

GENERAL NOTES DEER CREEK STATION

A. PIPING NOTES

1. CONTRACTOR TO VERIFY LOCATION AND ELEVATION OF EXISTING PIPES, ELECTRICAL CABLES AND FOREIGN UTILITIES IN AREA OF CONSTRUCTION PRIOR TO START OF CONSTRUCTION.
2. ARC BURNS ARE NOT PERMITTED AND SHALL BE CUT OUT. OTHER WELDING DEFECTS SHALL MEET CRITERIA OF MDU GAS DISTRIBUTION STANDARDS.
3. NON-DESTRUCTIVE TESTING SHALL BE IN ACCORDANCE WITH MDU GAS DISTRIBUTION STANDARDS.
4. ALL VALVES $\frac{1}{2}$ " AND LARGER SHALL HAVE LOCKING DEVICES INSTALLED.

B. GOVERNING SPECIFICATIONS PIPELINE CONSTRUCTION

1. CODE OF FEDERAL REGULATIONS (CFR) TITLE 49 PART 192 – TRANSPORTATION OF NATURAL AND OTHER GAS BY PIPELINE: MINIMUM FEDERAL STANDARDS.
2. MDU GAS DISTRIBUTION STANDARDS.

C. FIELD COLD BENDS

CONTRACTOR TO PROVIDE LABOR AND EQUIPMENT TO BEND AND INSTALL ALL SIDE, OVERBENDS, AND SAGS TO COMPLETE PIPELINE INSTALLATION AS SHOWN ON THE DRAWINGS. MDU WILL PROVIDE BENDS AND FITTINGS ONLY AS INDICATED ON THE DRAWINGS.

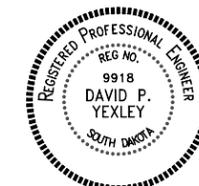
D. STATION LANDSCAPING

1. STATION SITES SHALL BE BROUGHT TO A LEVEL CONDITION AND COMPACTED AFTER COMPLETION OF PIPELINE. SITE VEGETATION SHALL BE REMOVED AND SPREAD EVENLY OVER ADJACENT PIPELINE ROUTE. SITES SHALL BE GRADED TO PROVIDE DRAINAGE OF MOISTURE.
2. BLACK VEGETATION CONTROL FABRIC SHALL BE PLACED OVER ENTIRE SITE AND SECURED IN PLACE. OVERLAP VEGETATION CONTROL FABRIC BY A MINIMUM OF SIX INCHES (6") AND A MAXIMUM OF TWELVE INCHES (12").
3. SIX INCHES (6") OF CRUSHED ROCK SHALL BE PLACED IN A SMOOTH LAYER OVER THE STATION SITES. MATERIAL SHALL CONSIST OF CRUSHED STONE OR CRUSHED GRAVEL CONFORMING TO THE FOLLOWING GRADATION:
 SIEVE SIZE PERCENTAGE BY WEIGHT
 1 INCH (SQ MESH) 100
 3/4 INCH (SQ MESH) 50
 3/8 INCH (SQ MESH) 5 TO 10
 NO. 4 (SQ MESH) 4 TO 9
 NO. 8 (SQ MESH) 0 TO 2
4. ENTIRE SITE SHALL BE ENCLOSED BY 84" HIGH CHAIN LINK FENCE PER MDU SPECIFICATION. STATION FENCING TO BE INSTALLED BY BASIN ELECTRIC POWER COOPERATIVE CONTRACTOR. SEE GENERAL NOTES PAGE 2.

E. HYDROSTATIC TEST NOTES

1. HYDROSTATIC TEST AND PROCEDURES SHALL BE IN ACCORDANCE WITH MDU GAS DISTRIBUTION STANDARDS. MINIMUM AND MAXIMUM HYDROSTATIC TEST PRESSURES GIVEN BELOW ARE BASED ON MATERIALS SPECIFIED IN MATERIAL LIST AND ANY SUBSTITUTION OF LESSER STRENGTH MATERIALS IS NOT ALLOWED. TESTING THROUGH REGULATORS IS NOT ALLOWED. TESTING THROUGH EQUIPMENT MUST BE APPROVED BY MDU.
2. THE PIPELINE WILL BE TESTED IN TWO (2) SECTIONS. THE NORTH SECTION WILL BE FROM THE INTERCONNECT WITH NOERTHERN BORDER PIPELINE COMPANY TO 199TH STREET. THE SOUTH SECTION WILL BE FROM 199TH STREET TO THE DEER CREEK STATION PLANT SITE.
3. BLIND FLANGES WILL BE INSTALLED:
 - a. BETWEEN THE 12" BARREL AND THE 4" BALL VALVE ON EACH LAUNCHER
 - b. BETWEEN THE FLANGE ON THE LAUNCHER AND THE 8" VALVE (AT INTERCONNECT) OR 6" VALVE (AT PLANT SITE)
4. FOR BOTH THE NORTH AND SOUTH SECTIONS OF THE PIPELINE A BRUSH PIG, FOLLOWED BY A DOUBLE DISHED POLY PIG WILL BE PLACED IN EACH PIPELINE AT 199TH STREET, AND A TEMPORARY LAUNCHER WELDED ON TO EACH SECTION OF THE PIPELINE. INSTALL 2" ANSI 600 PLUG VALVES ON THE 2" NIPPLES ON THE TEMPORARY LAUNCHERS. INTRODUCE AIR TO PROPEL THE PIGS FROM THE LAUNCH POINT TO THE END OF THE PIPELINE SECTION. REPEAT AS NECESSARY TO REMOVE CONSTRUCTION DEBRIS.
5. INSTALL A PRESSURE TEST GAUGE AND CERTIFIED PRESSURE RECORDER AT THE INTERCONNECT FOR TESTING THE NORTH SECTION. INSTALL A PRESSURE TEST GAUGE AND CERTIFIED PRESSURE RECORDER AT THE DEER CREEK STATION PLANT SITE FOR TESTING THE SOUTH SECTION.
6. INSURE THAT ALL VALVES ON BOTH LAUNCHERS ARE IN THE OPEN POSITION.
7. REMOVE THE 2" PLUG ON THE BOTTOM OF THE 12" BARREL PORTION OF THE DEER CREEK STATION LAUNCHER AND INSTALL A 2" NIPPLE AND 2" ANSI 600 PLUG VALVE. INSTALL A PLUG IN THE OUTLET OF THE 2" PLUG VALVE. INSURE THAT THE 2" PLUG VALVE IS IN THE OPEN POSITION.
8. CUT OFF THE TEMPORARY LAUNCHER, INSERT A DOUBLE DISHED POLY PIG AND RE-WELD THE TEMPORARY LAUNCHER TO THE PIPELINE. FILL PIPELINE WITH WATER THROUGH THE 2" VALVE ON EACH SECTION OF THE PIPELINE AT 199TH STREET WITH WATER FROM A SUITABLE SOURCE. INSURING THAT ALL AIR IN THE PIPELINE IS REMOVED DURING FILLING. LEAVE FILL HOSE ATTACHED TO VALVE AFTER PIPELINE IS FILLED TO PRESSURE AS IT WILL BE USED TO CONNECT THE NORTH AND SOUTH SECTIONS OF THE PIPELINE DURING THE DRAINING PROCESS AFTER THE TESTS ARE COMPLETED.
9. AIR WILL BE VENTED FROM PIPELINE DURING WATER FILL OPERATION THROUGH THE 4" VALVE ON THE VERTICAL PIPING ON THE LAUNCHER AT THE INTERCONNECT FOR THE NORTH SECTION AND THROUGH THE 4" VALVE ON THE LAUNCHER AT THE DEER CREEK STATION PLANT SITE FOR THE SOUTH SECTION. CLOSE VALVES ONCE THE AIR IS VENTED FROM THE SECTIONS OF PIPELINE.
10. INSTALL BLIND FLANGES ON 4" VALVES ON THE VERTICAL PIPING ON LAUNCHERS AND OPEN VALVES ONCE BLIND FLANGES ARE INSTALLED.
11. BRING PIPELINE TO 1000 PSIG.
12. ALLOW PRESSURE TO STABILIZE FOR 12 HOURS.
13. DURING THE STABILIZATION PERIOD, INSPECT PIPELINE FOR WET LOCATIONS THAT WOULD INDICATE LEAK IN PIPELINE.
14. DURING THE STABILIZATION PERIOD, CONSTRUCT STRAW BALE DE-WATERING STRUCTURE AT THE NORTHERN BORDER PIPELINE INTERCONNECT SITE (NORTH END OF PIPELINE).
15. INSURE PRESSURE RECORDERS AND GAUGES ARE FUNCTIONING PROPERLY AND ARE READY FOR TEST.
16. HYDROSTATIC TEST SPECIFICATIONS / PRESSURES:
 - a. TEST MEDIUM– WATER
 - b. HOLD TIME– 8 HOURS
 - c. MINIMUM PRESSURE AT PLANT SITE TEST GAUGE– 1831 PSIG
 - d. MAXIMUM PRESSURE– 2200 PSIG
 - e. MATERIAL TEST LIMITS– 2400 PSIG
 - f. CLASS LOCATION– 2
17. BRING PIPELINE PRESSURE TO FINAL TEST PRESSURE AND ALLOW PRESSURE TO RE-STABILIZE FOR 2 HOURS.
18. CONDUCT HYDROSTATIC PRESSURE TEST.
19. DURING THE TEST, RE-INSPECT PIPELINE FOR WET LOCATIONS THAT WOULD INDICATE LEAK IN PIPELINE.
20. AT END OF TEST, INSTALL ONE END OF A DRAIN HOSE ON A 4" OPENING ON THE LAUNCHER AT THE NORTHERN BORDER INTERCONNECT SITE (NORTH END). SECURE THE OTHER END OF THE DRAIN HOSE TO THE DE-WATERING STRUCTURE, REMOVE THE BLIND FLANGE AND OPEN THE 4" PLUG VALVE TO RELIEVE PRESSURE.
21. REMOVE PRESSURE TEST GAUGE AND PRESSURE RECORDERS.
22. ONCE THE PRESSURE IS RELIEVED, CLOSE THE MAIN 10" VALVE ON THE LAUNCHER AT THE DEER CREEK STATION PLANT SITE, ATTACH A HOSE TO THE 2" PLUG VALVE ON THE LAUNCHER BARREL AT THE DEER CREEK STATION PLANT SITE AND DRAIN THE LAUNCHER BARREL INTO A COLLECTION DEVICE. THIS DEVICE WILL BE TRANSPORTED TO THE DE-WATERING STRUCTURE AT THE NORTHERN BORDER PIPELINE INTERCONNECT FOR DISPOSAL.

AS BUILT



NO.	DATE	BY	REVISION
1	10/12/10	GB	UPDATED NOTES
 			
GENERAL NOTES SHEET 1 OF 3 DEER CREEK STATION			
SCALE	DATE	DRAWN BY	APPROVED BY
NONE	6/2/10	CASSIE PETER	DAVE YEXLEY
DCS-GI-ONG-0002			