

**CONSTRUCTION NOTES**  
 Install new main as shown or as directed in field at time of installation.  
 Contact Engineering for approval of field generated changes.  
 All test points should be installed in the boulevard or other acceptable locations and avoid placement in driving lanes.

**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.

**ABANDONMENT PROCEDURES**  
 See Construction Procedures for installation of mains and services prior to abandonments.  
 This project includes work on one-way feed mains.  
 Ensure all proposed main is in service, all taps are completed and all services have been transferred to new main 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.

ORANGE TWO-WAY FEED ARROW DENOTES EXISTING MAIN IS TWO-WAY FEED IN THE WINTER MONTHS AND ONE-WAY FEED IN THE SUMMER MONTHS.  
 VERIFY FEEDS WITH ENGINEERING BEFORE PERFORMING ANY TIE-INS

**Pipe > 4-inches Diameter (Unregulated PCB area):**  
 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.

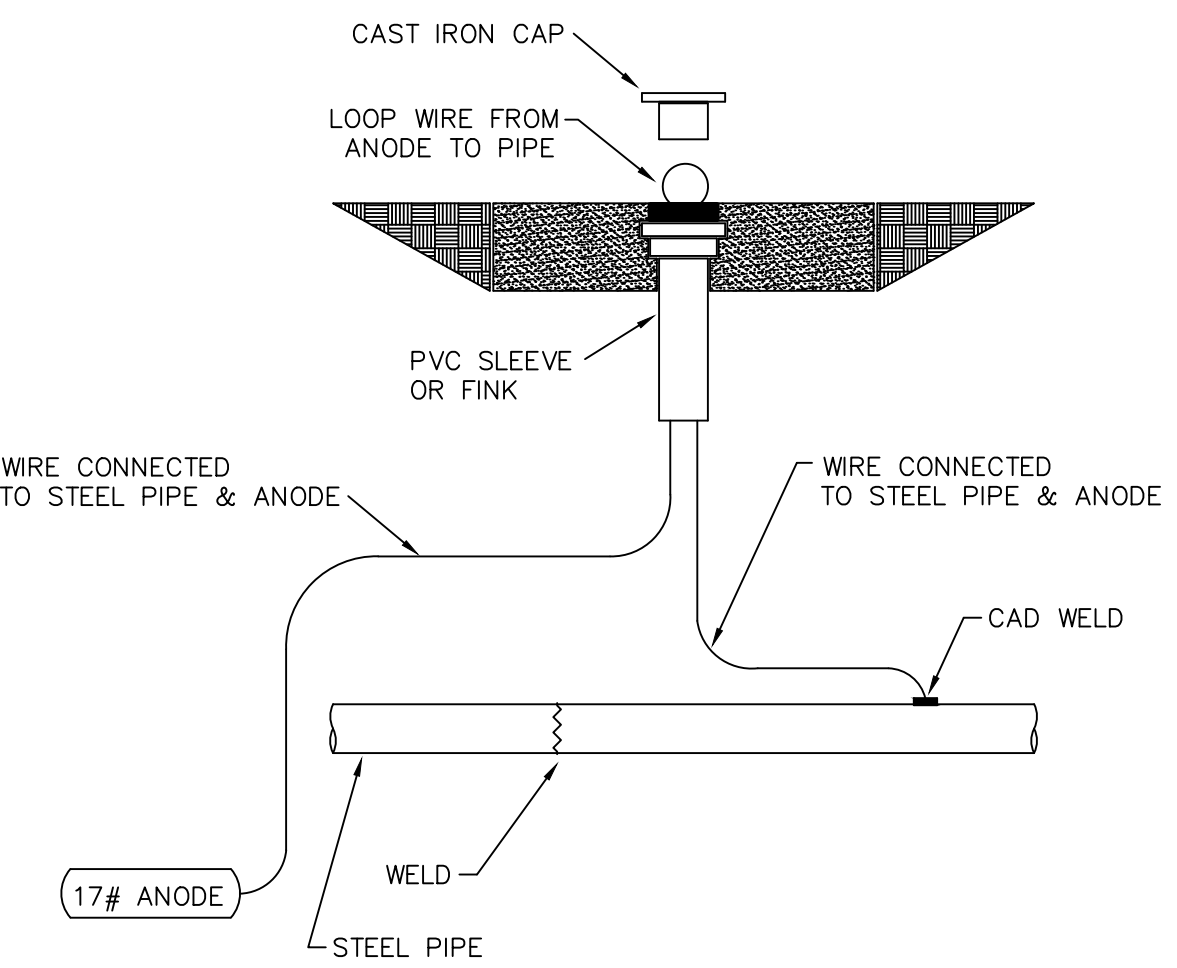
**NOTE: BORE ALL PAVED STREETS AND DRIVEWAYS**  
 Minimum depth requirements for crossings of state highways and county roads is 60". Minimum depth requirements for crossings of city streets and township roads is 48". Minimum depth for parallel installations on state highways and county roads is 36". Minimum depth for parallel installations on city streets and township roads is 30". All steel pipe welds to be coated with 2 part epoxy.  
 It is a requirement on the Hennepin County permit that they be notified 24 hours prior to the start of any excavation. Please read the permit prior to starting excavation. Please call the county at 612-506-0339 or the individual county inspector's call phone number listed on the permit.  
 north - Jake Cardinal - 612-328-1622  
 south - Kurt Weber - 612-221-9388

THE CALL IS TO BE MADE 24 HOURS PRIOR TO CONSTRUCTION. PLEASE REMEMBER THAT THIS IS A COUNTY REQUIREMENT.

**CORROSION TECH FOR AREA IS**  
 PATRICK CARLSON CELL, 612-434-1220

**CP TEST POINT WITH ANODE ROADWAY INSTALLATION**

- NOTE:**
1. Install roadway cap at final grade.
  2. Allow a minimum of 10" of slack in test wires.



**TEST PROCEDURES FOR WORK ORDER #100170911 - DISTRIBUTION (CL-C)**

**DESIGN DATA & PARAMETERS:**

Establish MAOP =	215 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
8" Steel Pipe:	52000	0.322	8.625	3883	5.5	9.0	777	1941
8" Fitting	35000	0.322	8.625	2613	8.2	13.4	523	1307

**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 2St/D

Limiting Component:	8" Fitting	Pmax (psig)	523
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	215 * 1.5 =	322.5	Testing for Class 3/Class 4 Location
192.503/192.619 Federal Standard				F=0.5 for Class 3 E=1 T=1
Maximum Strength Test Pressure:	Pmax = (2St/D) x F x E x T	assuming	F=0.4 for Class 4	F= 0.5
Limiting Component:	8" Fitting	Pmax (psig)	1307	

**TEST REQUIREMENTS:**

Nitrogen shall be used as test medium for leak and strength tests  
 10% X-ray required, including tie-in welds - 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 523 psig)  
 Recommended test duration: 1 hour minimum

**STRENGTH TEST:** Recommended test pressure: 350 psig (Do not exceed 1307 psig)  
 Recommended test duration: 8 hour minimum



MINNESOTA REGION  
 PROPRIETARY AND CONFIDENTIAL  
 PROJECT #: 100170911  
 M52900 MAPLE GROVE  
 M53500 OSSEO

ONE CALL:  
 Hennepin  
 \*NE13 T119/R22  
 \* = this Page

**LEGEND:**  
 ACTIVE MAIN  
 DESIGNED MAIN  
 PROPOSED ABANDONED/  
 OUT OF SERVICE MAIN  
 ABANDONED/  
 OUT OF SERVICE MAIN

PIPE REQUIRED:  
 138' 8" STL CL-C  
 138' PIPE

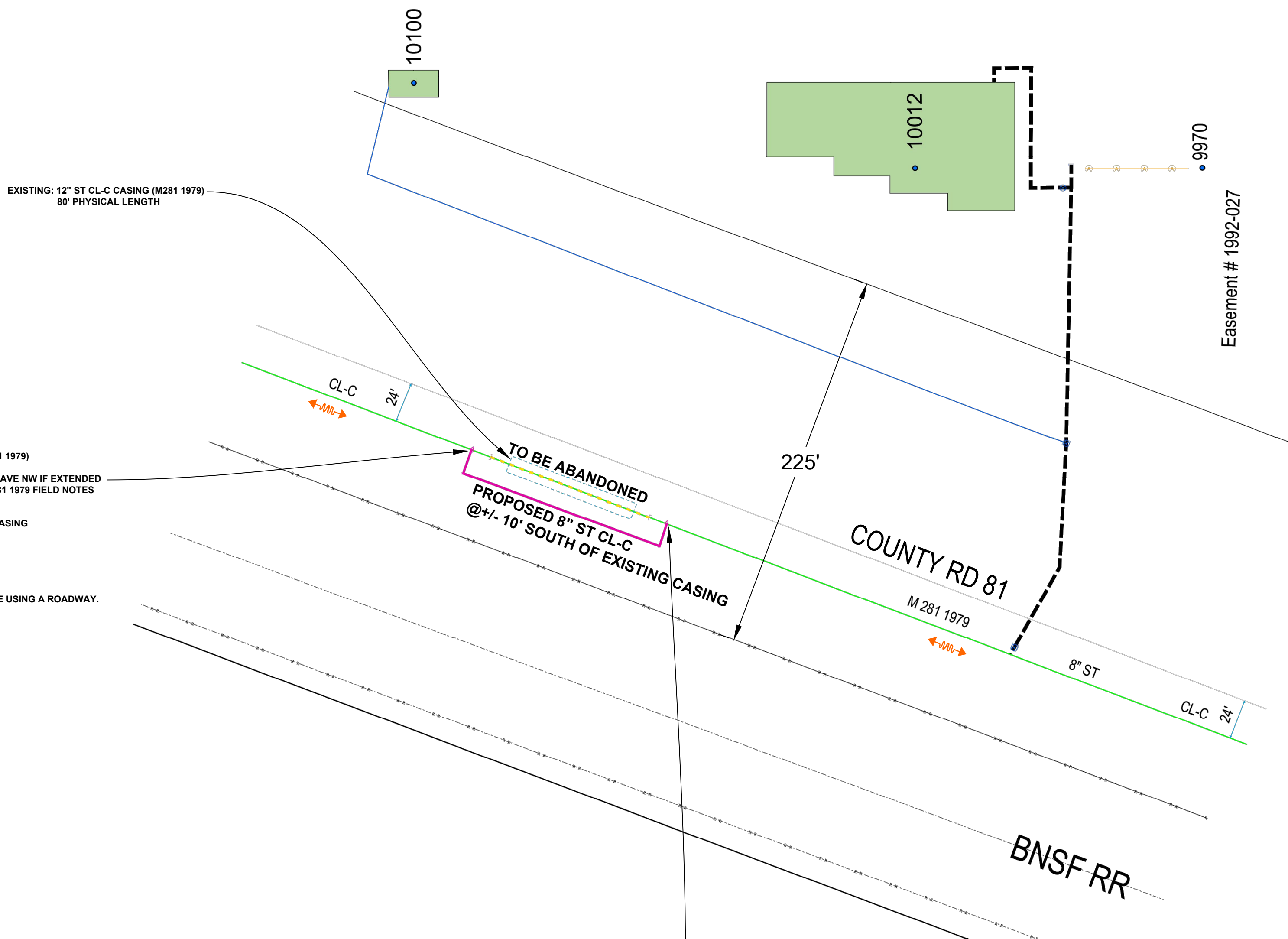
PROPOSED ABANDONED PIPE:  
 102' 8" STL CL-C  
 102' PIPE

COPIES:  
 PIPELINE INTEGRITY PACKET: N  
 STATION MANAGER: N  
 DD NUMBER: N/A  
 CORROSION: PATRICK CARLSON  
 EMP: N

FOLLOW INTERNAL PIPE SAMPLING REQUIREMENTS? N  
 SURVEYOR REQUIRED? N  
 RETURN PACKET TO ENG? N  
 GFIP #: N/A  
 PERMITS: HENNEPIN COUNTY

PROJECT DESCRIPTION: SCAS COUNTY RD 81  
 DESIGNER: Jake Jacobson  
 PHONE #: 612-321-5540  
 DRAWN BY: Jake Jacobson  
 DESIGN DATE: 10/12/2021

**REVISION INFO:**  
 Main  
 SS# SCALE 1"=50'  
 SHEET 1 OF 1



EXISTING: 12" ST CL-C CASING (M281 1979)  
 @24' SCL COUNTY RD 81  
 @APPROX 750' WWL 3RD AVE NW IF EXTENDED  
 @STATION 154+55 OF M281 1979 FIELD NOTES

INSTALL: 8" ST 3-WAY TEE  
 @20' WEST OF EXISTING CASING  
 8" 90 DEG WELD ELL LR  
 EXTEND: 8" ST CL-C EAST

CUT & ABANDON: 8" ST CL-C EAST  
 USE: 8" WELD CAP

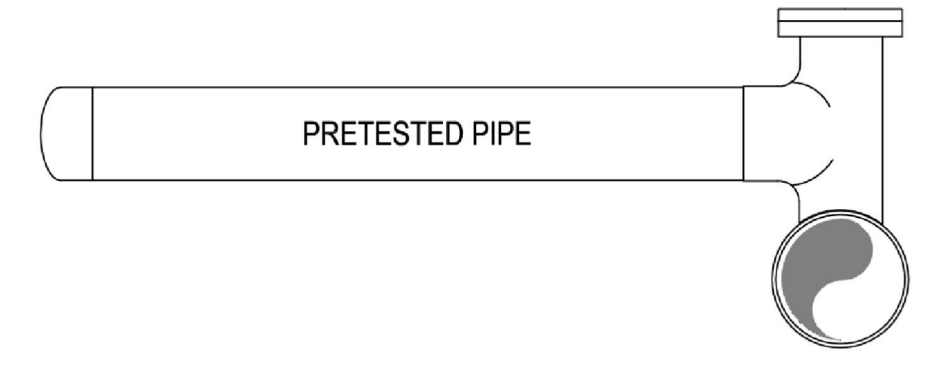
INSTALL CP TEST POINT AND ANODE USING A ROADWAY.

EXISTING: 12" ST CL-C CASING (M281 1979)  
 @24' SCL COUNTY RD 81  
 @APPROX 750' WWL 3RD AVE NW IF EXTENDED  
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INSTALL: 8" ST 3-WAY TEE  
 @20' EAST OF EXISTING CASING  
 8" 90 DEG WELD ELL LR  
 EXTEND: 8" ST CL-C WEST

CUT & ABANDON: 8" ST CL-C WEST  
 USE: 8" WELD CAP

INSTALL CP TEST POINT AND ANODE USING A ROADWAY.



NOTE: DO NOT STRENGTH TEST 3-WAY TEE

**3-WAY TEE TIE-IN DETAIL FOR CL-A AND HIGHER**

SCALE: NONE

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: *Daniel G. Christensen*

Typed or Printed Name: DANIEL G. CHRISTENSEN

Date: 10/15/2021 License Number: 46588