



**APPLICANT INFORMATION**

<b>Owner Name:</b>	
<b>Address:</b>	<b>City/State/Zip:</b>
<b>Phone:</b>	<b>Email:</b>

**PROPERTY INFORMATION**

<b>Site Address:</b>	<b>Property ID:</b>
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\_\_\_ I am my own contractor (submit property owner waiver)

**CONTRACTOR INFORMATION**

<b>Company Name:</b>	<b>Phone:</b>
<b>Plumbers License #:</b>	<b>Expiration Date:</b>
<b>Contact Person:</b>	<b>Phone:</b>
<b>Address:</b>	<b>City/State/Zip:</b>
<b>Email:</b>	

Sewer & Water Permit Type:  
 Sewer & Water      Sewer      Water

Work Type:  
 New Construction      Repair      Replace

Is work being completed in the Right of Way? Check one below:  
 Yes (Must Complete Right of Way Permit)      No

**MATERIALS**

<b>Pipe Size:</b>	<b>Pipe Materials:</b>	<b>Estimated Value of Work:</b>
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**NOTES TO APPLICANT**

1. This permit shall be null and void if authorized work is not started within 180 days or if work is suspended/abandoned for 180 days or more after work has started.
2. Comply with City of Le Sueur Engineering for all design work in right-of-way.
3. Permit review normally requires five (5) working days from receipt of the **COMPLETE** application. The permit fee is \$95. Upon receipt of the payment, the approved permit will be issued.
4. Permit and Plan Review Fees are based on City Code 52.02 (Water) and 53.031 (Sewer).
5. **PLEASE ARRANGE FOR INSPECTIONS 24 HOURS IN ADVANCE.**

### WATER SERVICE INSTALLATION & CONSTRUCTION REQUIREMENTS

1. Every service pipe shall be laid with sufficient excess to allow not less than one (1) foot of extra length and in such manner as to prevent rupture by settlement.
2. The service pipe shall be placed not less than 7.5 feet below finished grade and be so arranged as to prevent rupture by freezing.
3. Water service pipe can be any material allowed by the current State Plumbing Code.
4. No mechanical couplings are allowed between curb to curbstop, under a structure, or within three (3) feet of a foundation or footing. Only silver solder connections are permitted under structures.
5. Soil in sewer and water trenches, especially in driveway or sidewalk areas, must be compacted. Compaction tests of these areas must be required.
6. Installation contractor must set curb box standpipe to final grade and show that curb stop can be turned to on and off position.
7. A visual inspection is required along the entire length of the water line tested at main pressure with the curb box in the open position. Air pressure test may be approved during winter months (100 psi for 10 minutes).

### SEWER SERVICE INSTALLATION & CONSTRUCTION REQUIREMENTS

1. All building sewers shall be a minimum of four (4) inches and constructed of any material allowed by the current State Plumbing Code. All plastic sewer pipe must be laid on a continuous granular bed according to the manufacturers' specifications.
2. All sewer laterals will have a cleanout at the right-of-way. Any sewer line less than or equal 100 feet shall require one cleanout. When a sewer service line exceeds 100 feet, a cleanout shall be required every 80 feet thereafter. A cleanout will be required when two 45-degree bends are used to make a turn in the direction of the sewer line.
3. Whenever possible, the building sewer shall be brought to the building at an elevation below the basement floor. No building sewer shall be laid parallel to or within three (3) feet of any bearing wall which might thereby be weakened. The depth shall be sufficient to afford protection from frost. The building sewer shall be laid at a uniform grade with a drop of at least 1/8 inch per foot of line in the direction of the mainline sewer and in a straight alignment. The property owner shall be responsible for verifying the location and elevation of the building sewer service stub prior to establishment of the basement elevation or beginning the connection to house.
4. For replacement work, all sewer pipe not in the plumbing code or that is deemed substandard must be replaced. ("orangeburg," substandard clay, etc.)
5. For replacement work, existing sewage tanks must be pumped and filled with sand/gravel with tank covers removed. The new sewer connection must precede any tanks. Please follow Le Sueur County abandonment code. The completed form must be sent to the City before final grade approval.

### INSPECTIONS

1. The installation contractor shall notify the City when the building water and sewer service connection is ready for inspection. A minimum notice of four (4) hours for inspection is required.
2. No backfill shall be placed until the work has been inspected and approved.

### SEWER & WATER SERVICES

#### **Any and all work in the street right-of-way:**

1. All right-of-way registration, right-of-way permit, and proof of insurance is required from the City of Le Sueur Administration Division @ (507) 593-8310.

#### **For sewer & water work in the street right-of-way up to one foot outside the building:**

1. Water & sewer permits are required for all outside piping work. Permits can be obtained from Building Inspections, City Hall 203 South 2nd Street.
2. All inspections of sewer and water work will be done by the City of Le Sueur Wastewater Division @ (507) 665-9941.

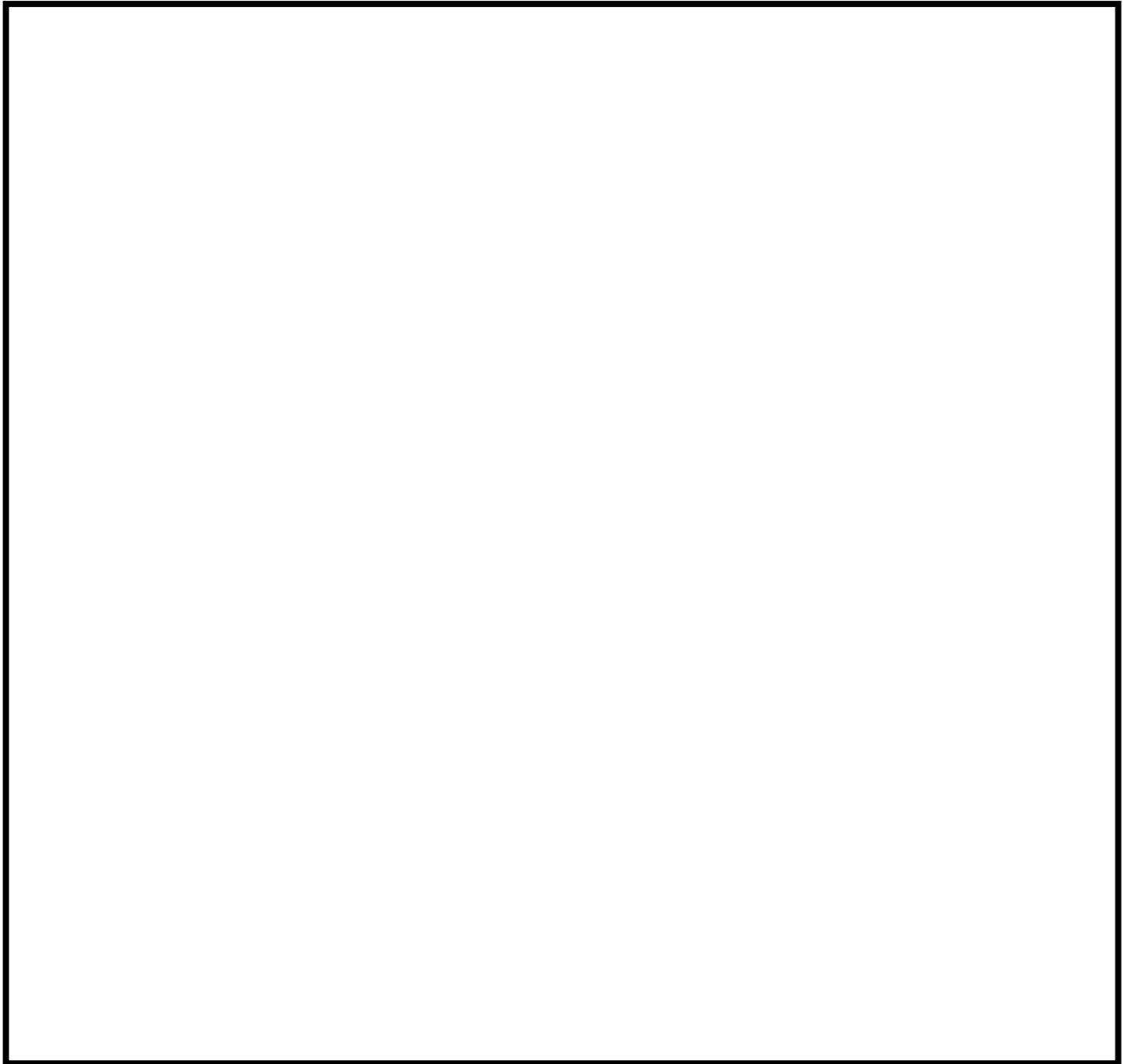
#### **For sewer & water work inside of building and up to one foot outside:**

1. Plumbing permits are required for all inside piping work. This is in addition to water & sewer permits. Permits can be obtained from Building Inspections, City Hall 203 South 2nd Street.
2. Inspections will be done by Building Inspections @ (507) 593-8317.

**EXHIBIT**

<b>Size of Water Service:</b>	<b>Type of Material to be Used:</b>
<b>Water Main Type at Connection Point:</b>	
<b>Size of Sewer Main at Connection Point:</b>	<b>Type of Material to be Used:</b>

Provide a drawing of the work to be completed. In the space provided below, draw in the property owner's lot. Then within this lot, outline the building and work to be completed. When sketching in the location of water and sewer lines, be sure to give special attention to measurements, reference points, and mark which direction is North.



I hereby certify that I have read and examined this application and all statements are true and correct. All provisions of laws and governing ordinances will be complied with whether specified herein or not. The granting of a permit does not give authority to violate or cancel the provision of any other state or local law regulating construction or the performance of construction.

\_\_\_\_\_  
**Signature of Applicant or Authorized Representative**

\_\_\_\_\_  
**Date**

OFFICE USE ONLY			
<b>Date Received:</b>		<b>Received By:</b>	
<b>Permit #:</b>			
<b>Approved</b>	<b>Denied</b>	<b>Date Approved/Denied:</b>	<b>Approved/Denied By:</b>
<b>Notes:</b>			

**\*Must be approved by Water/Wastewater Department**

# Sewer/Water Utility - Trace Wire Specification

## Materials

### General

All trace wire and trace wire products shall be domestically manufactured in the U.S.A.

All trace wire shall have HOPE insulation intended for direct bury, color coated per APWA standard for the specific utility being marked.

### Trace wire

- **Open Trench** - Trace wire shall be #12 AWG Copper Clad Steel, High Strength with minimum 450 lb. break load, with minimum 30 mil HOPE insulation thickness.
- **Directional Drilling/Boring** - Trace wire shall be #12 AWG Copper Clad Steel, Extra High Strength with minimum 1,150 lb. break load, with minimum 30 mil HOPE insulation thickness.
- **Trace wire - Pipe Bursting/Slip Lining** - Trace wire shall be 7 x 7 Stranded Copper Clad Steel, Extreme Strength with 4,700 lb. break load, with minimum 50 ml HOPE insulation thickness.

### Connectors

- All mainline trace wires must be interconnected in intersections, at mainline tees and mainline crosses. At tees, the three wires shall be joined using a single 3-way lockable connector. At Crosses, the four wires shall be joined using a 4-way connector. Use of two 3-way connectors with a short jumper wire between them is an acceptable alternative.
- **Direct bury wire connectors** - shall include 3-way lockable connectors and mainline to lateral lug connectors specifically manufactured for use in underground trace wire installation. Connectors shall be dielectric silicon filled to seal out moisture and corrosion, and shall be installed in a manner so as to prevent any uninsulated wire exposure.
- Non locking friction fit, twist on or taped connectors are prohibited.

### Termination/ Access

- All trace wire termination points must utilize an approved trace wire access box (above ground access box or grade level/in-ground access box as applicable), specifically manufactured for this purpose.
- All grade level/in-ground access boxes shall be appropriately identified with "sewer" or "water" cast into the cap and be color coded.
- A minimum of 2 ft. of excess/slack wire is required in all trace wire access boxes after meeting final elevation.
- All trace wire access boxes must include a manually interruptible conductive/connective link between the terminal(s) for the trace wire connection and the terminal for the grounding anode wire connection.
- Grounding anode wire shall be connected to the identified (or bottom) terminal on all access boxes.

# Sewer/Water Utility-Trace Wire Specification

- **Service Laterals on public property-** Trace wire must terminate at an approved grade level/in-ground trace wire access box, located at the edge of the road right-of-way, and out of the roadway.
- **Service Laterals on private property** - Trace wire must terminate at an approved above-ground trace wire access box, affixed to the building exterior directly above where the utility enters the building, at an elevation not greater than 5 vertical feet above finished grade, or terminate at an approved grade level/in-ground trace wire access box, located within 2 linear feet of the building being served by the utility.
- **Hydrants** - Trace wire must terminate at an approved above-ground trace wire access box, properly affixed to the hydrant grade flange. (affixing with tape or plastic ties shall not be acceptable)
- **Long-runs, in excess of 500 linear feet without service laterals or hydrants** - Trace wire access must be provided utilizing an approved grade level/in-ground trace wire access box, located at the edge of the road right-of-way, and out of the roadway. The grade level/in-ground trace wire access box shall be delineated using a minimum 48" polyethylene marker post, color coded per APWA standard for the specific utility being marked.

## Grounding

- Trace wire must be properly grounded at all dead ends/stubs
- Grounding of trace wire shall be achieved by use of a drive-in magnesium grounding anode rod with a minimum of 20ft of #12 red HOPE insulated copper clad steel wire connected to anode (minimum 1.5 lb.) specifically manufactured for this purpose, and buried at the same elevation as the utility.
- When grounding the trace wire at dead ends/stubs, the grounding anode shall be installed in a direction 180 degrees opposite of the trace wire, at the maximum possible distance.
- When grounding the trace wire in areas where the trace wire is continuous and neither the mainline trace wire or the grounding anode wire will be terminated at/above grade, install grounding anode directly beneath and in-line with the trace wire. Do not coil excess wire from grounding anode. In this installation method, the grounding anode wire shall be trimmed to an appropriate length before connecting to trace wire with a mainline to lateral lug connector.
- Where the anode wire will be connected to a trace wire access box, a minimum of 2 ft. of excess/slack wire is required after meeting final elevation.

## Installation

### General

- Trace wire installation shall be performed in such a manner that allows proper access for connection of line tracing equipment, proper locating of wire without loss or deterioration of low frequency (512Hz) signal for distances in excess of 1,000 linear feet, and without distortion of signal caused by multiple wires being installed in close proximity to one another.
- Trace wire systems must be installed as a single continuous wire, except where using approved connectors. No looping or coiling of wire is allowed.

# Sewer/Water Utility - Trace Wire Specification

- Any damage occurring during installation of the trace wire must be immediately repaired by removing the damaged wire, and installing a new section of wire with approved connectors. Taping and/or spray coating shall not be allowed.
- Trace wire shall be installed at the bottom half of the pipe and secured (taped/tied) at 5' intervals.
- Trace wire must be properly grounded as specified.
- Trace wire on all service laterals/stubs must terminate at an approved trace wire access box located directly above the utility, at the edge of the road right-of-way, but out of the roadway. (See Trace wire Termination/Access)
- At all mainline dead-ends, trace wire shall go to ground using an approved connection to a drive-in magnesium grounding anode rod, buried at the same depth as the trace wire. (See Grounding)
- Mainline trace wire shall not be connected to existing conductive pipes. Treat as a mainline dead-end, ground using an approved waterproof connection to a grounding anode buried at the same depth as the trace wire.
- All service lateral trace wires shall be a single wire, connected to the mainline trace wire using a mainline to lateral lug connector, installed without cutting/splicing the mainline trace wire.
- In occurrences where an existing trace wire is encountered on an existing utility that is being extended or tied into, the new trace wire and existing trace wire shall be connected using approved splice connectors, and shall be properly grounded at the splice location as specified.

## Sanitary Sewer System

- A mainline trace wire must be installed, with all service lateral trace wires properly connected to the mainline trace wire, to ensure full tracing/locating capabilities from a single connection point.
- Lay mainline trace wire continuously, by-passing around the outside of manholes/structures on the North or East side.
- Trace wire on all sanitary service laterals must terminate at an approved trace wire access box color coded green and located directly above the service lateral at the edge of road right of way.

## Water System

- A mainline trace wire must be installed, with all service lateral trace wires properly connected to the mainline trace wire, to ensure full tracing/locating capabilities from a single connection point.
- Lay mainline trace wire continuously, by-passing around the outside of valves and fittings on the North or East side.
- Trace wire on all water service laterals must terminate at an approved trace wire access box color coded blue and located directly above the service lateral at the edge of road right of way.
- Above-ground tracer wire access boxes will be installed on all fire hydrants.
- All conductive and non-conductive service lines shall include tracer wire.

# Sewer/Water Utility-Trace Wire Specification

## Storm Sewer System

*This section shall be included at the discretion of the facility owner.*

- If the storm sewer system includes service laterals for connection of private drains and tile lines, it shall be specified the same as a sanitary sewer application.
- Lay mainline trace wire continuously, by-passing around the outside of manholes/structure on the North or East side.

## Prohibited Products and Methods

**The following products and methods shall not be allowed or acceptable**

- Uninsulated trace wire
- Trace wire insulations other than HDPE
- Trace wires not domestically manufactured
- Non locking, friction fit, twist on or taped connectors
- Brass or copper ground rods
- Wire connections utilizing taping or spray-on waterproofing
- Looped wire or continuous wire installations, that has multiple wires laid side-by-side or in close proximity to one another
- Trace wire wrapped around the corresponding utility
- Brass fittings with trace wire connection lugs
- Wire terminations within the roadway, i.e. in valve boxes, cleanouts, manholes, etc.
- Connecting trace wire to existing conductive utilities

## Testing

All new trace wire installations shall be located using typical low frequency (512Hz) line tracing equipment, witnessed by the contractor, engineer and facility owner as applicable, prior to acceptance of ownership.

This verification shall be performed upon completion of rough grading and again prior to final acceptance of the project.

Continuity testing in lieu of actual line tracing shall not be accepted.

# Sewer/Water Utility-Trace Wire Specification

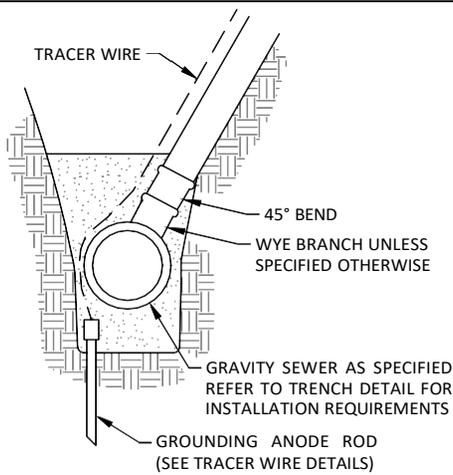
## Products

The following products have been deemed acceptable and appropriate. These products are a guide only to help you choose the correct applications for your tracer wire project.

- Copper clad Steel (CCS) trace wire
  - o Open Trench- Copperhead#12 High Strength part# 1230\*-HS\*\*
  - o Directional Drilling/Boring - Copperhead Extra High Strength part# 1245\*-EHS\*\*
  - o Pipe Bursting/Slip Lining- Copperhead SoloShot Extreme Strength 7 x 7 Stranded part# PBX-SO\*-\*\*
    - \* Denotes color: B=Blue, G=Green, P=Purple
    - \*\*Denotes spool size. 500' 1000' 2500'
- Connectors
  - o Copperhead 3-way locking connector part# LSC1230\*
  - o DryConn 3- way Direct Bury Lug: Copperhead Part# 3WB-01
- Termination/Access
  - o Non-Roadway access boxes applications: Trace wire access boxes Grade level Copperhead adjustable lite duty Part# LD14\*2T-SW
  - o Concrete / Driveway access box applications: Trace wire access boxes Grade level Copperhead Part# CD14\*2T-SW
  - o Fire hydrant trace wire access box applications: Above ground two terminal Cobra Test Station, part# T2-\* -FLPKG
- Grounding
  - o Drive in Magnesium Anode: Copperhead Part# ANO-12 (1.5 lb)

## Manufacture product options:

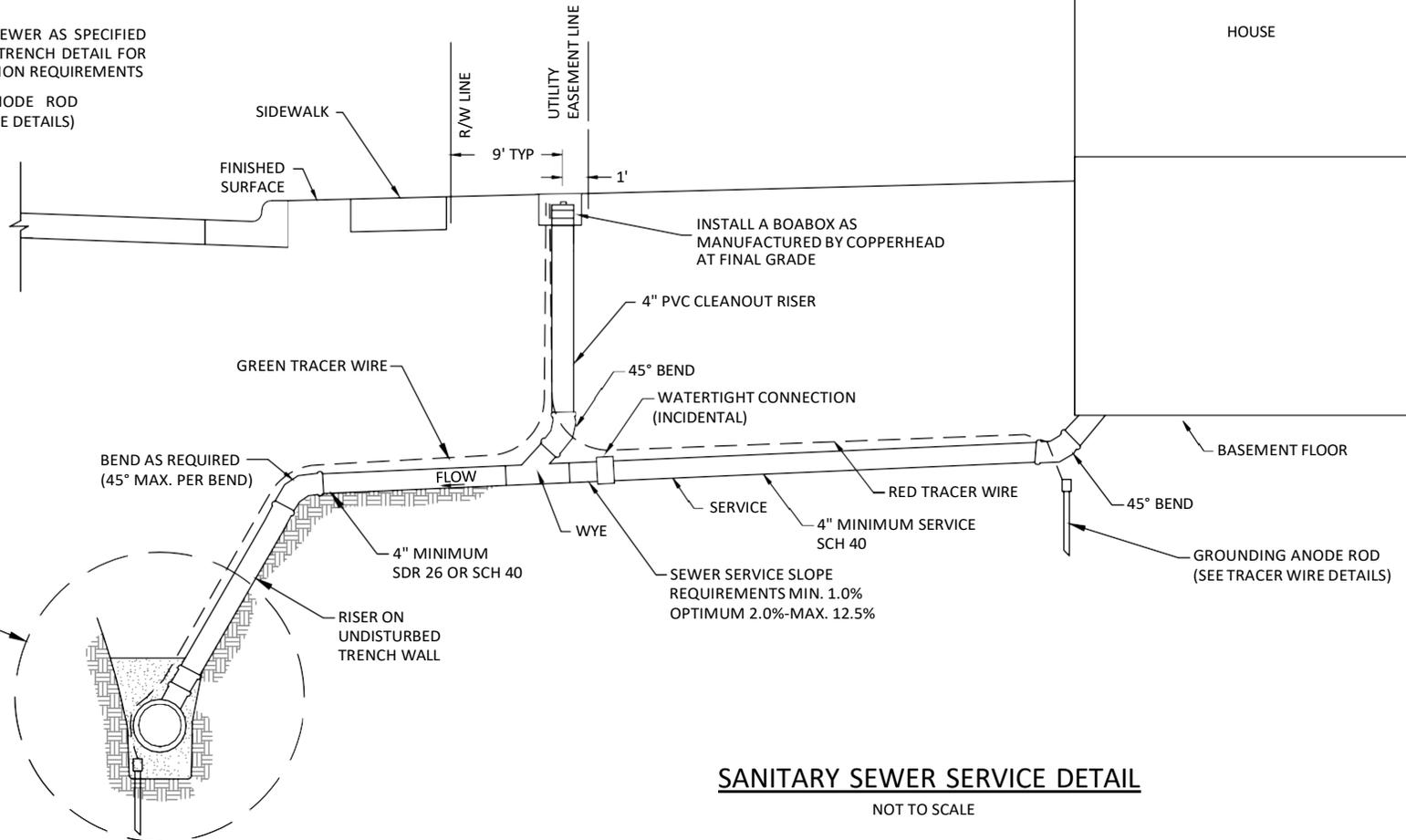
The information provided by Copperhead Industries gives you product options to help you choose the correct wire- termination/access points- connectors and grounding products. Other manufactures provide these products; this information is only a guide.



**INSET "A"**

**NOTES:**

- (1) SERVICE SHALL BE INSTALLED IN A STRAIGHT LINE, PERPENDICULAR TO THE STREET FROM THE PROPERTY LINE TO THE BUILDING FOOTING.
- (2) FOR NEW CONSTRUCTION, SERVICE INTO BUILDING MUST BE CONSTRUCTED AND TRENCH COMPACTED PRIOR TO CONSTRUCTING THE FOOTING.
- (3) CLEANOUT CASTING ASSEMBLIES SHALL BE INSTALLED AT FINAL GRADE.
- (4) WHEREVER FLEXIBLE RUBBER "FERNCO" COUPLERS ARE USED TO CONNECT TO AN EXISTING PIPE, A MAXADAPTOR AS MANUFACTURED BY GRIPPER GASKET, OR AN APPROVED EQUAL, SHALL BE INSTALLED TO REINFORCE THE CONNECTION.
- (5) A FORD TYPE A32 CASTING LABELED "SEWER" SHALL BE INSTALLED OVER BOABOXES INSTALLED IN DRIVEWAYS OR SIDEWALKS.
- (6) SEE TRACER WIRE SPECIFICATIONS FOR APPROVED MATERIALS.



**SANITARY SEWER SERVICE DETAIL**

NOT TO SCALE



1960 PREMIER DRIVE  
MANKATO, MINNESOTA 56001  
Phone: (507) 625-4171  
Email: Mankato@bolton-menk.com  
www.bolton-menk.com

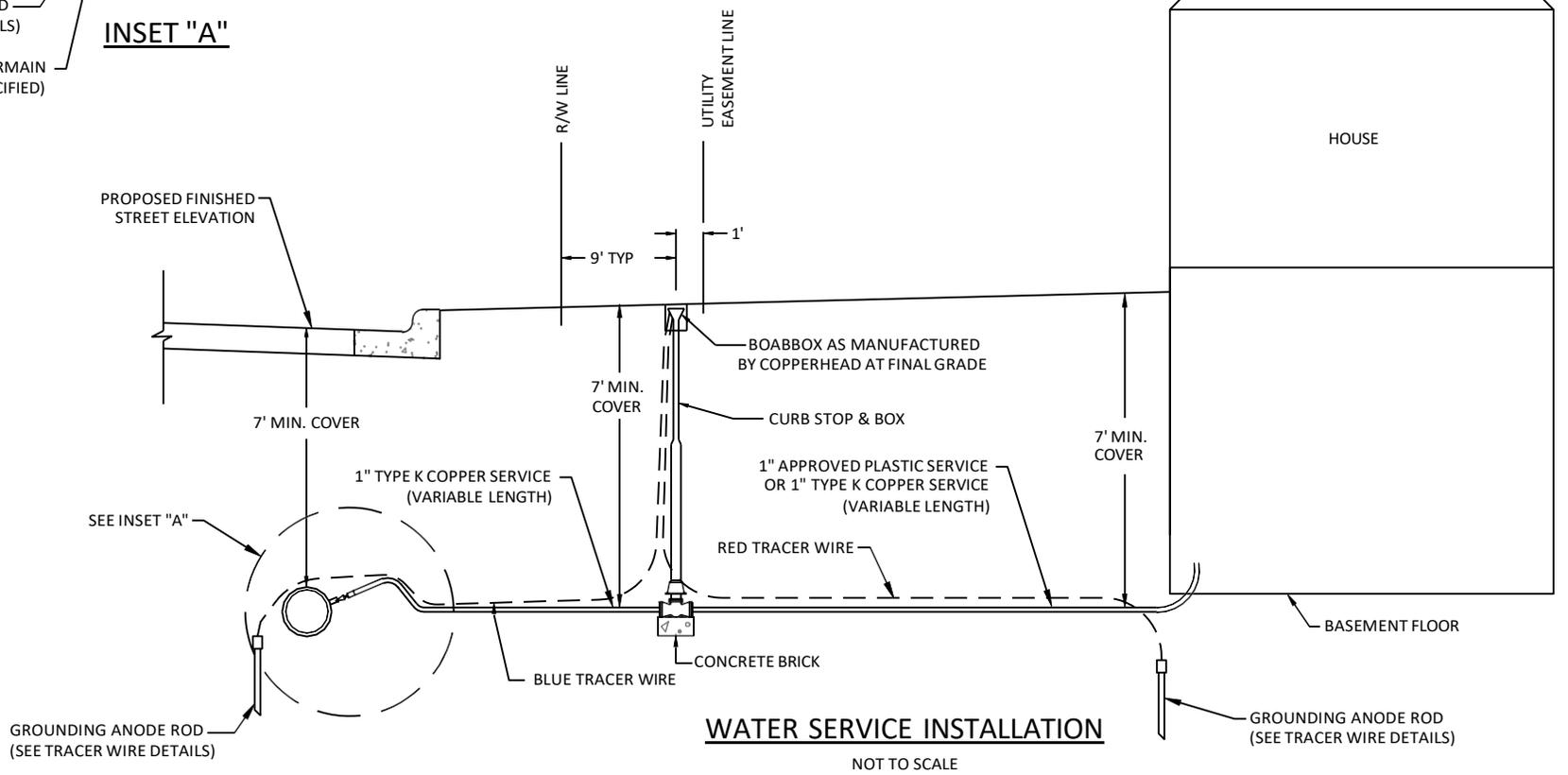
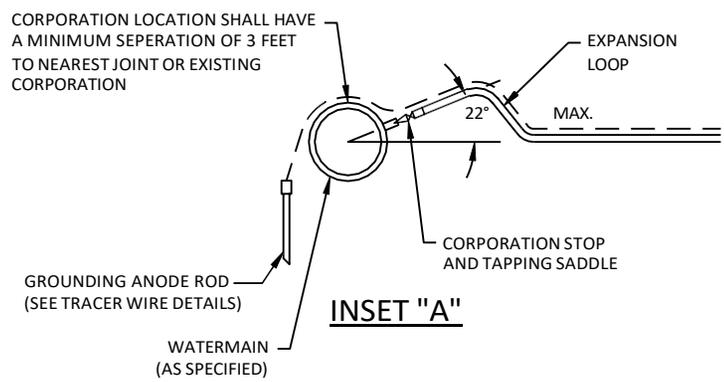


**CITY OF LE SUEUR, MINNESOTA  
SANITARY SEWER SERVICE DETAIL**

SEPTEMBER, 2022

SHEET 1 of 3

- NOTES:
- (1) SERVICE SHALL BE INSTALLED IN A STRAIGHT LINE, PERPENDICULAR TO THE STREET FROM THE PROPERTY LINE TO THE BUILDING FOOTING.
  - (2) FOR NEW CONSTRUCTION, SERVICE INTO BUILDING MUST BE CONSTRUCTED AND TRENCH COMPACTED PRIOR TO CONSTRUCTING THE FOOTING.
  - (3) BOABOXES SHALL BE BROUGHT UP TO FINAL GRADE.
  - (4) A 12-INCH GATE VALVE BOX TOP SECTION AND CAP SHALL BE INSTALLED OVER CURB BOXES INSTALLED IN DRIVEWAYS OR SIDEWALKS.
  - (5) THE WATER SERVICE SHALL BE PRESSURE TESTED AT CITY PRESSURE
  - (6) SEE TRACER WIRE SPECIFICATIONS FOR APPROVED MATERIALS.



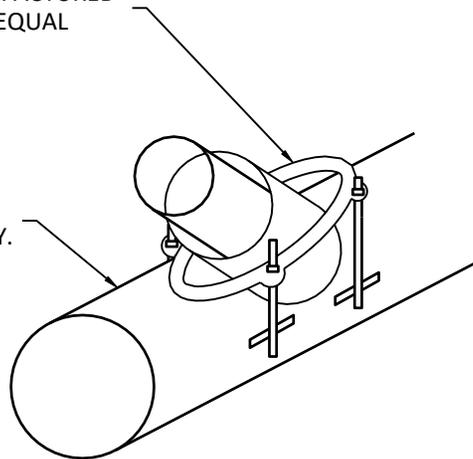
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CITY OF LE SUEUR, MINNESOTA  
WATER SERVICE DETAIL

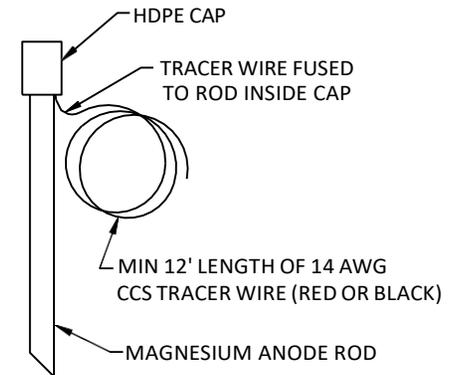
ROBAR 3506 SEWER SADDLE AS MANUFACTURED BY ROBAR INDUSTRIES OR APPROVED EQUAL

EXISTING SEWER PIPE. SIZE AND MATERIAL MAY VARY.



**SANITARY SEWER SERVICE ON EXISTING SEWER MAIN**

NOT TO SCALE



NOTE: MAGNESIUM ROD DIMENSIONS SHALL BE APPROX 18" LONG BY 1.3" DIA, AND APPROX 1 LB IN WEIGHT.

**GROUNDING ANODE**

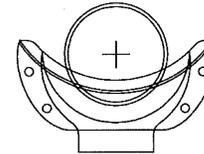
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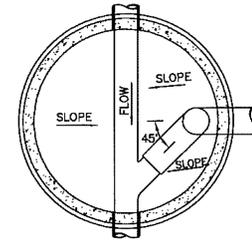
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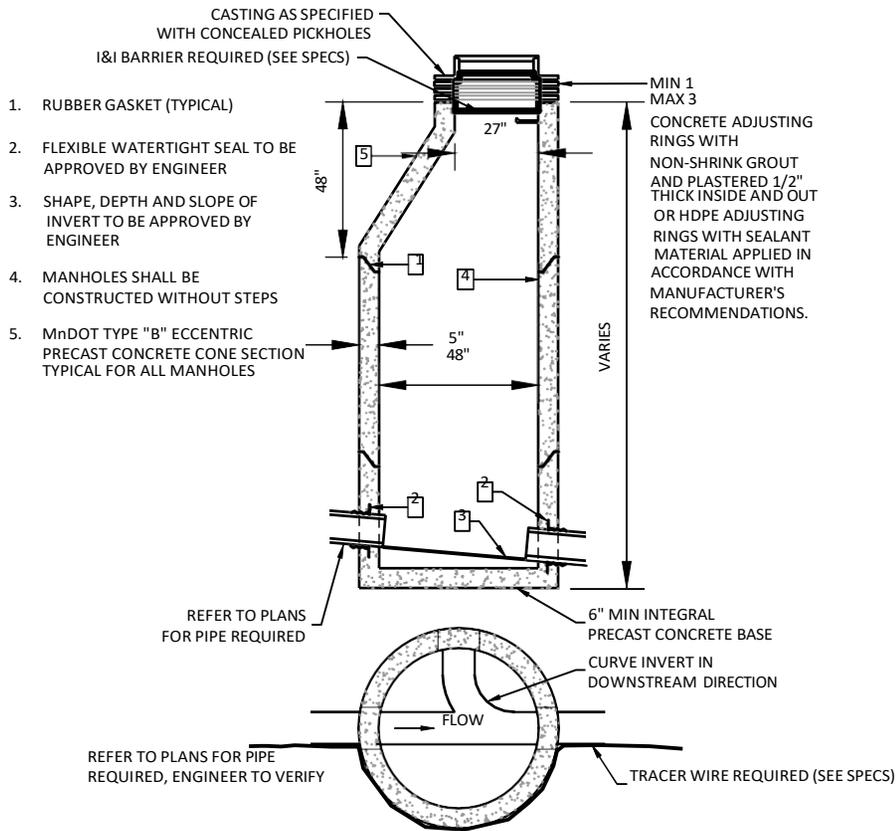
CITY OF LE SUEUR, MINNESOTA  
MISCELLANEOUS DETAILS



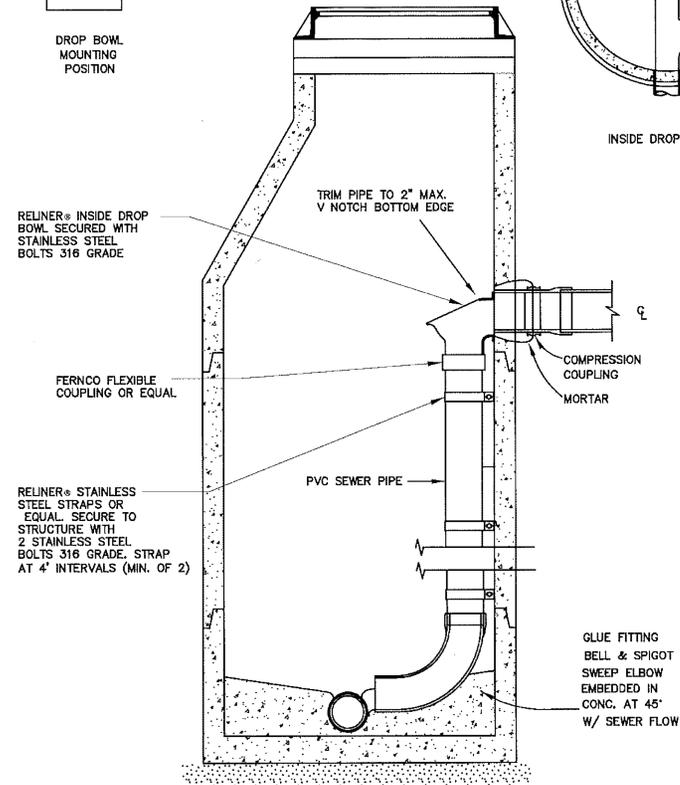
DROP BOWL MOUNTING POSITION



INSIDE DROP - PLAN



**SANITARY MANHOLE (DESIGN 4007) WITH TRACER WIRE**  
NOT TO SCALE



**NOTES:**

1. ALL INSIDE DROP CONNECTIONS FOR SERVICES AND COLLECTOR SEWERS SHALL USE THE DROP BOWL AS PRODUCED BY:  
RELINER-DURAN, INC.  
53 MT. ARCHER RD.  
LYME, CT 06371  
(860)434-0277 FAX: (860)434-3195
2. SECURE DROP PIPE TO MANHOLE WALL WITH RELINER-DURAN, INC STAINLESS STEEL ADJUSTABLE CLAMPING BRACKETS.
3. CONNECTIONS TO EXISTING STRUCTURES SHALL BE WATERTIGHT. THE INSTALLATION OF COR-N-SEAL BOOTS, OR APPROVED EQUAL, WILL BE REQUIRED.

**SANITARY DROP MANHOLE (INSIDE DROP)**  
NOT TO SCALE



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**CITY OF LE SUEUR, MINNESOTA**  
**SANITARY MANHOLE DETAILS**