

91714500 - BARRETT PET FOODS CL-F PIPING

DESIGN DATA & PARAMETERS:

Establish MAOP = 250 psig

Hoop stress (P=2St/D)	S (psi)	t (in)	D (in)	P (psig) at 100% SMYS	% SMYS at MAOP	% SMYS at REC. STRENGTH TEST	Pmax (psig) LEAK TEST	Pmax (psig) STRENGTH TEST
4" Steel Pipe:	52000	0.156	4.5	3605	6.9	11.1	721	1803
6" Steel Pipe:	52000	0.188	6.625	2951	8.5	13.6	590	1476
6" Steel Pipe:	35000	0.280	6.625	2958	8.5	13.5	592	1479
4" Fitting:	35000	0.237	4.5	3687	6.8	10.8	737	1843
6" Fitting:	35000	0.280	6.625	2958	8.5	13.5	592	1479

ANSI 300 Fittings - Maximum Working Pressure = 740 psig
ANSI 300 Fittings - Maximum Test Pressure = 1110 psig

TEST DATA

TEST CONDITIONS: Pipe shall be operated at a hoop stress less than 30% of SMYS. CenterPoint Energy will perform both Strength and Leak test to substantiate the proposed MAOP, as indicated above.
TEST MEDIUM: Nitrogen shall be used as a test medium.

SAFETY: Reasonable precautions should be made to protect employees and the general public during the testing.

LEAK TEST REQUIREMENTS:

A leak test must be made at a pressure between 100 psig and the pressure required to produce a hoop stress of 20% of SMYS; or the line must be walked to check for leaks while the hoop stress is held at approximately 20% of SMYS - 192.507 (b).
Maximum Leak Test Pressure (Use component with the highest stress):
Pmax = 20% of 250/D

Limiting Component:	6" Steel Pipe:	Pmax (psig):	590
LEAK TEST DURATION: The pressure must be maintained at or above the test pressure for at least 1 hour - 192.507 (c).			

REQUIRED STRENGTH TEST PRESSURE:

Minimum required test pressure:	MAOP * 1.5	250 * 1.5 =	375
192.503/192.619 Federal Standard		Testing for Class 3/Class 4 Location	
Maximum Strength Test Pressure:	Pmax = (2S/D) x F x E x T	assuming F=0.5 for Class 3 F=0.4 for Class 4	E=1 T=1
		F=	0.5
Limiting Component:	ANSI 300 Fittings	Pmax (psig):	1110

TEST REQUIREMENTS:

- Nitrogen shall be used as test medium for leak and strength tests
- X-ray not required - soap test tie-in welds at line pressure
- Use a digital gauge and/or pressure chart
- Measure pipe temperature at an appropriate location
- Allow pressure and pipe temperature to stabilize prior to starting tests
- Valves: Follow manufacturer's recommendation for testing position
Typically, ball valves are tested in half open position
Typically, gate valves are tested in fully open position
- Test instrument calibration records are required
- Refer to construction and service manual, CS-B-1.220 for record requirements

LEAK TEST: Recommended test pressure: 120 psig (Do not exceed 590 psig)
Recommended test duration: 1 hour minimum

STRENGTH TEST: Recommended test pressure: 400 psig (Do not exceed 1110 psig)
Recommended test duration: 8 hour minimum

CONSTRUCTION NOTES

EXISTING CL-F PIPE WILL BE OPERATING AT CL-8 PRESSURES.

SEE GFIP 264-2020 FOR PROJECT PROCEDURE.

PHASE 1: INSTALL MAIN AND REGULATOR LOOPS FROM CO RD 43 & 13 AVE NE TO 15657 18 ST NE TO SERVICE NEW BARRETT PET FOODS.

PHASE 2: INSTALL MAIN FROM CO RD 43 & 13 AVE NE TO BELLE PINE DR & 160 ST.

Obtain Construction Plans from Designer prior to starting job.

Coordinate with Contractor / Engineering Firm for exact locations of proposed structures and facilities prior to installation of gas facilities.
Install new main as shown or as directed in field at time of installation.

Long side mains and services to be installed below proposed sub-outs (See Construction Plans).

All test points should be installed in the boulevard or other acceptable locations and avoid placement in driving lanes.

Verify Coating test results if required prior to abandoning main.

CONSTRUCTION PROCEDURES

Install: Clean and Test; and Put in Service; Proposed new main per CenterPoint Energy Construction and Services Manual.

Procedure for tapping or making tie-ins to existing gas mains: Verify existing gas main size, type, and location prior to tapping or making tie-in. Monitor and verify, using a pressure gauge, existing gas main Pressure Class within the bell hole of tap location or tie-in location prior to tapping or making tie-in.

Purge new main until essentially 100% reading is obtained on Combustible Gas Indicator. See CenterPoint Energy Construction and Service Manual Section CS-B-1.230 for purging mains into service.

Complete all Service / Meter Work as directed. (See Service Survey)

See Abandonment Procedures for abandonment and purging procedures.

Install a marker ball at a new end of main, at a valve, at each end of a horizontal offset, at road crossings and at any fitting or pressure control identified as needing to be located in the future. Refer to CenterPoint Energy Construction and Service Manual section CS-B-1.310 for installation procedures.

NOTE: BORE ALL PAVED STREETS AND DRIVEWAYS
Minimum depth requirements for crossings of state highways and county roads is 60". Minimum depth requirements for crossings of city streets and township roads is 48".
Minimum depth for parallel installations on state highways and county roads is 36". Minimum depth for parallel installations on city streets and township roads is 30". All steel pipe welds to be coated with 2 part epoxy.

Transmission Line within project area. Follow watchdog procedures.

Transmission Line Watch Dog Process:

CNP excavation contractor will follow the Transmission Line Watch Dog Process.

If excavation will happen within 50' of a transmission line the CNP contractor needs to contact CNP dispatch to schedule a Watch Dog. (DISPATCH 612-321-5200)

Dispatch will create an "inspect contractor" work order for Foreign Construction and set up a time for the crew to be on site.

Odorization Requirements:
Steel main must be odorant conditioned prior to placing in service. Odorant injection will be performed by CNP personnel. Once the odorant has been injected the line should remain shut in for a minimum of 24 hours before flowing gas to give the pipe time to absorb the odorant.

Contact DUSTIN DANIELS, (OFFICE) 612-321-5488 (CELL) 612-910-5735 to schedule odorant injection a minimum of 48 hours before needed.

Pipe being removed must be tested for PCBs and asbestos to confirm disposal requirements - contact Environmental, 612-861-8471. For pipe to be abandoned, refer to CNP Construction and Service Manual CS-B-1.110, CS-B-1.330, and CS-B-1.100.

PRIOR TO CONSTRUCTION, VERIFY THE LOCATION OF THE REGULATOR AND RELIEF CONTROL LINES. ANY BELOW GROUND CONTROL LINE MUST BE LOCATED WHEN EXCAVATION IS TO TAKE PLACE IN OR NEAR THE DISTRICT REGULATOR STATION. BELOW GROUND CONTROL LINE LOCATIONS SHALL BE RELAYED TO THE ENGINEER WHEN VERIFIED.

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the state of Minnesota.

Signature: *Kyle Brown*

Typed or Printed Name: Kyle Brown

Date: 4/15/20 License Number: 57268

MATCH LINE 1

16067 DRYER

17025

COUNTY RD 261

PROP 4" ST CL-F @ 42" WCL

COUNTY RD 261

PROP 4" ST CL-F @ 42" WCL

16548

16067

MATCH LINE 2

(SEE SHEET 2)

EXISTING: 6" ST CL-F (F17471997)
INSTALL: 6" 3WAY TEE
6" ANSI300 INSULATOR
6" WELD 90 DEG ELL, S
EXTEND: 6" ST CL-F, S
CUT/ABDN: S OF PROP 6" 3WAY TEE
USE 6" WELD CAP
NOTE:
1. SEE 3WAY TEE DETAIL ON THIS SHEET.

INSTALL: 43" WCL CO RD 261
30" NCL BELLE PINE DR
6" ST 90 DEG ELL
6" X 4" WELD CON REDUCER
EXTEND: 6" ST CL-F, E
4" ST CL-F, S

INSTALL: 30" NCL BELLE PINE DR
6" VALVE ASSEMBLY
ABOVE GROUND
SEE SHEET 3 FOR DESIGN
AND MATERIAL CALL OUTS.

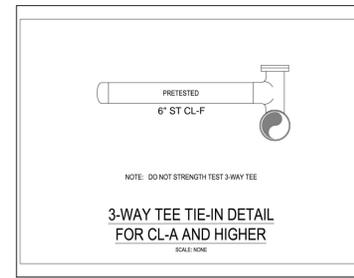
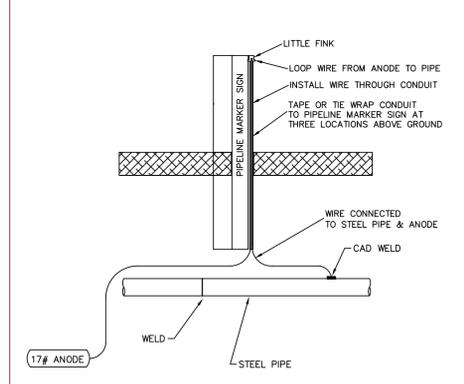
INSTALL GUARD POST
(TYPICAL 6 PLACES)
SEE GUARD POST DETAIL ON SHEET 2

EXISTING: 6" ST CL-F (F17471997)
INSTALL: 6" 3WAY TEE
6" ANSI300 INSULATOR
6" WELD 90 DEG ELL, N
EXTEND: 6" ST CL-F, N
CUT/ABDN: S OF PROP 6" 3WAY TEE
USE 6" WELD CAP
NOTE:
1. SEE 3WAY TEE DETAIL ON THIS SHEET.

CORROSION NOTE:
1. EVERY 1000' INSTALL CP TEST POINT
AND ANODE USING PIPELINE MARKER
2. EVERY 500' INSTALL A 17# ANODE.

CORROSION TECH FOR AREA IS
PAUL TEESELINK, CELL 612-910-1378

CP TEST POINT WITH ANODE
PIPELINE MARKER INSTALLATION



ABANDONMENT PROCEDURES

See Construction Procedures for installation of mains and services prior to abandonments.

Cut and Abandon existing main as shown. Purge abandoned mains until essentially 0% gas reading is obtained on Combustible Gas Indicator. See CenterPoint Energy Construction and Service Manual Section CS-B-1.110 and Section CS-B-1.230 for purging mains out of service using air movers.

Contact Engineering with questions.