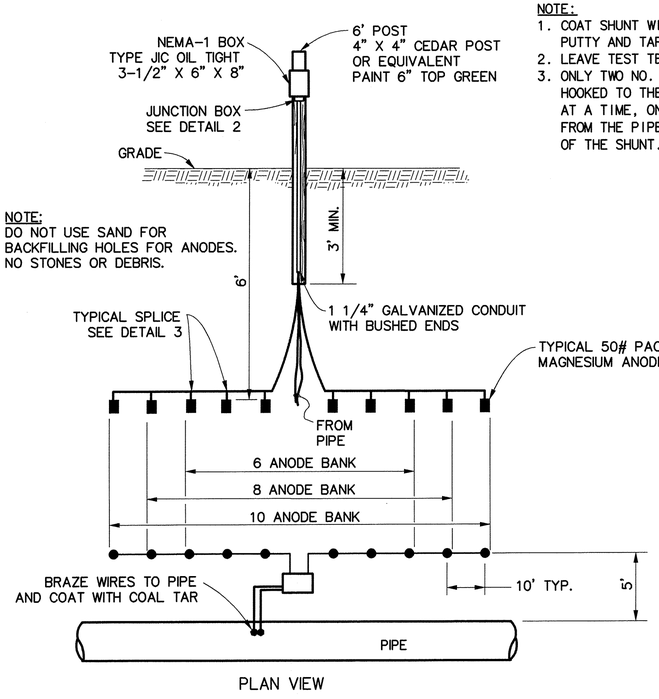


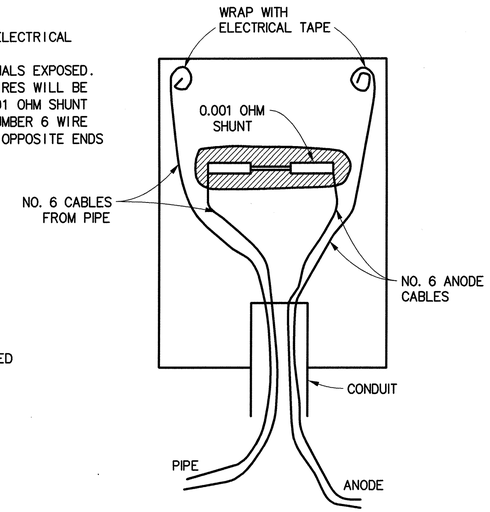
PLAN VIEW

NOTE:
DO NOT USE SAND FOR BACKFILLING HOLES FOR ANODES. NO STONES OR DEBRIS.

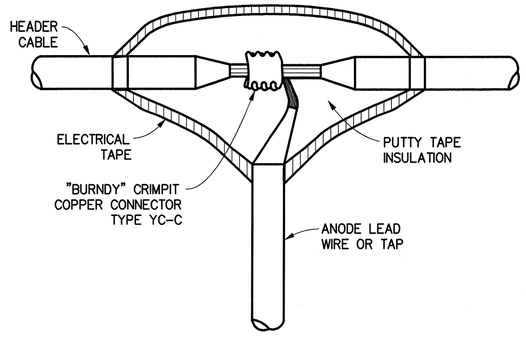
NOTE:
1. COAT SHUNT WITH ELECTRICAL PUTTY AND TAPE.
2. LEAVE TEST TERMINALS EXPOSED.
3. ONLY TWO NO. 6 WIRES WILL BE HOOKED TO THE .001 OHM SHUNT AT A TIME, ONE NUMBER 6 WIRE FROM THE PIPE ON OPPOSITE ENDS OF THE SHUNT.

ALTERNATE SHUNT BOX FOR RURAL AREAS
DETAIL (1) NOT TO SCALE

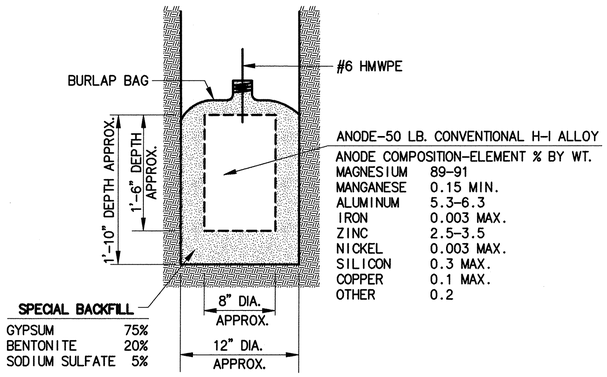
SHUNT BOX
DETAIL (5) NOT TO SCALE



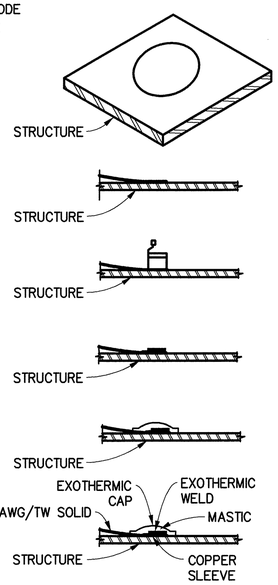
JUNCTION BOX
DETAIL (2) NOT TO SCALE



MECHANICAL CABLE SPLICE
DETAIL (3) NOT TO SCALE

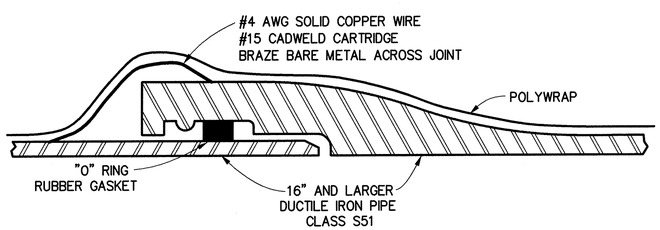


50 LB CONVENTIONAL ANODE
DETAIL (4) NOT TO SCALE

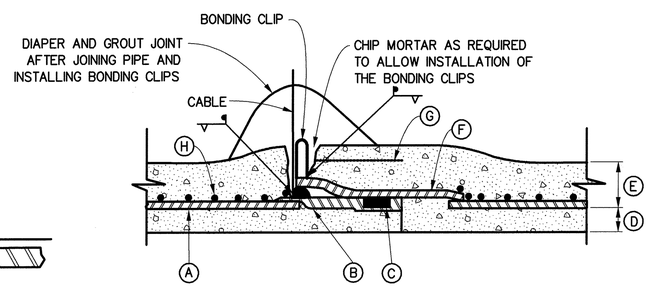


PROPERLY COMPLETED EXOTHERMIC WELD

1. FILE STRUCTURE SURFACE UNTIL 2" CIRCULAR AREA IS CLEAN, BRIGHT, AND DRY.
2. REMOVE REQUIRED AMOUNT OF INSULATION FROM WIRE.
3. CRIMP ON COPPER SLEEVE IF REQUIRED.
4. PLACE AGAINST CLEANED AND PROPERLY PREPARED SURFACE.
5. PLACE PROPERLY PREPARED WELDER OVER WIRE AND CLEANED SURFACE.
6. HOLD WELDER FIRMLY AGAINST STRUCTURE WITH A WIRE PROPERLY PLACED IN GROOVE PROVIDED.
7. IGNITE POWDER WITH FLINT IGNITER AND HOLD FIRMLY IN PLACE UNTIL WELD METAL IS BONDED.
8. REMOVE MOLD AND CLEAN RESIDUE FROM WELD.
9. TEST WELD INTEGRITY USING A SHARP BLOW TO THE SIDE OF WELD.
10. PLACE EXOTHERMIC CAP WITH MASTIC FILL OVER WELD.



ELECTRICAL BONDED BELL AND SPIGOT JOINT – DUCTILE IRON PIPE
DETAIL (6) NOT TO SCALE



(A) STEEL CYLINDER
(B) SPIGOT RING
(C) RUBBER GASKET
(D) CONCRETE CORE
(E) MECHANICAL IMPACTED MORTAR COATING
(F) BELL RING
(G) WELDED WIRE MESH
(H) HIGH TENSILE WIRE UNDER TENSION

COMPONENT DESCRIPTION

FOR DUCTILE IRON PIPE, ALL BELL AND SPIGOT JOINTS SHALL BE ELECTRICALLY BONDED USING A NO. 4 AWG BARE COPPER WIRE, OF ADEQUATE LENGTH TO BRAZE, USING A NO. 15 CADWELD CARTRIDGE, THE COPPER WIRE TO THE BARE METAL AT THE BELL AND SPIGOT. COST SHALL BE INCLUDED IN THE UNIT PRICE BID PER LINEAR FOOT OF DUCTILE IRON PIPE. NO ADDITIONAL PAYMENT WILL BE MADE.

FOR DUCTILE IRON PIPE ONLY, JUNCTION BOX TEST STATION SHALL BE FURNISHED AND INSTALLED, EXCEPT, NO MAGNESIUM ANODE BANKS SHALL BE FURNISHED OR INSTALLED. JUNCTION BOX TEST STATIONS SHALL BE INSTALLED IN ACCORDANCE WITH THE STATIONING SHOWN ON THE SCHEDULE OF ANODE SPACING. COST SHALL BE INCLUDED IN THE UNIT PRICE BID PER LINEAR FOOT OF DUCTILE IRON PIPE. NO ADDITIONAL PAYMENT WILL BE MADE.

SCHEDULE OF ANODE SPACING

STEEL PIPE (4) 50 LB. ANODES	STEEL PIPE (6) 50 LB. ANODES	STEEL PIPE (10) 50 LB. ANODES
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REVISION	BY	DATE

CITY ENGINEER

DESIGN MANAGER

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

CATHODIC PROTECTION

DATE: OCTOBER 2013 STD. 330

PATH NAME: /E1/PARTS/STD/DGN_STDS/330-CATHODIC-PROT.DGN LFM 05/02/2012