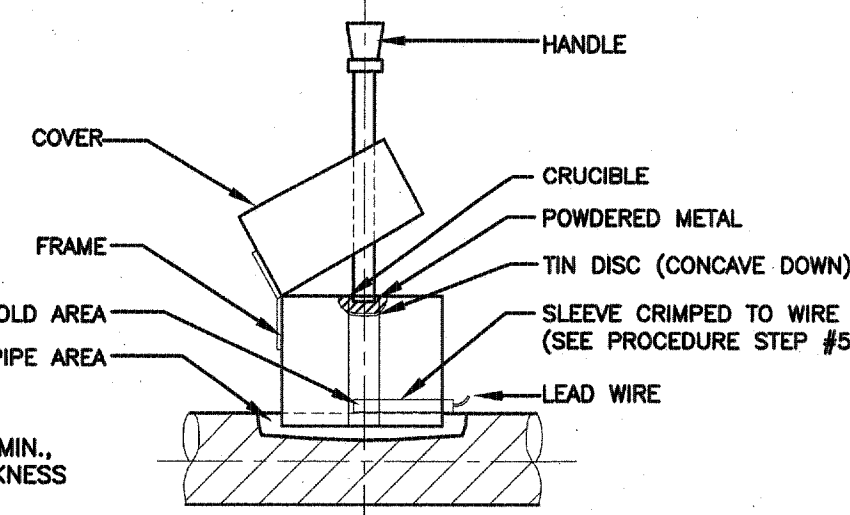


CATHODIC PROTECTION SYSTEM - THERMIT WELD PROCESS FOR ATTACHING WIRE TO PIPE OR FITTING

NOT TO SCALE



PROCEDURE

1. REMOVE SUFFICIENT PROTECTIVE COATING FROM PIPE TO EXPOSE AREA LARGE ENOUGH FOR MOLD. PCBs ASBESTOS OR LEAD THAT MAY BE PRESENT IN THE COATING. PRIOR TO COATING REMOVAL, REFER TO "ENVIRONMENTAL AND SAFETY IMPACT" BELOW.
2. CLEAN EXPOSED AREA OF PIPE DOWN TO BRIGHT METAL, USING A FILE, ETC.
3. INSERT A TIN DISC IN THE CRUCIBLE, POUR THE CONTENTS OF THE CARTRIDGE INTO THE CRUCIBLE, BEING CAREFUL NOT TO UPSET THE TIN DISC. CRIMP THE BOTTOM END OF THE CARTRIDGE TO MAKE SURE ALL OF THE FINE FUSE POWDER IS REMOVED. CLEAN AWAY ANY POWDER WHICH MAY HAVE SPILLED OR IS NOT IN THE CRUCIBLE. PLACE A SMALL AMOUNT OF STARTING POWDER ON TOP EDGE OF MOLD UNDER COVER OPENING FOR EASY IGNITION, THEN CLOSE COVER.
4. REMOVE INSULATION APPROXIMATELY 1" FROM THE END OF THE WIRE TO BE THERMIT WELDED.
5. INSTALL ADAPTER SLEEVE ON #10 SOLID WIRE: ON #10 STRANDED WIRE, SLEEVE IS NOT NEEDED.
6. PLACE THE BARE END OF THE WIRE ON CLEANED SURFACE OF PIPE.
7. PUT THE MOLD IN PLACE OVER THE WIRE AND IGNITE POWDER.
8. REMOVE THE MOLD AND CLEAN OUT ANY SLAG IN THE MOLD.
9. STRIKE THE WELD SHARPLY WITH A HAMMER TO TEST ADHESION, THEN RECOAT PIPE AS PER G-8209.

PRECAUTION AND NOTES:

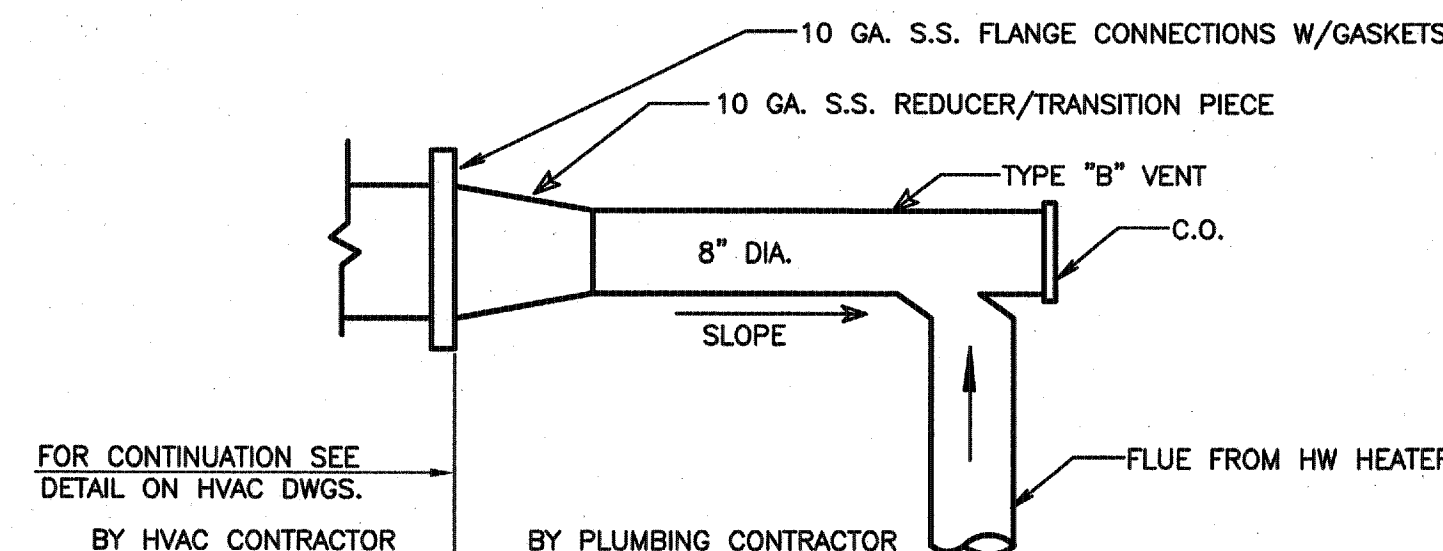
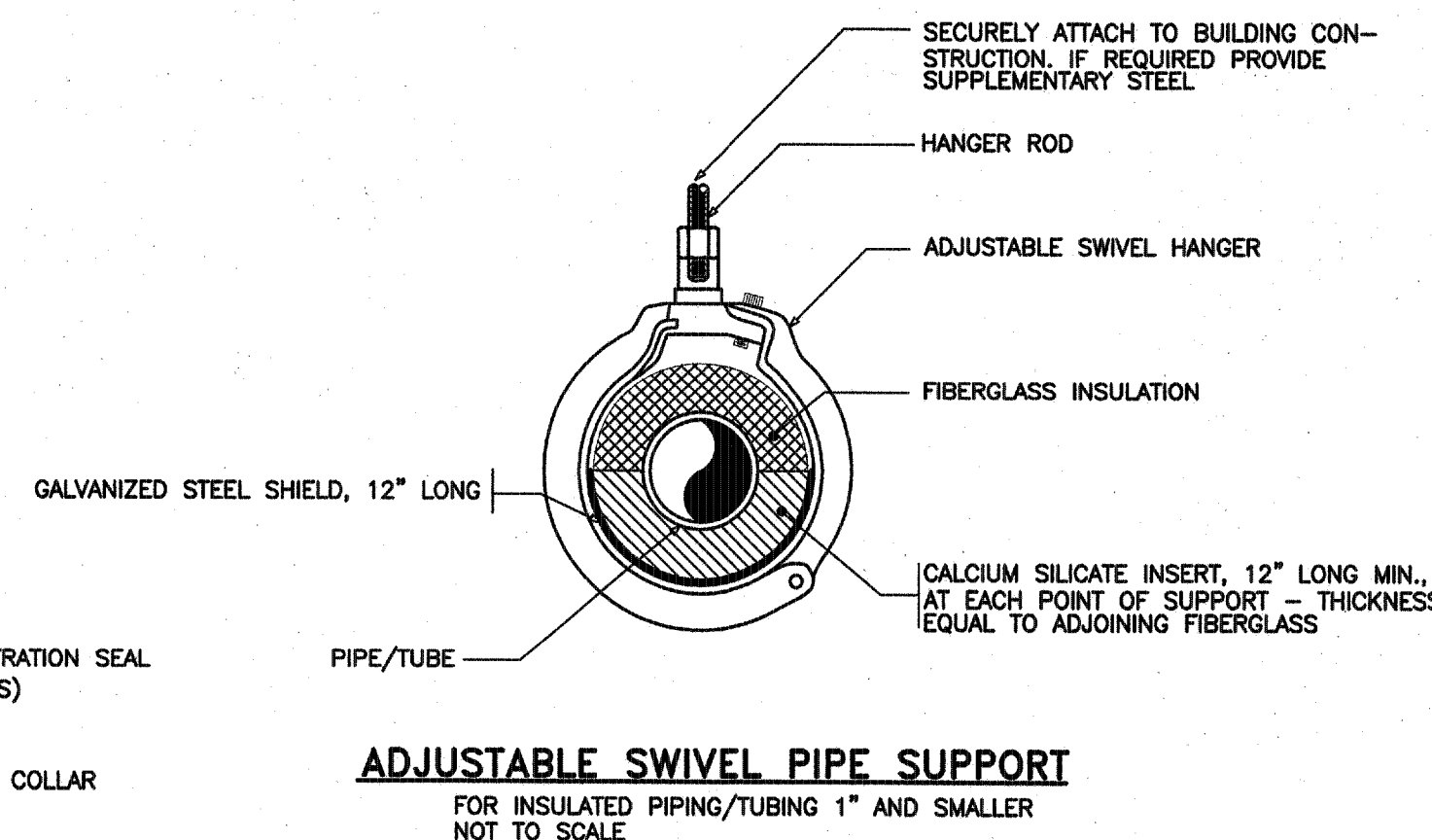
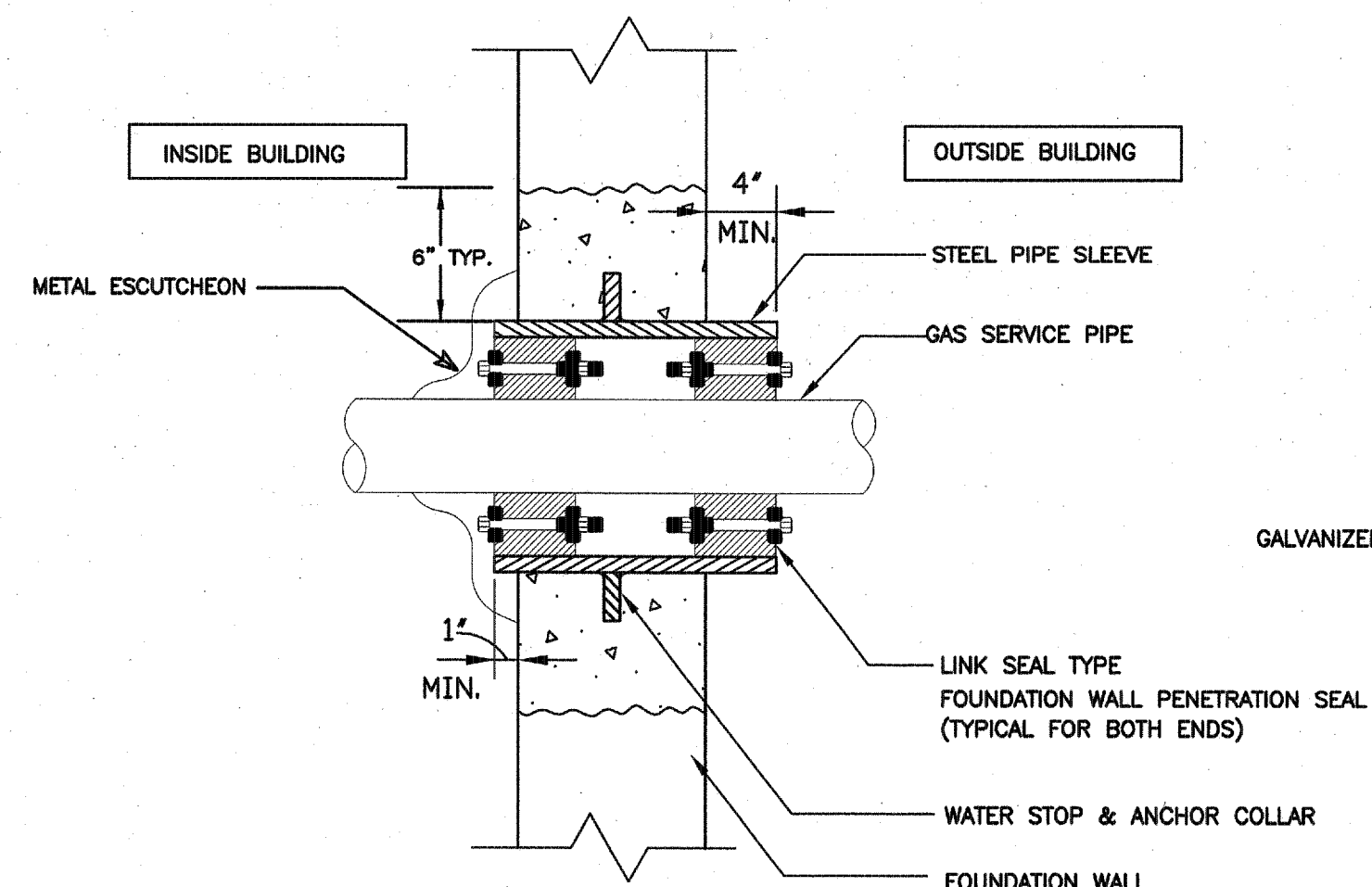
PRIOR TO USING THE THERMIT WELD PROCESS, CHECK THE EXCAVATION USING AN APPROVED GAS DETECTOR FOR THE POSSIBLE PRESENCE OF COMBUSTIBLE GAS. THE PROCESS SHALL BEGIN ONLY WHEN SAFE CONDITIONS ARE INDICATED, AND THERE IS NO INDICATION OF COMBUSTIBLE GAS.

USE #10 AWG WIRE WITH POLYETHYLENE TW OR THW INSULATION.

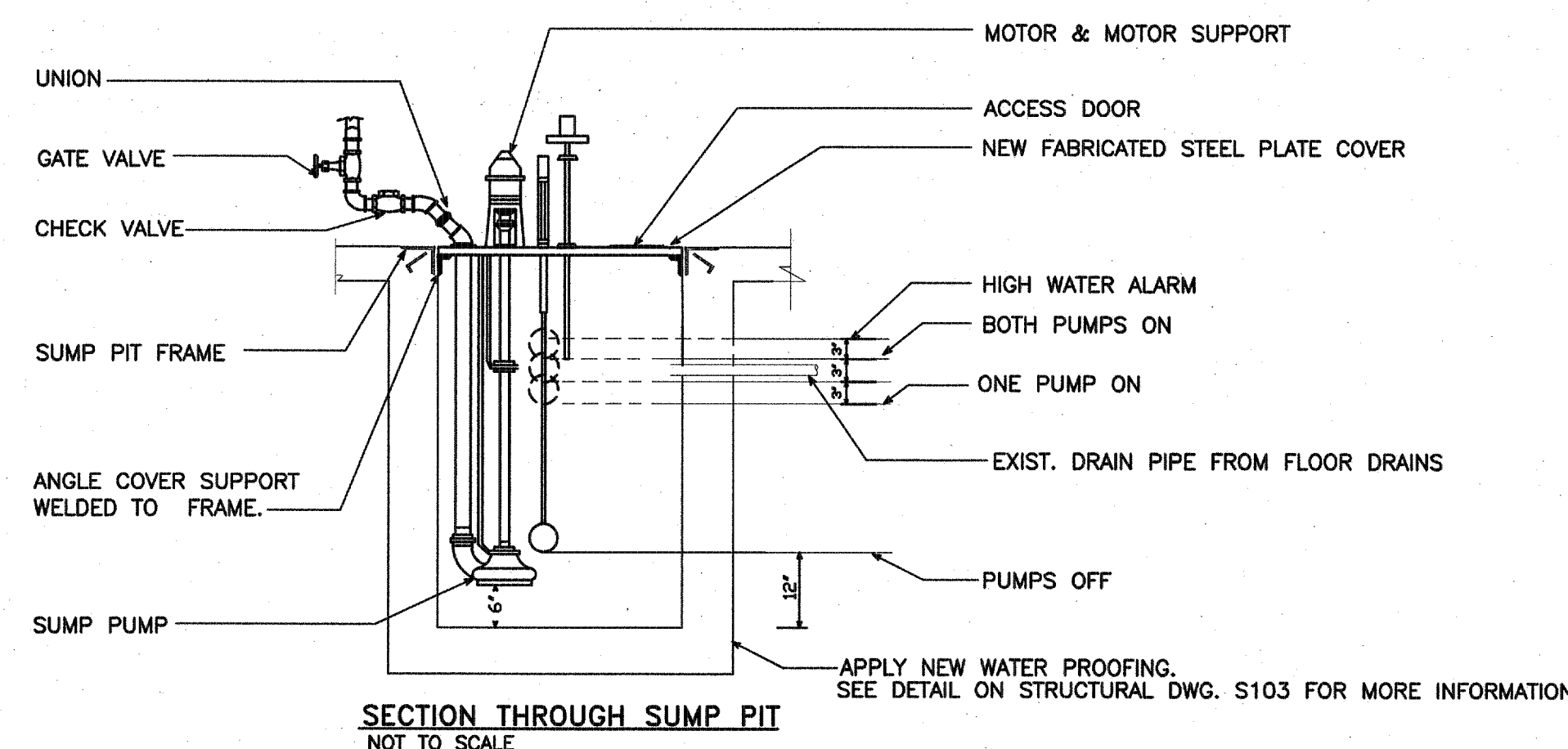
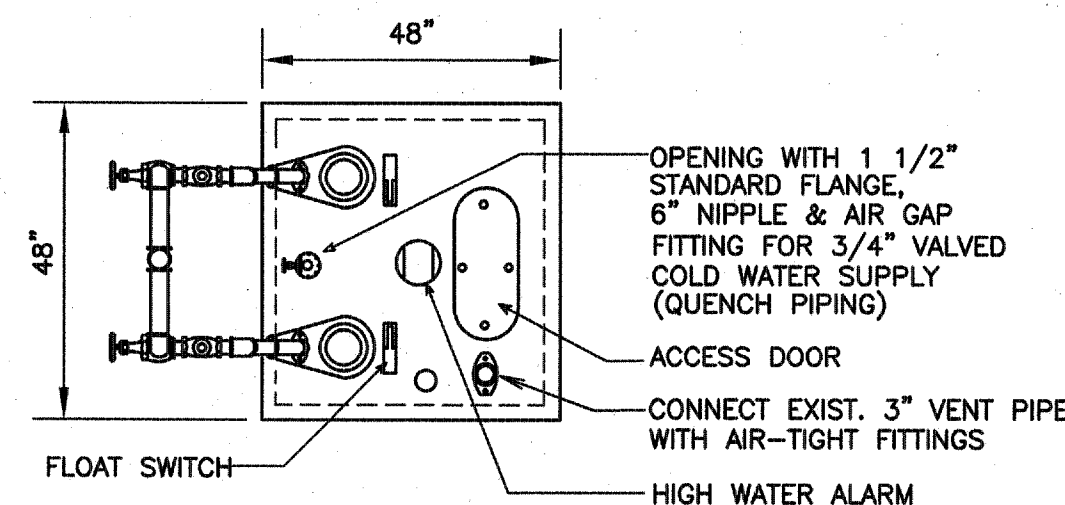
DO NOT STAND WITH YOUR FEET DIRECTLY UNDER THE MOLD UPON IGNITION. ALWAYS WEAR LEATHER OR HEAVY CANVAS WORK GLOVES.

DO NOT USE THE #25 CARTRIDGE (CAST IRON) ON STEEL PIPE. USE THE #15 CARTRIDGE ON STEEL PIPE. USE THIS PROCESS ON CLEAN DRY SURFACES ONLY.

IF THE MOLD DOES NOT MAKE GOOD CONTACT ALONG THE PIPE SURFACE, WRAP DUCT SEAL ALL AROUND MOLD CONTACT AREA.

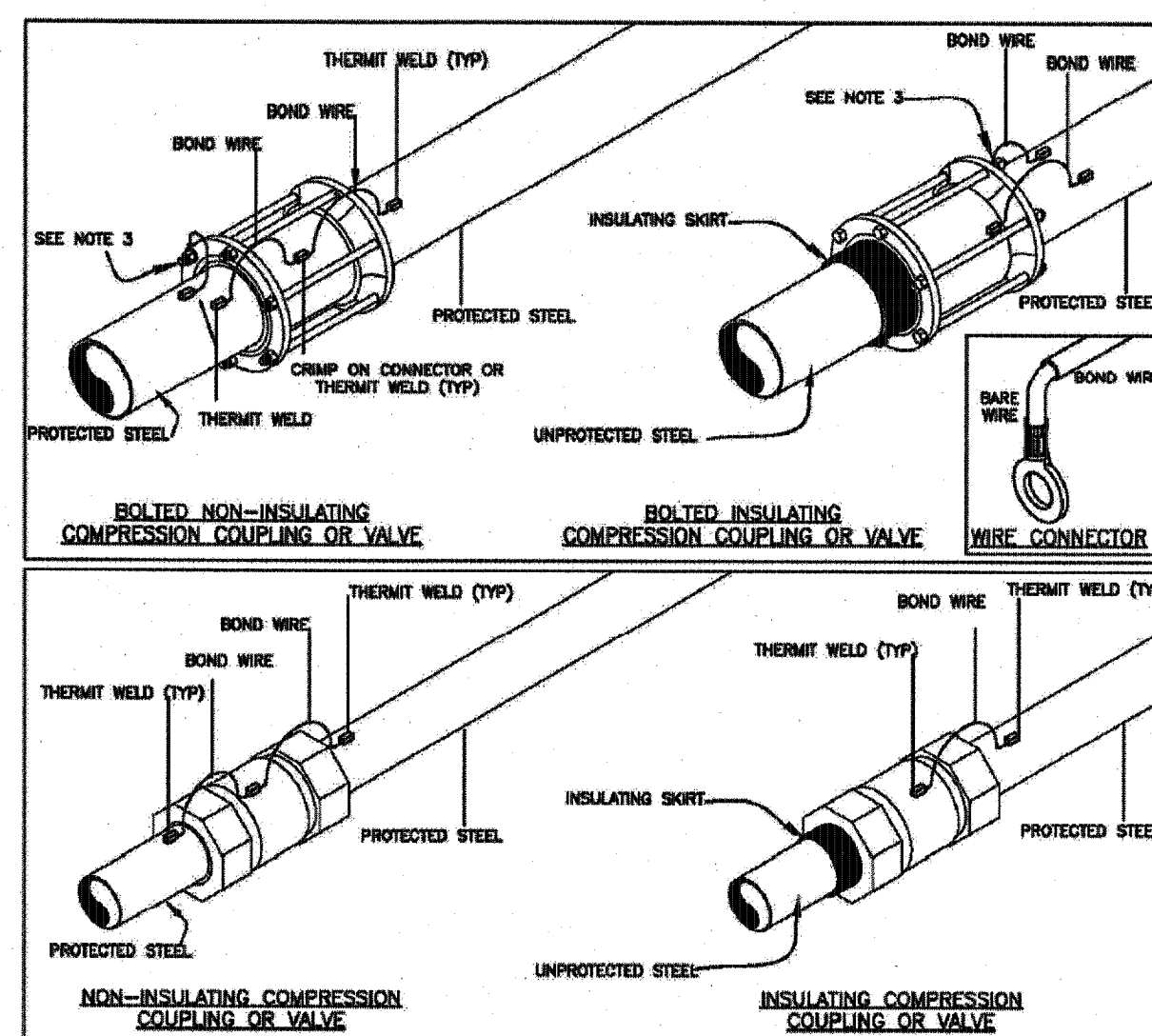


1. REMOVE CONCRETE AND REBARS APPROXIMATE THE SIZE OF PIPE SLEEVE.
2. REMOVE CONCRETE ONLY FOR ADDITIONAL 6" BIGGER THAN THE PIPE SLEEVE. RETAIN THE EXISTING REBARS.
3. CLEAN THE LOOSE CONCRETE SURFACE.
4. APPLY BONDING AGENT ON THE CONCRETE AND REBAR SURFACE.
5. INSTALL PIPE SLEEVE WITH ANCHOR COLLAR.
6. POUR CONCRETE TO FILL THE GAP. CONCRETE STRENGTH IS 3000 PSI.



DUPLEX HEAVY DUTY SUMP PUMP DETAILS

NOT TO SCALE



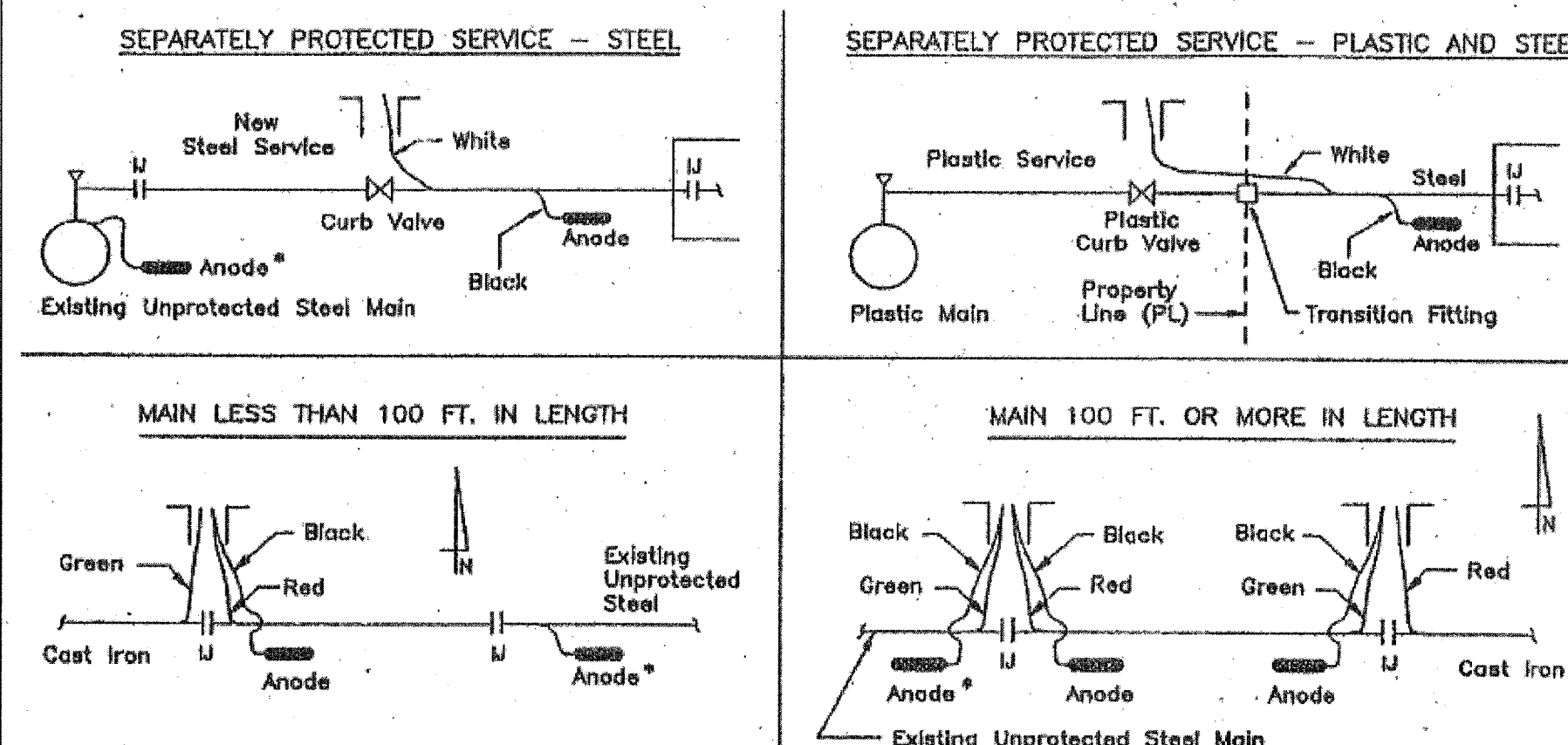
CATHODIC PROTECTION SYSTEM - BONDING OF COMPRESSION COUPLINGS & VALVES ON UNDERGROUND STEEL GAS PIPE

NOT TO SCALE

NOTES:

1. COUPLINGS MAY BE SUPPLIED WITH CRIMP-ON CONNECTORS WELDED TO THE BARREL OF THE COUPLING. THESE CONNECTORS CAN BE USED FOR BONDING THE COUPLING.
2. BOND WIRE CONNECTORS SHALL BE #10 AWG WITH HIGH DENSITY POLYETHYLENE TW OR THW INSULATION.
3. CONNECT THE BOND WIRE AS FOLLOWS:
PREFERRED: WIRE CONNECTOR - REMOVE INSULATION FOR A SHORT LENGTH AT THE END OF THE BOND WIRE. INSERT BARE WIRE INTO CONNECTOR AND CRIMP TIGHT. REMOVE ONE NUT FROM BOLT ON COUPLING, SLIP RING OF WIRE CONNECTOR ONTO BOLT AND TIGHTEN DOWN NUT ONTO BOLT. TOUCH UP BARE METAL AREAS WITH ONE COAT OF MASTIC.
ALTERNATIVE: REMOVE SMALL AREA OF FACTORY COATING FROM THE FOLLOWER RING AND THERMIT WELD THE BOND WIRE ONTO THE FOLLOWER RING. TOUCH UP BARE METAL AREA WITH ONE COAT OF MASTIC.

TEST STATIONS FOR NEW GAS MAINS AND SERVICES

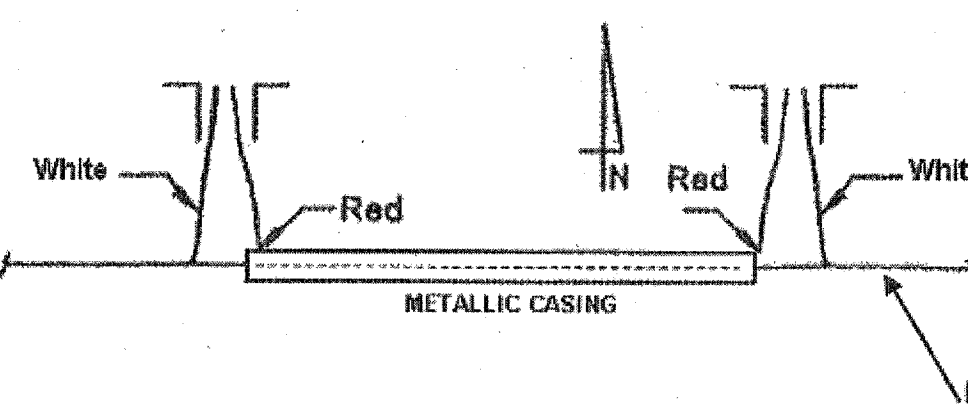


*Install this anode if a corrosion repair is made and the pipe is not scheduled for replacement.

Mains - Color Code

Black: Anode
White: Pipe at Anode Test Station.
Red: North or East Side I.V.
Green: South or West Side I.V.

NEW STEEL GAS MAIN IN METALLIC CASING PIPE



CATHODIC PROTECTION SYSTEM - TEST STATIONS

NOT TO SCALE

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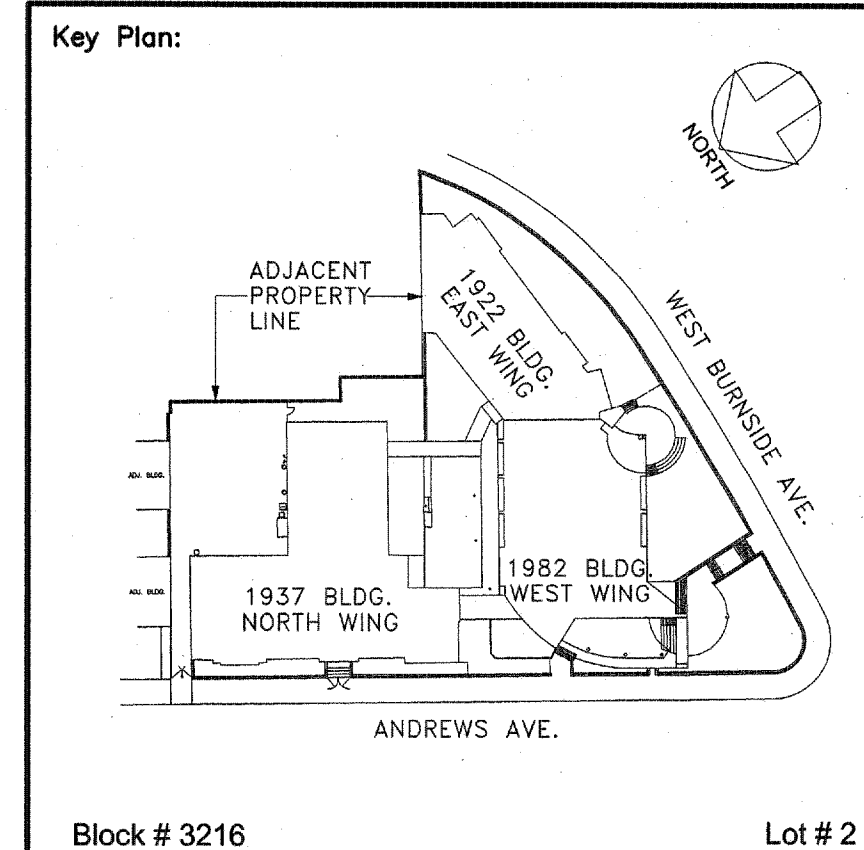
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NYC School Construction Authority

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Stacey Spann-Thorn, Director, Operations Support

NOTE: Drawing may be printed at reduced scale

No.	Date	Revision
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Drawn by:	ARIFUL GAFFAR P.E.
Checked by:	ARIFUL GAFFAR P.E.
Design No.:	D015405
Facility Code:	X026
Date:	12/06/13

Project:
P.S 396X @ X026
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AND CLIMATE CONTROL
Address:
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Drawing Title:
TYPICAL PLUMBING DETAILS

Drawing No.:	P401.00
Sheets in Contract Set:	25 of 79
Sheets in DOB Set:	25 of 59