

A PORTION OF SEC 15, TWP 21, RGE 26, W.M. GRANT COUNTY, WASHINGTON



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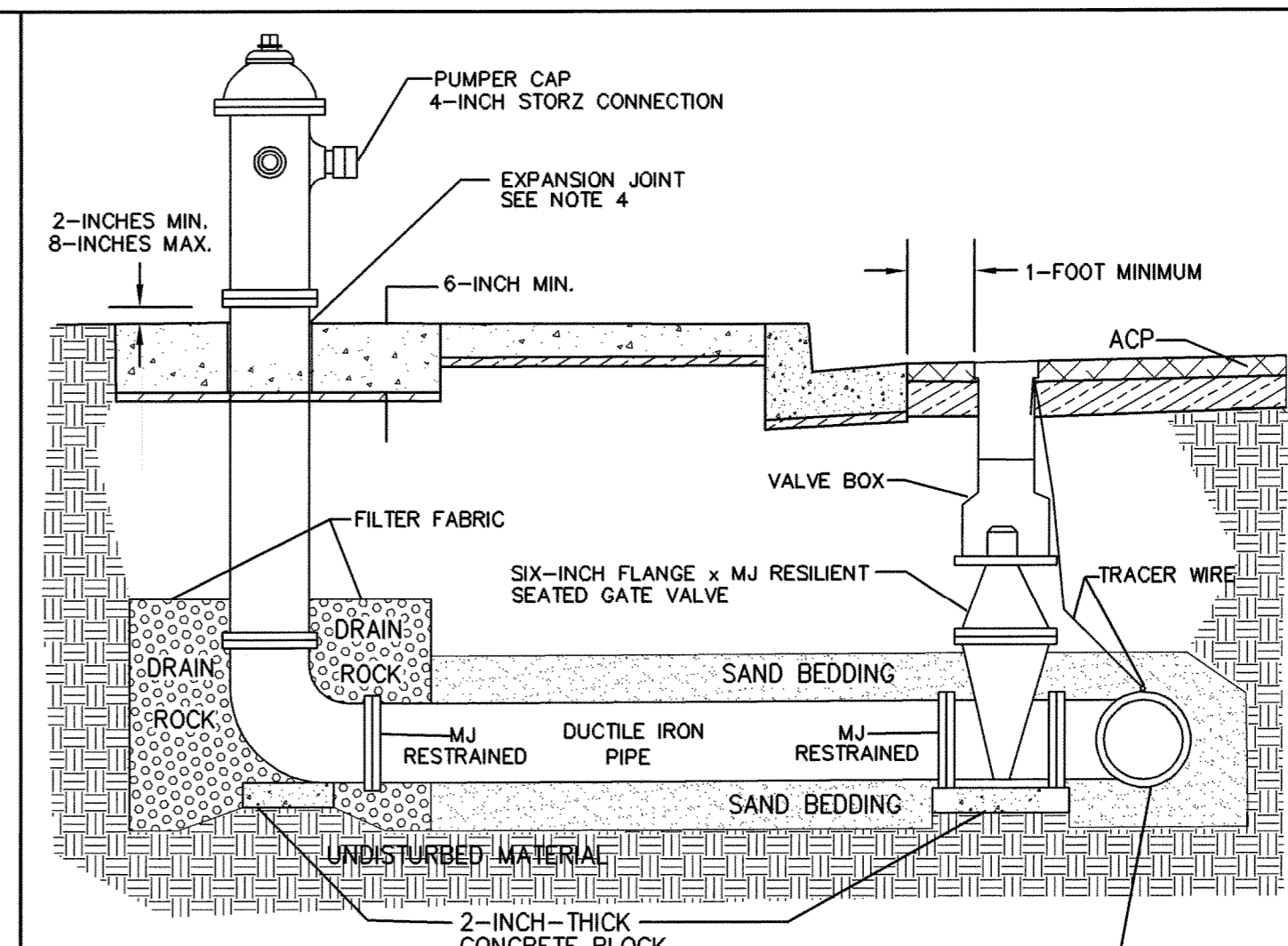
PRAIRIE RIDGE
 CITY OF EPHRATA, WA

FOR: SMART HOMES
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PROJECT NO.: **05055**
 DRAWN BY: **TLR**
 ISSUE DATE: **08-24-05**
 SHEET REV.:

WATER DETAILS

05055DL03-WATER.DWG
C11

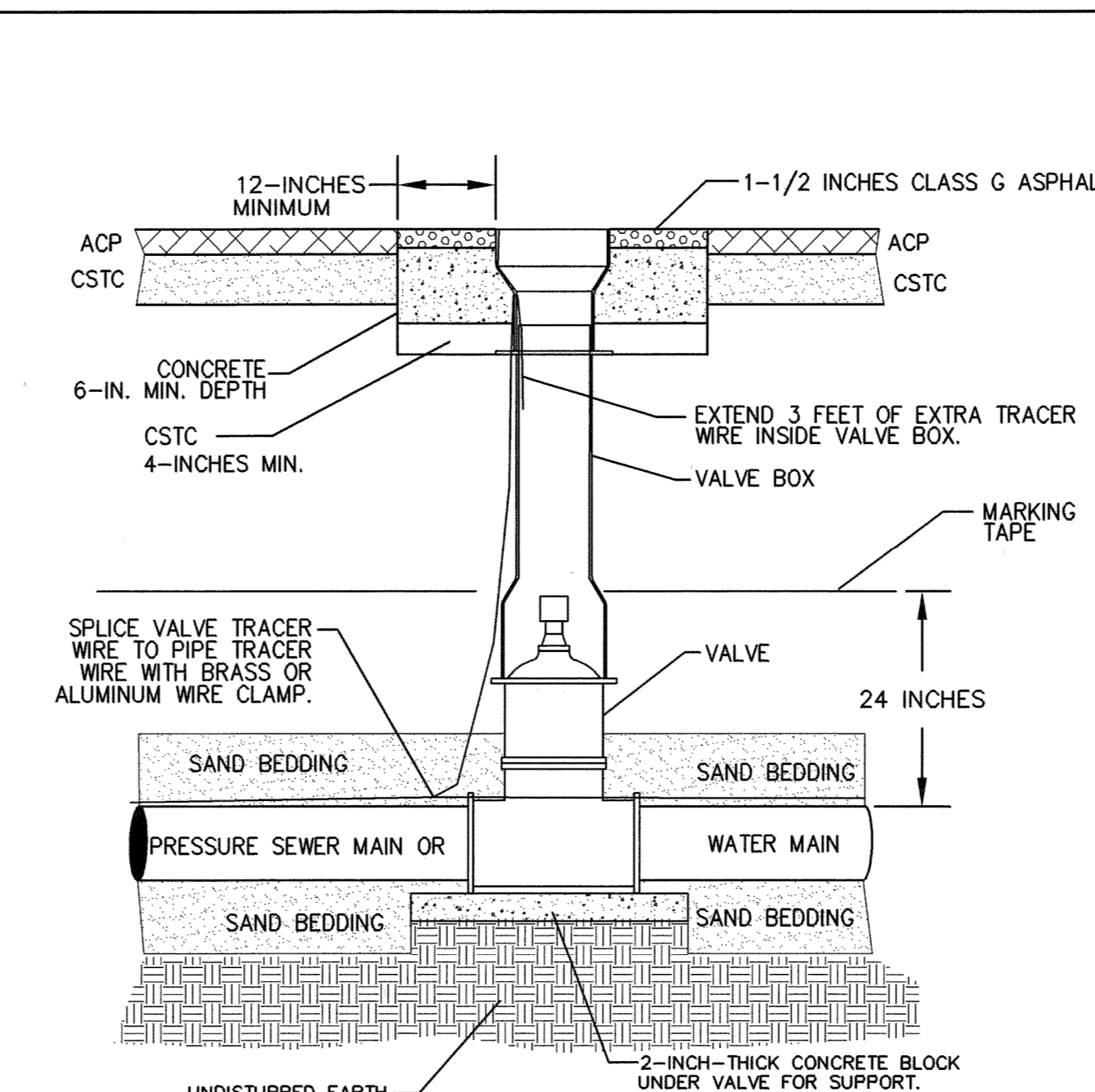


HYDRANT ASSEMBLY

EPHRATA PUBLIC WORKS DEPARTMENT
 CITY OF EPHRATA
 DATE: 02-17

DATE REVISION BY

1. HYDRANTS SHALL BE INSTALLED BEHIND THE SIDEWALK, OR TRAVELED WAY WHERE THERE IS NO SIDEWALK.
 2. NO PORTION OF THE HYDRANT SHALL PROJECT OVER THE SIDEWALK OR TRAVELED WAY.
 3. THE HYDRANT SHALL BE CENTERED IN A 6-FT. X 6-FT. X 6-IN. CONCRETE PAD; HOWEVER, THE SIDEWALK MAY BE CONSIDERED PART OF THE PAD.
 4. EXPANSION JOINT REQUIRED BETWEEN CONCRETE PAD AND FIRE HYDRANT. USE 1/4-INCH-THICK ADHESIVE BACKED NEOPRENE, OR APPROVED EQUAL.
 5. HYDRANTS THAT ARE TO BE DEDICATED TO, OWNED BY, AND MAINTAINED BY THE CITY OF EPHRATA WATER DEPARTMENT SHALL BE PAINTED YELLOW. PRIVATE HYDRANTS SHALL BE PAINTED RED.
 6. PLACE HYDRANT BOLLARDS WHEN REQUIRED BY THE CITY.
 7. MECHANICAL JOINTS AND BELL/SPIGOT CONNECTIONS SHALL BE RESTRAINED JOINTS. CONCRETE THRUST BLOCKS AND SHACKLES ARE NOT ALLOWED.
 8. ALL FITTINGS SHALL BE DUCTILE IRON WRAPPED IN 8-MIL POLYETHYLENE ENCASEMENT, EXCEPT FOR THE BARREL SECTION THAT HAS THE DRAIN HOLE.
 9. VALVE SHALL BE INSTALLED PER THE VALVE AND TRACER WIRE DETAIL.
 10. ALL CONSTRUCTION AND MATERIALS SHALL MEET THE SPECIFICATIONS AND BE APPROVED BY THE CITY OF EPHRATA.
 11. HYDRANTS TO BE PLACED WITHIN SIDEYARD EASEMENT AREA AND/OR ON SIDE PROPERTY LINE, OR AS DIRECTED BY CITY OF EPHRATA WATER DEPARTMENT

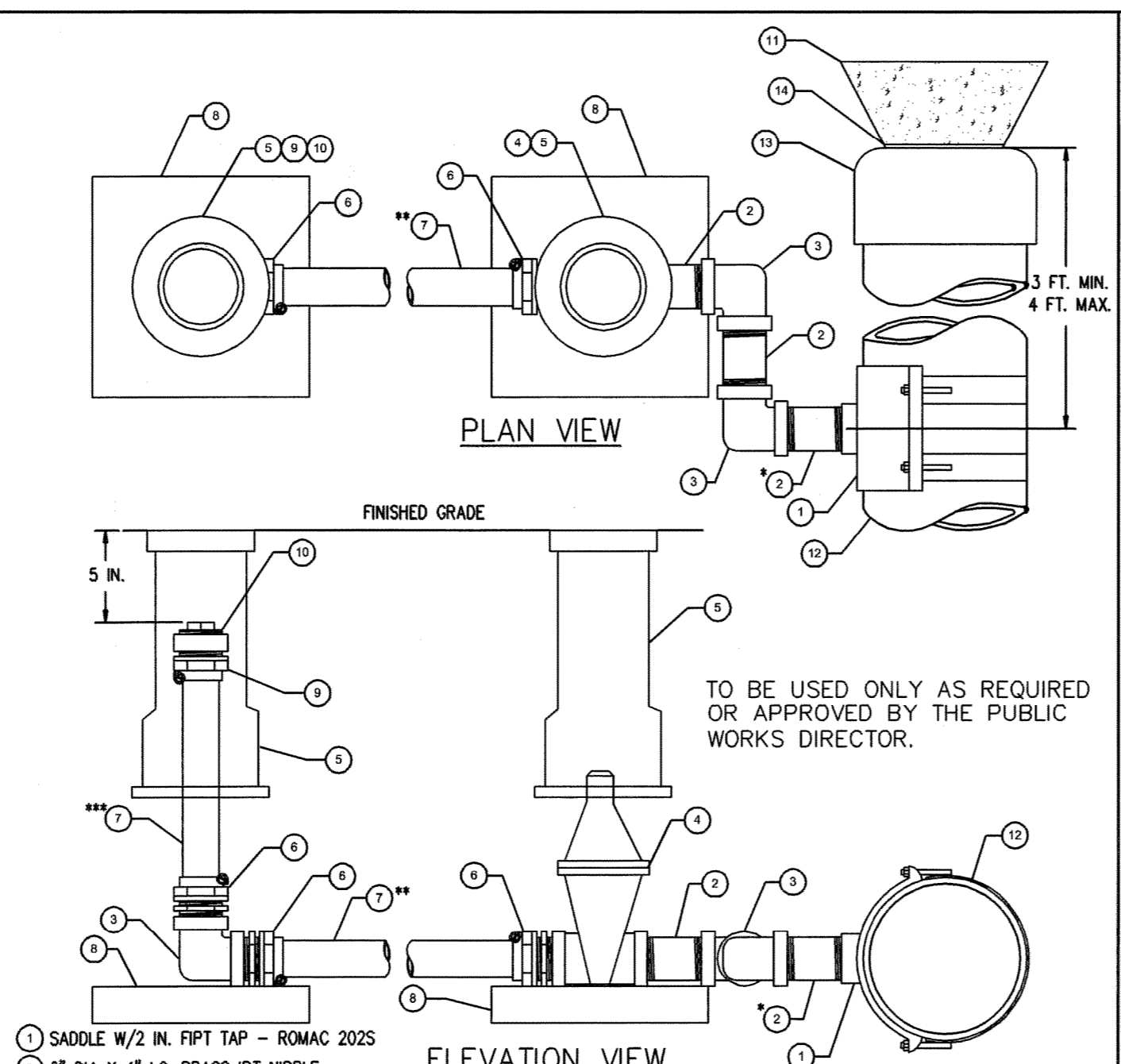


VALVE AND TRACER WIRE INSTALLATION

EPHRATA PUBLIC WORKS DEPARTMENT
 CITY OF EPHRATA
 DATE: 02-17

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1. TRACER WIRE SHALL BE TAPED AT 10-FOOT INTERVALS TO THE TOP OF ALL NON-METALLIC MAINS AND ON WATER SERVICE LINES UP TO WATER METER TILE.
 2. VALVE BOX AND LID SHALL BE SET 1/4 INCH BELOW FINISH GRADE IN ASPHALT AREAS. SET VALVE BOX TO GRADE IN UNPAVED AREAS AND CENTER IN A CONCRETE PAD SLOPED IN DIRECTION OF TRAVEL WITH A MINIMUM DEPTH OF 6 INCHES AND A MINIMUM WIDTH OF 1 FOOT AROUND OUTSIDE OF VALVE BOX.
 3. VALVE OPERATING NUT MORE THAN 4 FEET BELOW GRADE SHALL HAVE AN APPROVED EXTENSION INSTALLED TO BRING TOP OF OPERATING NUT TO 24 INCHES TO 36 INCHES BELOW FINISH GRADE.
 4. ALL CONSTRUCTION AND MATERIALS SHALL MEET THE SPECIFICATIONS AND BE APPROVED BY THE CITY OF EPHRATA.

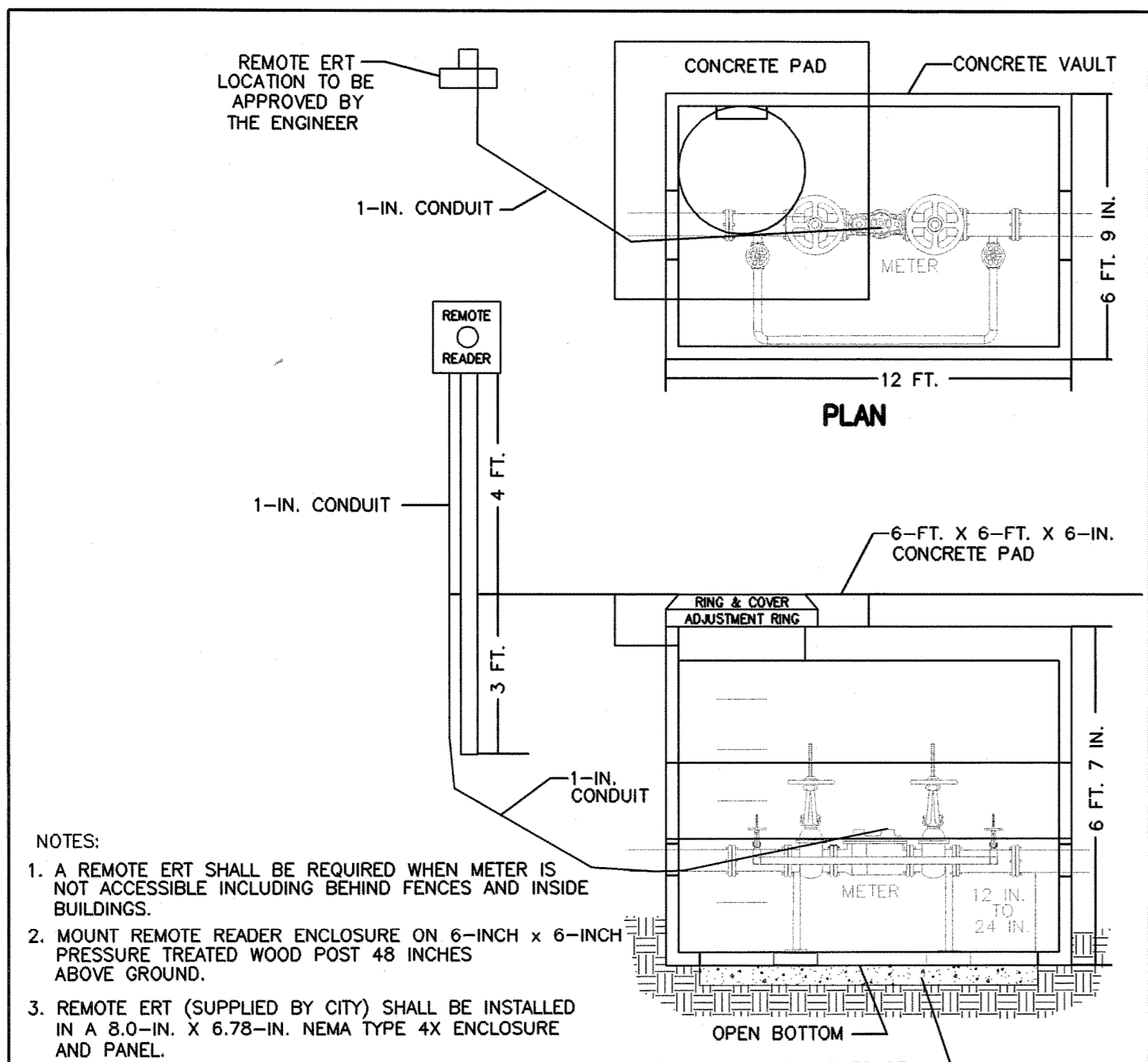


2 1/2 IN BLOW-OFF ASSEMBLY

EPHRATA PUBLIC WORKS DEPARTMENT
 CITY OF EPHRATA
 DATE: 02-17

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NOTE:
 1. SAND OR SELECT BACKFILL REQUIRED WITHIN 6" OF ALL PIPE AND FITTINGS.
 2. BLOW-OFF ASSEMBLY MUST BE UPSIZED TO 2 1/2".
 3. VALVE MUST BE ON MAIN LINE.
 * FOR LIVE TAPS NIPPLE TO BE REPLACED WITH 2" MPT X MPT CORPORATION STOP - FORD FB500
 ** COPPER PIPE TO BE CUT AT 24" LONG
 *** COPPER PIPE TO BE CUT AS REQUIRED

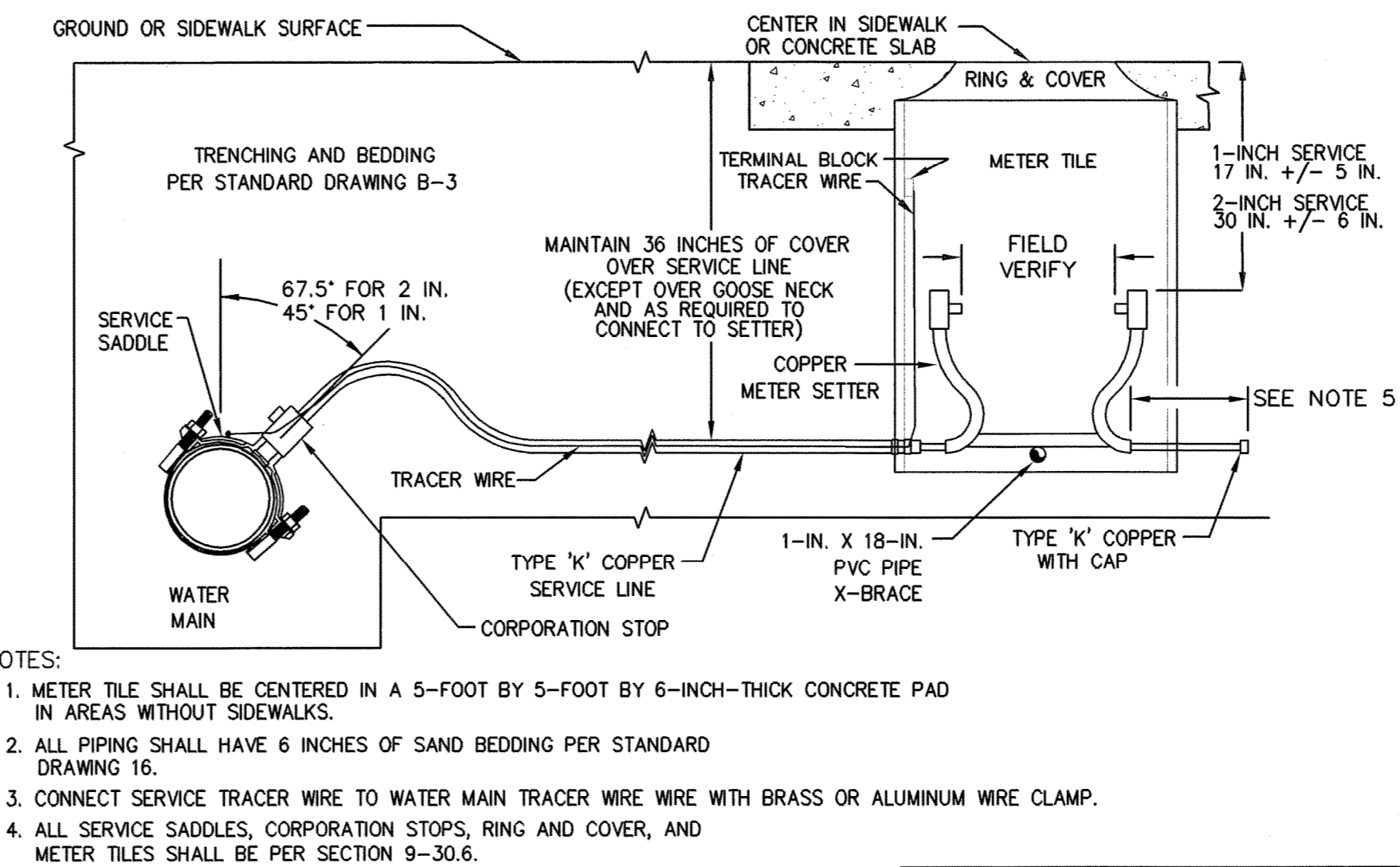


3-INCH AND 4-INCH SERVICE WATER SERVICE METER VAULT

EPHRATA PUBLIC WORKS DEPARTMENT
 CITY OF EPHRATA
 DATE: 03-04

DATE REVISION BY

NOTES:
 1. A REMOTE ERT SHALL BE REQUIRED WHEN METER IS NOT ACCESSIBLE INCLUDING BEHIND FENCES AND INSIDE BUILDINGS.
 2. MOUNT REMOTE READER ENCLOSURE ON 6-INCH X 6-INCH PRESSURE TREATED WOOD POST 48 INCHES ABOVE GROUND.
 3. REMOTE ERT (SUPPLIED BY CITY) SHALL BE INSTALLED IN A 8.0-IN. X 6.78-IN. NEMA TYPE 4X ENCLOSURE AND PANEL.
 4. ALL UNDERGROUND CONDUIT SHALL BE SCHEDULE 40 PVC ELECTRICAL CONDUIT. ALL ABOVE GROUND CONDUIT SHALL BE METALLIC ELECTRICAL CONDUIT.
 5. MINIMUM OF ONE 4-INCH ADJUSTMENT RING WITH A MAXIMUM OF 16 INCHES OF ADJUSTMENT.
 6. AN ENTRY COUPLING IS REQUIRED FOR PVC PIPE WHERE THE PIPE PENETRATES THE VAULT. THE ANNULAR SPACE SHALL PROVIDE A MINIMUM OF 2 INCHES BETWEEN THE PIPE AND THE VAULT.
 7. PLACE 6 INCHES OF CSTC PRIOR TO INSTALLING VAULT BASE.
 8. VALVE ASSEMBLY, METER, PIPE FITTINGS, AND VAULT SHALL BE APPROVED PRIOR TO INSTALLATION.
 9. ALL CONSTRUCTION AND MATERIALS SHALL MEET THE SPECIFICATIONS AND BE APPROVED BY THE CITY OF EPHRATA.
 10. INSTALL ISOLATION VALVE AND VALVE BOX CENTERED IN CITY SIDEWALK OR IN A CONCRETE PAD WITHIN RIGHT OF WAY WHEN METERS ARE INSTALLED ON PRIVATE PROPERTY.

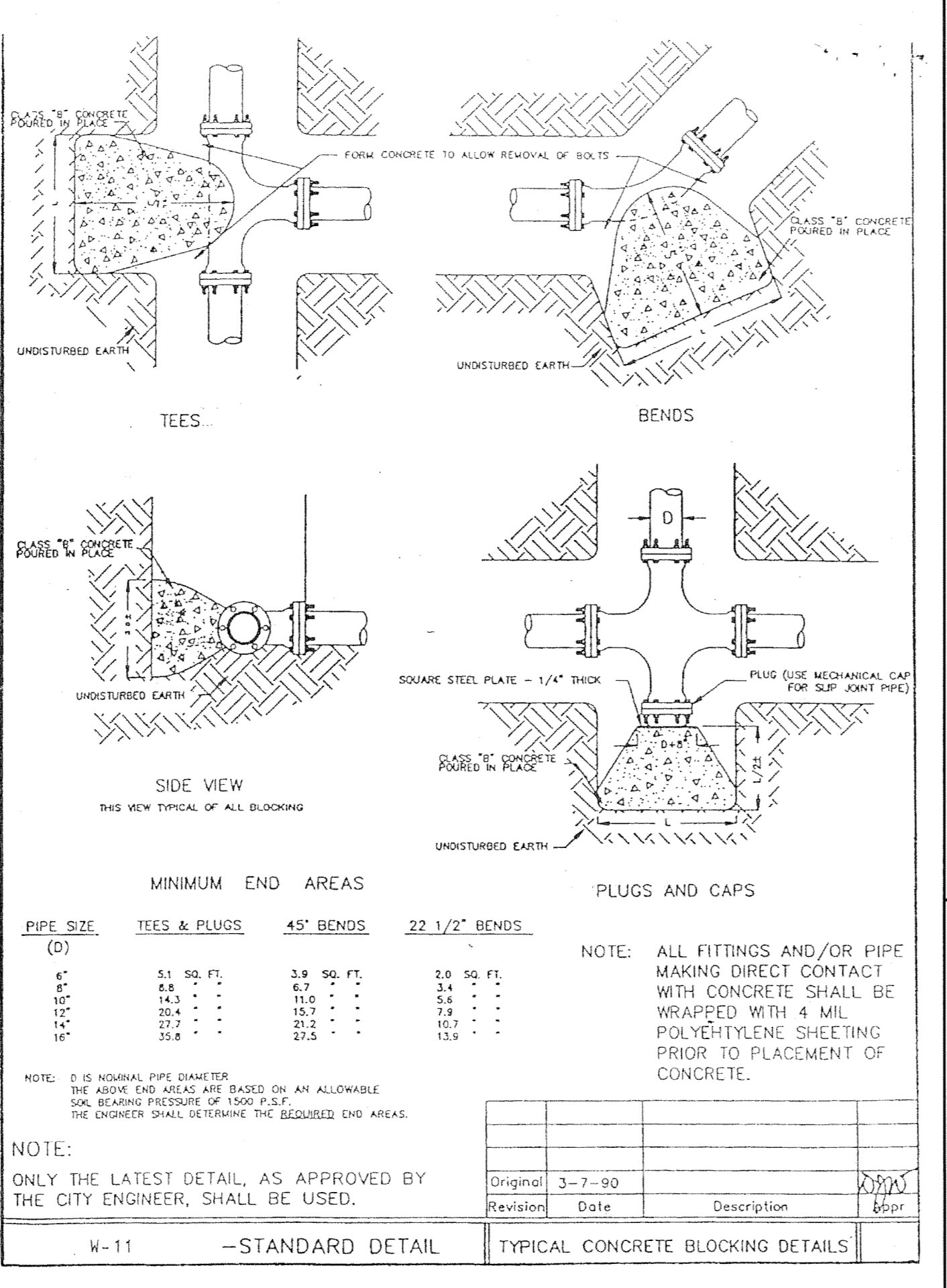


1-INCH AND 2-INCH WATER SERVICE

EPHRATA PUBLIC WORKS DEPARTMENT
 CITY OF EPHRATA
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NOTES:
 1. METER TILE SHALL BE CENTERED IN A 5-FOOT BY 5-FOOT BY 6-INCH-THICK CONCRETE PAD IN AREAS WITHOUT SIDEWALKS.
 2. ALL PIPING SHALL HAVE 6 INCHES OF SAND BEDDING PER STANDARD DRAWING 16.
 3. CONNECT SERVICE TRACER WIRE TO WATER MAIN TRACER WIRE WITH BRASS OR ALUMINUM WIRE CLAMP.
 4. ALL SERVICE SADDLES, CORPORATION STOPS, RING AND COVER, AND METER TILES SHALL BE PER SECTION 9-30.6.
 5. SERVICE LINE SHALL EXTEND THROUGH THE PUBLIC UTILITY EASEMENT.
 6. INSTALL ISOLATION VALVE AND VALVE BOX CENTERED IN CITY SIDEWALK OR IN A CONCRETE PAD WITHIN RIGHT OF WAY WHEN METERS ARE INSTALLED ON PRIVATE PROPERTY.
 7. ALL CONSTRUCTION AND MATERIALS SHALL MEET THE SPECIFICATIONS AND BE APPROVED BY THE CITY OF EPHRATA.



WATERMAIN THRUST BLOCKS

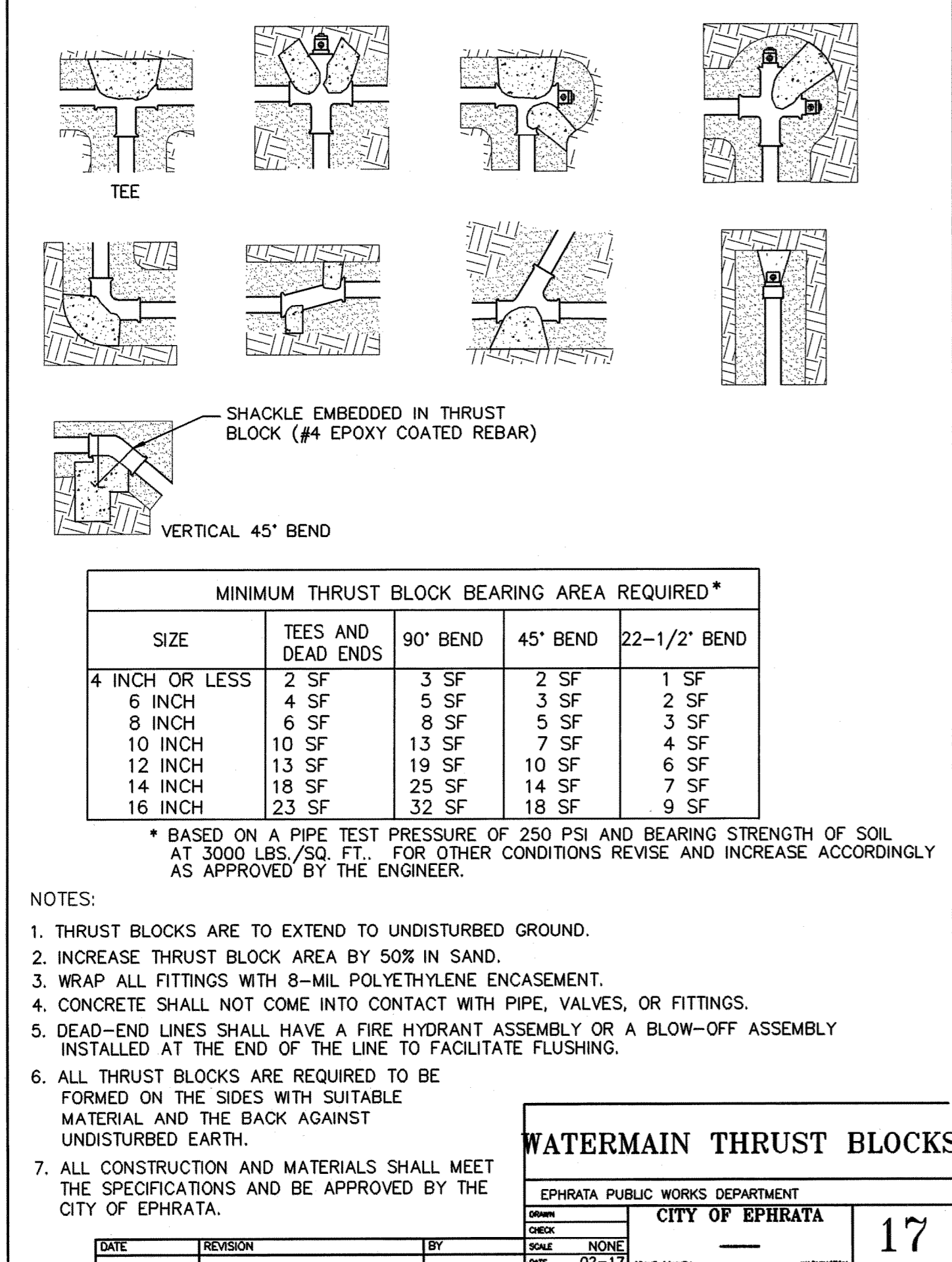
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NOTE: ALL FITTINGS AND/OR PIPE MAKING DIRECT CONTACT WITH CONCRETE SHALL BE WRAPPED WITH 4 MIL POLYETHYLENE SHEETING PRIOR TO PLACEMENT OF CONCRETE.

ONLY THE LATEST DETAIL, AS APPROVED BY THE CITY ENGINEER, SHALL BE USED.

Original 3-7-90
 Revision Date Description



TEE

SHACKLE EMBEDDED IN THRUST BLOCK (#4 EPOXY COATED REBAR)

VERTICAL 45° BEND

MINIMUM THRUST BLOCK BEARING AREA REQUIRED*				
SIZE	TEES AND DEAD ENDS	90° BEND	45° BEND	22-1/2° BEND
4 INCH OR LESS	2 SF	3 SF	2 SF	1 SF
6 INCH	4 SF	5 SF	3 SF	2 SF
8 INCH	6 SF	8 SF	5 SF	3 SF
10 INCH	10 SF	13 SF	7 SF	4 SF
12 INCH	13 SF	19 SF	10 SF	6 SF
14 INCH	18 SF	25 SF	14 SF	7 SF
16 INCH	23 SF	32 SF	18 SF	9 SF

* BASED ON A PIPE TEST PRESSURE OF 250 PSI AND BEARING STRENGTH OF SOIL AT 3000 LBS./SQ. FT.. FOR OTHER CONDITIONS REVISE AND INCREASE ACCORDINGLY AS APPROVED BY THE ENGINEER.

NOTE:
 1. THRUST BLOCKS ARE TO EXTEND TO UNDISTURBED GROUND.
 2. INCREASE THRUST BLOCK AREA BY 50% IN SAND.
 3. WRAP ALL FITTINGS WITH 8-MIL POLYETHYLENE ENCASEMENT.
 4. CONCRETE SHALL NOT COME INTO CONTACT WITH PIPE, VALVES, OR FITTINGS.
 5. DEAD-END LINES SHALL HAVE A FIRE HYDRANT ASSEMBLY OR A BLOW-OFF ASSEMBLY INSTALLED AT THE END OF THE LINE TO FACILITATE FLUSHING.
 6. ALL THRUST BLOCKS ARE REQUIRED TO BE FORMED ON THE SIDES WITH SUITABLE MATERIAL AND THE BACK AGAINST UNDISTURBED EARTH.
 7. ALL CONSTRUCTION AND MATERIALS SHALL MEET THE SPECIFICATIONS AND BE APPROVED BY THE CITY OF EPHRATA.

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