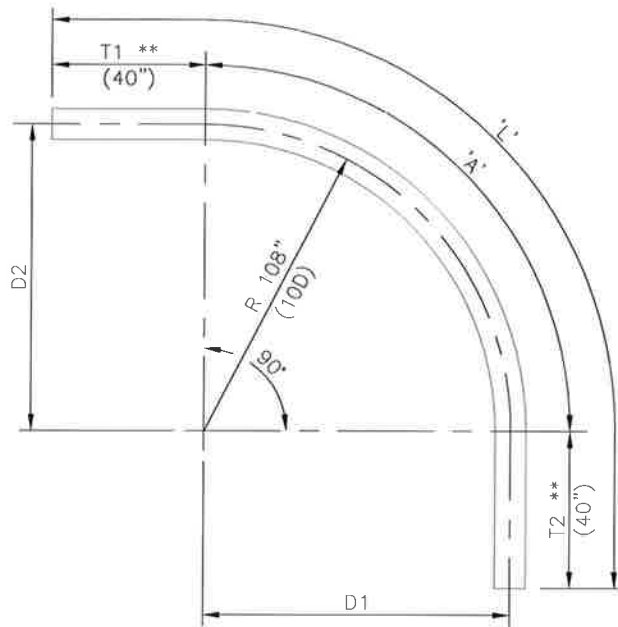
Pembina Pipeline Corporation		H TYPICAL SWAMP WEIGHT STRAP-ON TYPE (WB)			
DR. BY C. GRAY	DATE 2015.06.08	FILE NO. A	A.F.E. NO.	DWG. NO. B8000.01-16A-0009	REV. NO.
CHK BY C. SCHROETER					
APPR. BY C. VINCENT	SCALE	PRINT ISSUED	SHEET NO. —		0



NOTES:

1. ELECTRONICALLY LOCATE & MARK PIPELINE.
2. INSTALL SIGN POST ON CENTERLINE OF PIPELINE, TO A DEPTH OF 914mm.
3. AUGER 152mm ϕ (6") MAX. TO 914mm ϕ (3') FOR WARNING SIGN POSTS. INSTALL AND LEVEL POSTS. TAMP SOIL AROUND BASE OF POSTS TO FULL DEPTH OF HOLE.
4. MARKER POSTS AND WARNING SIGNS TO BE INSTALLED ON EXISTING FENCE LINE (IF PRESENT). IF NO EXISTING FENCE, INSTALL ON ROAD RIGHT-OF-WAY BOUNDARY.
5. DIMENSIONS ARE IN METRIC UNITS mm's & IMPERIAL UNITS ARE IN BRACKETS.

Pembina Pipeline Corporation		I WARNING SIGN POST INSTALLATION DETAILS			
DR. BY C. GRAY	DATE 2015.06.08	FILE NO. A	A.F.E. NO.	DWG. NO. B8000.01-16A-0010	REV. NO.
CHK BY C. SCHROETER	SCALE	PRINT ISSUED		SHEET NO. —	0
APPR. BY C. VINCENT					



** TANGENT LENGTH WILL VARY WITH JOINT LENGTH.

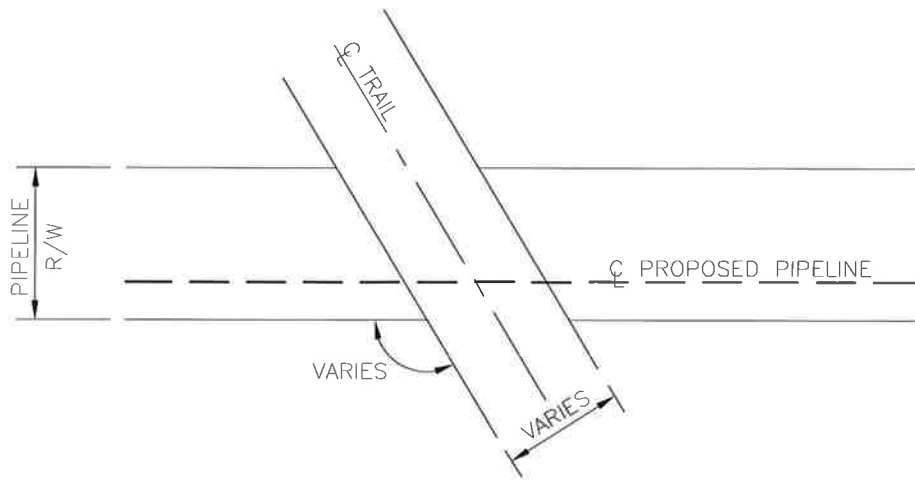
90 DEGREE BEND

BEND ANGLE	W.T. (in)	BEND RADIUS 'R' (in)	ARC LENGTH 'A' (in)	DISTANCE 'D1' (in)	DISTANCE 'D2' (in)	MIN. PIPE LENGTH 'L' (in)
90°	.25	108"(10D)	200"	108"	108"	279"

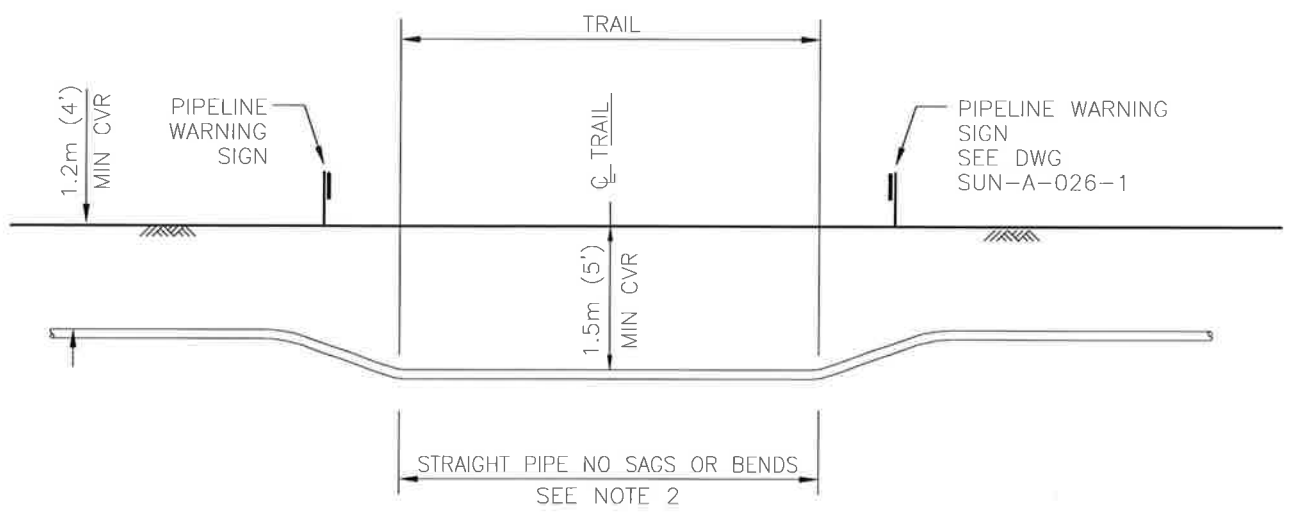
NOTES:

1. BENDS AS SHOWN WILL BE MADE OF PIPE, NPS 10.75"O.D. x .25"W.T.-API 5LX-52 PSL2 ACCORDING TO ASME B31.4 LATEST EDITION.
2. BENDS SHALL BE COATED.
3. ALL PIPE ENDS TO BE BEVELLED.

Pembina Pipeline Corporation		J TYPICAL HOT/INDUCTION BEND DETAILS			
DR. BY C. GRAY	DATE 2015.06.08	FILE NO. A	A.F.E. NO.	DWG. NO. B8000.01-16A-0018	REV. NO.
CHK BY C. SCHROETER	SCALE	PRINT ISSUED		SHEET NO. —	0
APPR. BY C. VINCENT					



PLAN

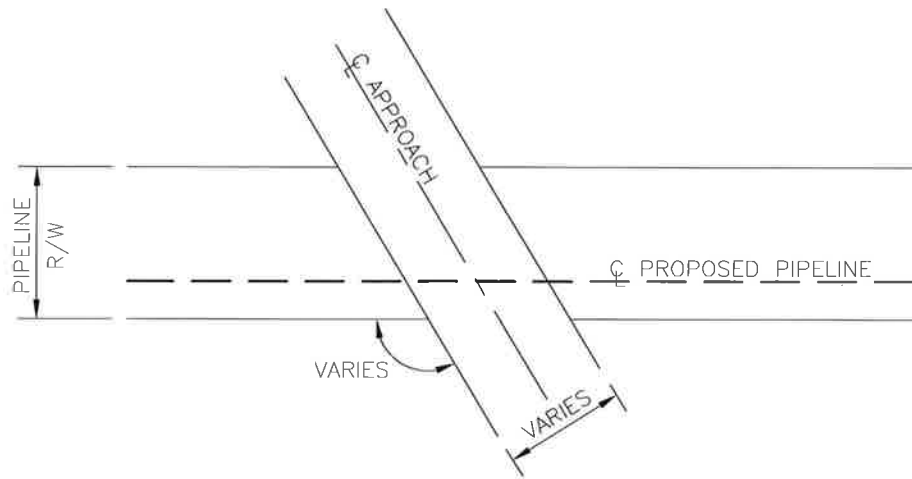


PROFILE ALONG Q OF PIPELINE

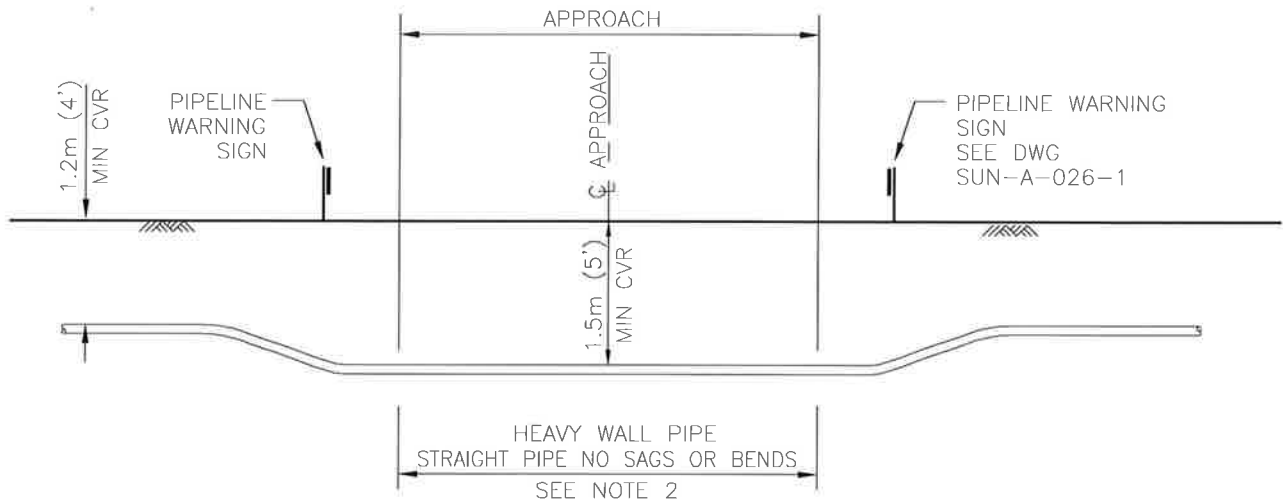
NOTES:

1. ALL TRAIL CROSSINGS CONSTRUCTED AS PER SPECIFICATION STATED IN THE CONTRACT DOCUMENT FOR P/L CONSTRUCTION OR BY THE AGENCY HAVING JURISDICTION OVER TRAILS.
2. NO VERTICAL OR HORIZONTAL BENDS WITHIN THE BOUNDARIES OF THE TRAIL.
3. THE SURFACE OF THE TRAIL SHALL BE RESTORED TO ITS ORIGINAL CONDITION.

Pembina Pipeline Corporation		K				TYPICAL TRAIL CROSSING	
DR. BY C. GRAY	DATE 2015.06.08	FILE NO. A	A.F.E. NO.	DWG. NO. B8000.01-16A-0020	REV. NO.		
CHK BY C. SCHROETER	SCALE	PRINT ISSUED		SHEET NO. —	0		
APPR. BY C. VINCENT							



PLAN

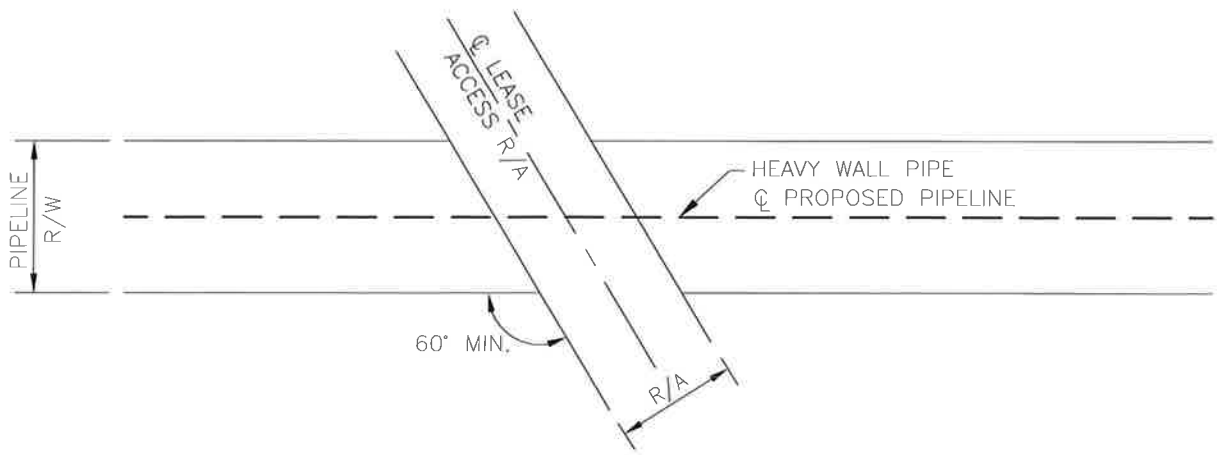


PROFILE ALONG C OF PIPELINE

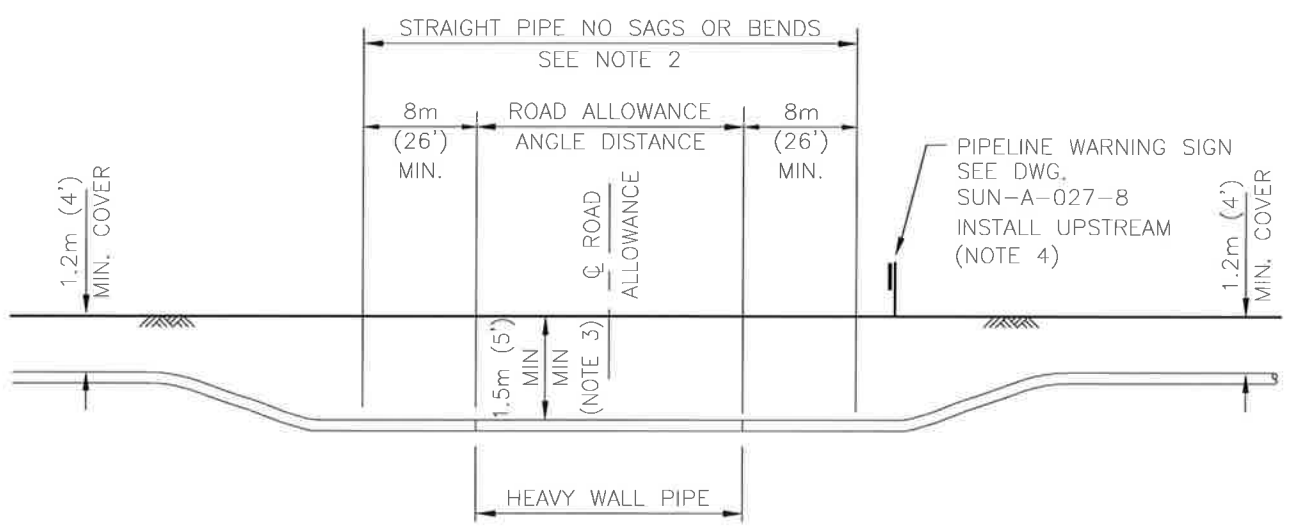
NOTES:

1. ALL APPROACH CROSSINGS CONSTRUCTED AS PER SPECIFICATION STATED IN THE CONTRACT DOCUMENT FOR P/L CONSTRUCTION.
2. NO VERTICAL OR HORIZONTAL BENDS WITHIN THE BOUNDARIES OF THE APPROACH.
3. THE SURFACE OF THE APPROACH SHALL BE RESTORED TO ITS ORIGINAL CONDITION.

Pembina Pipeline Corporation		L TYPICAL APPROACH ACCESS			
DR. BY C. GRAY	ISSUED FOR INFORMATION DATE 2015.06.08	FILED 19 EL	A.F.E. NO.	DWG. NO. B8000.01-16A-0021	REV. NO.
CHK BY C. SCHROETER	ISSUED FOR INFORMATION	2015.06.27 GCM			0
APPR. BY C. VINCENT	SCALE	PRINT ISSUED	SHEET NO. —		



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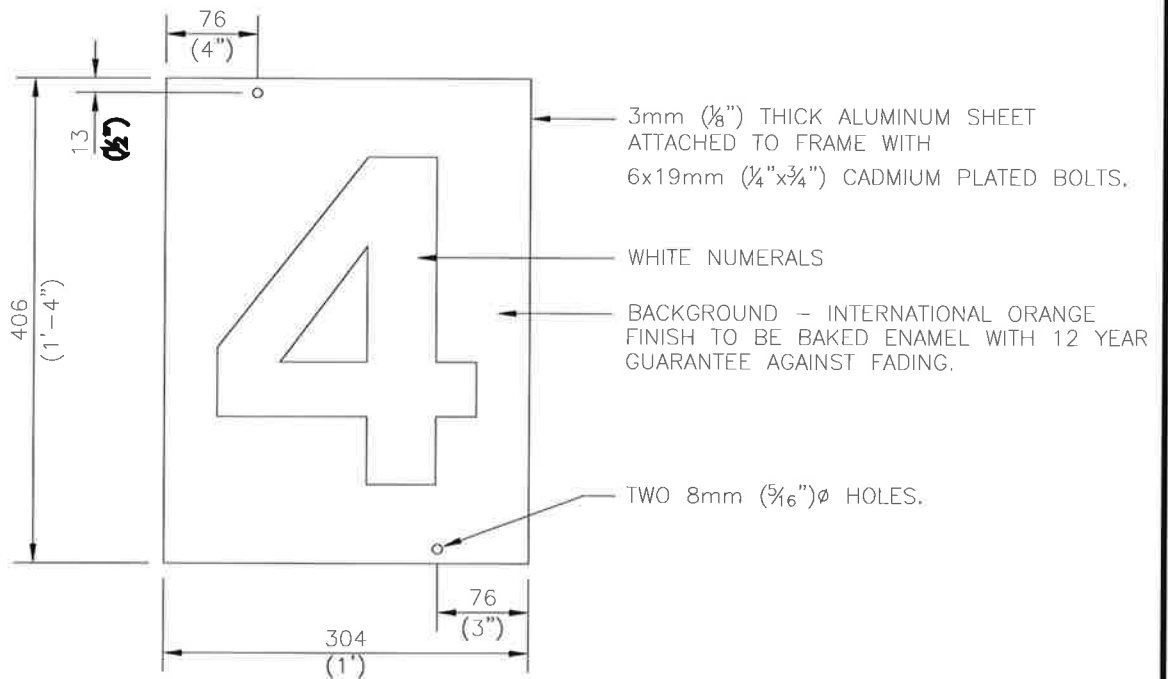
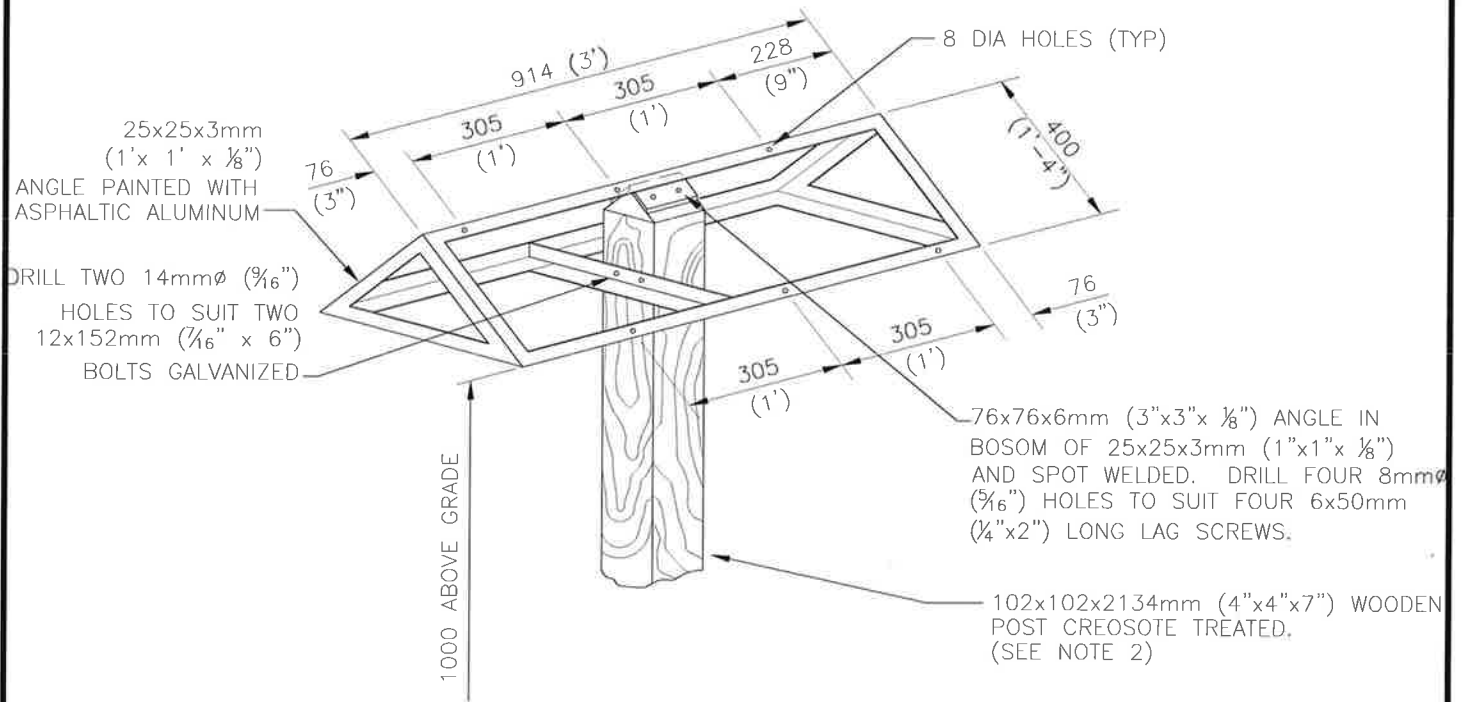


PROFILE ALONG ϕ OF PIPELINE

NOTES:

1. NO OPEN CUTS PERMITTED UNLESS SOIL CONDITIONS PREVENT BORING. THE PREFERRED INSTALLATION METHOD IS BY BORING. WHERE THIS LEAVES EXCESSIVE CLEARANCE BETWEEN PIPE AND HOLE OR WHEN DIRECTED BY THE ENGINEER, THE VOID SHALL BE FILLED BY PRESSURE GROUTING OR ANY OTHER APPROVED METHOD WHICH WILL PROVIDE PROPER SUPPORT. ON AN OPEN-CUT CROSSING, BACKFILL WITH SOIL TO A COVER OF 152mm (6") OVER TOP OF PIPE. COMPLETE CACKFILLING WITH PIT-RUN GRAVEL, COMPACTED IN 152mm (6") LIFTS, TO 95% STANDARD PROCTOR DENSITY.
2. THE ROAD SURFACE AND DITCHES AT THE PIPELINE CROSSING SHALL BE RESTORED TO THE APPROVAL OF THE LOCAL AUTHORITIES AND/OR ROAD OWNER.
3. CROSSING AS SHOWN MUST BE SPECIFICALLY APPROVED BY THE LOCAL AUTHORITY. NO VERTICAL OR HORIZONTAL BEND SHALL BE WITHIN THE ROAD ALLOWANCE OR WITHIN 8m (26') OF THE ROAD BOUNDARIES UNLESS OTHERWISE APPROVED.
4. PIPELINE CONSTRUCTION SHALL COMPLY WITH THE REQUIREMENTS OF ASME B31.4 AND THE REGULATIONS OF LOCAL AUTHORITIES.
5. THE PIPE COATING SHALL BE INSPECTED IMMEDIATELY PRIOR TO INSTALLATION AND ALL DAMAGED AREAS MUST BE REPAIRED.
6. NO OPEN EXCAVATION SHALL BE CLOSER THAN 3.6m (12') FROM THE SHOULDER OF THE ROAD WHEN USING BORING TECHNIQUES.

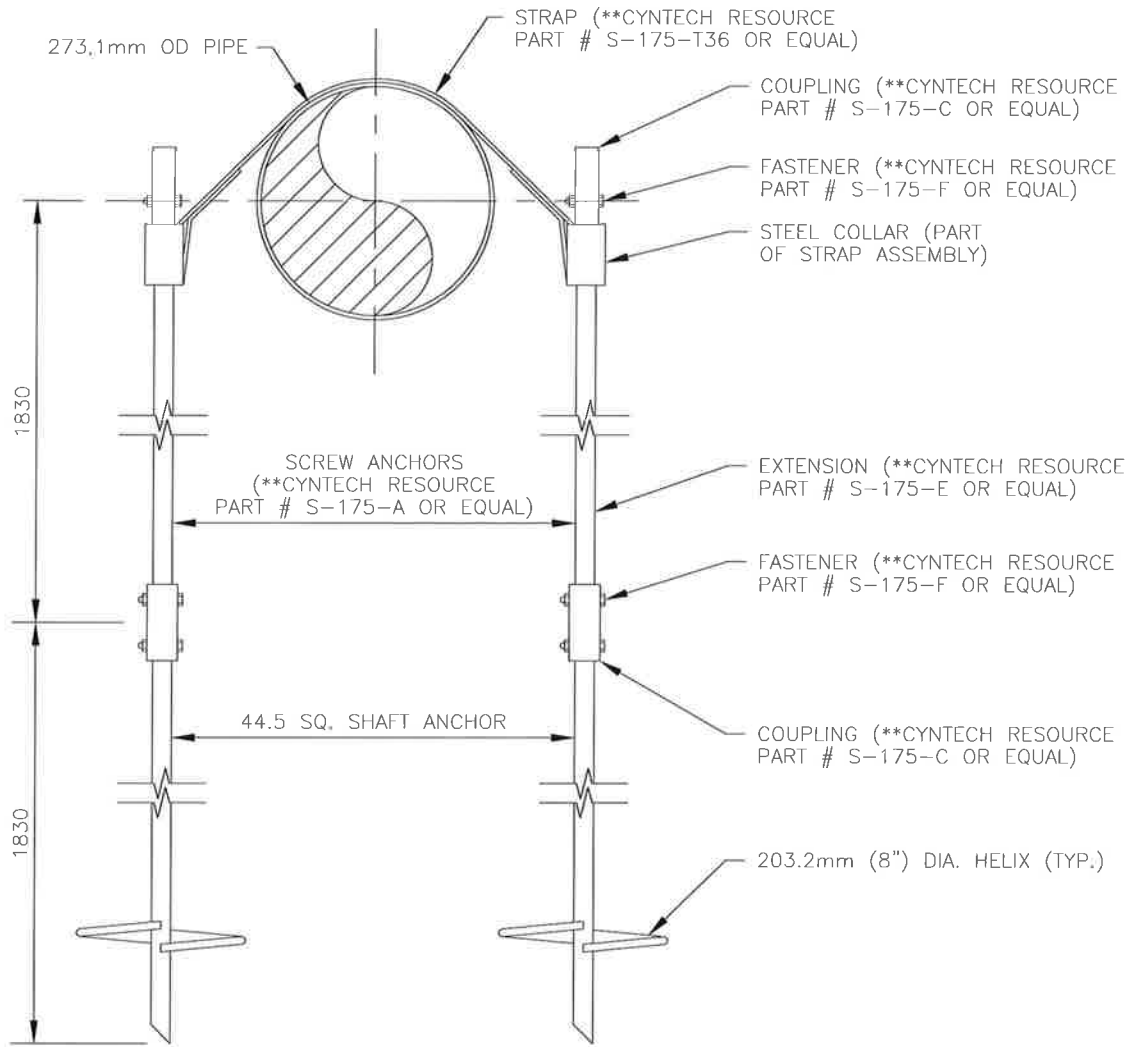
Pembina Pipeline Corporation		M TYPICAL LEASE ACCESS ROAD			
DR. BY C. GRAY	DATE 2015.06.08	FILE NO. A	A.F.E. NO.	DWG. NO. B8000.01-16A-0022	REV. NO.
CHK BY C. SCHROETER	SCALE	PRINT ISSUED		SHEET NO. —	0
APPR. BY C. VINCENT					



NOTES:

1. THIS DRAWING SHOWS A TYPICAL 3 PLATE FRAME, 2 PLATE AND 1 PLATE FRAMES ARE GENERALLY SIMILAR EXCEPT FOR THE OVERALL LENGTH, WHICH SHALL BE 610mm AND 305mm RESPECTIVELY AND RELOCATING THE 76x76x6mm (3"x3"x1/8") FASTENING ANGLE AND REDISTRIBUTING THE PLATE BOLT HOLES TO SUIT.
2. CONTRACTOR MAY SUBSTITUTE 60.3mm ϕ (2'') x SCH 40 GALVANIZED PIPE WITH MOUNTING HARDWARE AND BASEPLATE FOR MARKER SUPPORT.

Pembina Pipeline Corporation		N		TYPICAL AERIAL MARKER	
DR. BY C. GRAY	DATE 2015.06.08	FILE NO. A	A.F.E. NO.	DWG. NO. B8000.01-16A-0013	REV. NO.
CHK BY C. SCHROETER	SCALE	PRINT ISSUED		SHEET NO. —	0
APPR. BY C. VINCENT					



PIPE OD	PIPE WT	MAX SPACING
273.1mm	4.8mm	31m

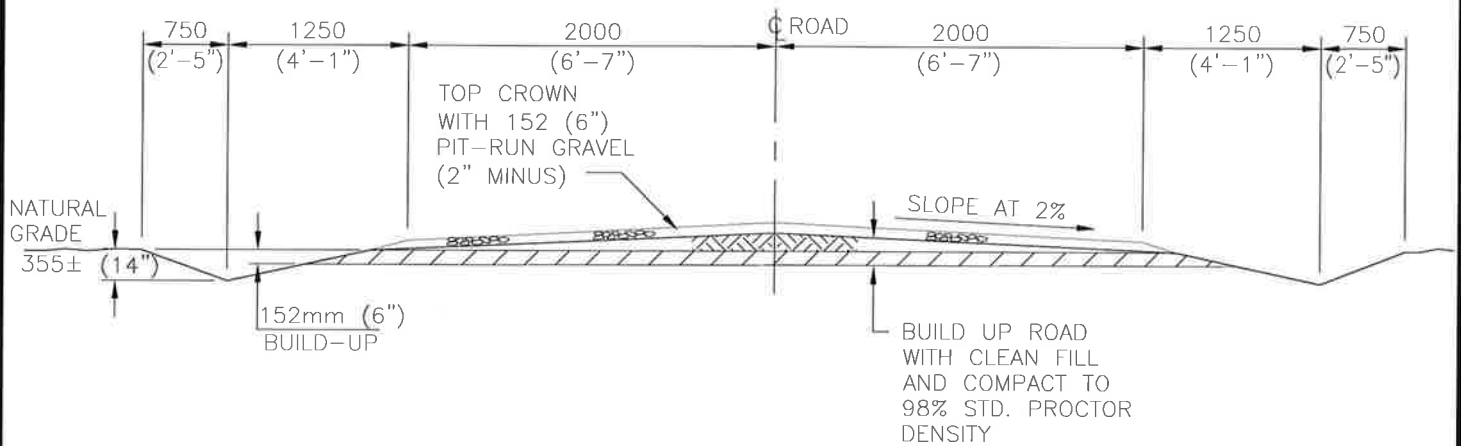
HELIX DIAMETER	MINIMUM INSTALLATION TORQUE	MAXIMUM INSTALLATION TORQUE	MINIMUM PULL OUT RATING
203.2mm 8"	1500 ft/lbs 2033 Nm	6000 ft/lbs 8135 Nm	15000 lbs 70 kN PER ANCHOR

Pembina Pipeline Corporation

○

TYPICAL
SCREW ANCHOR ASSEMBLY

DR. BY C. GRAY	DATE 2015.06.08	FILE NO. A	A.F.E. NO.	DWG. NO. B8000.01-16A-0017	REV. NO.
CHK BY C. SCHROETER	SCALE	PRINT ISSUED	SHEET NO. —	0	
APPR. BY C. VINCENT					



CROSS SECTION

NOTES:

1. TOPSOIL TO BE REMOVED PRIOR TO BUILD-UP OF CLEAN FILL.
2. ALL DIMENSIONS IN mm WITH IMPERIAL MEASURES IN BRACKETS.

Pembina Pipeline Corporation		P TYPICAL ROAD ACCESS			
DR. BY C. GRAY	DATE 2015.06.08	FILE NO. A	A.F.E. NO.	DWG. NO. B8000.01-16A-0023	REV. NO.
CHK BY C. SCHROETER	SCALE	PRINT ISSUED		SHEET NO. —	0
APPR. BY C. VINCENT					