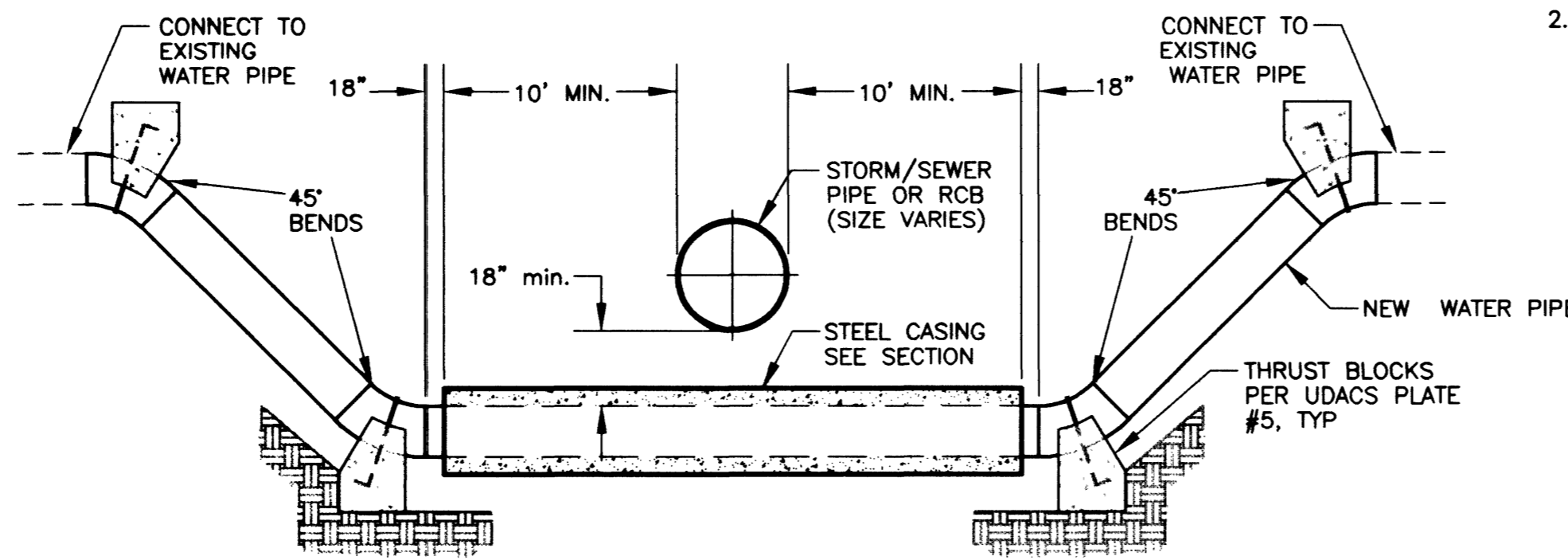
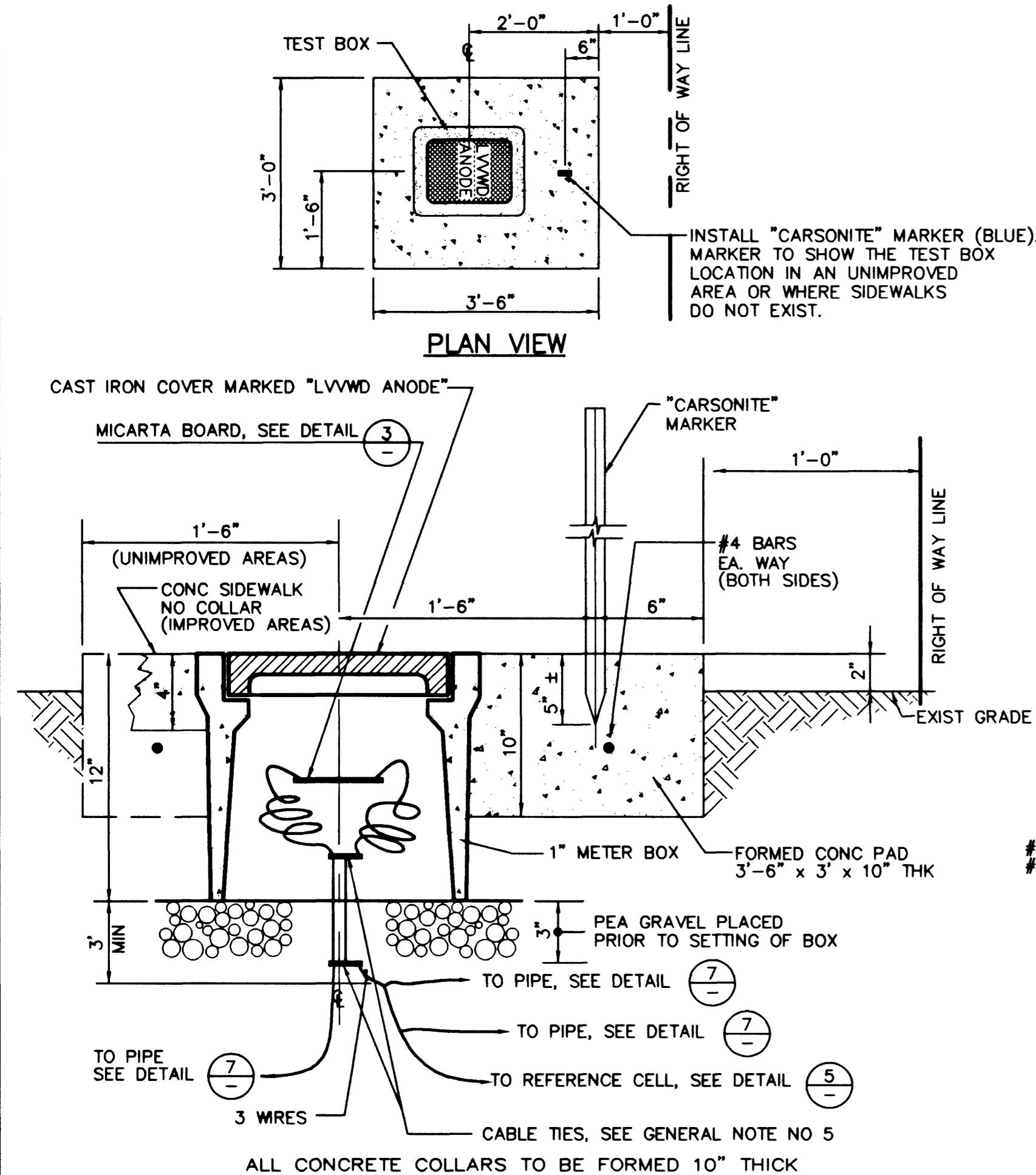


- NOTES**
1. ALL CONCRETE SHALL BE 3000 PSI MINIMUM 28 DAYS COMPRESSIVE STRENGTH
 2. ALL VALVES AND EXPOSED REBAR TO BE COATED AND WRAPPED IN ACCORDANCE WITH SECTION 3 OF THE UDACS, PROTECTIVE COATINGS.

1 ANCHOR BLOCK DETAILS FOR IN-LINE REDUCERS AND GATE VALVES

NOT TO SCALE



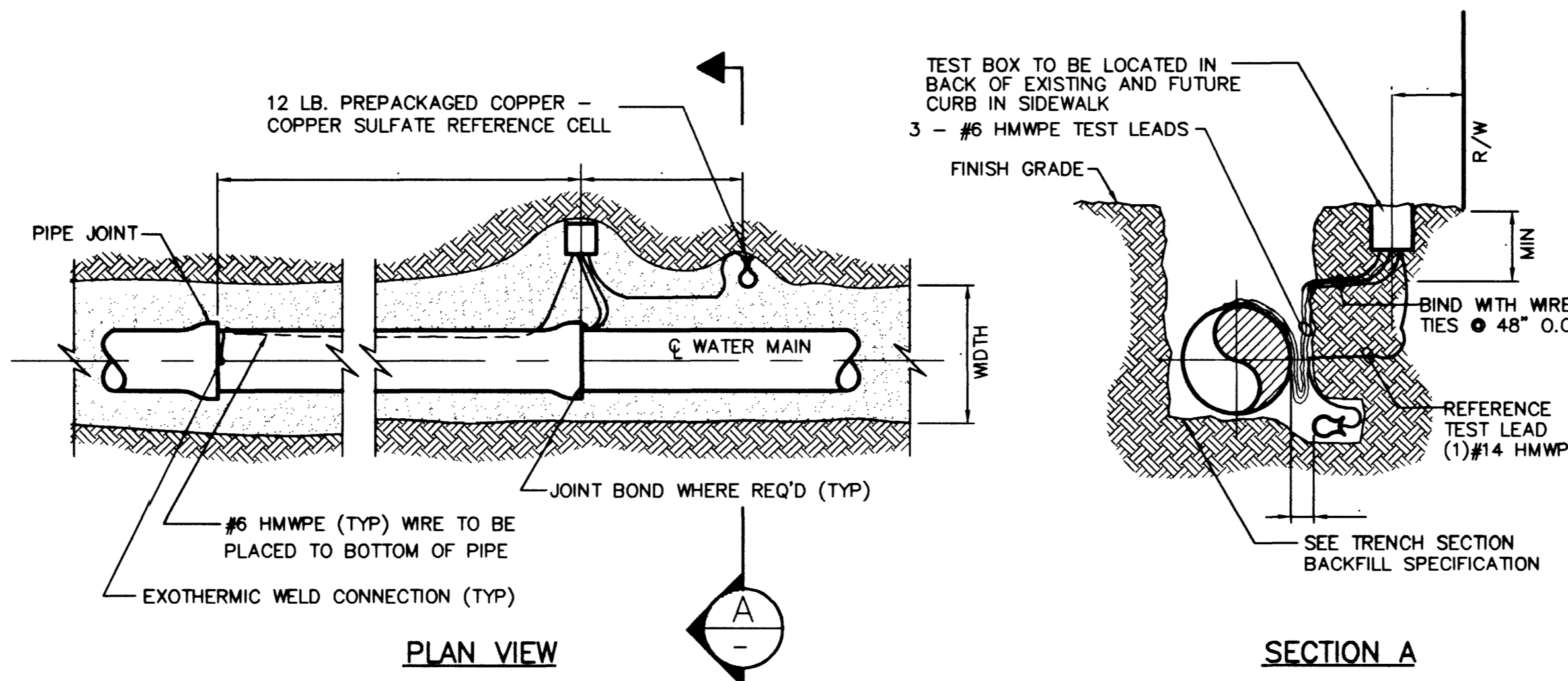
WHERE THE WATERLINE IS LESS THAN 18 INCHES OVER THE SEWER LINE, WHERE THE WATER LINE IS UNDER THE SEWER LINE AND WHERE HORIZONTAL SEPARATION, AS REQUIRED BY THE WATER SUPPLY REGULATIONS, CANNOT BE MAINTAINED BECAUSE OF PHYSICAL OBSTRUCTIONS, THE WATER LINE SHALL BE PROTECTED BY CONSTRUCTION OF THE STORM/SEWER LINE AS FOLLOWS:

1. EXTRA HEAVY CAST IRON PIPE
2. WATER SUPPLY QUALITY MATERIALS OR
3. ENCASEMENT WITH FOUR (4) INCHES MINIMUM, OF CONCRETE OR SLEEVING WITH SUPPLY QUALITY PIPE

EACH OF THE PROVISIONS SHALL ALSO BE EXTENDED FOR OTHER THAN 90 DEGREE CROSSINGS TO THE POINT AT WHICH THE TEN (10) FOOT SEPARATION BETWEEN THE WATER AND SEWER LINES IS ACHIEVED (10/SINE OF CROSSING ANGLE).

2 STORM/SEWER WATER CROSSING DETAIL

NOT TO SCALE

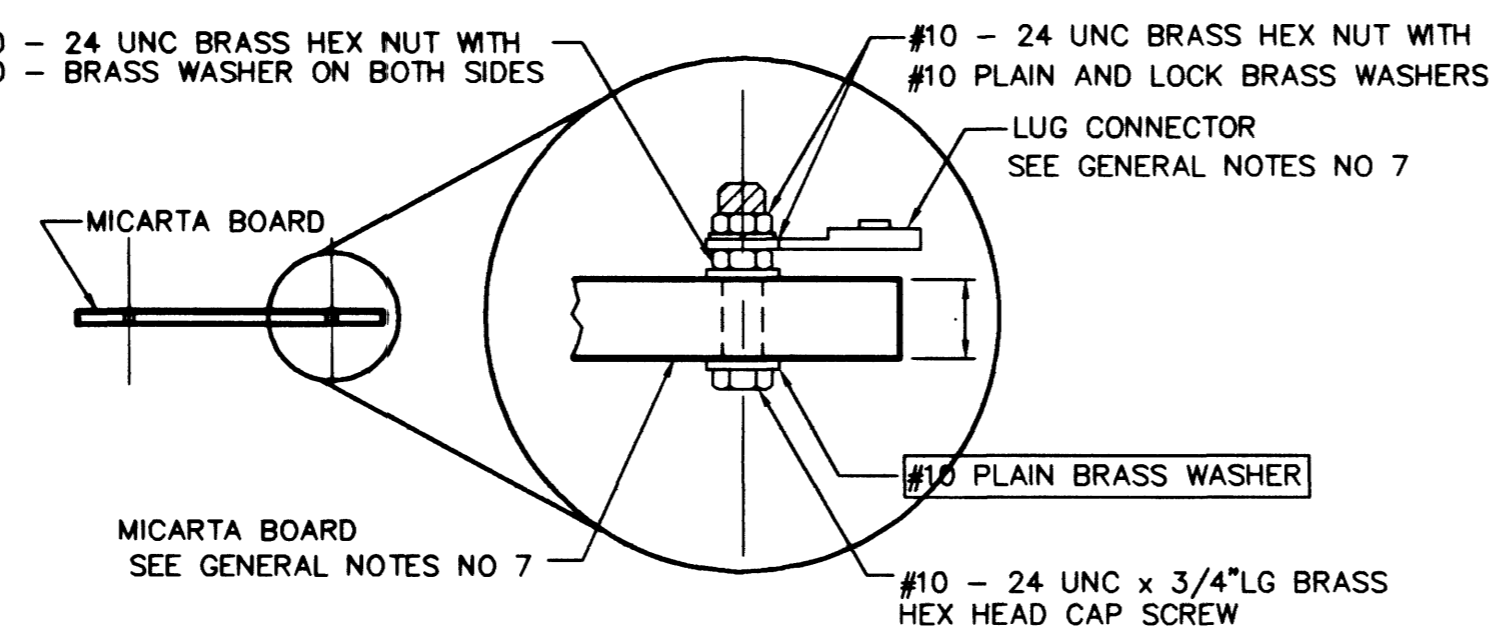


NOTES

1. USE ONLY NATIVE SOIL FREE OF ROCKS AND CLODS FOR BACKFILL AROUND CELLS WITH A MINIMUM OF 5 GALS OF WATER SATURATION DURING INSTALLATION. DO NOT USE SAND AS BACKFILL.
2. SUPPLY ENOUGH WIRE FROM EACH LEAD TO REACH FULL R/W WIDTH PLUS FIVE (5) ADDITIONAL FEET. COIL WIRE IN BOTTOM OF BOX.

5 TEST STATION INSTALLATION WITHOUT ANODES

NOT TO SCALE



6 TEST BOARD DETAIL - TYPICAL

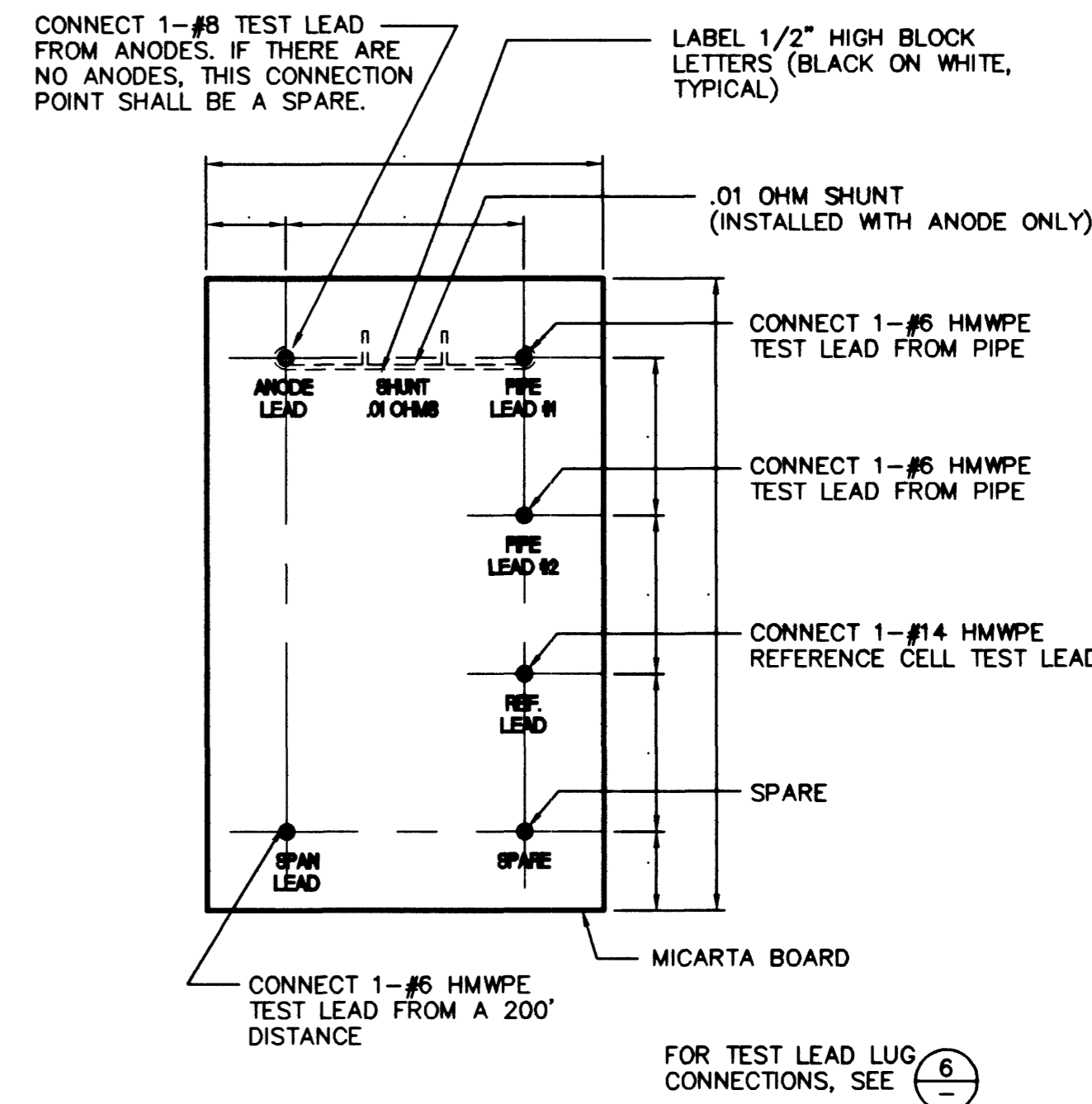
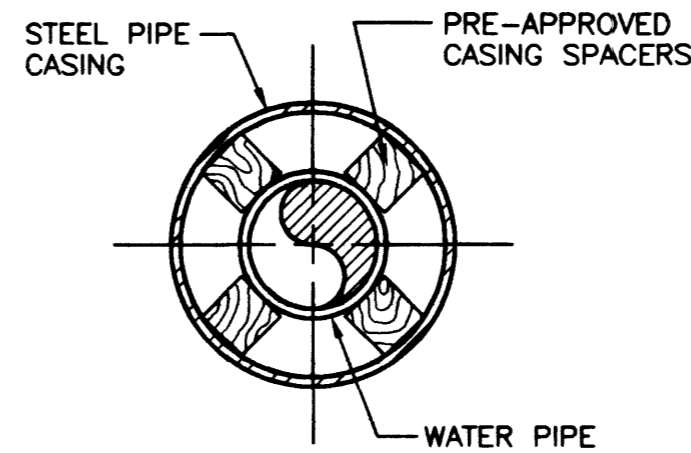
NOT TO SCALE

TYPICAL CASING SECTION

NOTES:

1. STEEL PIPE CASING SYMMETRICAL ABOUT WATER MAIN CENTERLINE.
2. PRE-APPROVED CASING SPACERS AND PRE-APPROVED END SEALS INSTALLED PER MANUFACTURER'S SPECIFICATIONS. (REDWOOD SKIDS NOT ALLOWED, UDACS SECTION 3.26 NOT APPLICABLE). USE A "CENTERED" CONFIGURATION AND PROVIDE THE MANUFACTURER WITH THE FOLLOWING:

- PIPE O.D.
- CASING I.D.
- CASING LENGTH



GENERAL NOTES

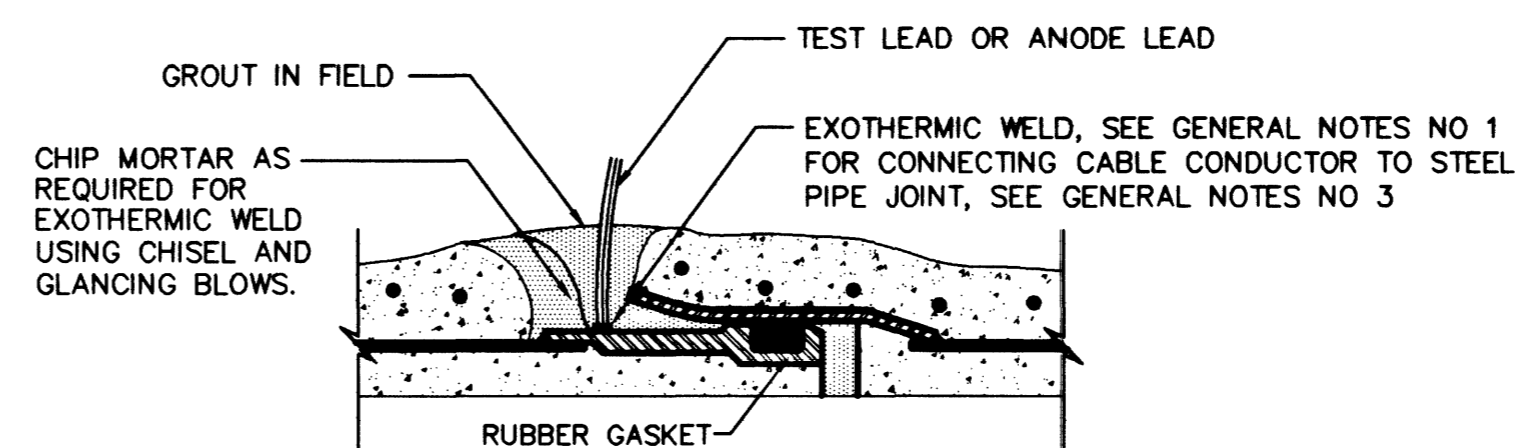
1. ALL TEST LEADS AND ANODE LEADS SHALL BE ATTACHED TO THE STEEL CYLINDER OF THE PIPE BY MEANS OF A "CADWELD" EXOTHERMIC WELD.
2. ALL TEST LEADS AND ANODE LEADS SHALL BE ATTACHED TO EITHER THE PIPELINE'S BELL END, SPIGOT END OR PLAIN END AS SHOWN ON THE DRAWING.
3. ALL EXPOSED PORTIONS OF THE EXOTHERMIC WELD AND COPPER CABLE CONDUCTORS SHALL BE COATED WITH A SCOTCHCOAT 4 INSULATING RESIN PRIOR TO PLACING GROUT AROUND THE PIPELINE JOINT.
4. ALL TEST LEADS AND ANODE LEADS SHALL BE RUN WITHOUT SPLICES FROM THE CONNECTION AT THE PIPE TO THE CONNECTION AT THE TEST STATION BOX.
5. ALL TEST LEADS AND ANODE TEST LEADS INSIDE THE TEST BOX SHALL BE BUNDLED TOGETHER AT 8 INCH INTERVALS WITH NYLON CABLE TIES. ALL TEST STATION LEADS SHALL BE PROVIDED WITH SUFFICIENT SLACK SO THAT THE TEST BOARD MAY BE EXTENDED A MINIMUM OF 4 FEET ABOVE THE TEST BOX.
6. ALL TEST LEADS AND ANODE LEADS (WIRE INSULATION) ARE COLOR CODED AS FOLLOWS:

- | | |
|------------------------------|----------|
| TEST STATION LEADS FROM PIPE | - WHITE |
| REFERENCE CELL TEST LEADS | - RED |
| ANODE TEST LEADS | - GREEN |
| 200' TEST LEAD | - BLUE |
| FOREIGN PIPE LEAD | - YELLOW |
| CASING | - BLACK |

ALL TEST LEADS AND ANODE LEADS SHALL BE COLOR CODED WITH COLORED WIRE INSULATION (TYP)**

- ** WHEN APPROVED BY DISTRICT ENGINEER COLOR CODED "TAPING" IS PERMITTED IN LIEU OF COLOR CODED WIRES AND SHALL BE INSTALLED AS FOLLOWS:
- A. ALL WIRE INSULATION SHALL BE ONE UNIFORM COLOR.
 - B. ALL COLOR CODED TAPE SHALL FOLLOW THE ABOVE COLOR TABLE.
 - C. TAPE SHALL BE INSTALLED AT EACH END AND 4 FOOT INTERVALS.

7. ALL TEST LEADS AND ANODE LEADS SHALL BE CONNECTED TO THE BRASS BOLTS ON THE TEST BOARD WITH SOLDERLESS SCREW TIGHT COPPER LUG CONNECTORS OR PRESSURE TERMINAL CONNECTORS.
8. ALL TEST LEADS AND ANODE TEST LEADS SHALL HAVE A MINIMUM OF 4' OF SLACK NEAR THE PIPE JOINT TO PREVENT DAMAGE DURING THE BACKFILL OPERATION.
9. ALL TEST LEADS AND ANODE TEST LEADS SHALL BE PLACED ALONG THE SIDE AND BELOW THE SPRINGLINE OF THE PIPE.
10. DUAL TEST STATIONS - LABEL ALL WIRES TO DISTINGUISH.
11. CABLE ASSEMBLIES SHALL BE USED WHEN PRACTICAL.



NOTE
FOR WELDED JOINT, ATTACH TEST LEAD OR ANODE LEAD BY EXOTHERMIC WELD TO THE EXPOSED STL END OF PIPE.

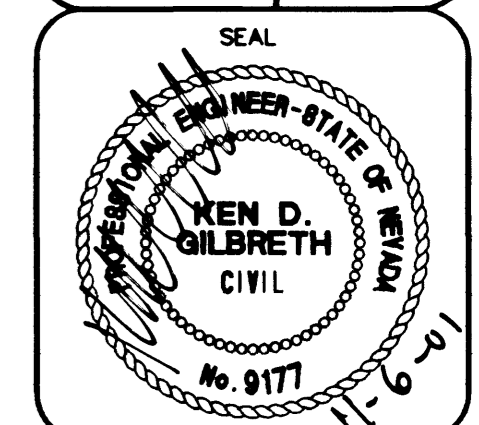
7 TEST LEAD OR ANODE CONNECTION TO PIPE JOINT CARNEGIE OR ROLLED-GROVE DETAIL

NOT TO SCALE

APPROVED
1st approved 10/24/01
11/6/01
LAS VEGAS VALLEY WATER DISTRICT
DATE

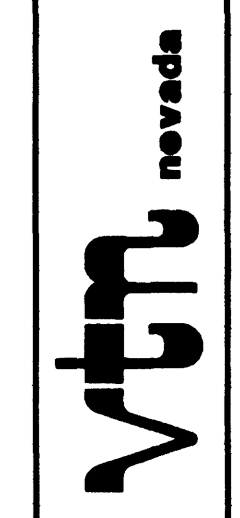
DEPARTMENT OF PUBLIC WORKS
CITY OF LAS VEGAS

WATER LINE RELOCATION DETAILS
ANN ROAD IMPROVEMENTS
US 95 TO FERRELL STREET



NO. NO. 5546
BY TMM
DATE 10/05/01
SCALE HORIZ. AS NOTED
DRAWING SHEET 46 OF 163 SHEETS

CONSULTING ENGINEERS • PLANNERS • LAND SURVEYORS
2727 SOUTH RAINBOW BOULEVARD
LAS VEGAS, NEVADA 89146-5148 PHONE (702) 873-7550 FAX (702) 362-2597



PLT 1: VCAD.PUBWORK\5546\DETAILS\WLD.DWG

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