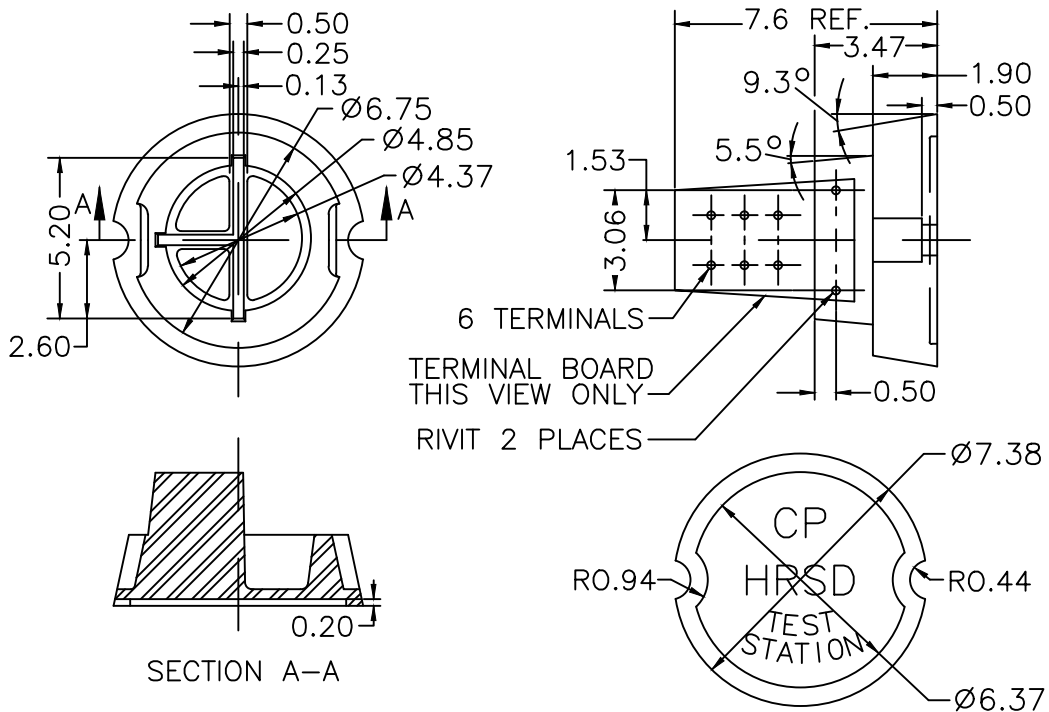


**NOTES:**

1. MATERIAL, CAST IRON, GRADE TO BE SPECIFIED ON PURCHASE ORDER.
2. ALL RADII SHALL BE  $\frac{1}{16}$ " MINIMUM.
3. ESTIMATED WEIGHT 37#.



**NOTES:**

1. ALL INTERNAL EDGES SHALL HAVE A  $\frac{1}{16}$ " RADIUS.
2. ALL EXTERNAL RADII  $\frac{1}{16}$ " TO  $\frac{1}{8}$ " AS NEEDED FOR CASTING RELIEF.
3. MATERIAL, CAST IRON, GRADE TO BE SPECIFIED ON PURCHASE ORDER.
4. ESTIMATED WEIGHT 12#.
5. RISER TO BE FILLED WITH PEA GRAVEL.

NOT TO SCALE



STANDARD DESIGN DETAIL

CATHODIC PROTECTION TEST STATION

DRAWING NO.

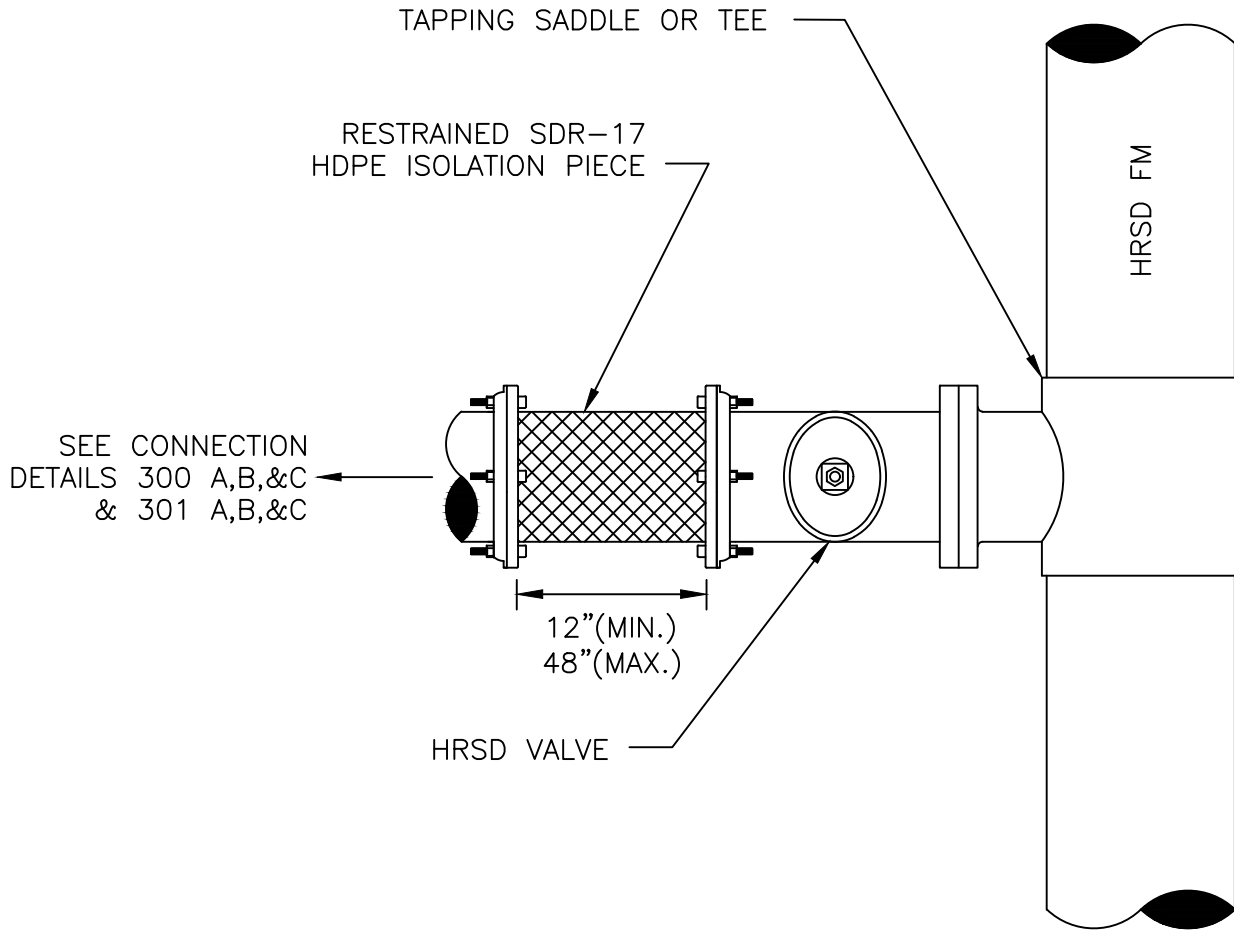
500

SHEET

1 OF 1

DATE

9/2018



NOTES:

1. LOCALITY TO OWN ALL PIPING, FITTINGS, VALVES, AND CATHODIC PROTECTION SYSTEMS UPSTREAM OF HRSD VALVE.
2. ISOLATION PIECE SHALL BE APPROXIMATELY 24" LONG.

NOT TO SCALE



STANDARD DESIGN DETAIL

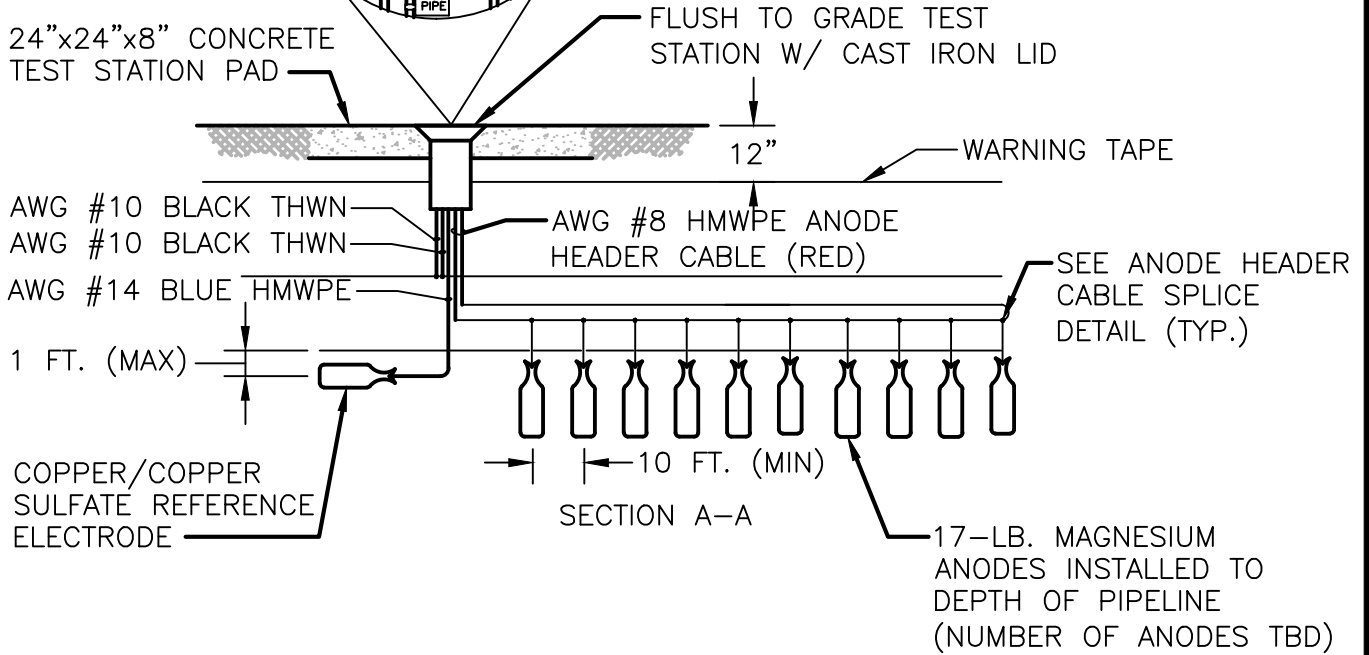
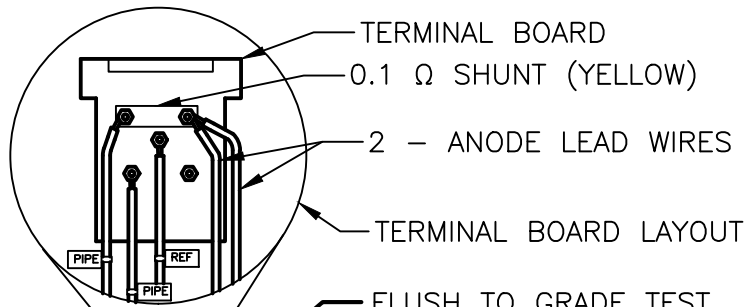
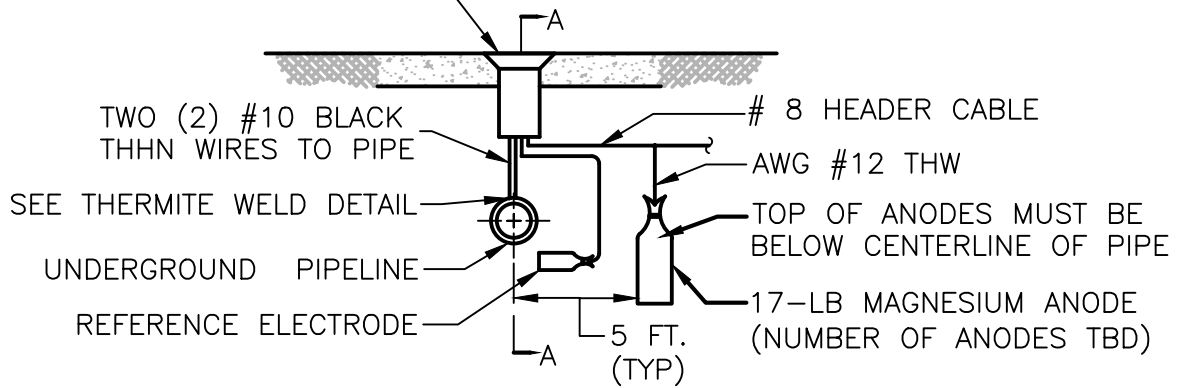
CATHODIC PROTECTION ISOLATION DETAIL

DRAWING NO.  
501


SHEET  
1 OF 1

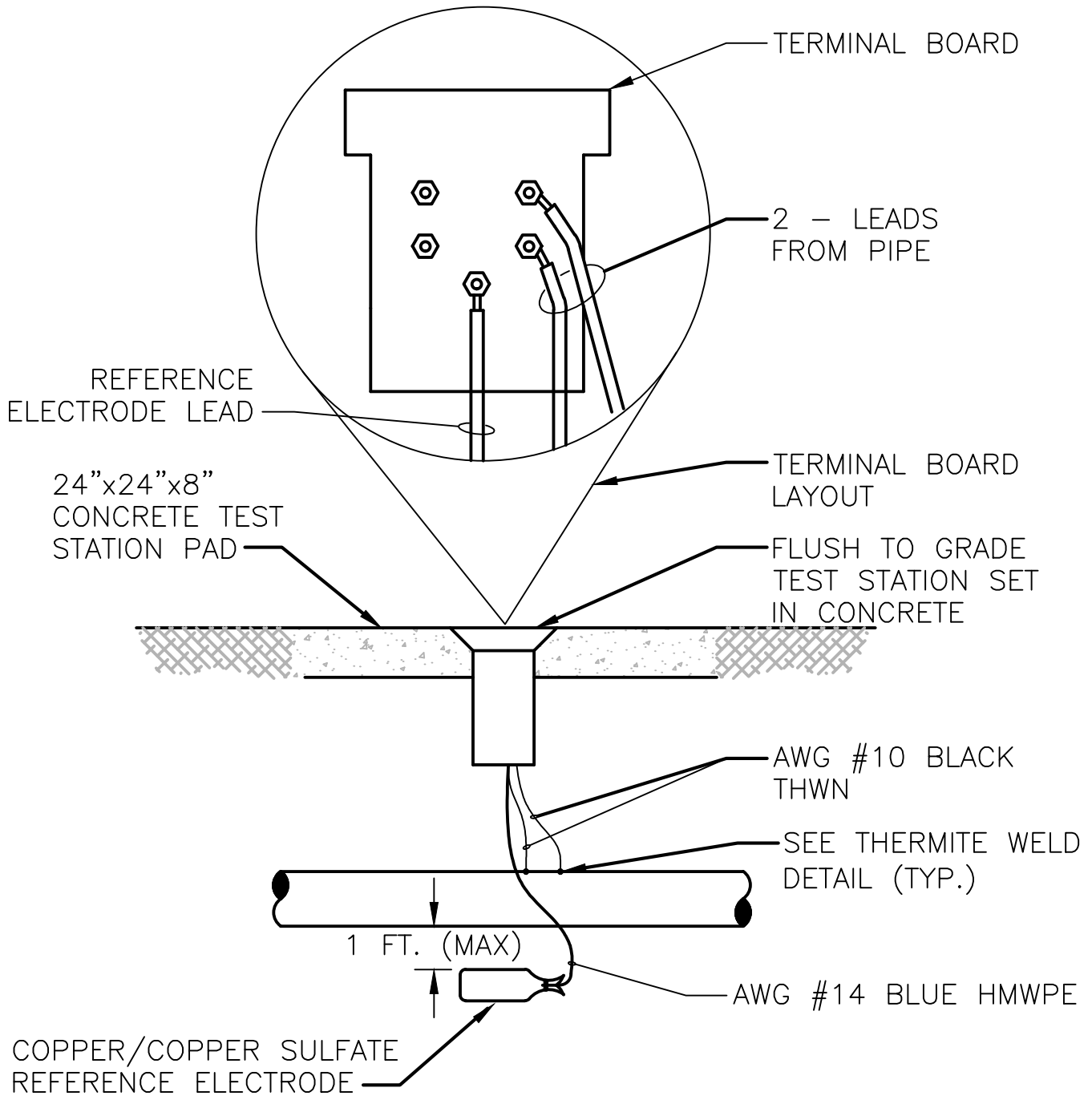
DATE  
9/2018

TERMINAL BOARD LAYOUT.  
SEE INSERT BELOW



NOT TO SCALE


	STANDARD DESIGN DETAIL	DRAWING NO. 502
	ANODE TEST STATION	SHEET 1 OF 1
		DATE 9/2018

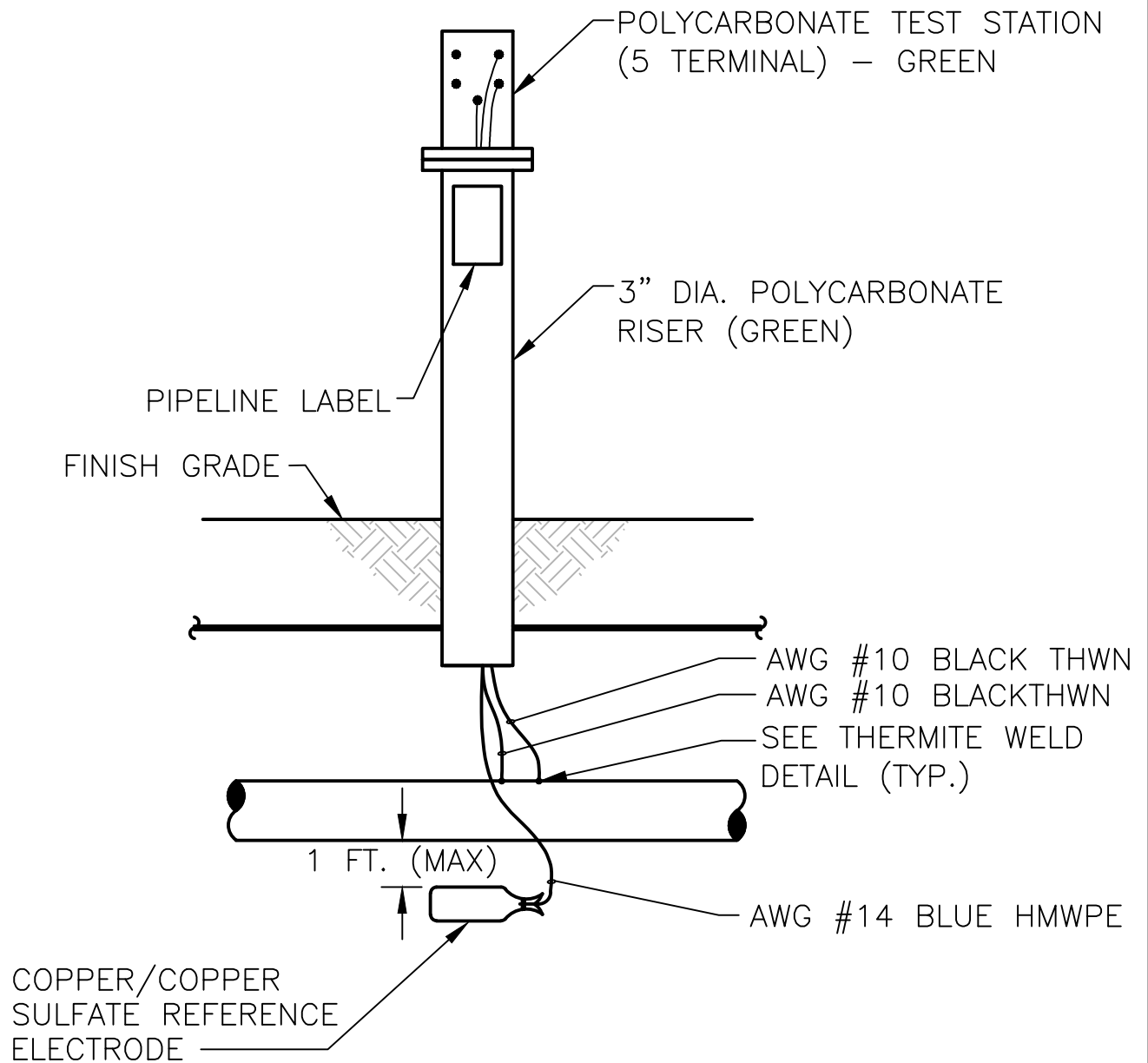


**NOTES:**

1. WHEN TEST STATION IS OUT OF THE ROAD, USE A GREEN RISER PROTECTED BY BOLLARDS.

NOT TO SCALE

	STANDARD DESIGN DETAIL	DRAWING NO. 503
	MONITORING TEST STATION	SHEET 1 OF 1
		DATE 9/2018



NOTES:

1. WHEN TEST STATION IS OUT OF THE ROAD, USE A GREEN RISER PROTECTED BY BOLLARDS.

NOT TO SCALE



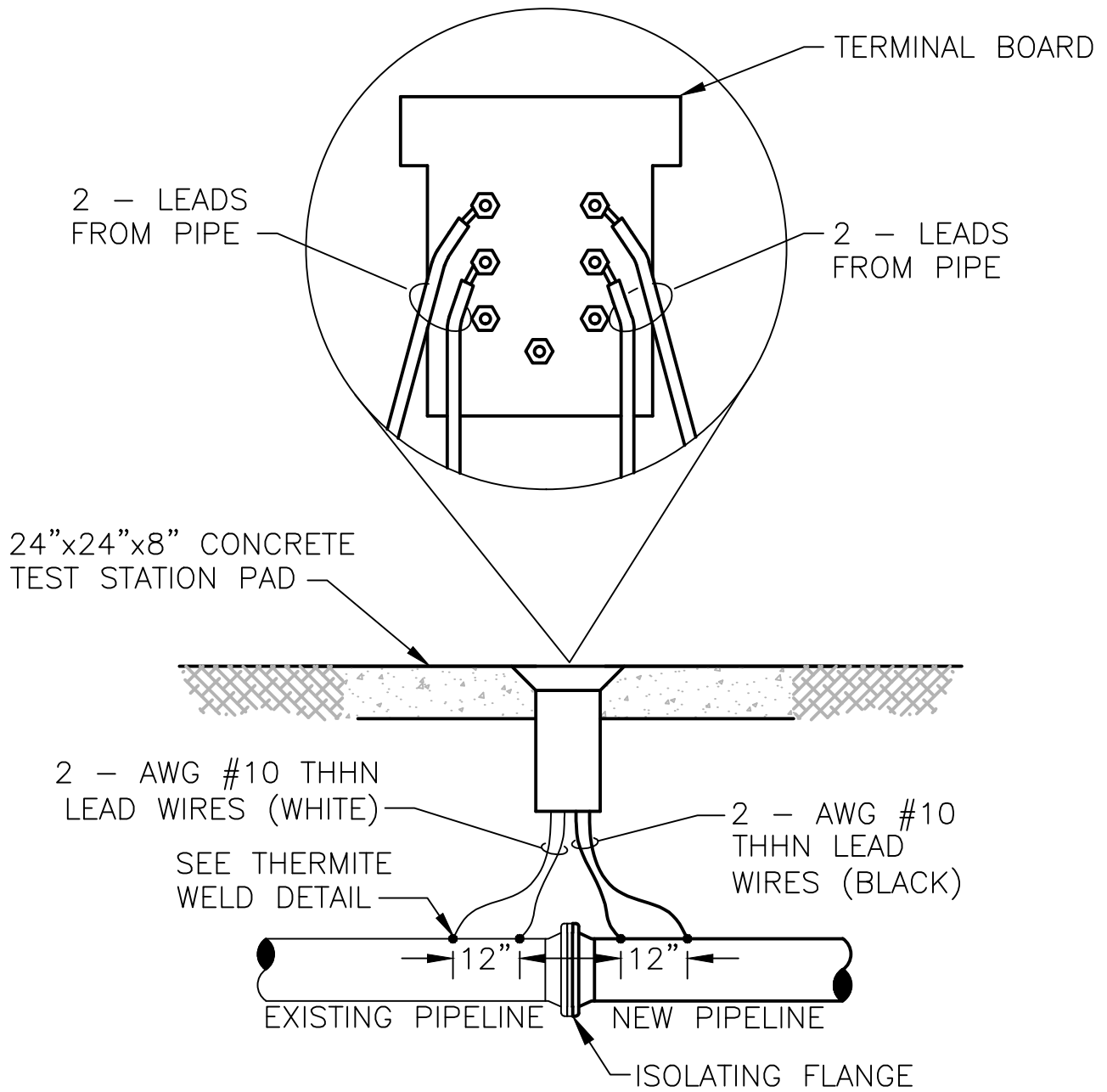
STANDARD DESIGN DETAIL

MONITORING TEST STATION (WITH RISER)

DRAWING NO.  
504

SHEET  
1 OF 1

DATE  
9/2018



NOTES:

1. WHEN TEST STATION IS OUT OF THE ROAD, USE A GREEN RISER PROTECTED BY BOLLARDS.

NOT TO SCALE



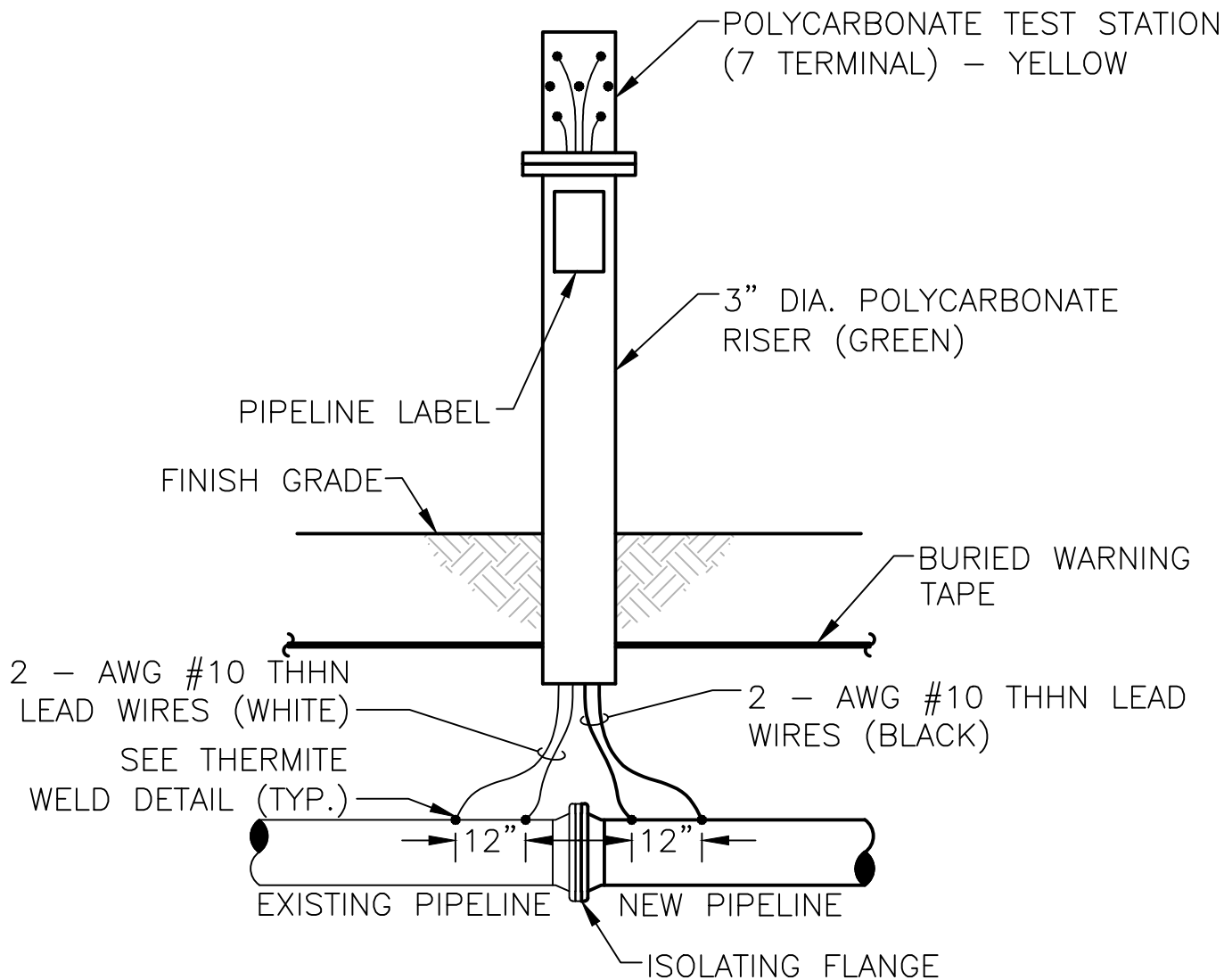
STANDARD DESIGN DETAIL

ISOLATION FLANGE TEST STATION

DRAWING NO.  
505

SHEET  
1 OF 1

DATE  
9/2018



NOTES:

1. WHEN TEST STATION IS OUT OF THE ROAD, USE A GREEN RISER PROTECTED BY BOLLARDS.

NOT TO SCALE



STANDARD DESIGN DETAIL

ISOLATION FLANGE TEST STATION (WITH RISER)

DRAWING NO.  
506

SHEET  
1 OF 1

DATE  
9/2018

3 - LAYERS OF HALF LAPPED RUBBER TAPE (SCOTCH 23)

3 - LAYERS OF HALF LAPPED VINYL TAPE (SCOTCH 33)

COAT ENTIRE SPLICE WITH ELECTRICAL COATING COMPOUND (SCOTCHKOTE)

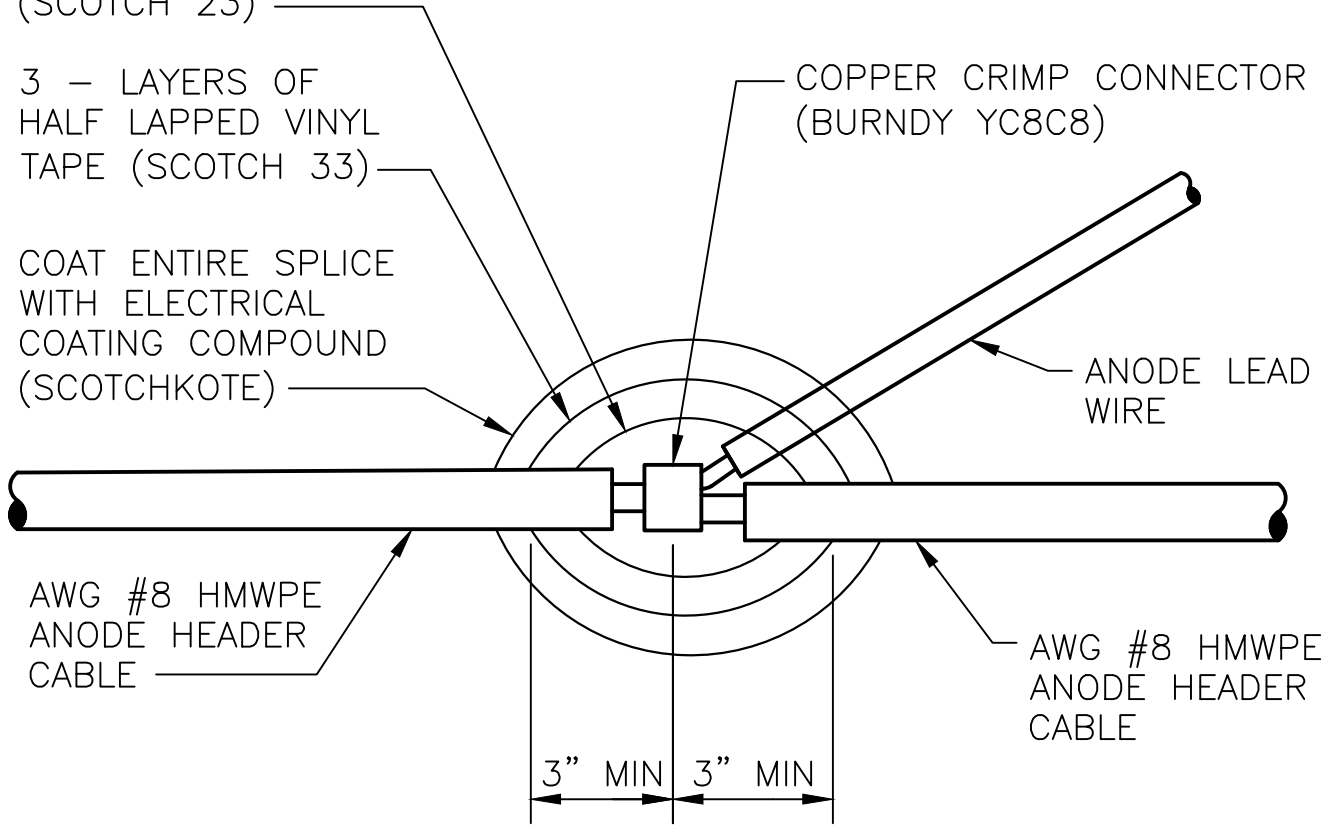
COPPER CRIMP CONNECTOR (BURNDY YC8C8)

ANODE LEAD WIRE

AWG #8 HMWPE ANODE HEADER CABLE

AWG #8 HMWPE ANODE HEADER CABLE

3" MIN 3" MIN



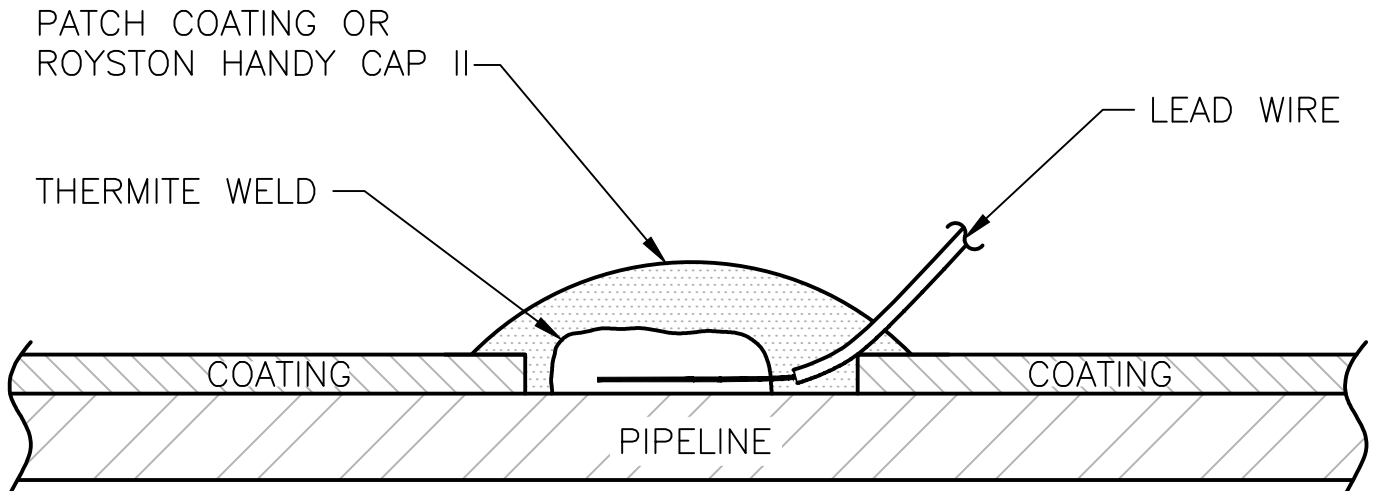
NOT TO SCALE



STANDARD DESIGN DETAIL  
ANODE HEADER CABLE SPLICE

DRAWING NO. 507
SHEET 1 OF 1
DATE 9/2018




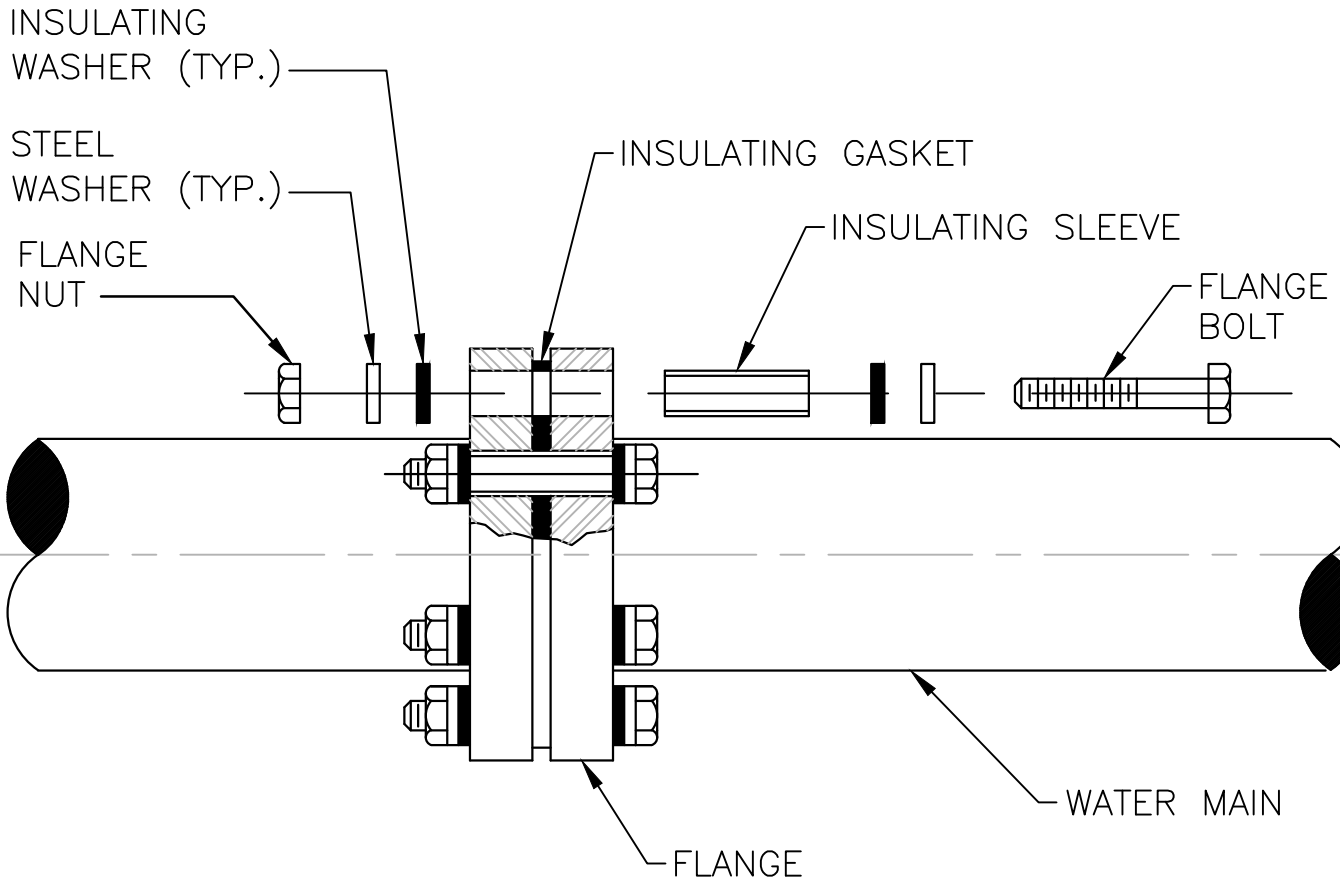


EXOTHERMIC WELDING INSTRUCTIONS

1. REMOVE PIPE COATING APPROXIMATELY 4" DIAMETER SPOT FROM STRUCTURE.
2. CLEAN AREA APPROXIMATELY 2" DIAMETER TO BRIGHT METAL.
3. REMOVE 1-1/4" OF INSULATION FROM END OF WIRE.
4. WELD CONDUCTOR TO PIPE. USE APPROPRIATE GRAPHITE MOLD AND CARTRIDGE CHARGE SIZE.
5. TEST THE EXOTHERMIC WELD CONNECTION BY STRIKING THE CONNECTION SEVERAL BLOWS ON THE SIDE USING A ONE POUND HAMMER. TOP OF WELD MAY BE HAMMERED FLAT IF REQUIRED.
6. REFER TO MANUFACTURER FOR RECOMMENDED CARTRIDGE SIZE.

NOT TO SCALE


	STANDARD DESIGN DETAIL	DRAWING NO. 508
	THERMITE WELD	SHEET 1 OF 1
		DATE 9/2018

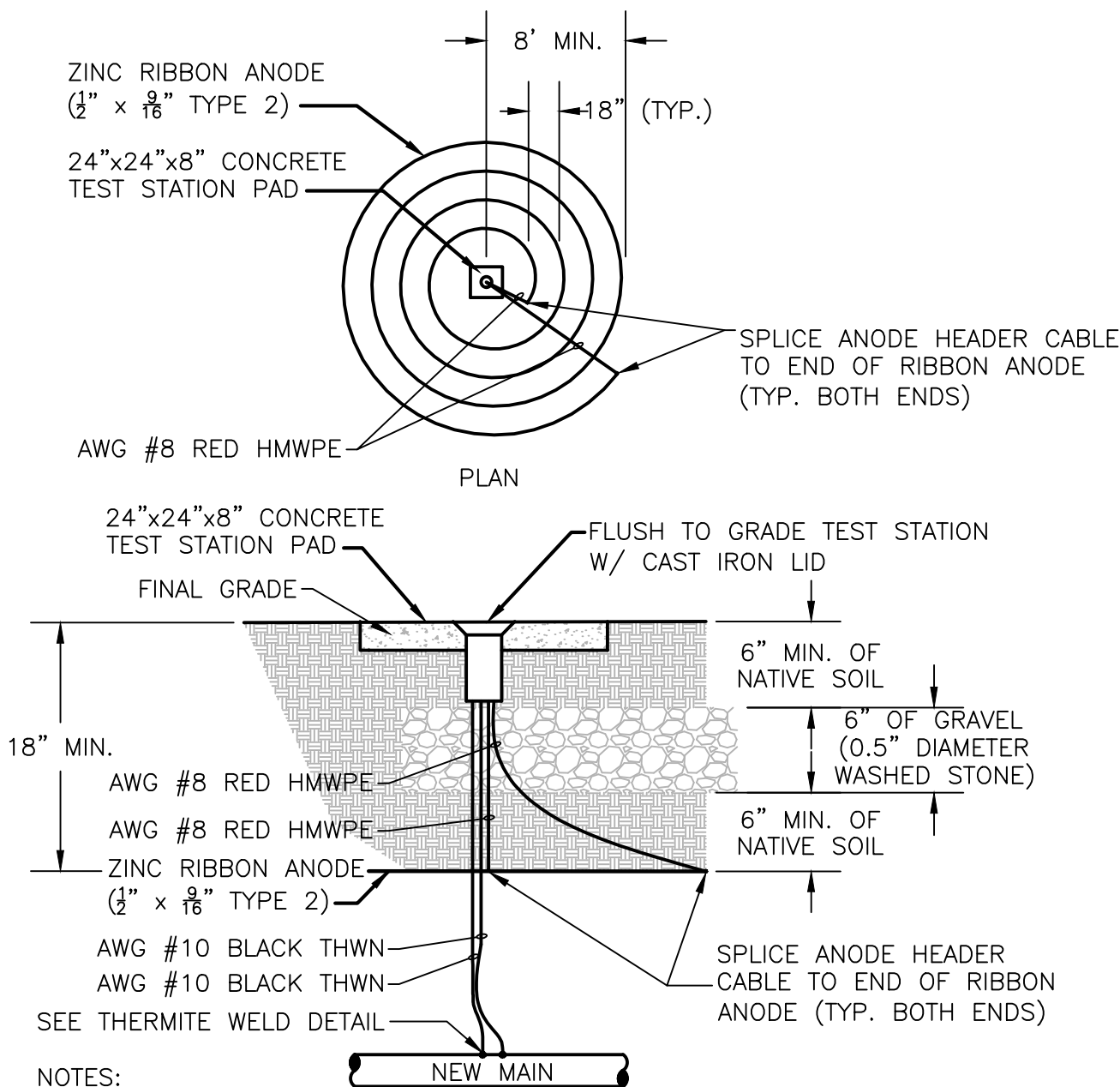


NOTES:

1. AFTER ASSEMBLY, TEST TO VERIFY THAT ISOLATION IS EFFECTIVE. IF ISOLATION IS NOT EFFECTIVE, REPAIR AS NECESSARY AND RETEST. THIS PROCESS SHALL CONTINUE UNTIL ISOLATION IS VERIFIED AS EFFECTIVE.
2. AFTER VERIFYING EFFECTIVE ISOLATION, COAT THE ENTIRE FLANGE AND ALL EXPOSED METAL INCLUDING BOLTS, NUTS, AND WASHERS WITH FOUR COMPONENTS OF DENSO OR TRENTON WAX TAPE COATING SYSTEM. COATING SYSTEM SHALL EXTEND A MINIMUM OF 12 INCHES ON EITHER SIDE OF FLANGE.
3. ALL INSULATING FLANGES TO BE PROVIDED WITH TEST STATIONS.

NOT TO SCALE


	STANDARD DESIGN DETAIL	DRAWING NO. 509
	ISOLATING FLANGE KIT	SHEET 1 OF 1
		DATE 9/2018

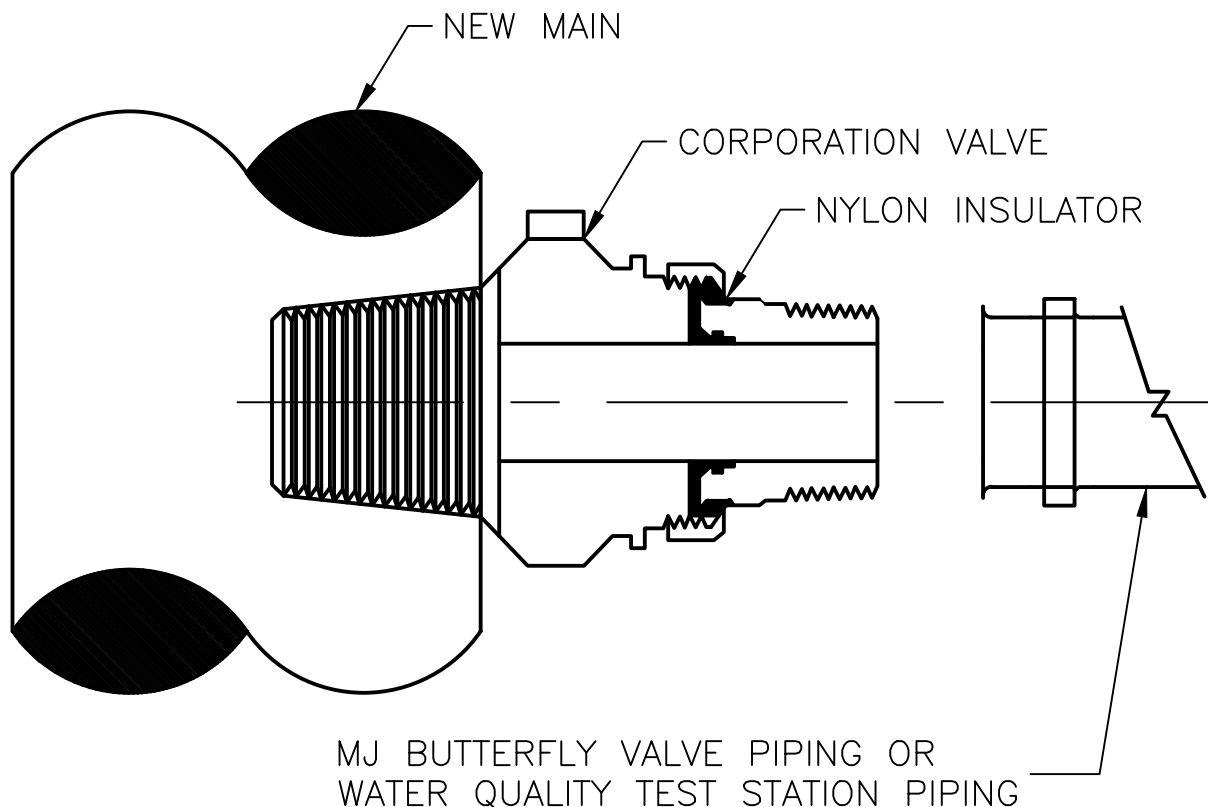


**NOTES:**

1. TEST STATIONS LOCATED ALONG PAVED ROADWAYS SHALL GENERALLY BE LOCATED 3 FEET OUTSIDE OF THE EDGE OF PAVEMENT IN A NON-PAVED AREA. ROUTE ALL TEST WIRES AT A MINIMUM DEPTH OF 24 INCHES TO THE FINAL TEST STATION LOCATION. TEST STATION LOCATIONS SHALL BE FIELD ADJUSTED.
2. ROUTE WIRES IN 1 INCH PVC CONDUIT TO TEST BOX. INSTALL CABLE WARNING TAPE 18 INCHES ABOVE PVC CONDUIT.
3. MAINTAIN SUFFICIENT SLACK IN THE TEST WIRES SO THAT THE WIRES CAN EXTEND A MINIMUM OF 18 INCHES FROM THE TEST BOX.
4. INSTALL 0.1 OHM SHUNT (YELLOW) BETWEEN TERMINALS #1 AND #4.
5. AT FIRE HYDRANTS, VAULTS, AND OTHER APPURTENANCES, ZINC RIBBON ANODE SHALL BE COILED AROUND FIRE HYDRANT, VAULT, OR APPURTENANCE.

NOT TO SCALE


	<p><b>STANDARD DESIGN DETAIL</b></p>	<p>DRAWING NO. 521</p>
	<p><b>DUCTILE IRON PIPE GALVANIC SYSTEM</b></p>	<p>SHEET 1 OF 1</p>
	<p><b>AC GROUND MAT</b></p>	<p>DATE 9/2018</p>

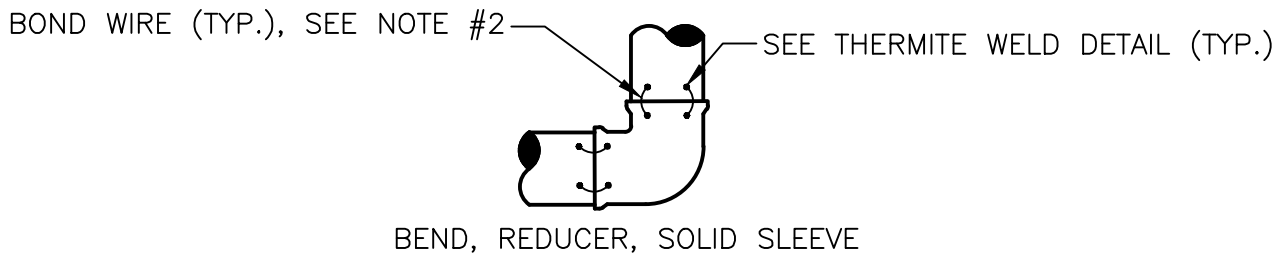
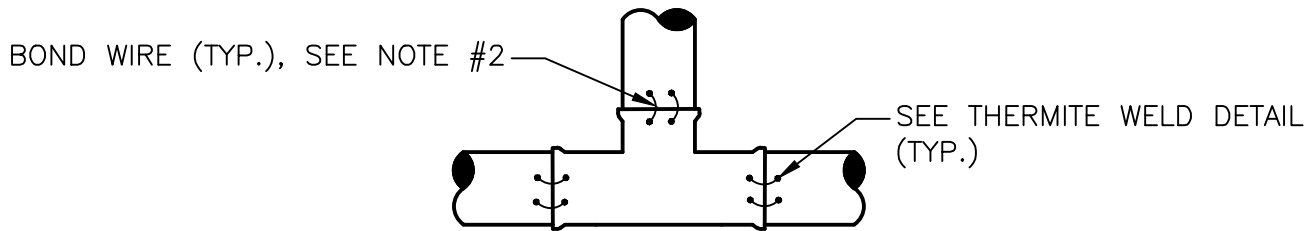
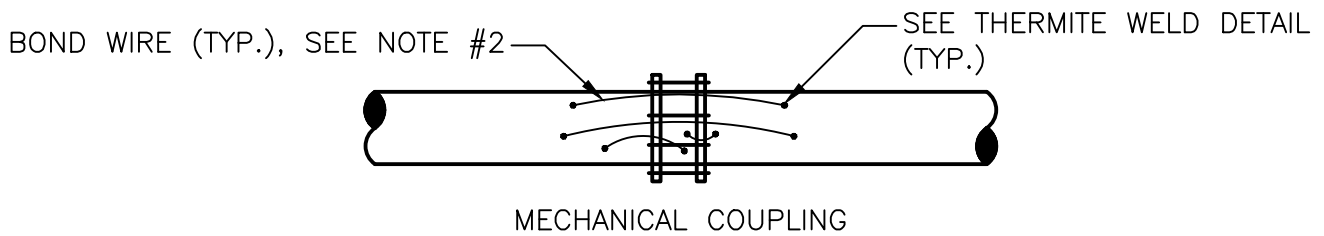
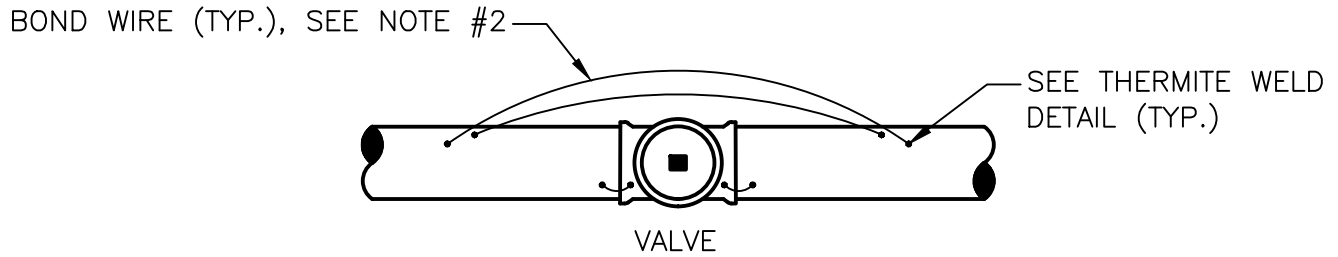
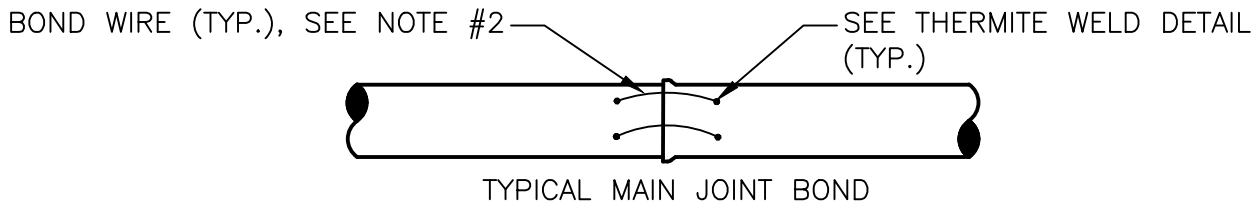


NOTES:

1. AFTER ASSEMBLY, TEST TO VERIFY THAT ISOLATION IS EFFECTIVE. IF ISOLATION IS NOT EFFECTIVE, REPAIR AS NECESSARY AND RETEST. THIS PROCESS SHALL CONTINUE UNTIL ISOLATION IS VERIFIED AS EFFECTIVE.
2. AFTER VERIFYING EFFECTIVE ISOLATION, COAT THE ENTIRE CORPORATION AND ALL EXPOSED METAL WITH FOUR COMPONENTS OF DENSO OR TRENTON WAX TAPE COATING SYSTEM. COATING SYSTEM SHALL EXTEND A MINIMUM ON EITHER SIDE OF CORPORATION.

NOT TO SCALE

	STANDARD DESIGN DETAIL	DRAWING NO. 522
	DUCTILE IRON PIPE GALVANIC SYSTEM INSULATING CORPORATION	SHEET 1 OF 1
		DATE 9/2018



**NOTES:**

1. THERMITE WELD BONDING WIRES TO TOP OF MAIN FITTINGS.
2. WIRE SIZE FOR BONDING JOINTS SHALL BE AS FOLLOWS:

MAIN SIZE	WIRE SIZE
LARGER THAN 36 INCHES	AWG #2 HMWPE
16 INCHES TO 36 INCHES	AWG #4 HMWPE
12 INCHES AND SMALLER	AWG #6 HMWPE

NOT TO SCALE

NOT TO SCALE

	STANDARD DESIGN DETAIL	DRAWING NO. 523
	DUCTILE IRON PIPE GALVANIC SYSTEM	SHEET 1 OF 1
	MAIN BONDING	DATE 9/2018