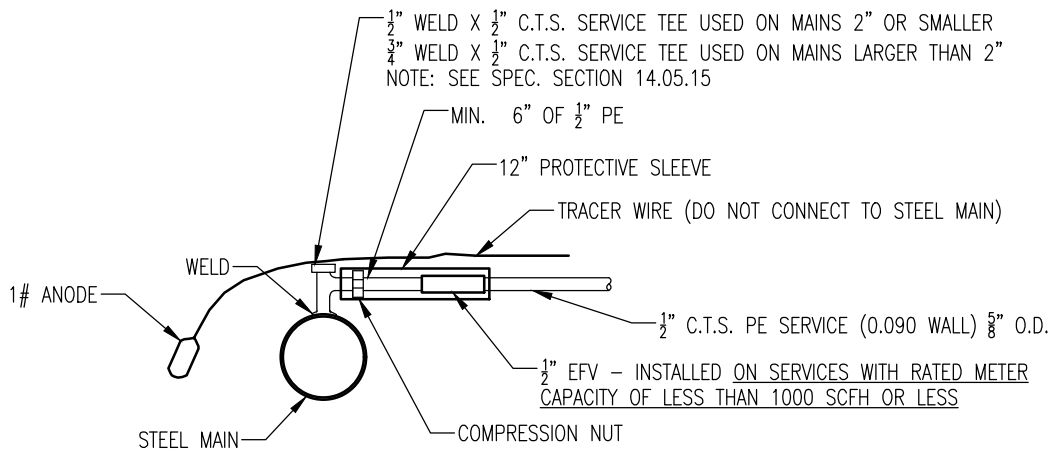
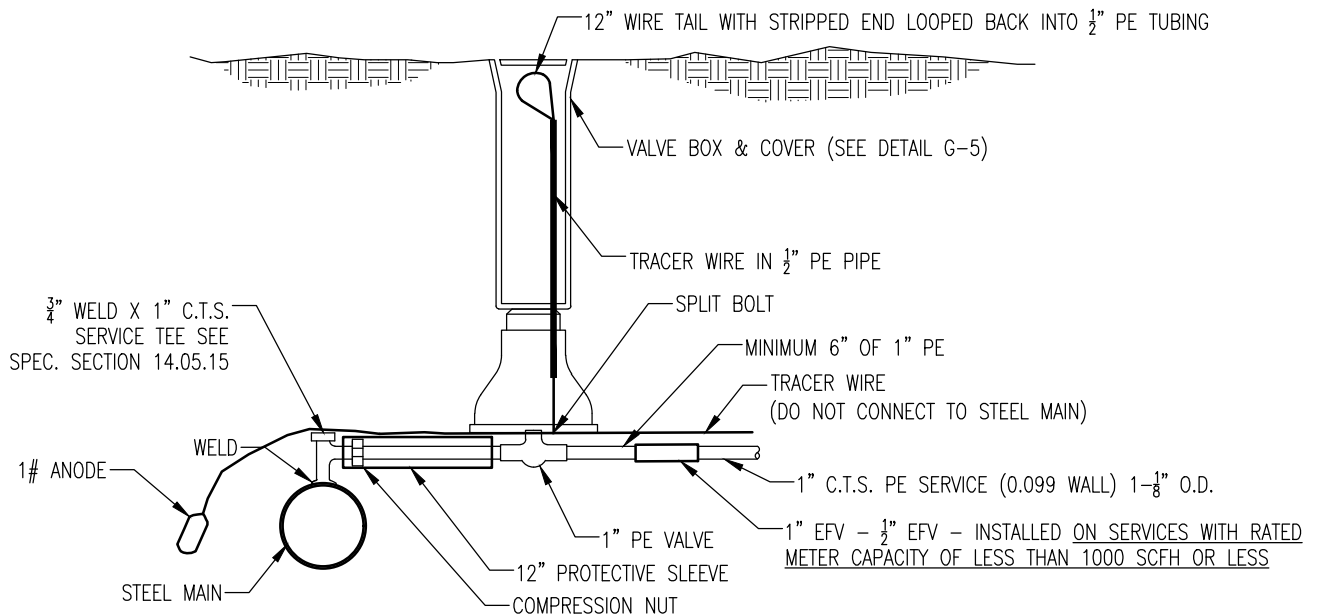


## GAS SYSTEM DETAILS

- G-2 STEEL TO PE SERVICE CONNECTION
- G-3 GAS MAIN BRANCH CONNECTIONS TO STEEL MAIN
- G-4 TYPICAL WELD JOINTS
- G-5 PE VALVE BOX SETTING
- G-6 TRACER WIRE ACCESS BOX
- G-7 12" POLYVALVE CUSTOM VALVE BOX
- G-7A 12" POLYVALVE CUSTOM VALVE VAULT
- G-8 HP GAS CROSSING AT RAILROAD
- G-9 TYPICAL STEEL GAS SERVICE RISER - 3" AND LARGER
- G-10 HIGH PRESSURE  $\frac{1}{2}$ " GAS SERVICE INSTALLATION - RESIDENTIAL
- G-11 HIGH PRESSURE GAS SERVICE INSTALLATION - 1" CTS & 2" IPS SERVICE
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- G-35 7" WC METERING PRESSURE METER LOCATION
- G-36 ELEVATED PRESSURE METER LOCATION
- G-37 2" OR 3" BRANCH MAIN CONNECTION DETAIL FOR HDPE GAS MAINS



**1/2" C.T.S. PE SERVICE ON STEEL MAIN**



**1" C.T.S. PE SERVICE ON STEEL MAIN**

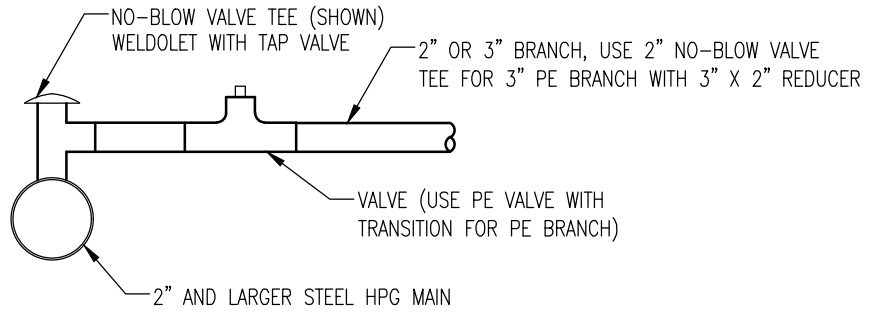
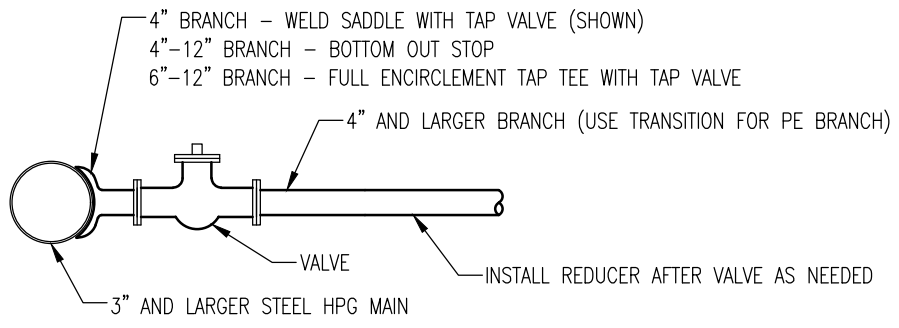
STEEL TO PE SERVICE CONNECTION

G-2

REVISED/APPROVED 05/01/2018

CITY OF DULUTH STANDARD DETAIL  
DEPT. OF PUBLIC WORKS AND UTILITIES

NO SCALE



GAS MAIN BRANCH CONNECTIONS TO STEEL MAIN

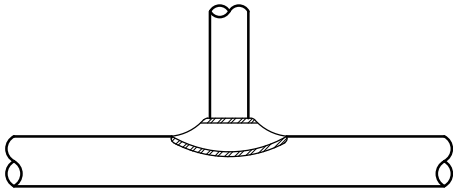
G-3

REVISED/APPROVED 02/07/2018

CITY OF DULUTH STANDARD DETAIL  
 DEPT. OF PUBLIC WORKS AND UTILITIES

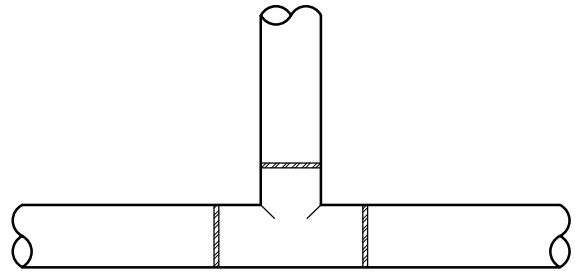
NO SCALE

REDUCED LATERAL

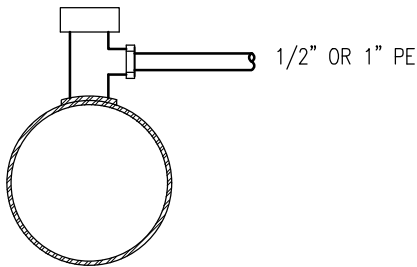


SADDLE

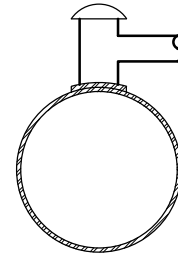
FULL SIZE OR REDUCED ONE SIZE ONLY



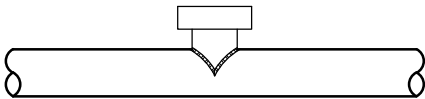
WELDING TEE IN LINE



1/2" AND 1" TAP TEES



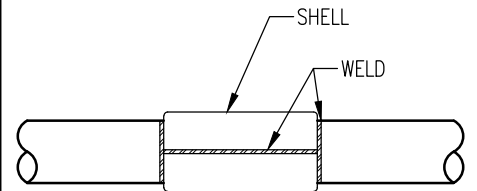
1", 1-1/2", 2" NO-BLOW TEE



MUELLER STOP - 2" & 3" RUBBER PLUG

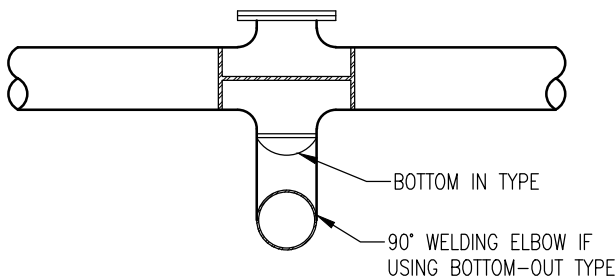


HALF SOLE REPAIR



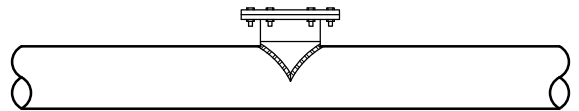
PUMPKIN ENCIRCLEMENT

MUELLER LINE STOP



MUELLER STOP  
4" - 6" - 8" - 10" - 12"  
(STEEL PLUG)

T.D. WILLIAMSON LINE STOP



T.D. WILLIAMSON STOP  
10" - 12" - 14" - 16"

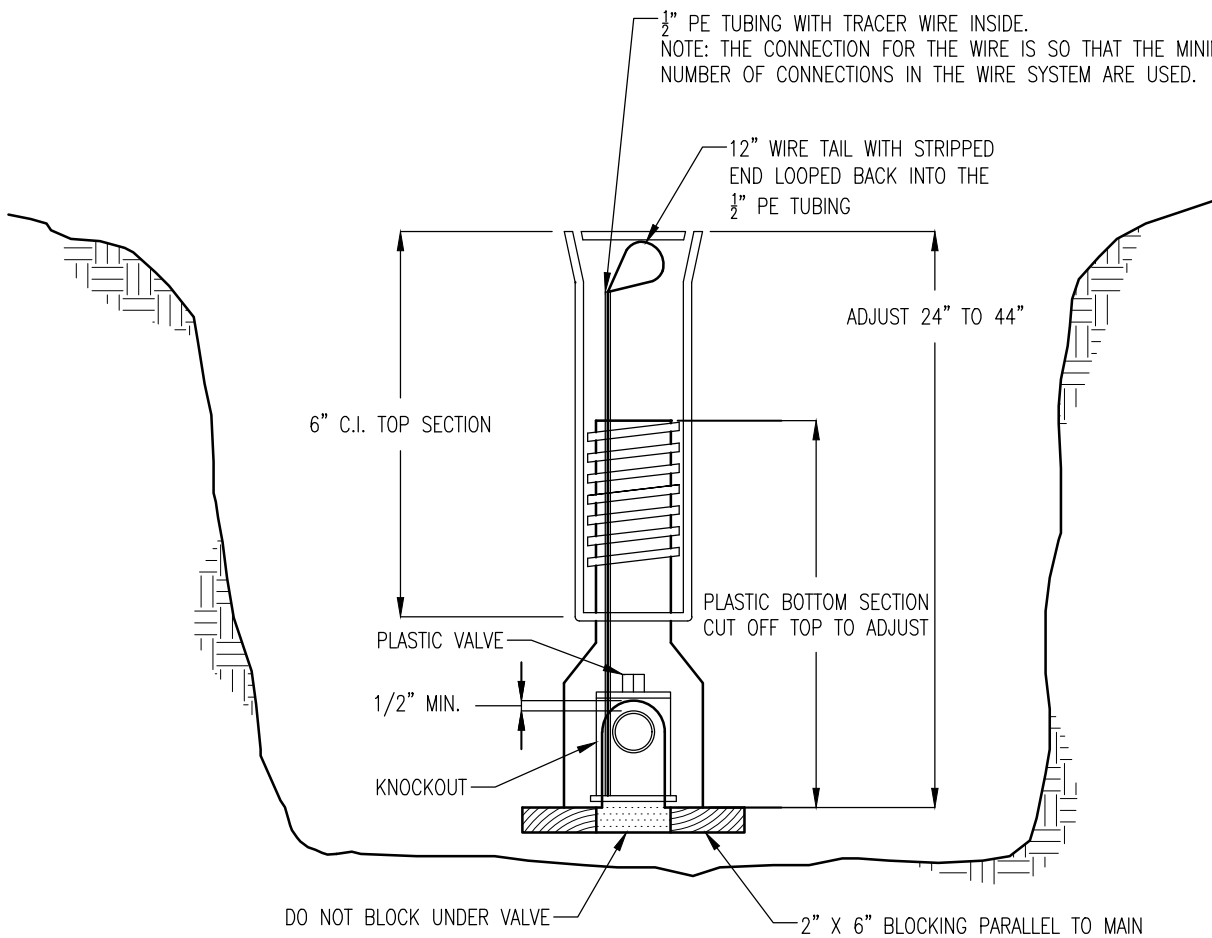
TYPICAL WELD JOINTS

G-4

REVISED/APPROVED 02/01/2013

CITY OF DULUTH STANDARD DETAIL  
DEPT. OF PUBLIC WORKS AND UTILITIES

NO SCALE



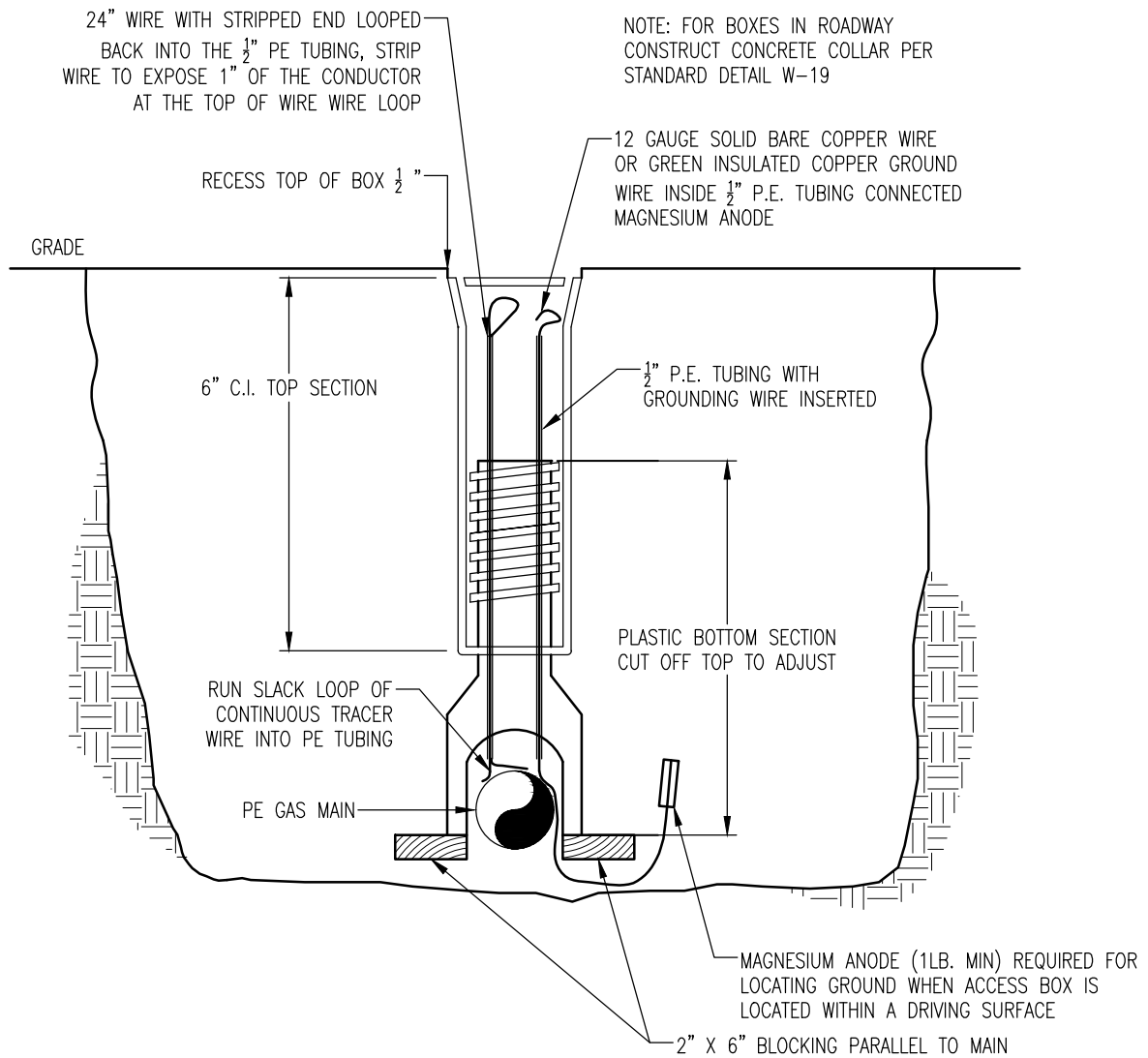
PE VALVE BOX SETTING

G-5

REVISED/APPROVED 05/01/2018

CITY OF DULUTH STANDARD DETAIL  
 DEPT. OF PUBLIC WORKS AND UTILITIES

NO SCALE



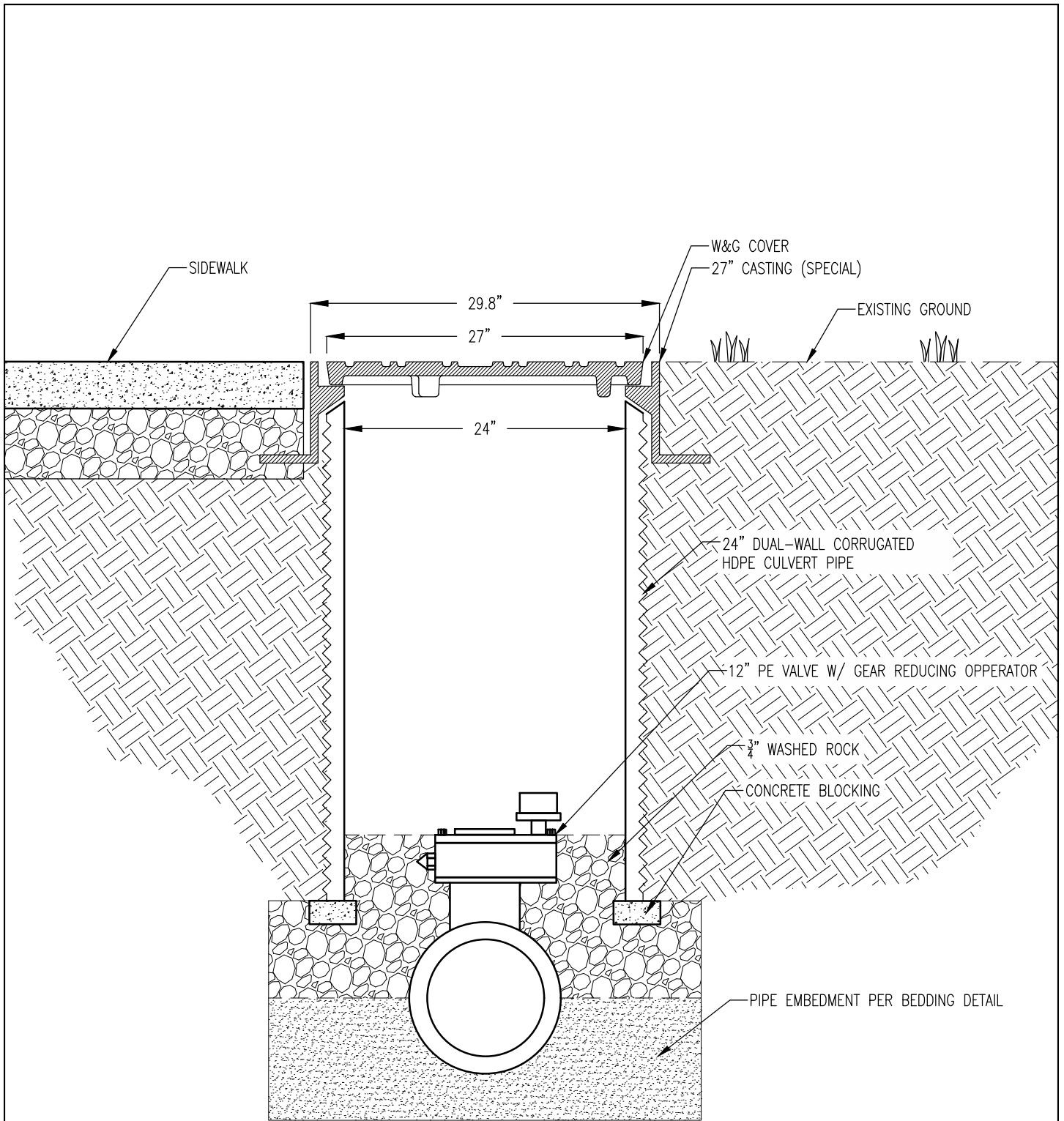
TRACER WIRE ACCESS BOX

G-6

REVISED/APPROVED 05/01/2018

CITY OF DULUTH STANDARD DETAIL  
DEPT. OF PUBLIC WORKS AND UTILITIES

NO SCALE



**12" POLYVALVE CUSTOM VALVE BOX**

FOR TURF AND SIDEWALK APPLICATIONS

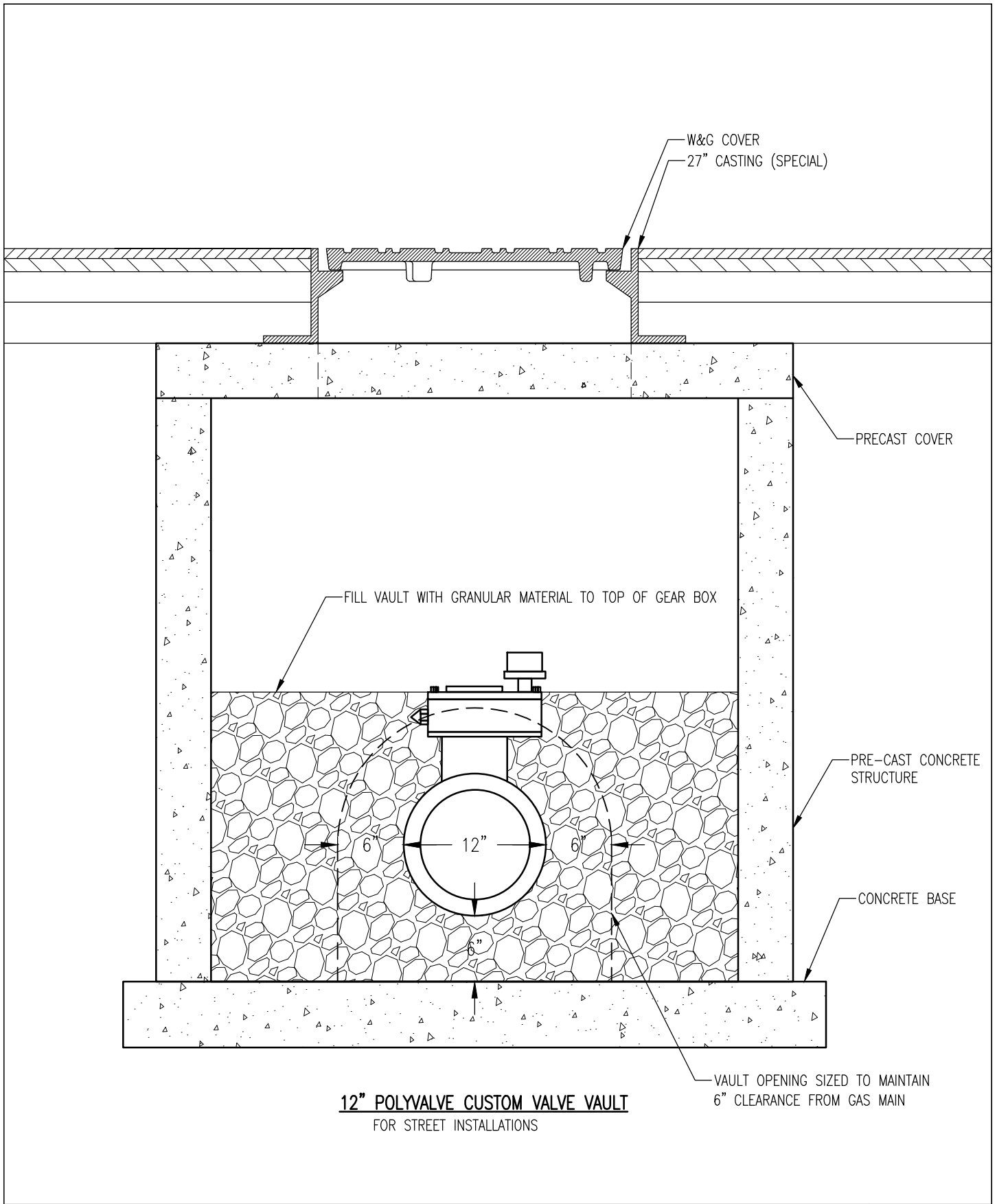
12" POLYVALVE CUSTOM VALVE BOX

G-7

REVISED/APPROVED 05/01/2018

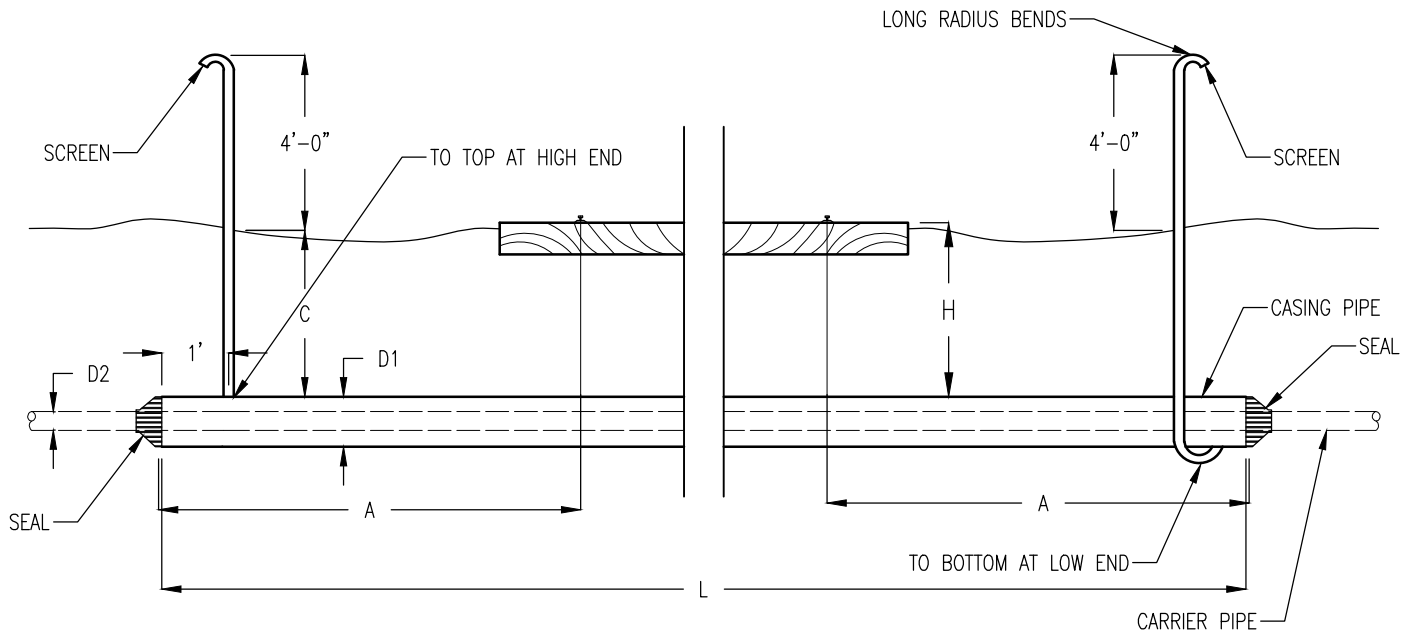
CITY OF DULUTH STANDARD DETAIL  
DEPT. OF PUBLIC WORKS AND UTILITIES

NO SCALE



12" POLYVALVE CUSTOM VALVE VAULT		G-7A
REVISED/APPROVED 05/01/2018	CITY OF DULUTH STANDARD DETAIL DEPT. OF PUBLIC WORKS AND UTILITIES	NO SCALE





**DIMENSIONS**

A = \_\_\_\_\_ D1 (CASING DIAMETER) = \_\_\_\_\_

L = \_\_\_\_\_ D2 (CARRIER DIAMETER) = \_\_\_\_\_

H = \_\_\_\_\_ CASING THICKNESS = \_\_\_\_\_

C = \_\_\_\_\_

1/4" - 6" THRU 16"  
 5/16" - 18" THRU 20"  
 3/8" - 22" THRU 24"

**MATERIALS**

CASING = \_\_\_\_\_ CARRIER PIPE = \_\_\_\_\_

CASING SEALS - P.S.I. MODEL "S"  
 FOR PE, LINK SEAL FOR STEEL PIPE = \_\_\_\_\_ VENT PIPE - 2" WELDED  
 STEEL AS DETAILED \_\_\_\_\_

CASING INSULATORS = \_\_\_\_\_ OPERATING PRESSURE = \_\_\_\_\_

**GENERAL INFORMATION**

RAILROAD COMPANY = \_\_\_\_\_ CROSSING LOCATION = \_\_\_\_\_

NUMBER OF TRACKS = \_\_\_\_\_ METHOD OF INSTALLATION = \_\_\_\_\_

HP GAS CROSSING AT RAILROAD

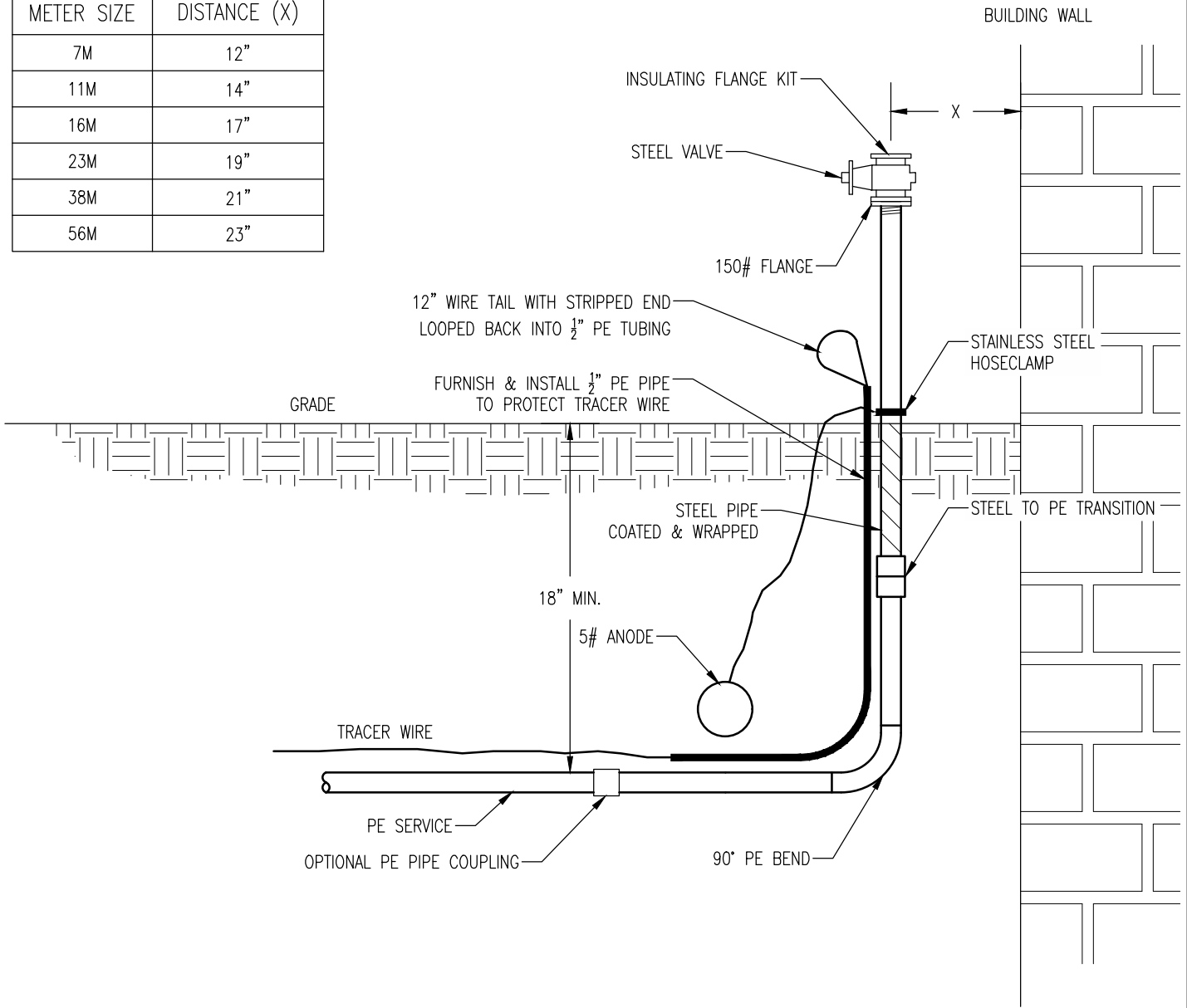
G-8

REVISED/APPROVED 25/01/2013

CITY OF DULUTH STANDARD DETAIL  
 DEPT. OF PUBLIC WORKS AND UTILITIES

NO SCALE

METER SIZE	DISTANCE (X)
7M	12"
11M	14"
16M	17"
23M	19"
38M	21"
56M	23"



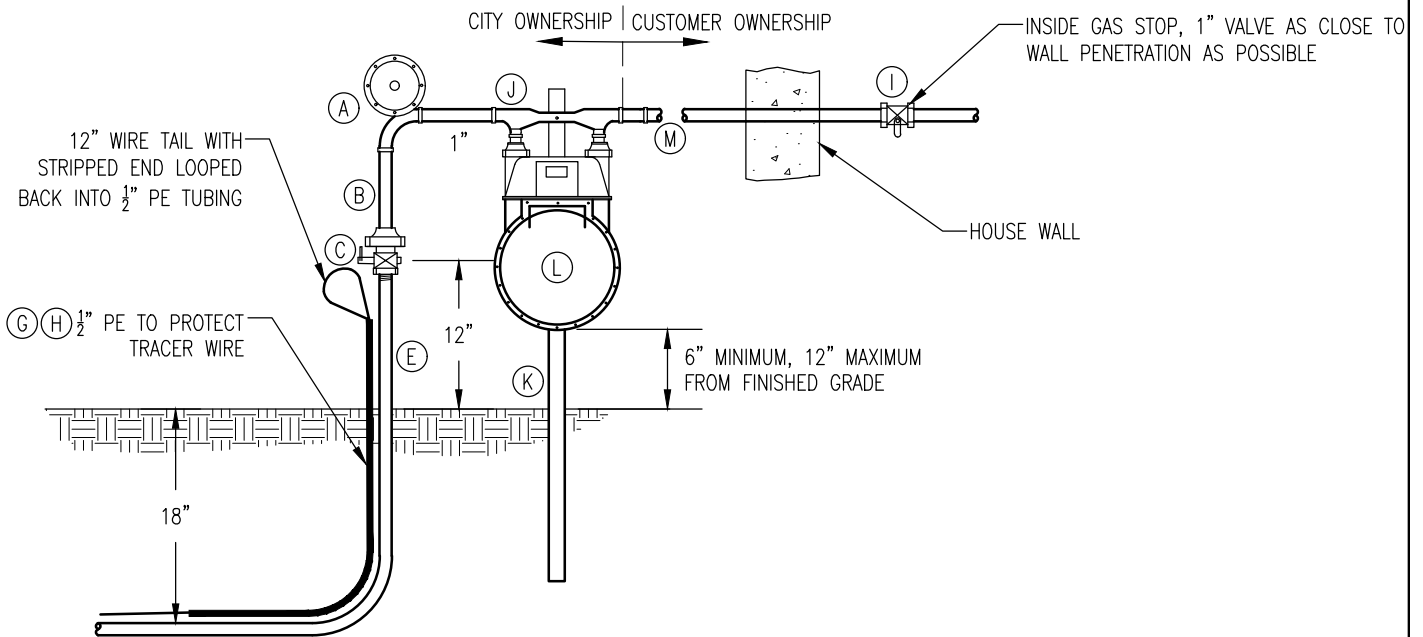
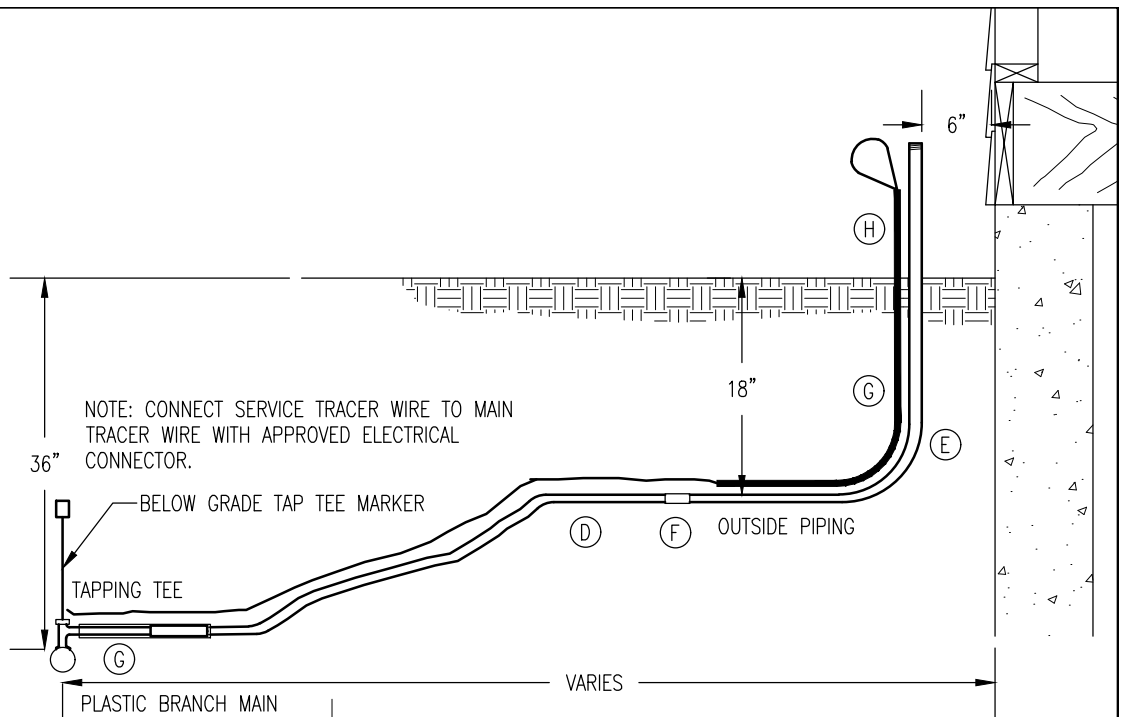
TYPICAL STEEL GAS SERVICE RISER – 3" AND LARGER

G-9

REVISED/APPROVED 05/01/2018

CITY OF DULUTH STANDARD DETAIL  
DEPT. OF PUBLIC WORKS AND UTILITIES

NO SCALE



- A. REGULATOR, SCHUMBERGER B-42 WITH 1/8" ORIFICE
- B. 3/4" NIPPLE
- C. 3/4" METER STOP
- D. 1/2" C.T.S. PE PIPE (5/8" O.D.)
- E. 1/2" X 3/4" ANODELESS SERVICE RISER
- F. 1/2" C.T.S. PE SOCKET COUPLING
- G. PLASTIC PROTECTIVE SLEEVE (PE PIPE)
- H. COATED TRACER WIRE
- I. 1" BRONZE BALL VALVE
- J. ROCKFORD ECLIPSE 701173 26-M WEDGESEAL METER BAR (OR EQUAL)
- K. ADVANCE ENG. CORP. D.P. 1004 METER MOUNTING BRACKET (OR EQUAL)
- L. METER
- M. 1" MINIMUM BLACK STEEL PIPE

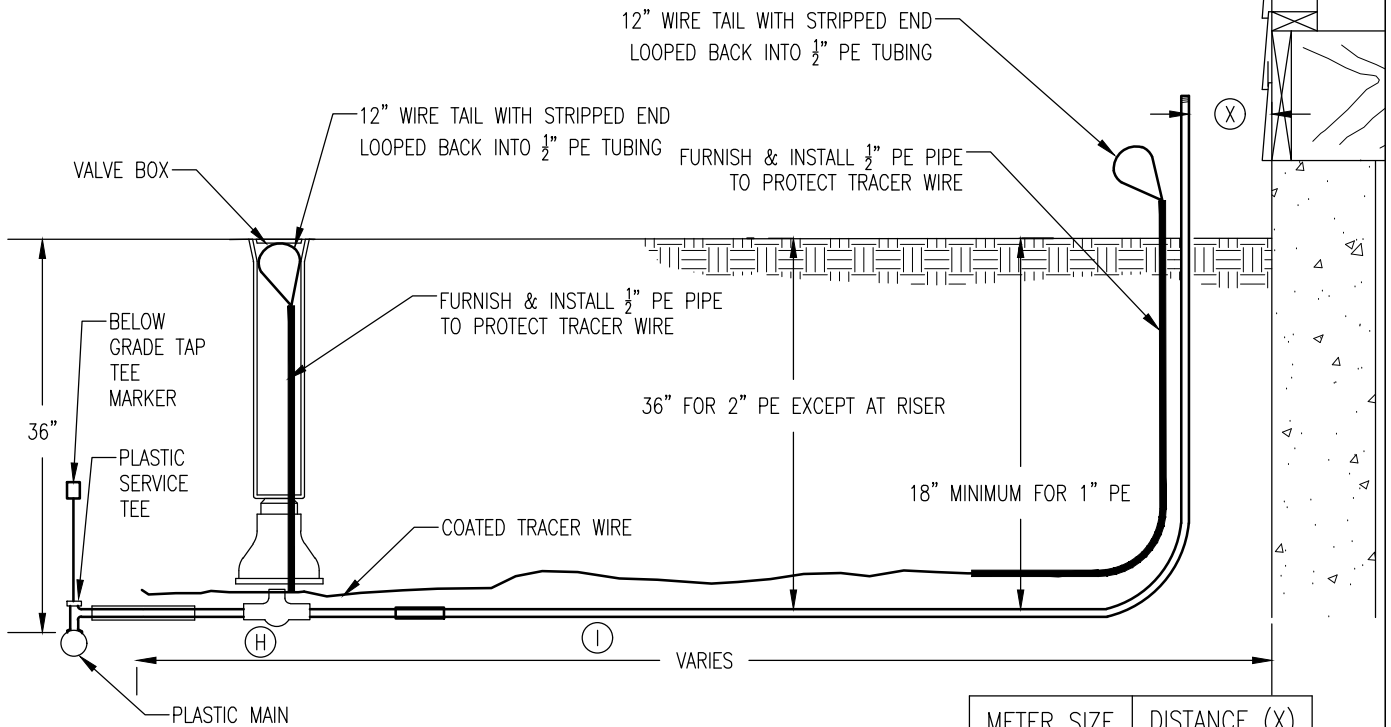
HIGH PRESSURE 1/2" GAS SERVICE INSTALLATION – RESIDENTIAL

G-10

REVISED/APPROVED 04/05/2019

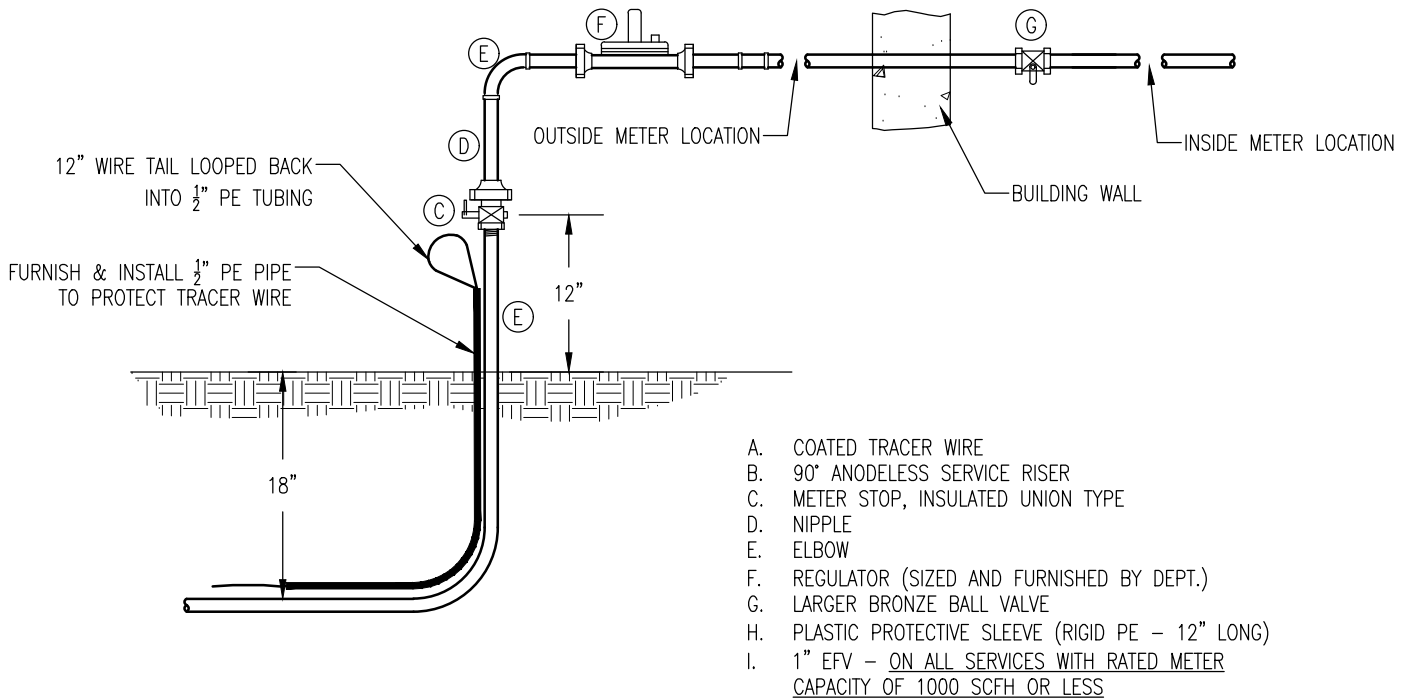
CITY OF DULUTH STANDARD DETAIL  
DEPT. OF PUBLIC WORKS AND UTILITIES

NO SCALE



1. CONNECT SERVICE TRACER WIRE TO MAIN TRACER WIRE WITH ELECTRIC CONNECTOR.
2. IN MULTIPLE METER SITUATIONS, EACH METER SHALL HAVE A LOCKING VALVE WHICH ALLOWS ANY METER TO BE LOCKED OUT OF SERVICE WHILE THE OTHER REMAIN IN SERVICE.
3. TEST POINTS SHALL BE INSTALLED WITH 1-1/4" OR LARGER REGULATOR ON HIGH AND LOW SIDES USING WELD ON 1/4" COUPLING COMPLETE WITH PETE'S PLUGS.

METER SIZE	DISTANCE (X)
7M	12"
11M	14"
16M	17"
23M	19"



- A. COATED TRACER WIRE
- B. 90° ANODELESS SERVICE RISER
- C. METER STOP, INSULATED UNION TYPE
- D. NIPPLE
- E. ELBOW
- F. REGULATOR (SIZED AND FURNISHED BY DEPT.)
- G. LARGER BRONZE BALL VALVE
- H. PLASTIC PROTECTIVE SLEEVE (RIGID PE - 12" LONG)
- I. 1" EFV - ON ALL SERVICES WITH RATED METER CAPACITY OF 1000 SCFH OR LESS

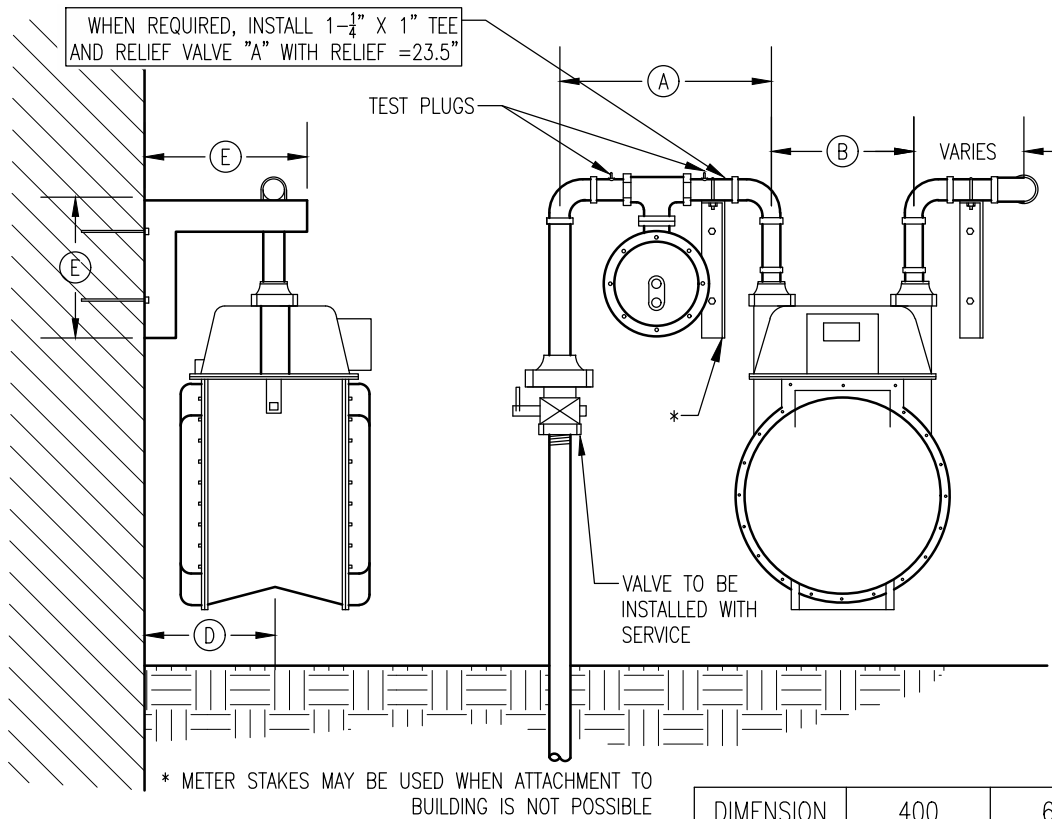
HIGH PRESSURE GAS SERVICE INSTALLATION - 1" CTS & 2" IPS SERVICES

G-11

REVISED/APPROVED 04/05/2019

CITY OF DULUTH STANDARD DETAIL  
DEPT. OF PUBLIC WORKS AND UTILITIES

NO SCALE



NOTE:

1. EXTEND VENT ONLY WHEN NECESSARY, SEE O & M SECTION 30. DEPT. TO FURNISH: REGULATOR, TEST "PETE'S PLUG" - 2 EACH WITH 1-1/4" NIPPLES, METER WITH SWIVELS AND NUTS, AND ANGLE BRACKETS.
2. SECONDARY RELIEF DEVICE MAY BE REQUIRED.

DIMENSION	400	675	1000
A	17-9/16"	17-11/16"	17-15/16"
B	7"	10"	11"
C	27"	32"	36"
D	9"	9"	9"
E	11"	11"	11"

CUSTOMER LOAD (CFH)	397 TO 600		600 TO 900		900 TO 1428	
METER SIZE	400		675		1000	
METER CONNECTION	1-1/2"		1-1/2"		2"	
PRESSURE LOSS (WC)	1/2" @ 397 CFH		1/2" @ 397 CFH		1/2" @ 397 CFH	
	1" @ 595 CFH		1" @ 918 CFH		1" @ 1428 CFH	
REGULATOR TYPE	ITRON B42R		ITRON B42R		ITRON B42R	
SYSTEM PRESSURE	22#-10#	66#-30#	22#-10#	66#-30#	22#-10#	66#-30#
ORIFICE	1/8"	1/8"	3/16"	1/8"	3/16"	3/16" <sup>2</sup>
CAP @ PIN MAX.	600	1560	1560	1560	2240	2500
CAP @ PIN MIN.	400	765	870	765	1470	2025
VENT MAX. LENGTH <sup>1</sup>	130'	20'	18'	20'	0'-3/4", 30'-1"	0'-3/4", 8'-1"
CAPACITY DATA IS FOR SANDARD 7" (WC) DELIVERY PRESSURE						

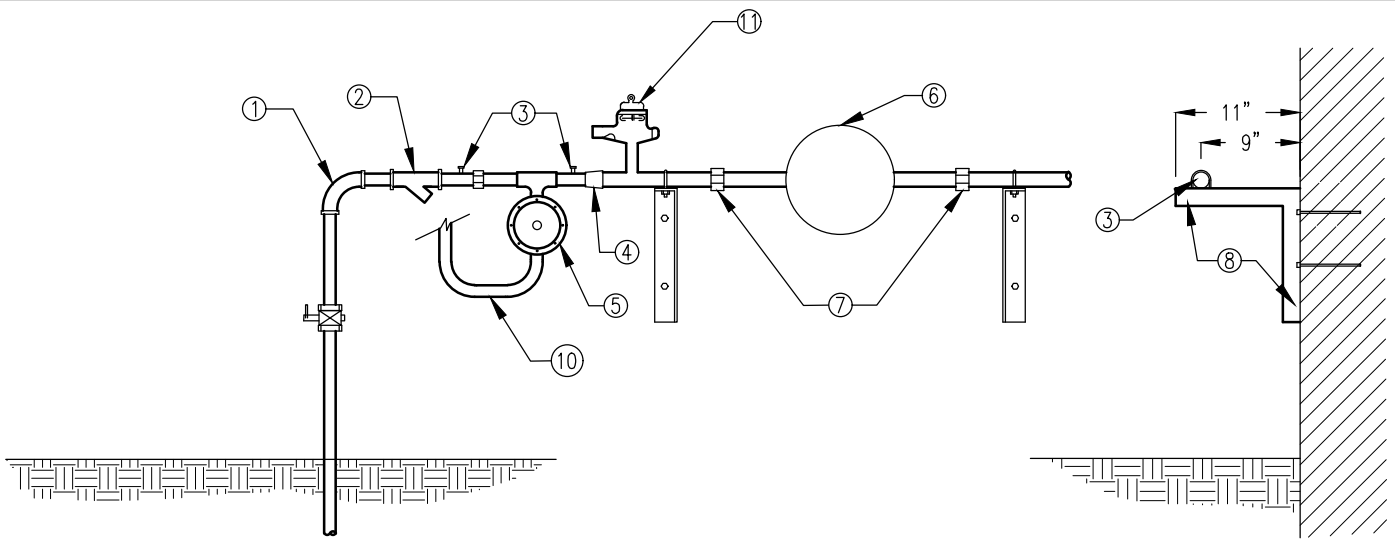
METER INSTALLATION DETAIL - SIZES 400, 675, & 1000

G-11A

REVISED/APPROVED 01/20/2017

CITY OF DULUTH STANDARD DETAIL  
DEPT. OF PUBLIC WORKS AND UTILITIES

NO SCALE

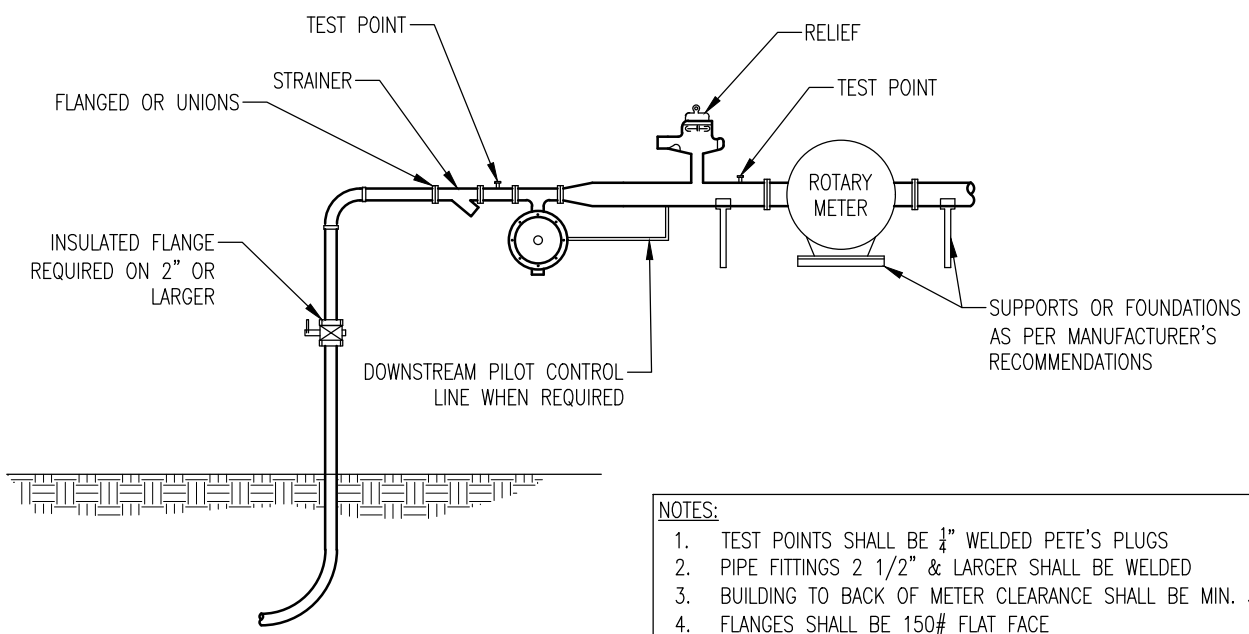


1. 1-1/4" x 1" REDUCING EL
2. 1-1/4" STRAINER W/BLOWDOWN
3. 1/4" WELD ON COUPLING & PETE'S PLUGS
4. 1-1/2" x 1-1/4" REDUCER
5. B42R OR S202
6. 1.5M125 ROOTS METER
7. 1-1/2" UNIONS
8. 1-1/2" WELDED ANGLE
9. 1-1/2" x 1/4" U-CLAMPS
10. VENT W/RAIN CAP WHERE REQUIRED
11. RELIEF (IF NECESSARY)

REGULATOR CAPACITY (CFH)					
P OUT	7" WC			2 PSI*	
ORIFICE	1/8"	3/16"	1/4"	3/16"	1/4"
P IN					
55	1300	-	-	850	1450
35	860	2280	-	1560	1100
15	-	1080	1640	-	-
10	-	-	1470	-	-

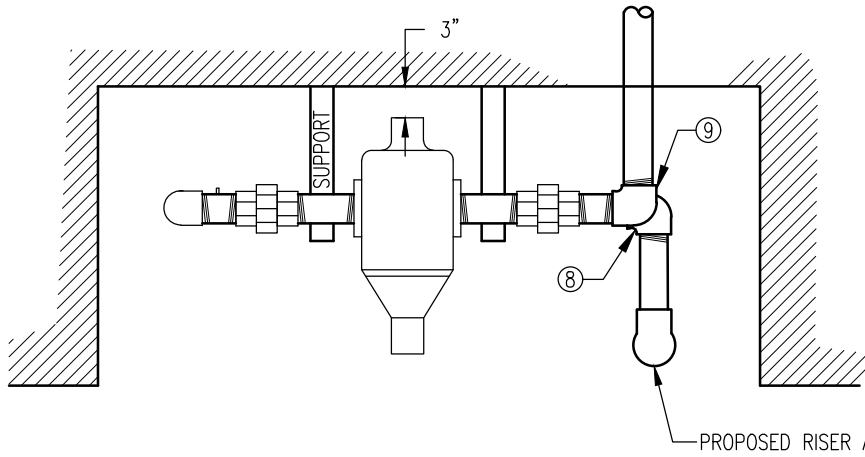
\*METER PRESSURE 1.83 PSI @ MAX. FLOW

**1.5M125 ROOTS METER & REGULATOR DETAIL**



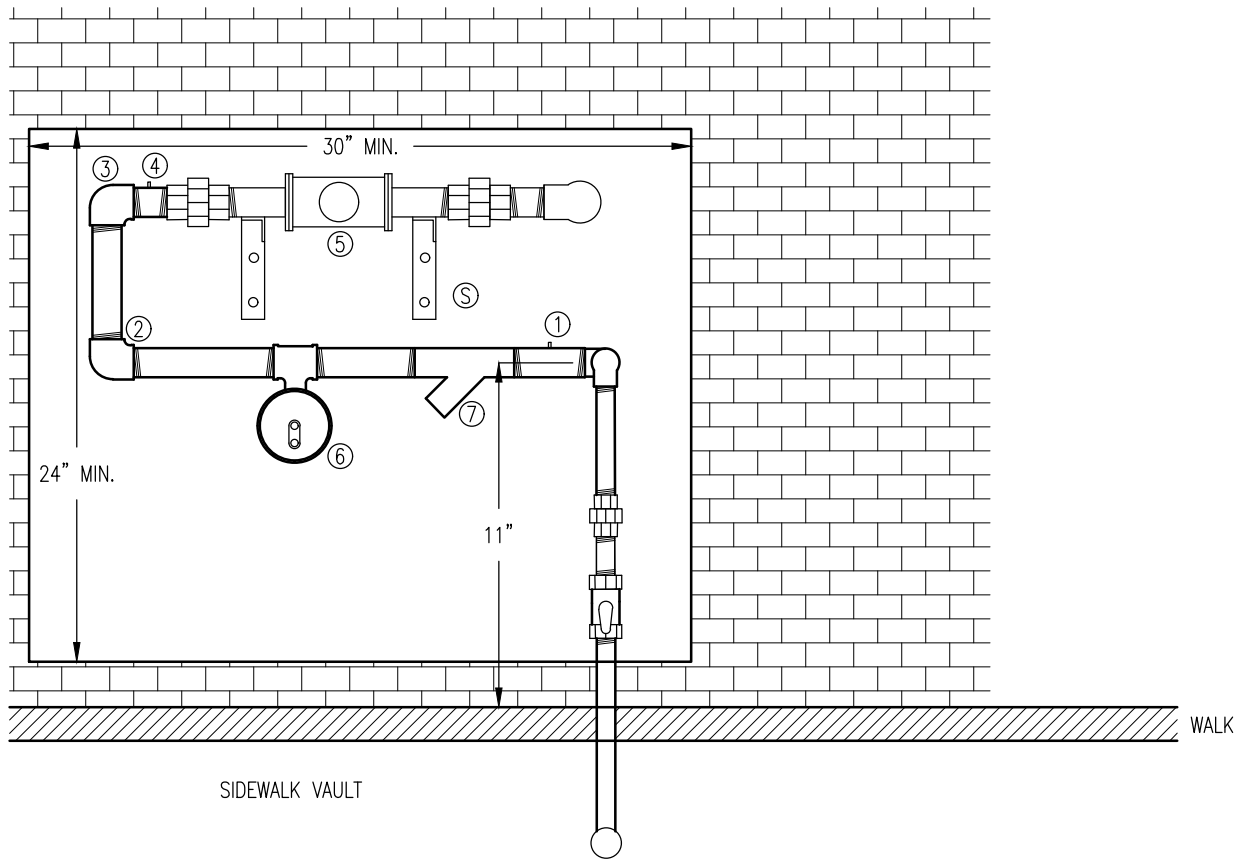
- NOTES:**
1. TEST POINTS SHALL BE 1/4" WELDED PETE'S PLUGS
  2. PIPE FITTINGS 2 1/2" & LARGER SHALL BE WELDED
  3. BUILDING TO BACK OF METER CLEARANCE SHALL BE MIN. 3"
  4. FLANGES SHALL BE 150# FLAT FACE

**TYPICAL DETAIL  
3M125 ROOTS METER & LARGER**



- MATERIALS LIST**
1. 1-1/4" x 3" NIPPLE W/ TEST PLUG
  2. 1-1/4" x 1/1/2" RED. EL.
  3. 1-1/2" EL.
  4. 1-1/2" x 3" NIPPLE W/ TEST PLUG
  5. 15C ROOTS METER
  6. B-31-R WITH 3/16" ORF. REG.
  7. 1-1/4" STRAINER
  8. 3/4" x 1-1/4" RED. EL.
  9. 1-1/2" EL.
  - S. ANGLE IRON SUPPORTS

**TOP VIEW**



**FRONT VIEW**

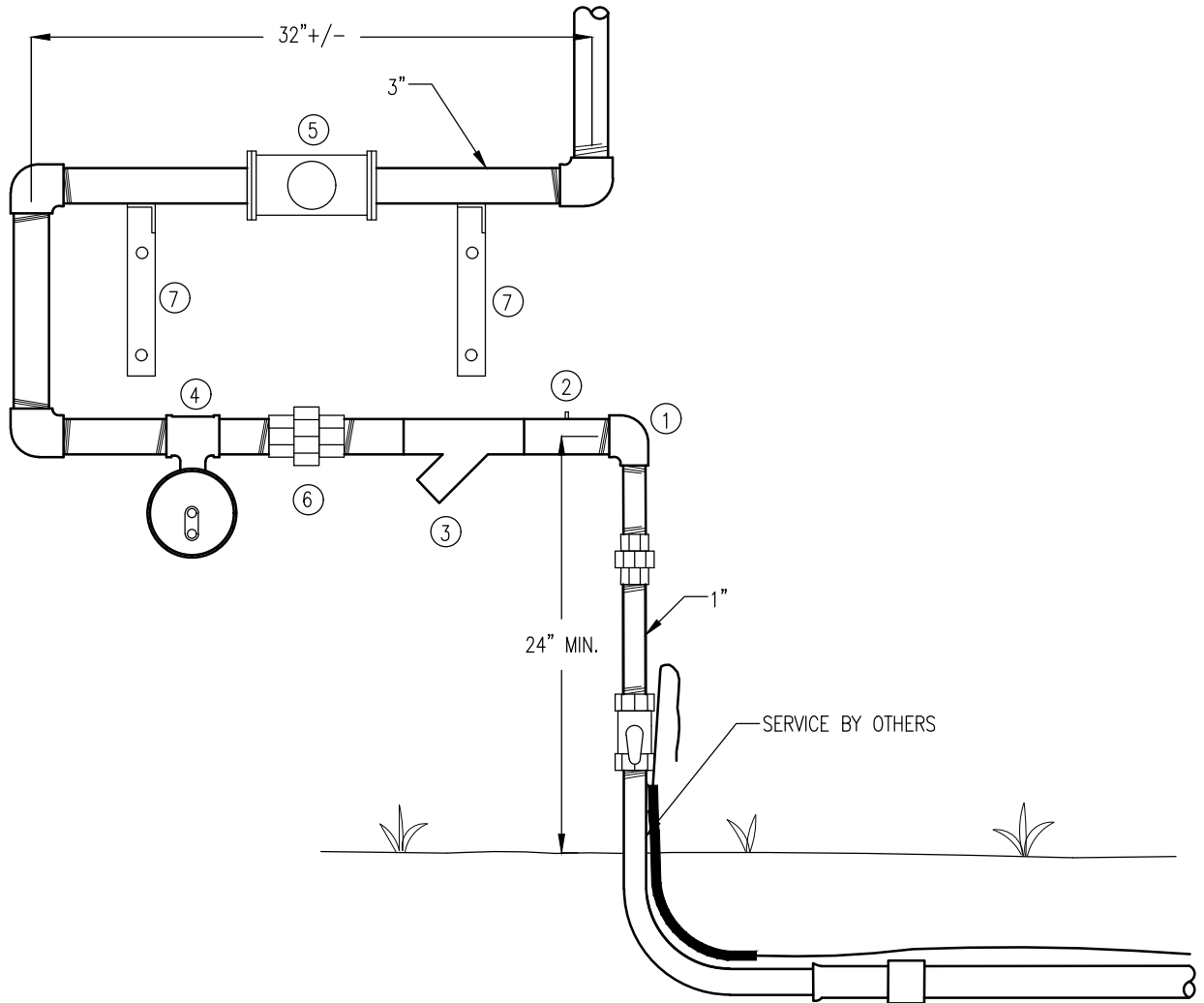
**15C ROOTS COMPACT METER INSTALLATION**

**G-12A**

REVISED/APPROVED 02/01/2013

CITY OF DULUTH STANDARD DETAIL  
DEPT. OF PUBLIC WORKS AND UTILITIES

NO SCALE



MATERIALS LIST

1. 1" x 2" STREET EL
  2. TEST POINTS (D)
  3. 2" STRAINER (D)
  4. FISHER S202 - 2" - W/ 3/8" ORIFICE REGULATOR (D)
  5. 5M ROOTS METER - 3" FLANGE CONNECTION (D)
  6. 2" UNION
  7. ANGLE IRON BRACKETS (D)
- (D) INDICATES TO BE FURNISHED BY DEPARTMENT

5M ROOTS COMPACT METER INSTALLATION

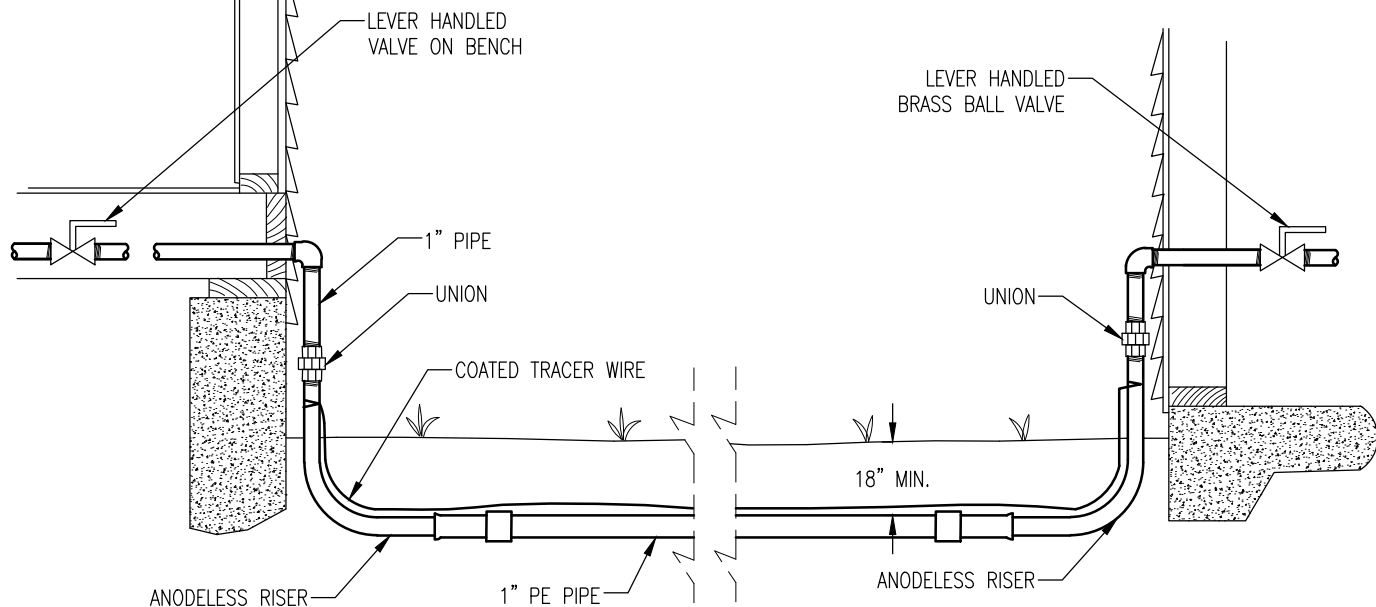
G-12B

REVISED/APPROVED 02/01/2013

CITY OF DULUTH STANDARD DETAIL  
DEPT. OF PUBLIC WORKS AND UTILITIES

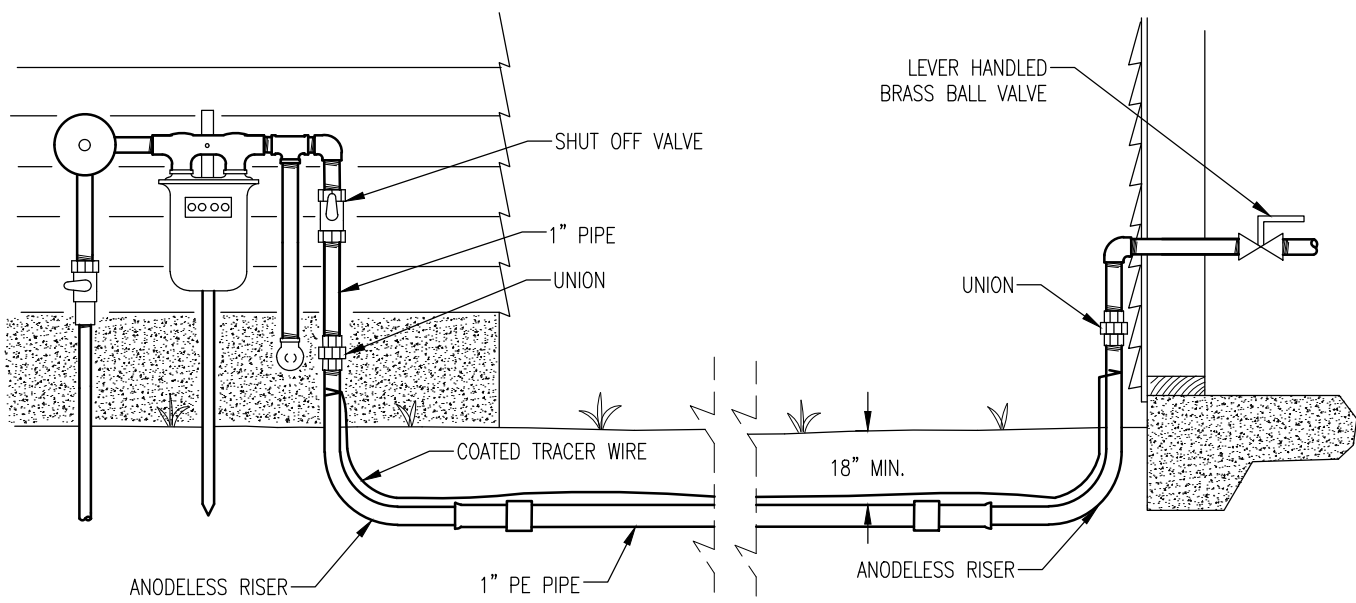
NO SCALE





CAPACITY 250 CFH MAX.

**STANDARD TYPICAL GAS FUEL LINE TO OUT BUILDING**



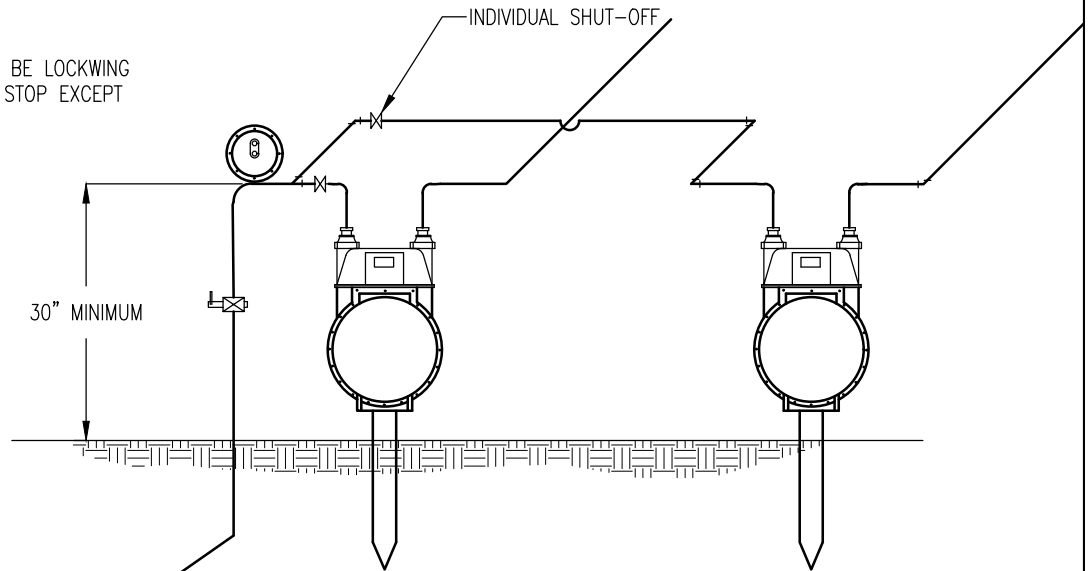
CAPACITY 250 CFH MAX.

**STANDARD NON-TYPICAL GAS FUEL LINE TO OUT BUILDING**

UNDERGROUND GAS FUEL LINE PIPING – PAST METER		G-13
REVISED/APPROVED 07/06/2016	CITY OF DULUTH STANDARD DETAIL DEPT. OF PUBLIC WORKS AND UTILITIES	NO SCALE

SEE SPEC. SECTION 22.03  
FOR INSIDE SHUTOFF REQUIRED

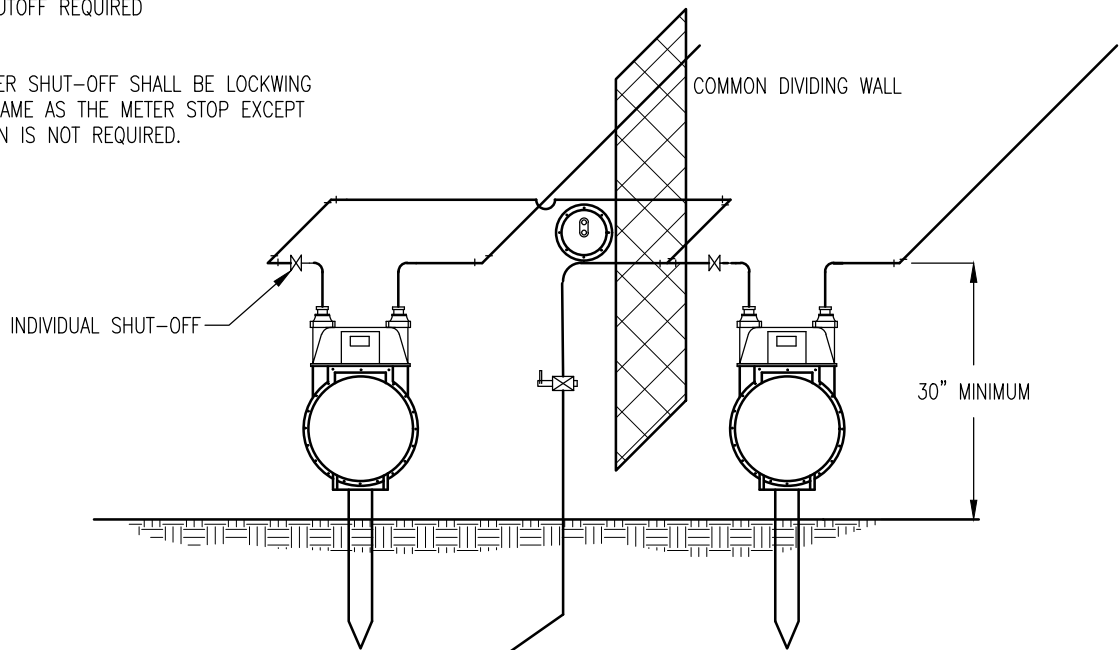
NOTE:  
INDIVIDUAL METER SHUT-OFF SHALL BE LOCKWING  
STYLE VALVE, SAME AS THE METER STOP EXCEPT  
ISOLATING UNION IS NOT REQUIRED.



TYPICAL DUPLEX

SEE SPEC. SECTION 22.03  
FOR INSIDE SHUTOFF REQUIRED

NOTE:  
INDIVIDUAL METER SHUT-OFF SHALL BE LOCKWING  
STYLE VALVE, SAME AS THE METER STOP EXCEPT  
ISOLATING UNION IS NOT REQUIRED.



SIDE-BY-SIDE DUPLEX  
(IF METERS CAN BE AT DIVIDING WALL)

DUPLEX METER CONNECTION

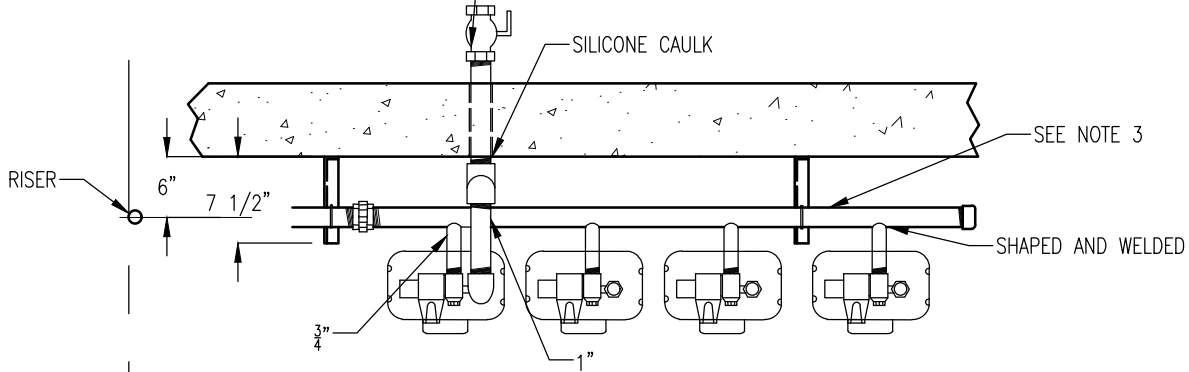
G-14

REVISED/APPROVED 02/01/2013

CITY OF DULUTH STANDARD DETAIL  
DEPT. OF PUBLIC WORKS AND UTILITIES

NO SCALE

VALVE REQUIRED WHEN SERVING ADJACENT UNIT ONLY. UNITS WHICH ARE REMOTE FROM METER WILL HAVE VALVE CUT IN AT THE UNIT SERVED.

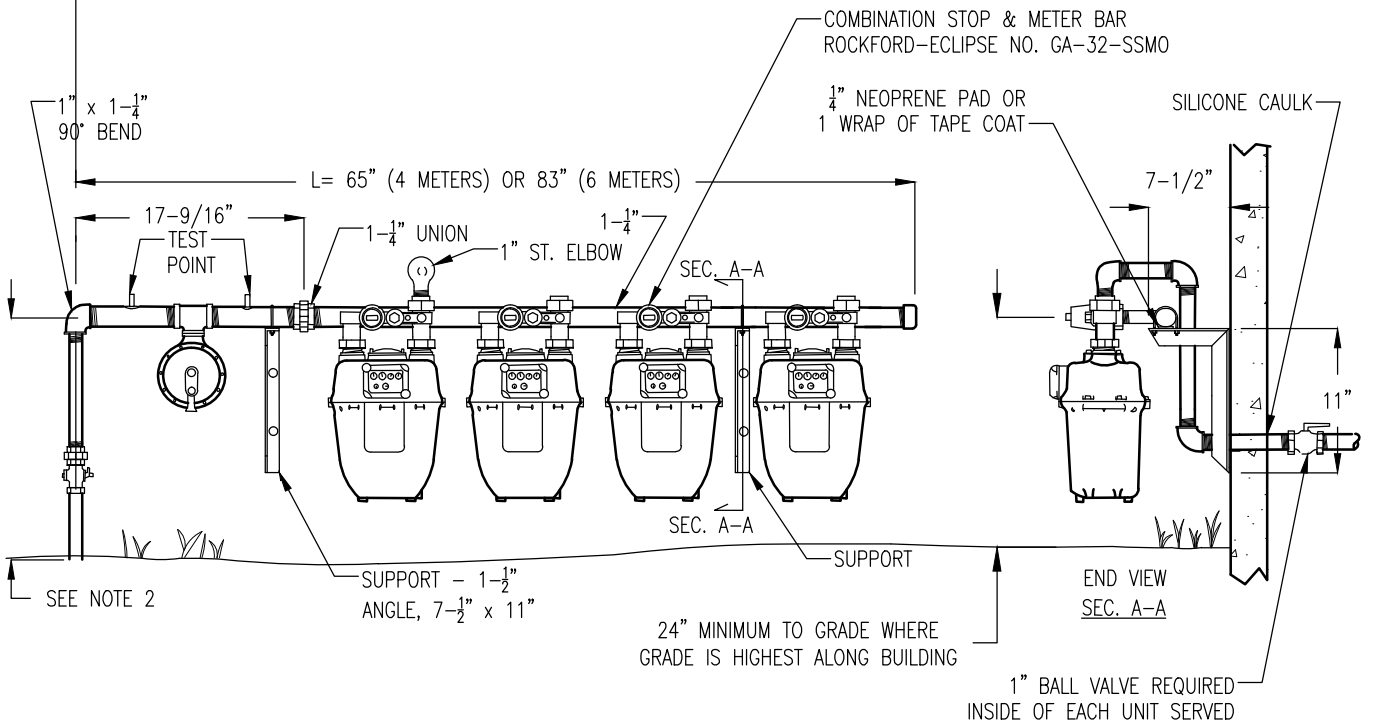


NOTES:

1. 6 METER SET REQUIRES 4 ANGLE SUPPORTS.
2. HEIGHT IS DETERMINED BY ANY METER NOT BEING CLOSER THAN 6" OFF GRADE. MANIFOLD SHALL BE HORIZONTAL.
3. 1-1/4" MANIFOLD BY DEPARTMENT OR MANUFACTURER.
4. DEPARTMENT TO ATTACH BRASS TAG WITH NUMBER OF UNITS SERVICED TO EACH METER BAR.

**TOP VIEW**

3 OR MORE RESIDENTIAL METERS



**FRONT VIEW**

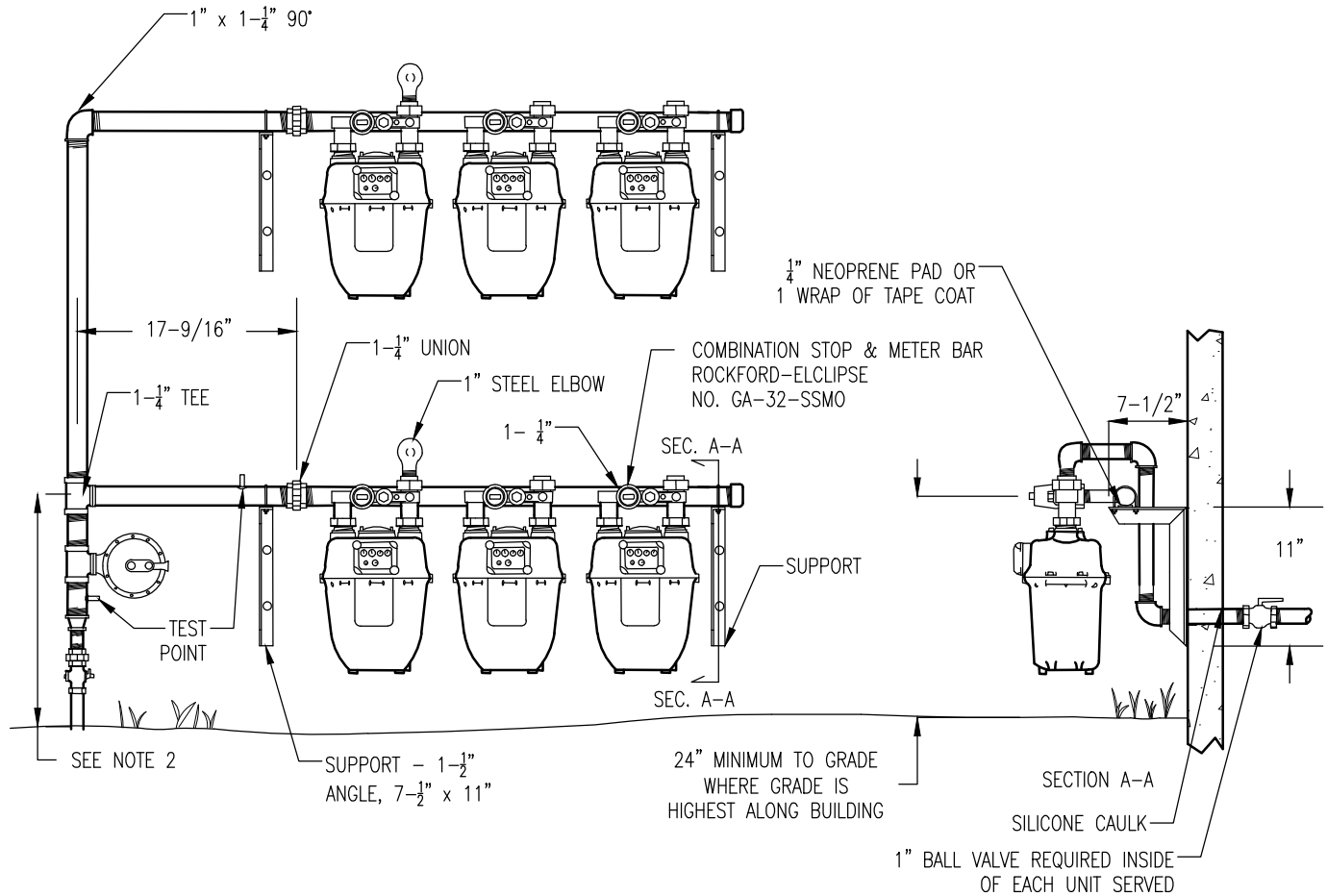
TYPICAL MULTI-METER INSTALLATION

G-14A

REVISED/APPROVED 02/01/2013

CITY OF DULUTH STANDARD DETAIL  
DEPT. OF PUBLIC WORKS AND UTILITIES

NO SCALE



**FRONT VIEW**

**END VIEW**

**NOTES**

1. 6 METER SET REQUIRES 4 ANGLE SUPPORTS
2. HEIGHT IS DETERMINED BY ANY METER NOT BEING CLOSER THAN 6" OFF GRADE. MANIFOLD SHALL BE HORIZONTAL.
3. 1- $\frac{1}{4}$ " MANIFOLD BY DEPARTMENT OR MANUFACTURER.
4. DEPARTMENT TO ATTACH BRASS TAG W/NUMBER OF UNIT SERVICED TO EACH METER BAR.

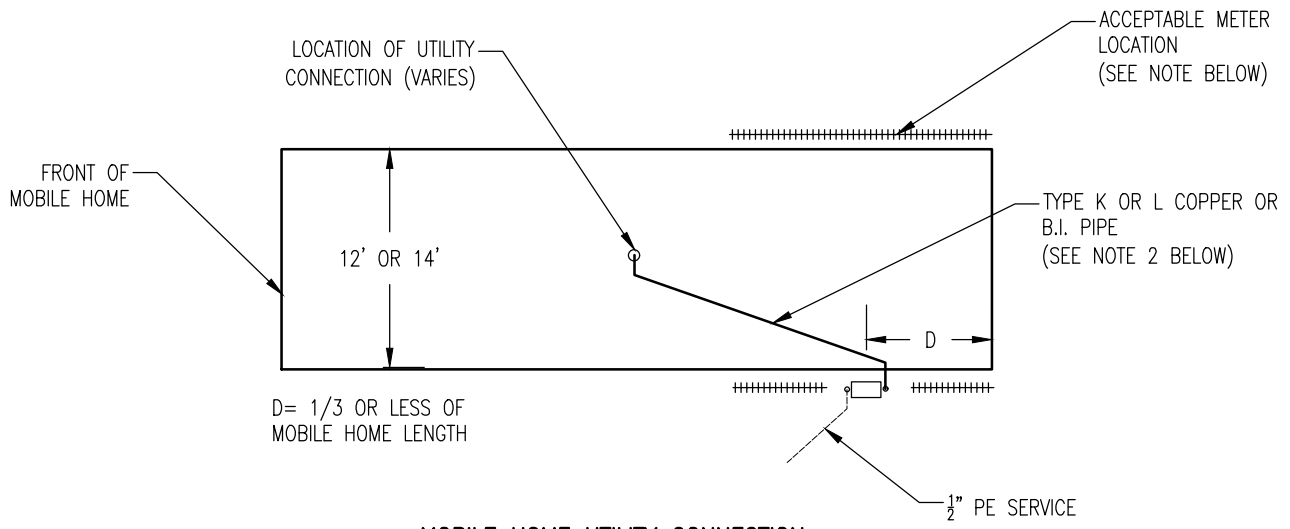
**TYPICAL MULTI-METER INSTALLATION - 6 RESIDENTIAL METERS**

G-14B

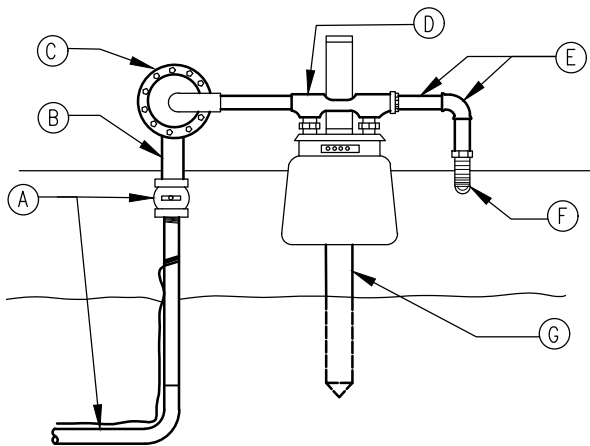
REVISED/APPROVED 02/01/2013

CITY OF DULUTH STANDARD DETAIL  
DEPT. OF PUBLIC WORKS AND UTILITIES

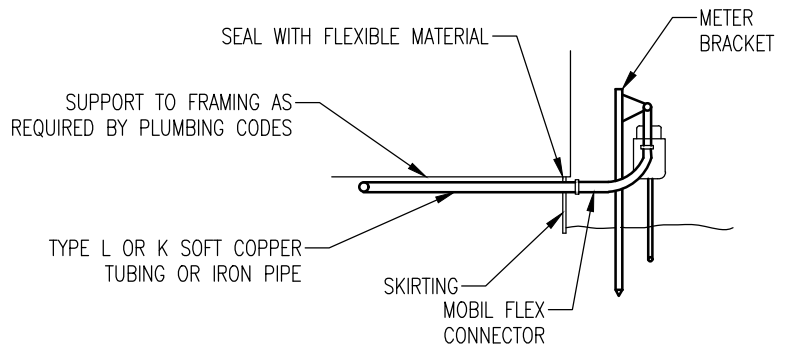
NO SCALE



**MOBILE HOME UTILITY CONNECTION**



**METER SET – FRONT VIEW N.T.S.**



**MOBILE HOME ENTRANCE – SIDE VIEW N.T.S.**

- A. RISER & METER STOP (TO BE INSTALLED BY OTHERS)
- B. 3/4" NIPPLE
- C. REGULATOR – 252 (TO BE FURNISHED BY DEPARTMENT)
- D. METER BAR (TO BE FURNISHED BY DEPARTMENT)
- E. 1" NIPPLE W/ 1" X 3/4" REDUCING ELBOW
- F. MOBILE FLEX CONNECTOR
- G. METER BRACKET (TO BE FURNISHED BY DEPARTMENT)

**SPECIFICATIONS:**

1. METER LOCATION SHALL BE ALONG THE SIDE AND WITHIN THE REAR 1/3 OF THE TRAILER.
2. ALL HEATING ACCOUNTS TO HAVE NOT LESS THAN 3/4" COPPER LINE WITH FLARED FITTINGS OR 3/4" B.I. PIPE THREADED FROM METER TO POINT WHERE EXISTING LINE ENTERS FLOOR FROM UNDERNEATH. NON-HEATING ACCOUNTS TO HAVE NOT LESS THAN 5/8" COPPER OR 1/2" B.I. PIPE BETWEEN ABOVE MENTIONED POINTS.
3. ANY EXISTING PIPING WHICH MEETS THE ABOVE REQUIREMENTS MAY BE UTILIZED IN MAKING THE CONNECTION.
4. EXISTING AND NEW PIPING DOWNSTREAM FROM FLEXIBLE CONNECTOR SHALL BE PRESSURE TESTED AT 10 PSI BEFORE SETTING METER.

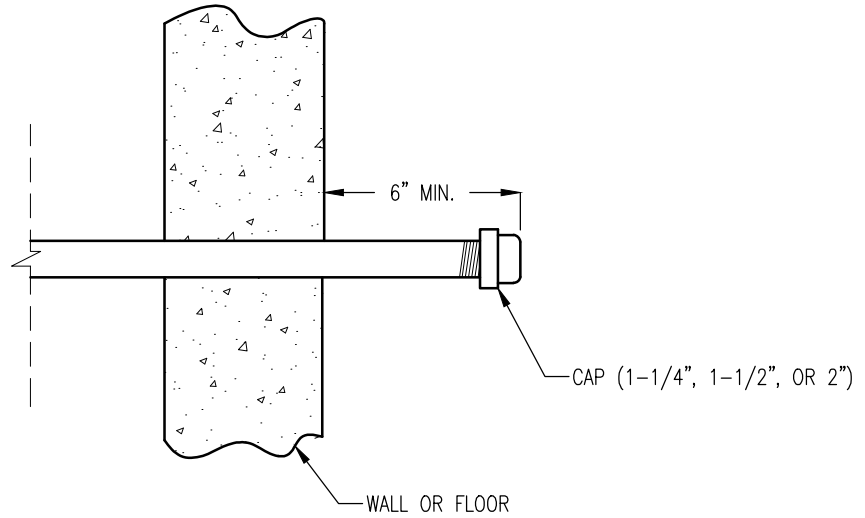
**MOBILE HOME GAS METER CONNECTION**

G-15

REVISED/APPROVED 02/01/2013

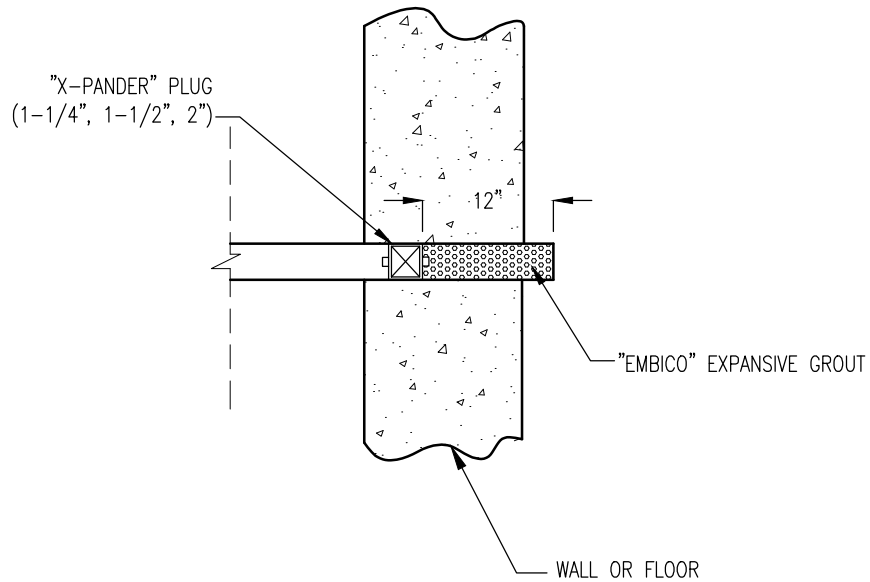
CITY OF DULUTH STANDARD DETAIL  
DEPT. OF PUBLIC WORKS AND UTILITIES

NO SCALE



NOTE: CAP TO BE INSTALLED AT LAST EXISTING  
 THREAD NEAREST WALL OR FLOOR EXCEPT WHEN  
 REQUESTED SHORTER BY OWNER.

**STANDARD METHOD**



**NOTES:**

1. DEPARTMENT WILL CUT PIPE OFF CLOSE AS POSSIBLE AND INSTALL EXPANDING RUBBER PLUG AND EXPANSIVE GROUT ONLY UPON SPECIFIC REQUEST BY OWNER. (DEPT POLICY)
2. STREET MAIN MUST BE INACTIVE

**SPECIAL METHOD**

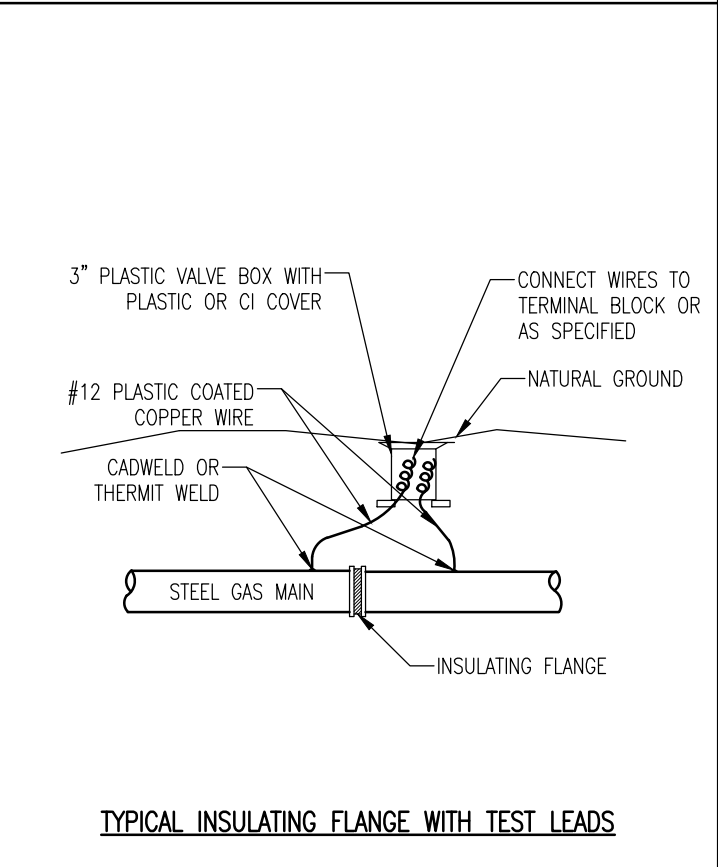
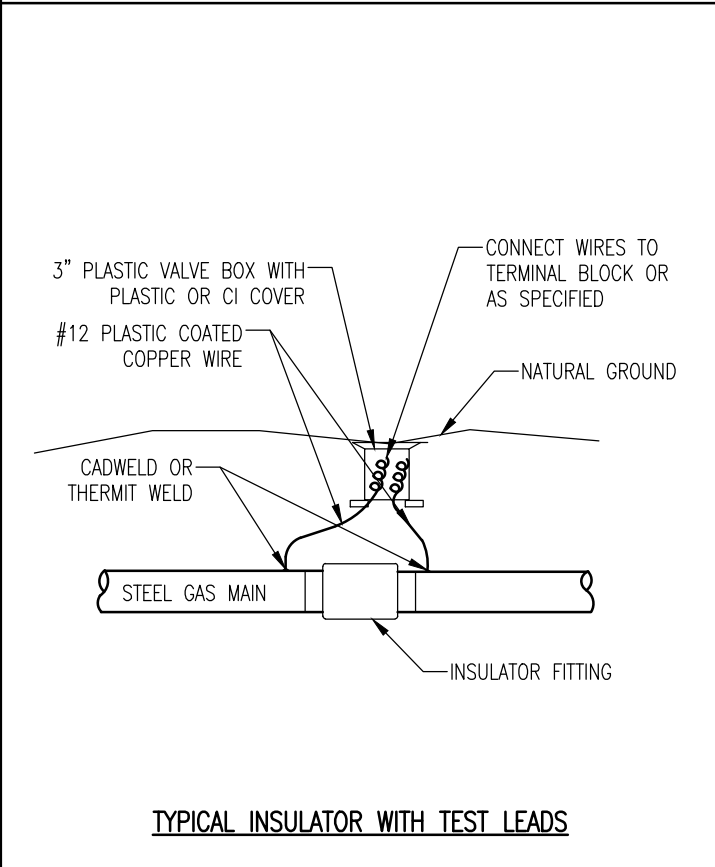
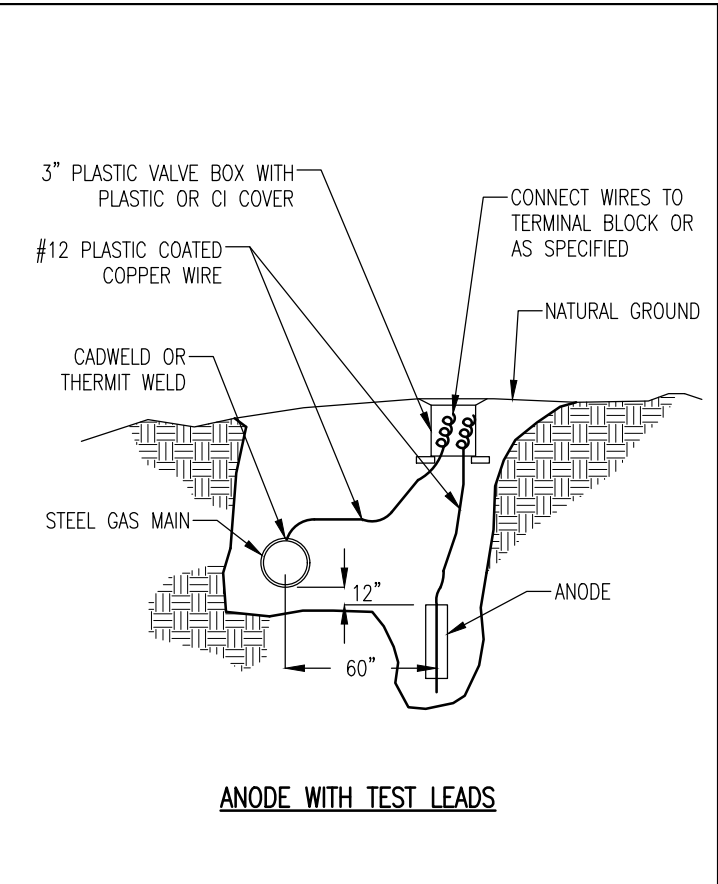
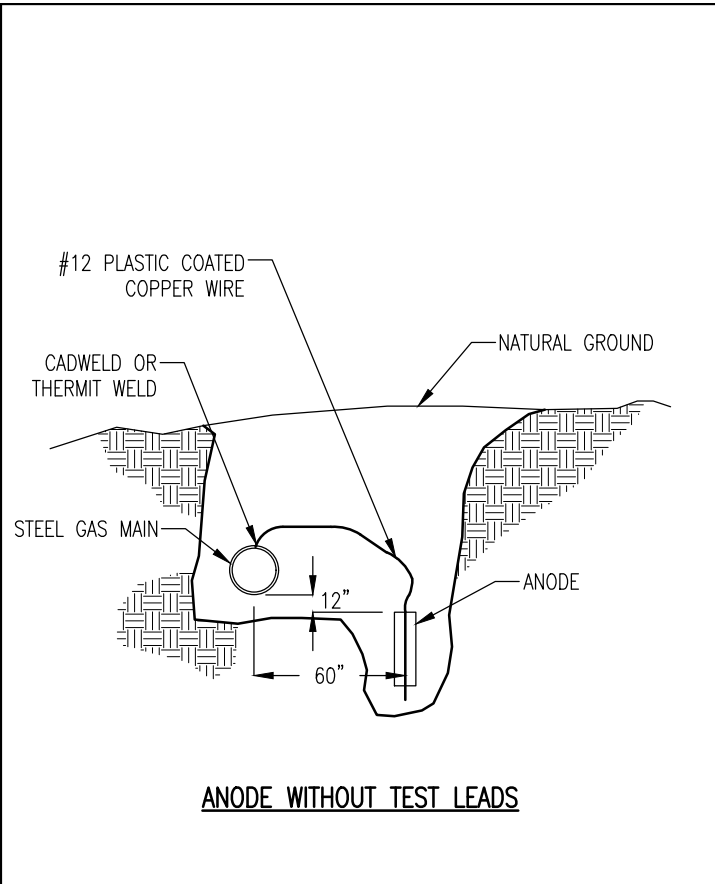
**SEALING UNUSED LP GAS SERVICES**

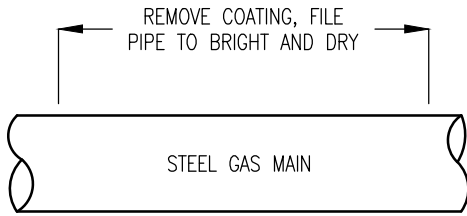
G-16

REVISED/APPROVED 02/01/2013

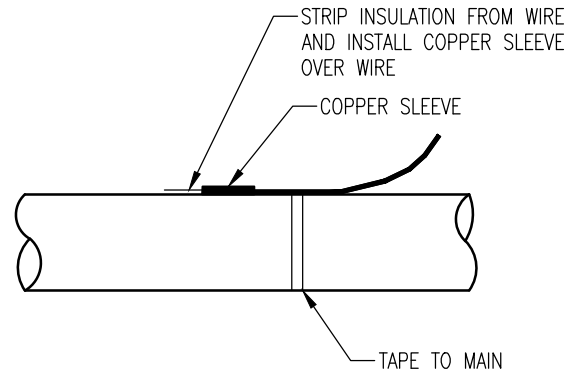
CITY OF DULUTH STANDARD DETAIL  
 DEPT. OF PUBLIC WORKS AND UTILITIES

NO SCALE





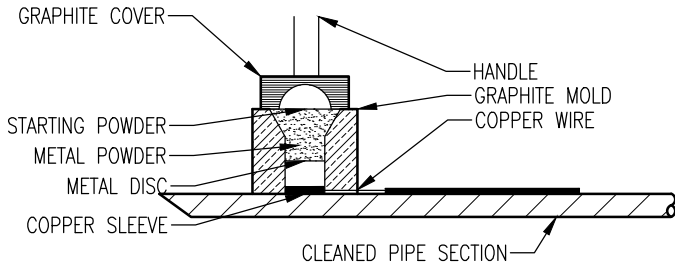
STEP 1



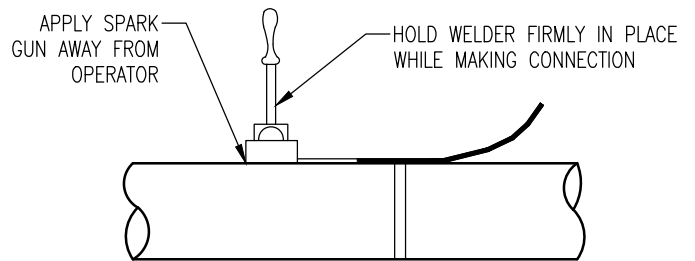
STEP 2

PROCEDURES

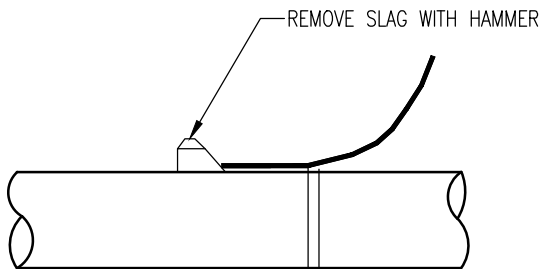
1. PREPARE GRAPHITE MOLD AS SHOWN IN DETAIL.
    - A. PLACE METAL DISC
    - B. PLACE METAL POWDER
    - C. FILL WITH STARTING POWDER
    - D. PLACE GRAPHITE COVER
  2. PLACE GRAPHITE MOLD ON PIPE
- MAXIMUM SIZE CHARGE TO BE USED SHALL BE "CADWELD" CA-15.



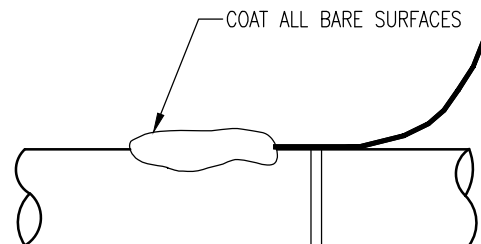
STEP 3



STEP 4



STEP 5



STEP 6

TYPICAL METHOD OF BRAZED CONNECTION TO PIPE

G-18

REVISED/APPROVED 02/01/213

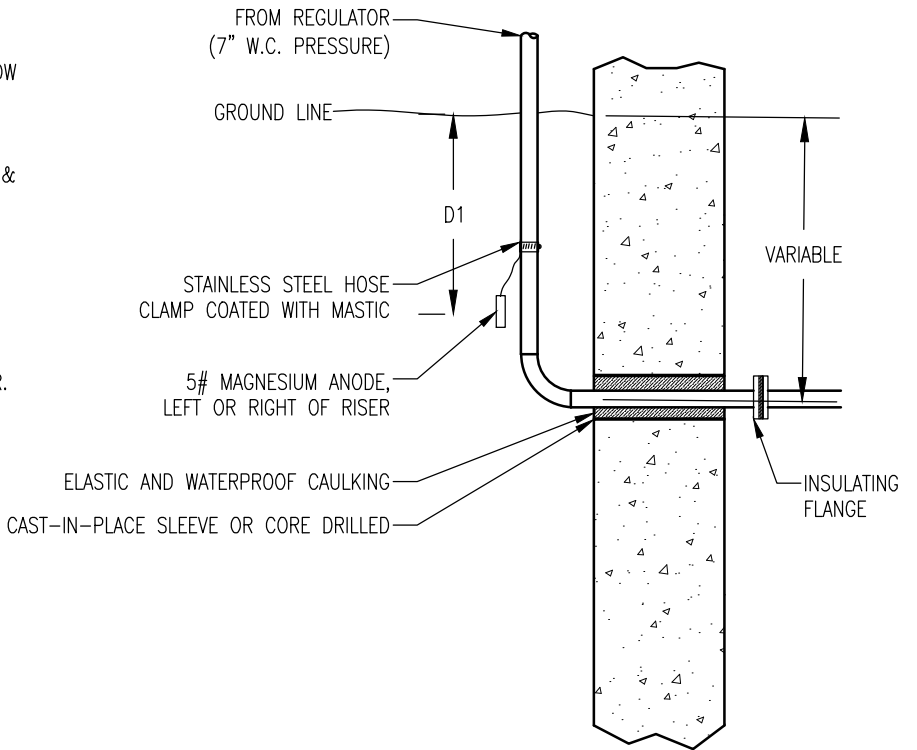
CITY OF DULUTH STANDARD DETAIL  
DEPT. OF PUBLIC WORKS AND UTILITIES

NO SCALE



NOTES:

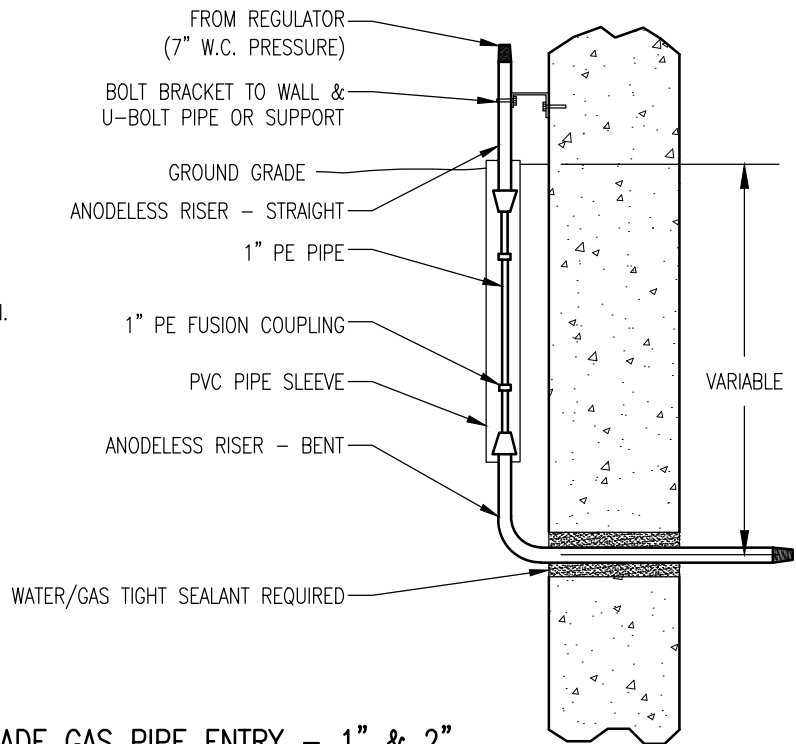
1. ABOVE GRADE ENTRY IS REQUIRED GENERALLY, BELOW GRADE WILL BE PERMITTED ONLY BY SPECIAL EXCEPTION.
2. PIPE SHALL BE AT LEAST STANDARD WEIGHT STEEL, CONFORMING TO A53 OR API 5L, WELDED, COATED, & WRAPPED ACCORDING TO STANDARD SPECIFICATION SECTION 25.
3. GAS PIPE THROUGH WALL SHALL BE IN SLEEVE OR CORE DRILLED HOLE AND ANNULAR SPACE SEALED WITH ELASTIC & WATERPROOF CAULKING. CEMENT CAULK NOT PERMITTED.
4. ANODE DEPTH (D1) SHALL BE A MINIMUM OF 2' OR BELOW MID DEPTH OF RISER, WHICHEVER IS DEEPER.



**BELOW GRADE GAS PIPE ENTRY - 2 1/2" & LARGER**

NOTES

1. ABOVE GRADE ENTRY IS REQUIRED GENERALLY, BELOW GRADE WILL BE PERMITTED ONLY BY SPECIAL EXCEPTION.
2. PE COUPLING SHALL BE FUSED ONLY BY CERTIFIED FUSORS - STANDARD SPECIFICATION SEC. 17.



**BELOW GRADE GAS PIPE ENTRY - 1" & 2"**

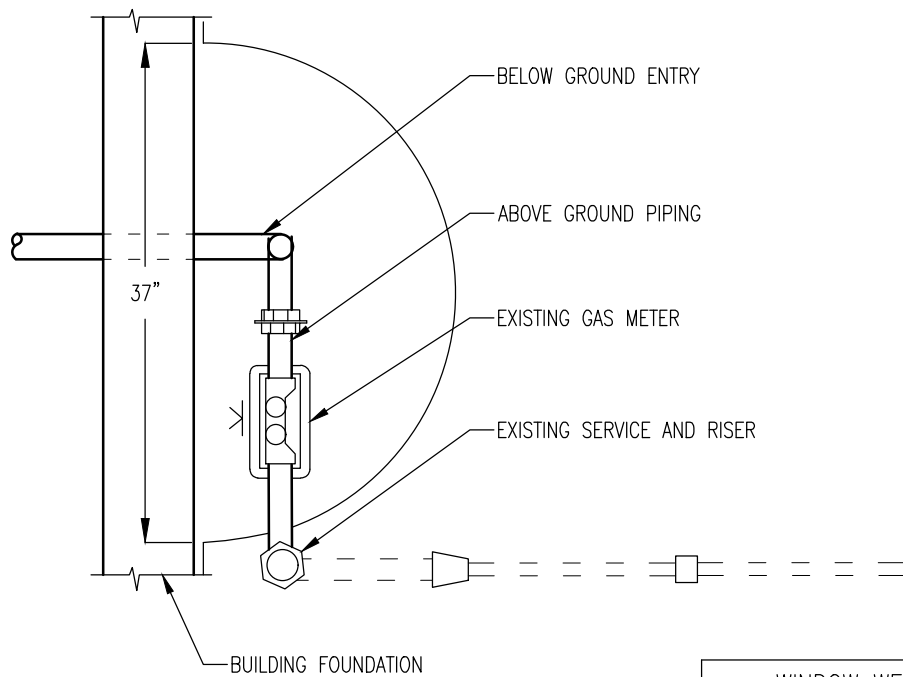
GAS PIPING BUILDING ENTRY BELOW GRADE

G-22

REVISED/APPROVED 01/08/216

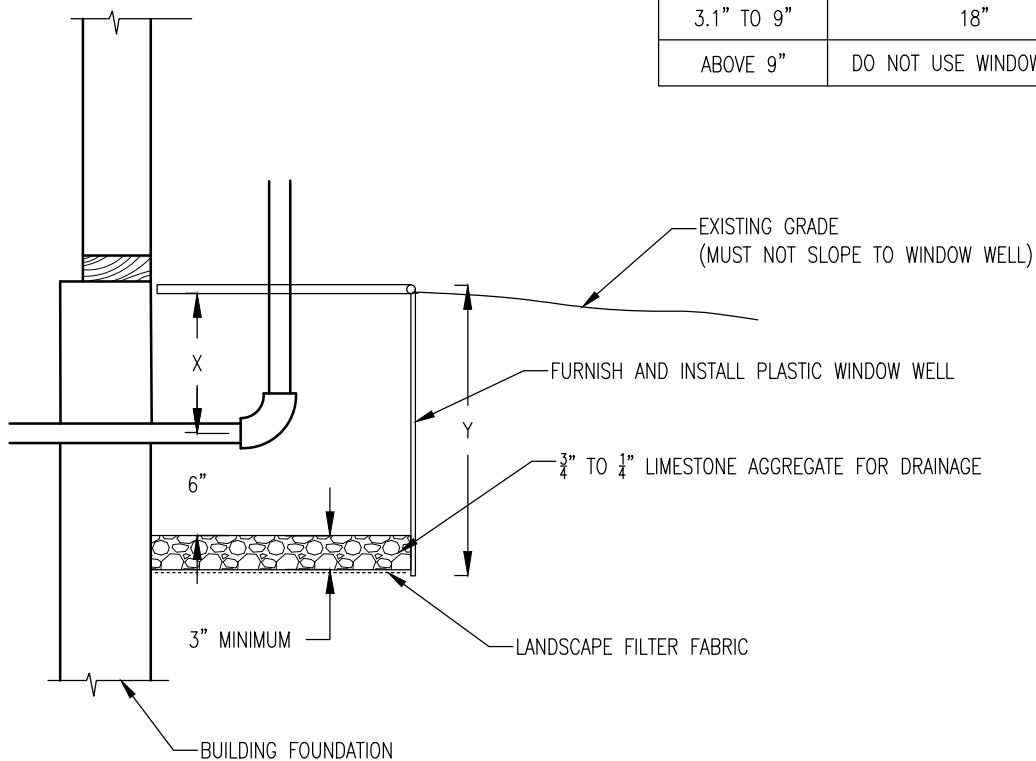
CITY OF DULUTH STANDARD DETAIL  
DEPT. OF PUBLIC WORKS AND UTILITIES

NO SCALE



**PLAN VIEW**

WINDOW WELL SIZING CHART	
IF X IS...	Y=
3" OR LESS	12"
3.1" TO 9"	18"
ABOVE 9"	DO NOT USE WINDOW WELL



**SIDE VIEW**

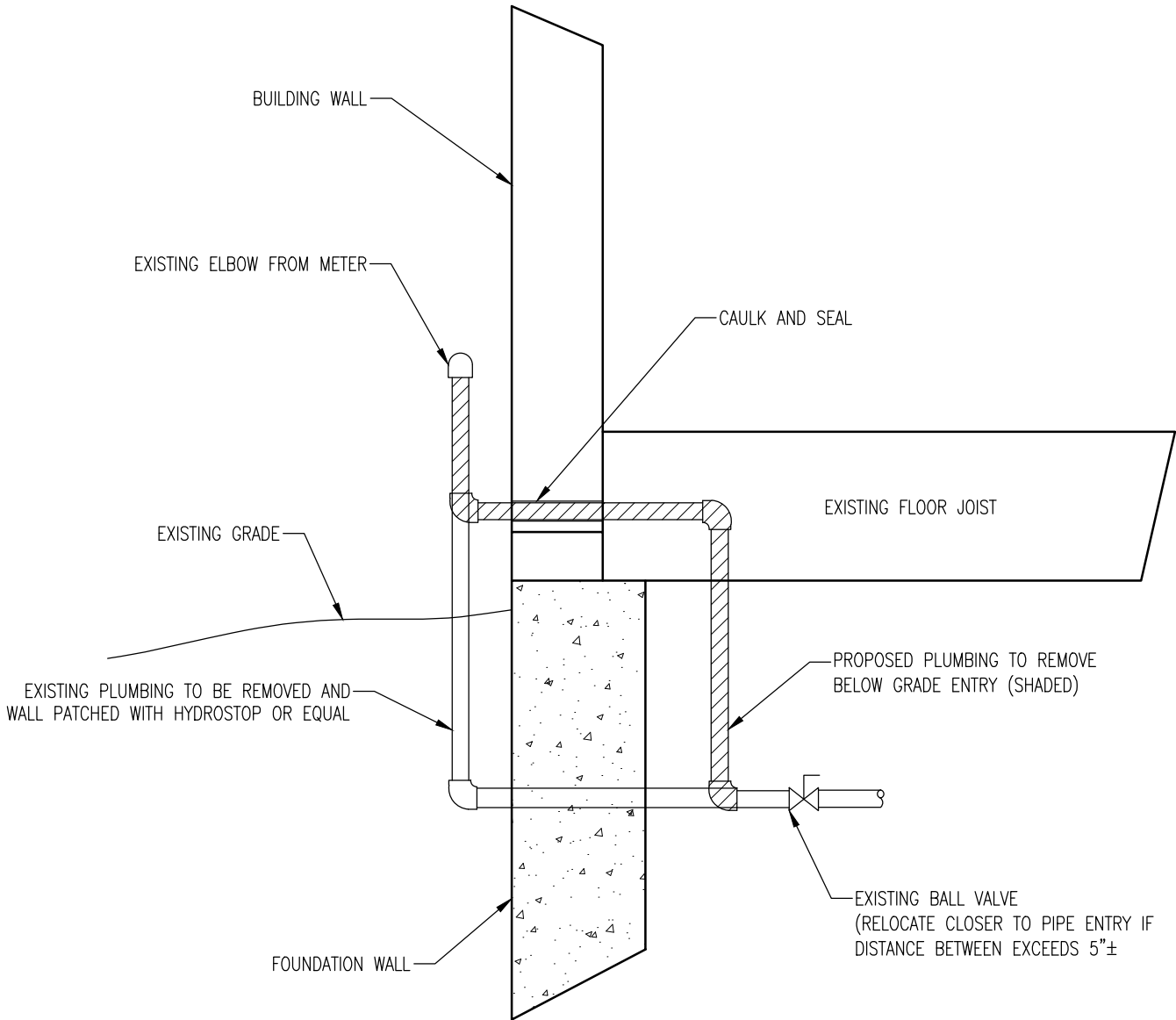
TYPICAL WELL FOR BELOW GRADE GAS PIPE ENTRY

G-23

REVISED/APPROVED 02/01/2013

CITY OF DULUTH STANDARD DETAIL  
DEPT. OF PUBLIC WORKS AND UTILITIES

NO SCALE



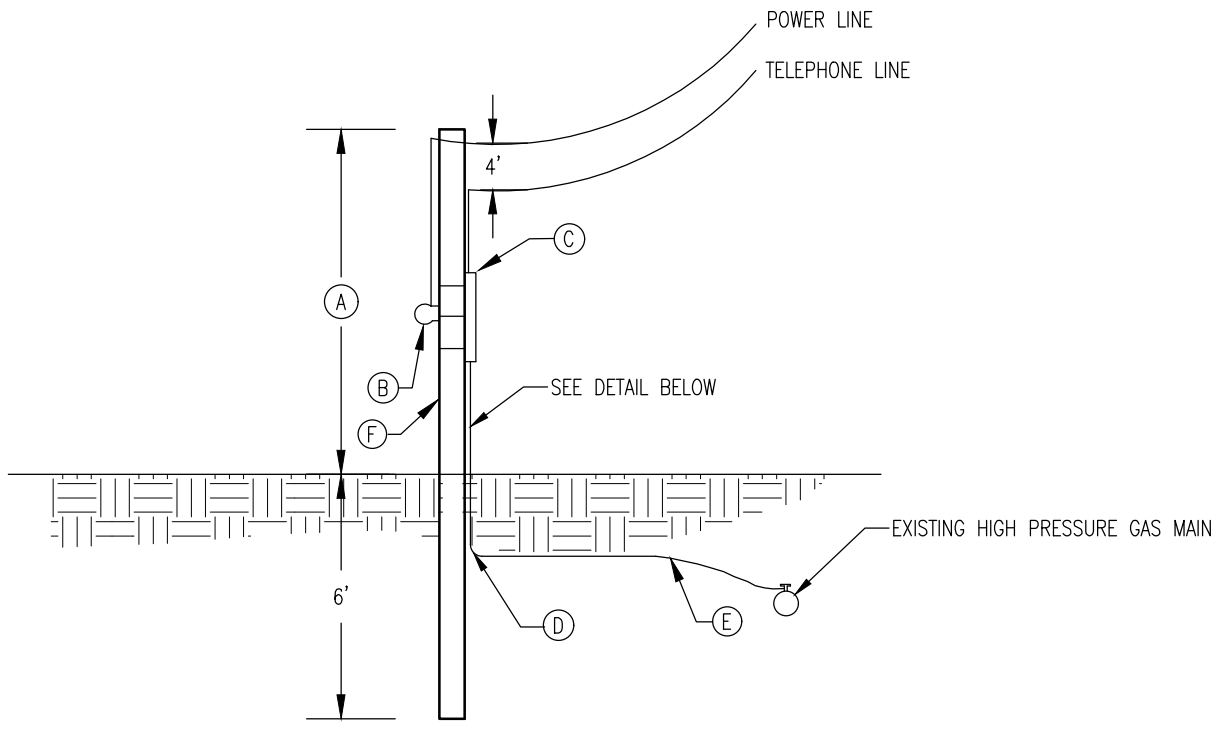
TYPICAL GAS PIPING REVISION

G-24

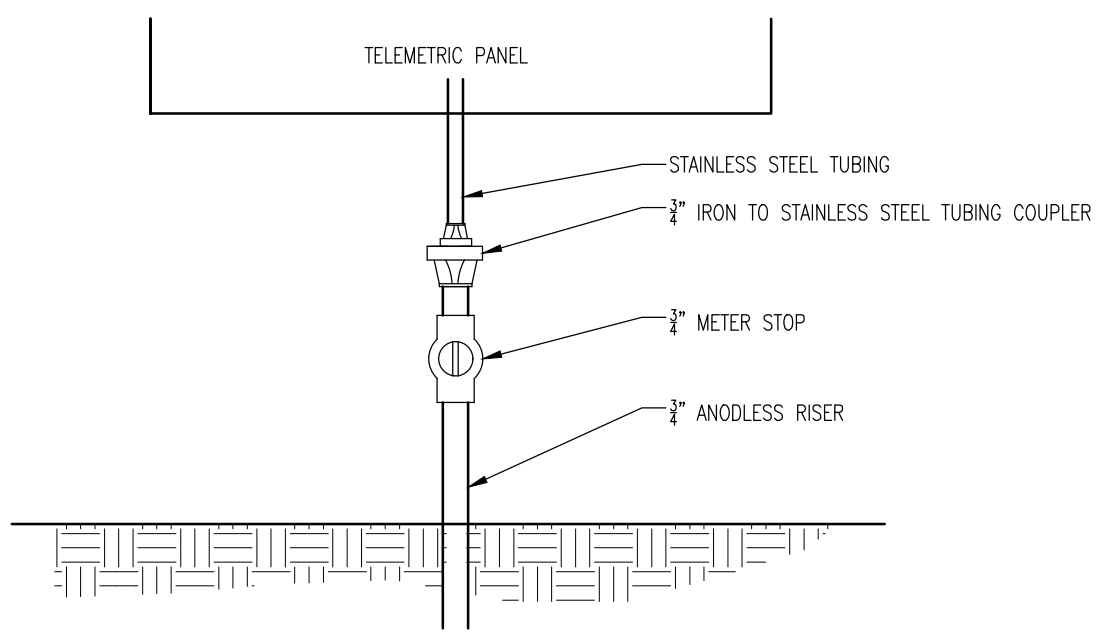
REVISED/APPROVED 02/01/2013

CITY OF DULUTH STANDARD DETAIL  
 DEPT. OF PUBLIC WORKS AND UTILITIES

NO SCALE



- A. 22' MIN. FOR STREET X-ING OR 18' MINIMUM OTHERWISE
- B. ELECTRIC METER
- C. TELEMETRIC PANEL (6' MAXIMUM TO TOP)
- D. 3/4" ANODELESS RISER
- E. 1/2" C.T.S. PE H.P. GAS SERVICE
- F. 6" STEEL POLE FOR STREET CROSSING, 4" STEEL POLE FOR OTHERS



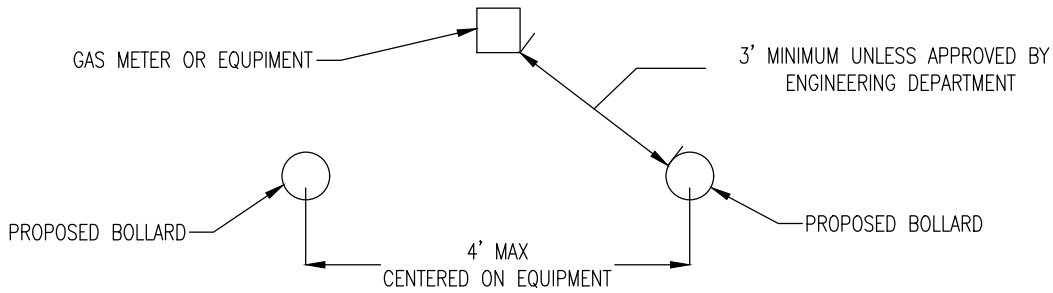
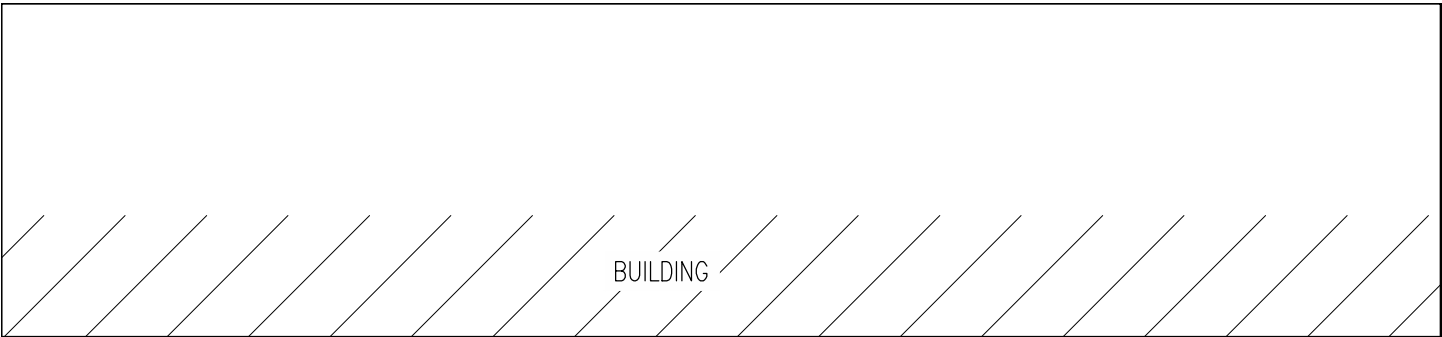
TELEMETRIC GAS PRESSURE STATION

G-26

REVISED/APPROVED 02/07/2018

CITY OF DULUTH STANDARD DETAIL  
DEPT. OF PUBLIC WORKS AND UTILITIES

NO SCALE

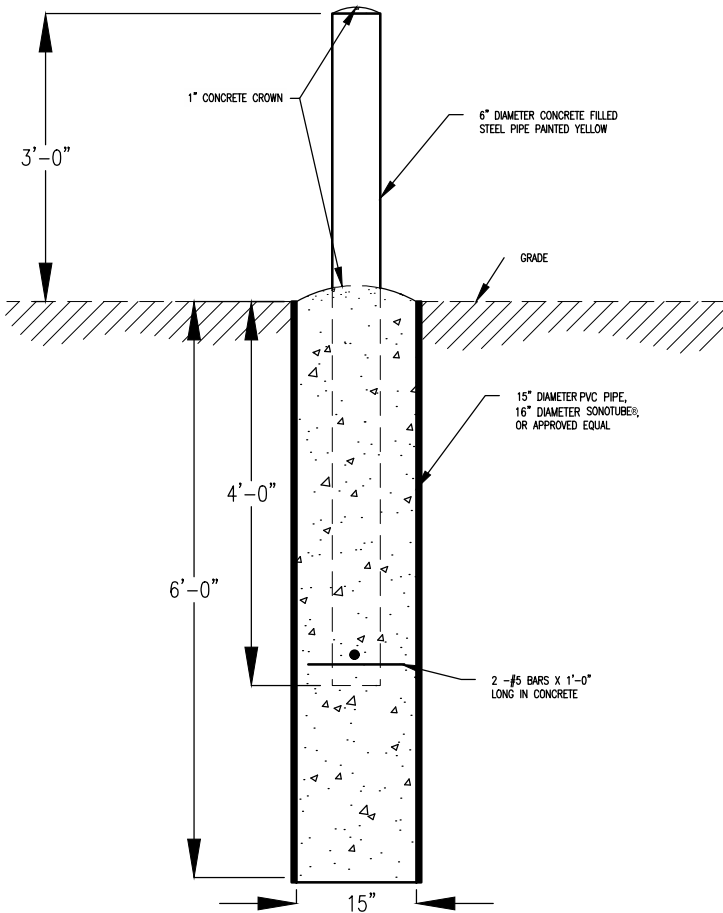


**NOTES**

1. MULTIPLE BOLLARDS SHALL BE SPACED AT 4' ON CENTER
2. BACKFILL BOLLARD WITH WASTE CUTTINGS, COMPACT TO 95% MAXIMUM DENSITY.
3. BOLLARD SHALL BE FINISHED WITH ONE OF THE FOLLOWING METHODS:
  - A. COVERED WITH A HDPE PLASTIC BOLLARD SLEEVE DESIGNED TO FIT OVER A 6" PIPE BOLLARD. THE SLEEVE SHALL HAVE A SMOOTH FINISH, DOME TOP, AND BE YELLOW IN COLOR. AN ADHESIVE SEALANT SHALL BE USED TO AFFIX THE SLEEVE TO THE BOLLARD.
  - B. PAINTED TO THE FOLLOWING SPECIFICATIONS

SURFACE PREPARATION	BLAST TO THE EXTENT OF AN SSPC-SP6 COMMERCIAL-GRADE LEVEL OF CLEANLINESS AND PRIME BEFORE ANY RUST BLOOM REFORMS
PRIMER	APPLY ONE EVEN COAT OF TNE MEC SERIES 69-COLOR PRIMER TO A DFT OF 5.0 MILS
FIELD FINISH	APPLY ONE EVEN COAT OF TNE MEC SERIES 69-COLOR TO A DFT OF 5.0 MILS
FINAL FINISH	APPLY ONE COAT TNE MEC SERIES 73-COLOR TO A DFT OF 2.0-2.5 MILS OVER THE FIELD FINISH
COLORS	BOLLARDS: SAFETY YELLOW

- C. COVERED WITH A HDPE PLASTIC BOLLARD SLEEVE DESIGNED TO FIT OVER A 6" PIPE BOLLARD. THE SLEEVE SHALL HAVE A SMOOTH FINISH, DOME TOP, AND BE YELLOW IN COLOR. AN ADHESIVE SEALANT SHALL BE USED TO AFFIX THE SLEEVE TO THE BOLLARD.



**BOLLARD DETAIL**

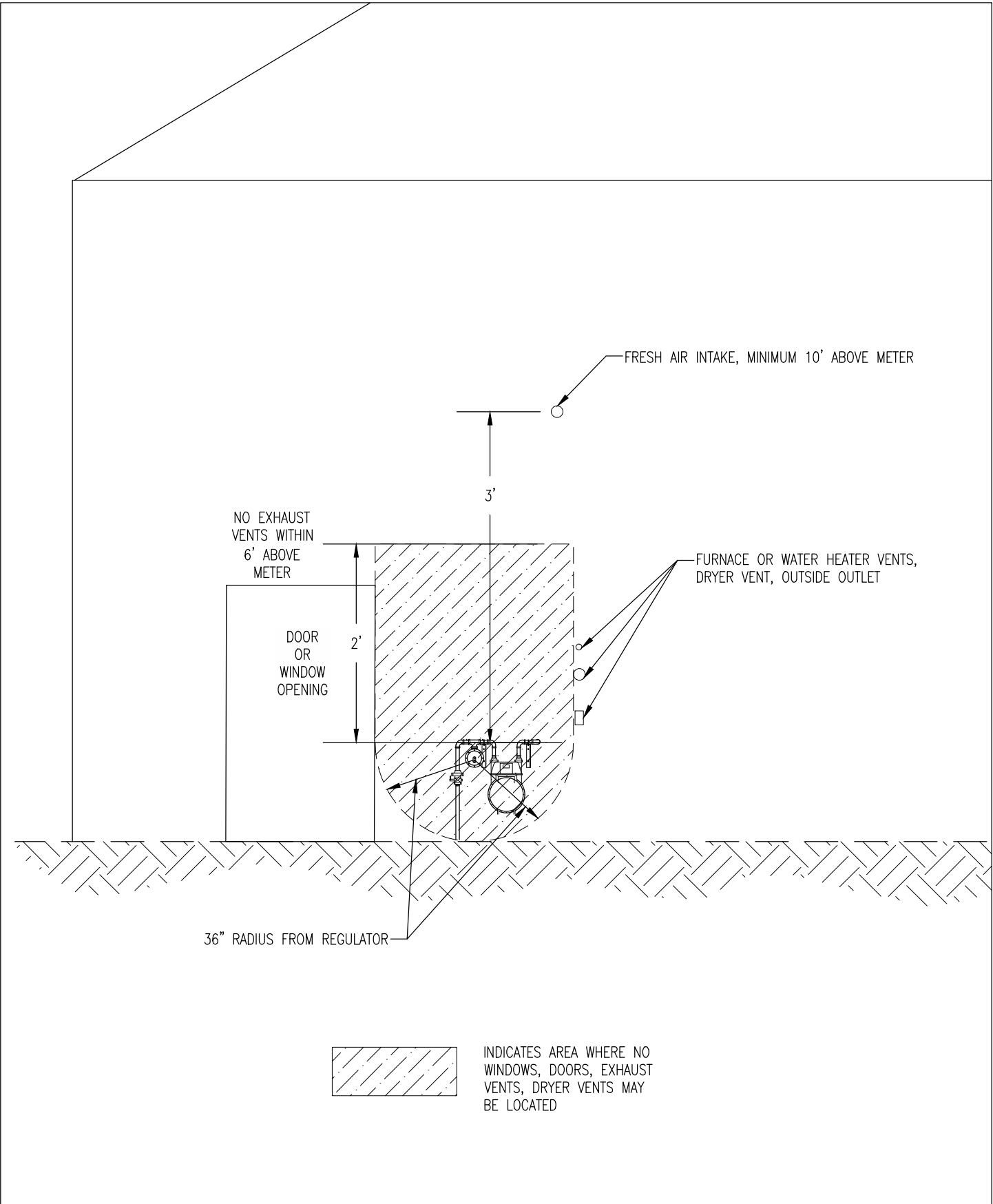
G-33

REVISED/APPROVED 02/19/2015

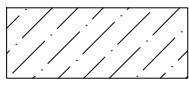
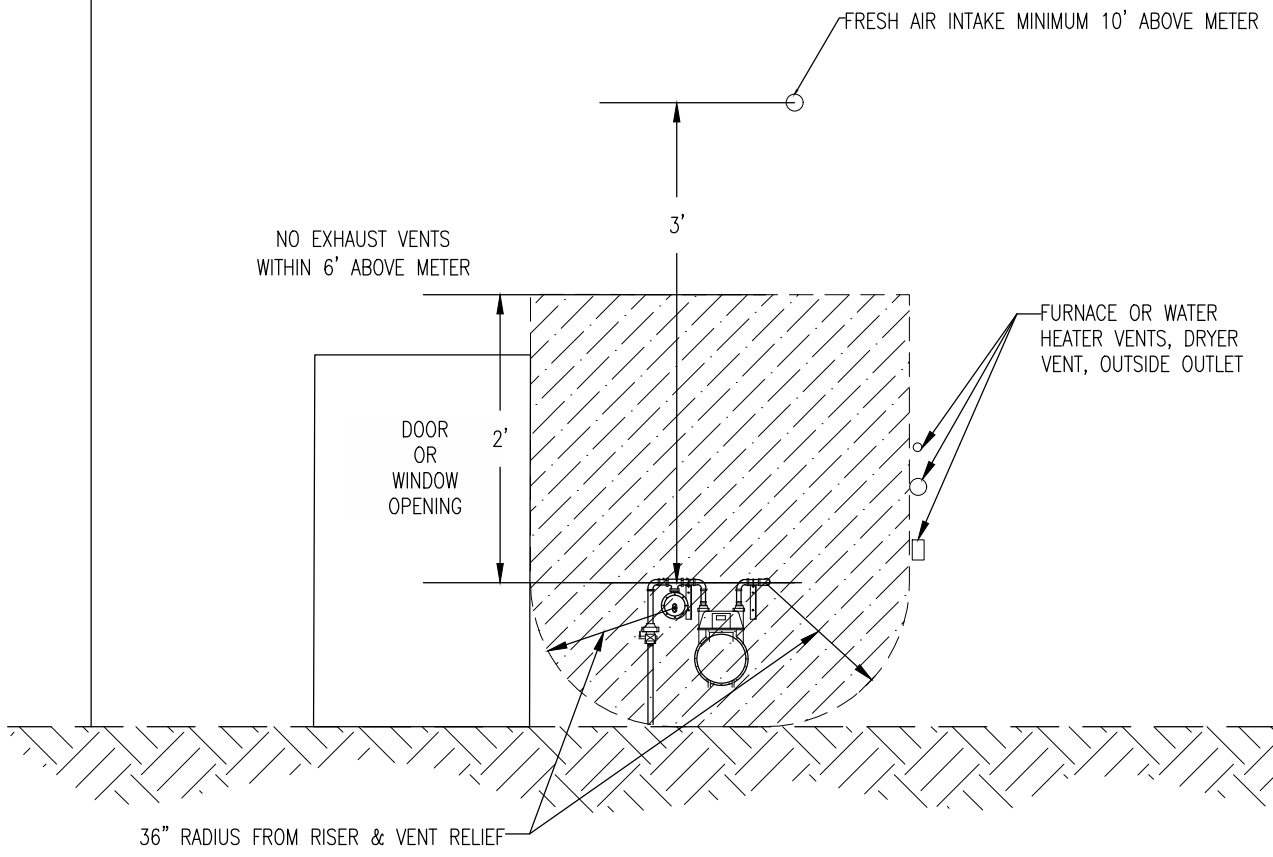
CITY OF DULUTH STANDARD DETAIL  
DEPT. OF PUBLIC WORKS AND UTILITIES

NO SCALE





7" WC METERING PRESSURE METER LOCATION		G-35
REVISED/APPROVED 06/01/2014	CITY OF DULUTH STANDARD DETAIL DEPT. OF PUBLIC WORKS AND UTILITIES	NO SCALE



INDICATES AREA WHERE NO WINDOWS, DOORS, EXHAUST VENTS, DRYER VENTS MAY BE LOCATED

ELEVATED PRESSURE METER LOCATION

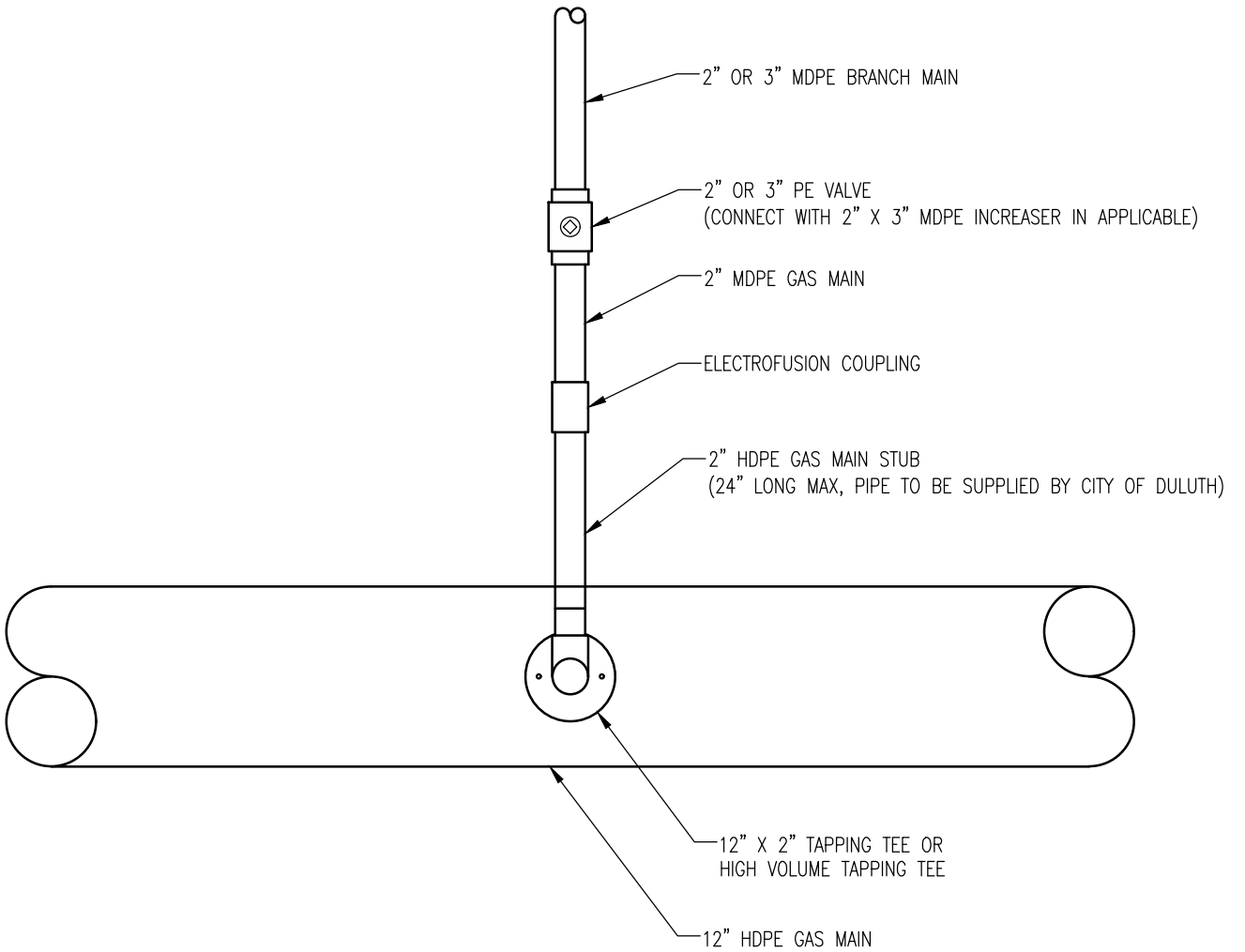
G-36

REVISED/APPROVED 06/01/2014

CITY OF DULUTH STANDARD DETAIL  
DEPT. OF PUBLIC WORKS AND UTILITIES

NO SCALE





2" OR 3" BRANCH MAIN CONNECTION DETAIL FOR HDPE GAS MAINS

G-37

REVISED/APPROVED 04/05/2019

CITY OF DULUTH STANDARD DETAIL  
DEPT. OF PUBLIC WORKS AND UTILITIES

NO SCALE