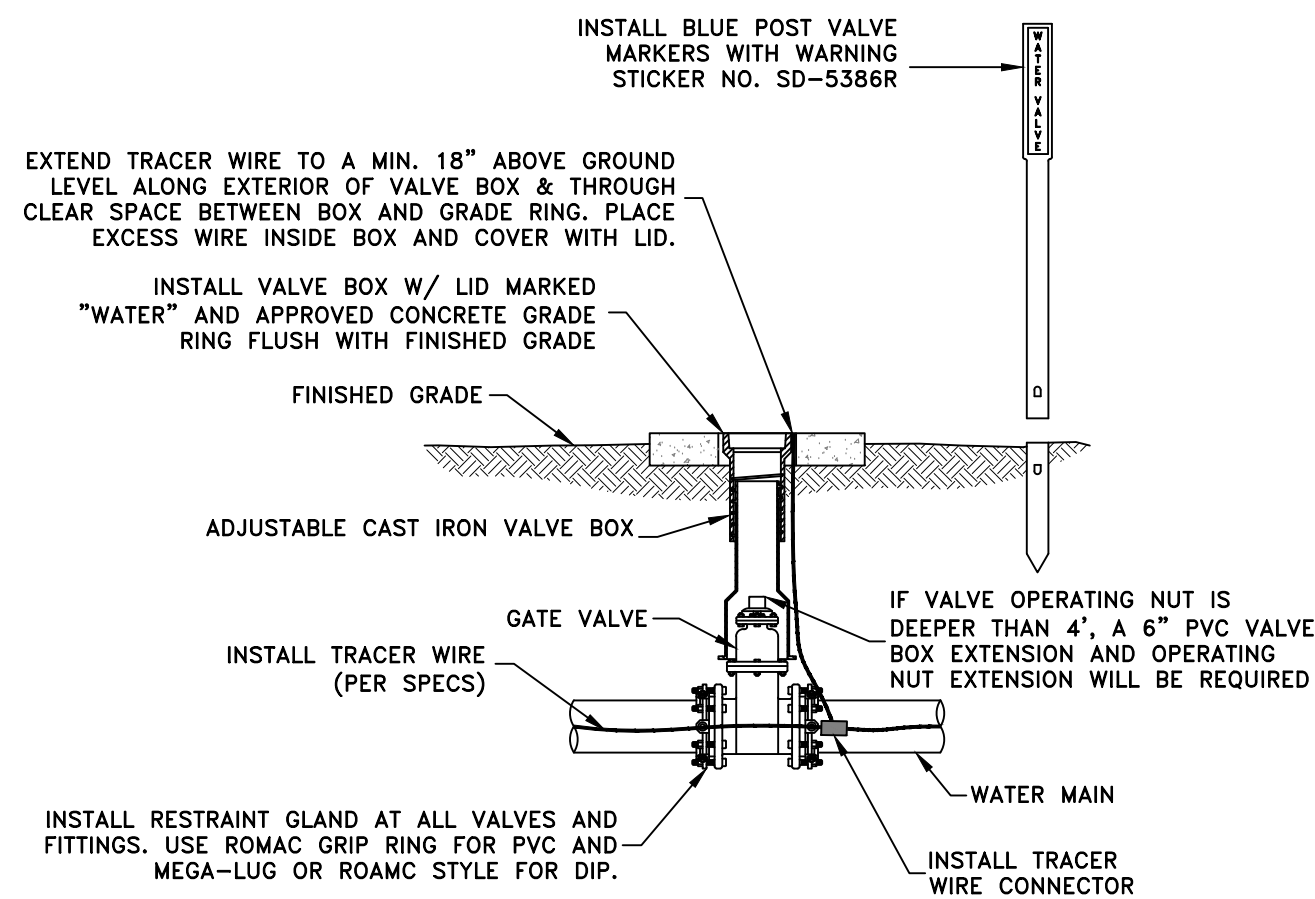
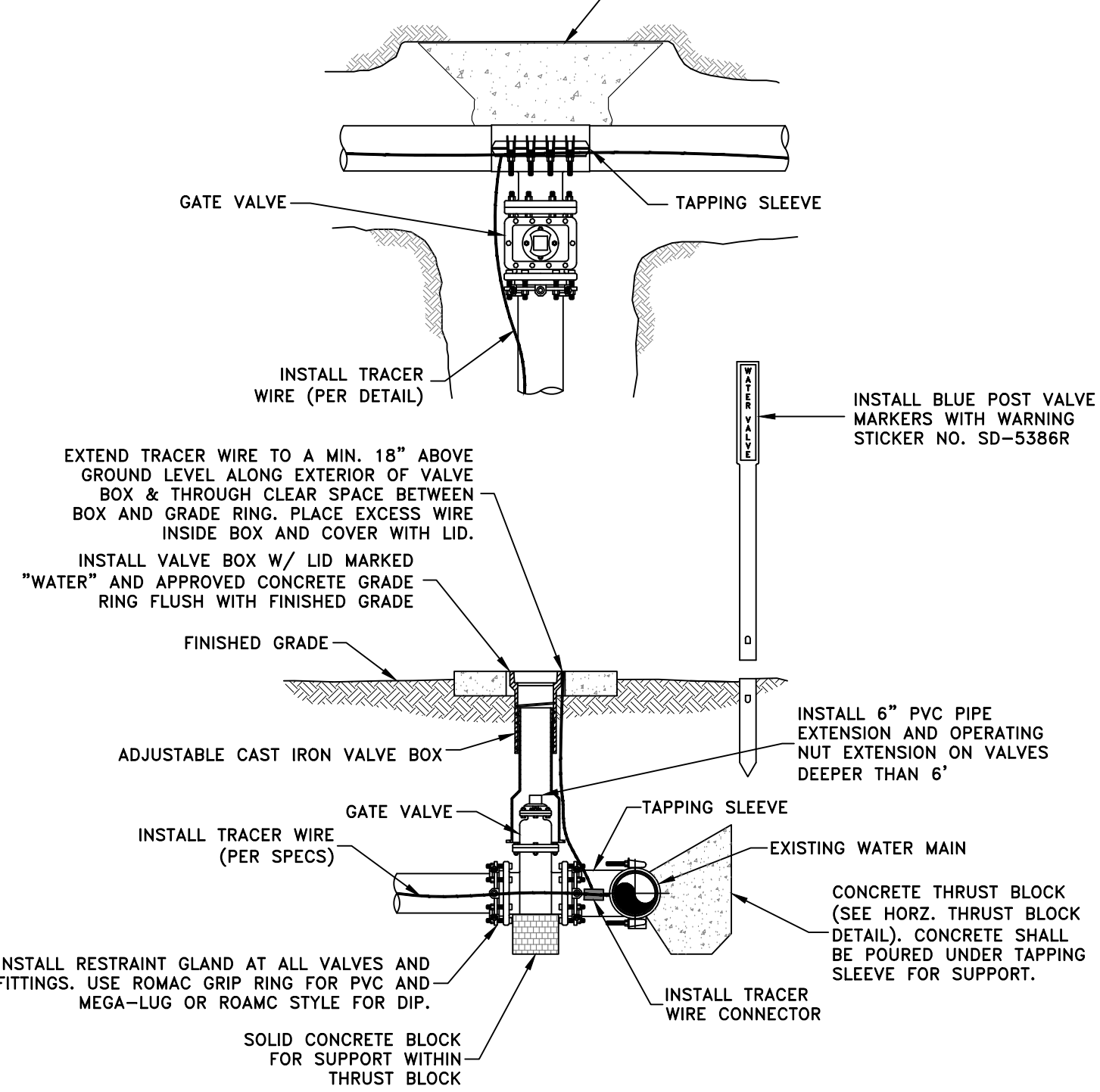


NOTES:
1.) VALVE INSTALLATIONS SHALL BE BEDDED AND BACKFILLED WITH CRUSHED STONE.



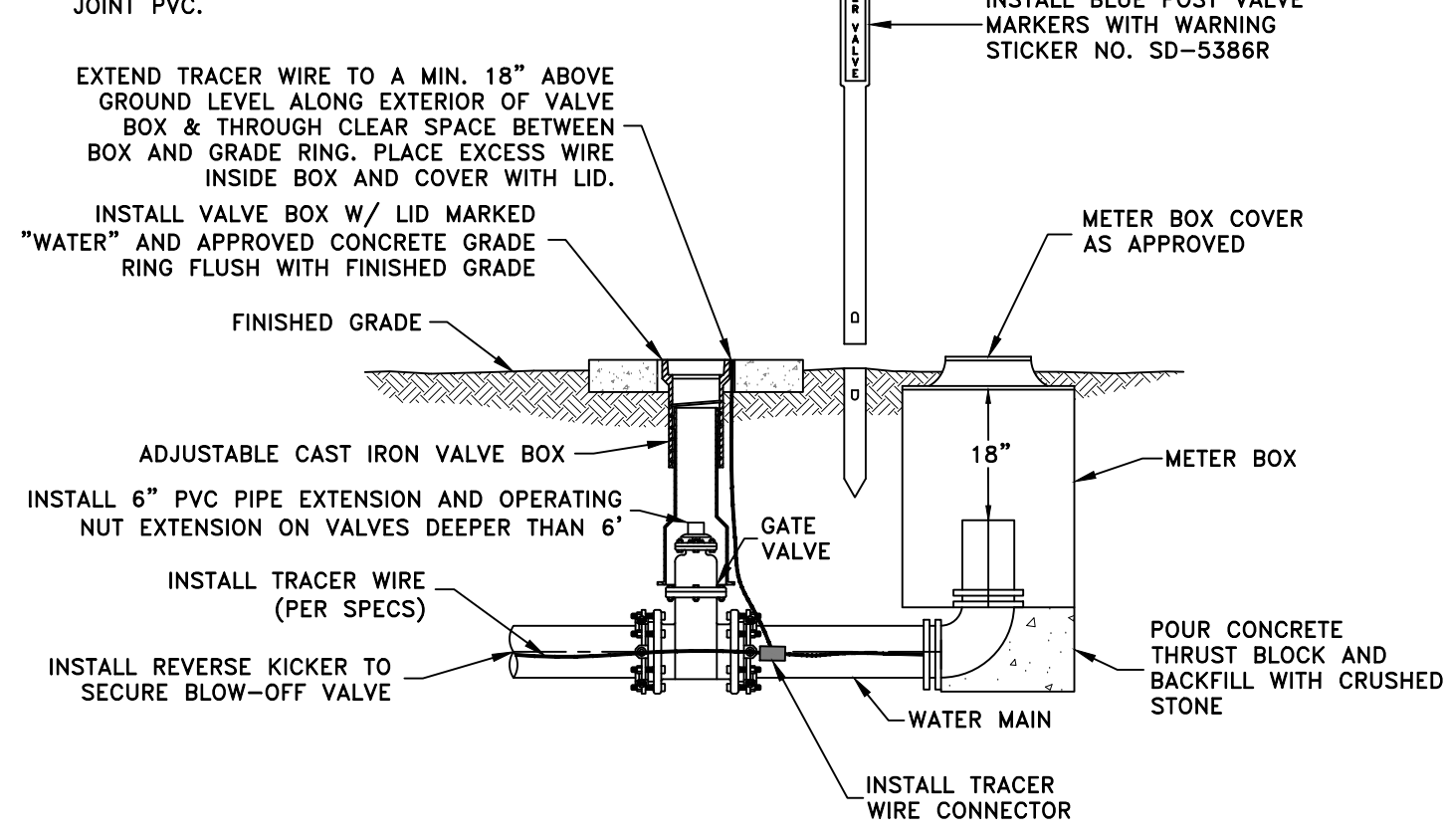
TYPICAL IN-LINE VALVE INSTALLATION

NOTES:
1.) VALVE INSTALLATIONS SHALL BE BEDDED AND BACKFILLED WITH CRUSHED STONE.
2.) TAPPING SLEEVE AND VALVE ASSEMBLY SHALL BE WRAPPED IN PLASTIC PROTECTIVE COATING.



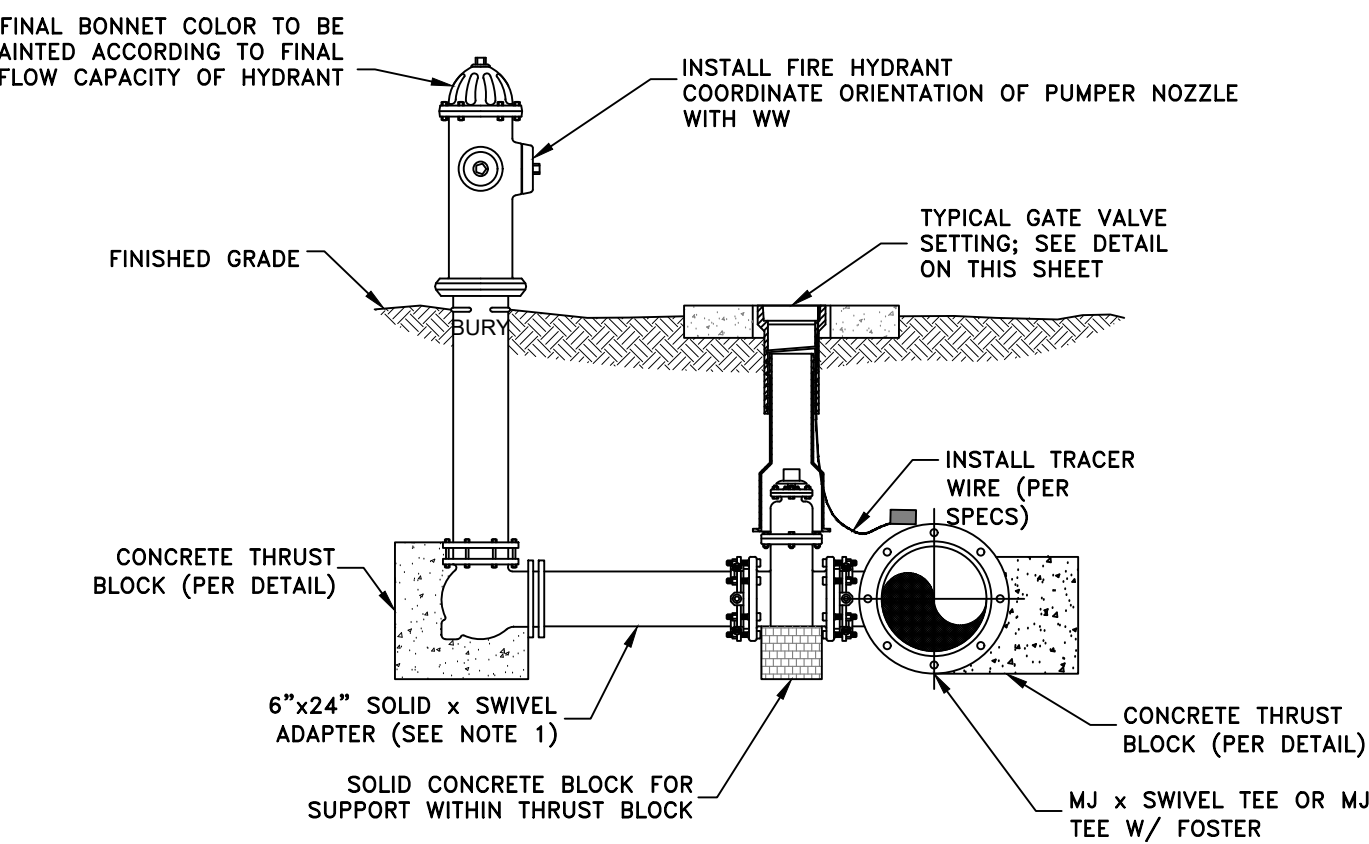
TAPPING SLEEVE AND VALVE INSTALLATION

NOTES:
1.) BLOW-OFF ASSEMBLY SHALL BE BEDDED AND BACKFILLED WITH CRUSHED STONE.
2.) BLOW-OFF ASSEMBLY ELBOW SHALL BE WRAPPED IN PLASTIC PROTECTIVE COATING UNLESS ELBOW IS SLIP-ON JOINT PVC.

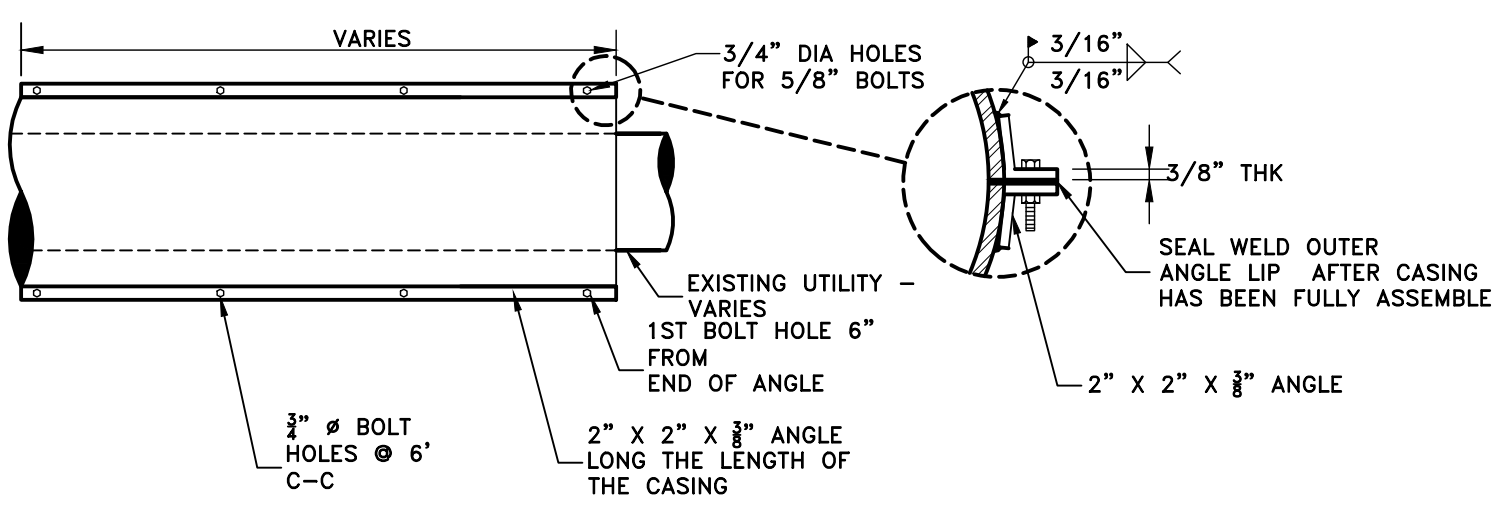


BLOW-OFF ASSEMBLY INSTALLATION

NOTES:
1.) HYDRANT ASSEMBLY SHALL BE BEDDED AND BACKFILLED WITH CRUSHED STONE.
2.) TEE OR TAPPING SLEEVE AND VALVE ASSEMBLY SHALL BE WRAPPED IN PLASTIC PROTECTIVE COATING.
3.) FOR INSTALLATIONS REQUIRING A LONGER HYDRANT LEAD, SOLID x SWIVEL ADAPTER WILL BE REPLACED WITH DIP (LENGTH AS REQUIRED) AND RESTRAINED WITH MEGALUG OR ROMAC GRIP RING.
4.) IF MULTIPLE JOINTS OF PIPE ARE PROPOSED BETWEEN THE VALVE AND HYDRANT ASSEMBLY, RESTRAINED FIELD LOCK GASKET SHALL BE UTILIZED AT EACH BELL TO RESTRAIN THE PIPE.



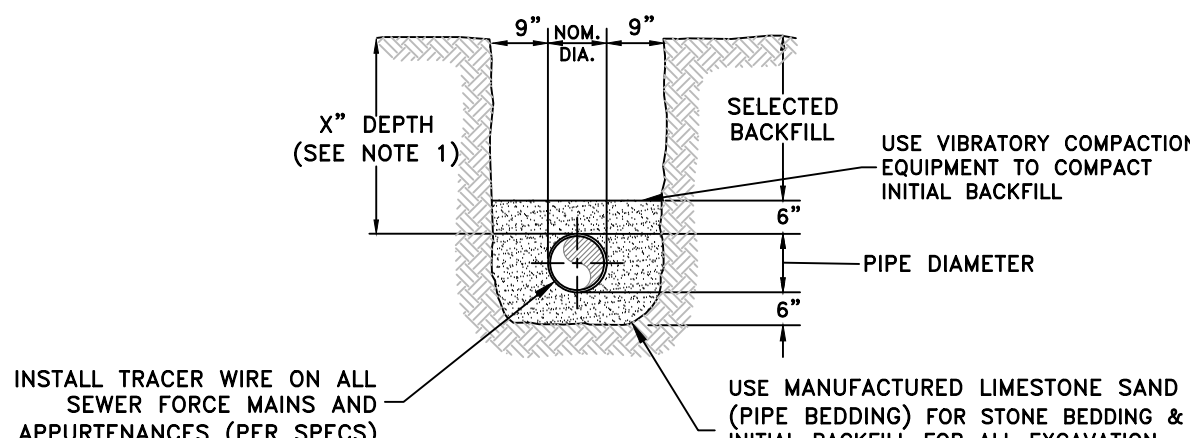
FIRE HYDRANT ASSEMBLY



NOTES:
1. SPLIT CASINGS ARE INTENDED FOR OPEN CUT INSTALLATIONS ONLY AND PRIMARILY FOR PROTECTING EXISTING UTILITIES.
2. SPLIT CASING WILL NOT BE ACCEPTABLE FOR BORE AND JACK INSTALLATIONS.
3. CASING SPACERS SHALL BE PROVIDED AS SPECIFIED FOR TYPICAL CASING INSTALLATIONS.
4. SIZING AND SPACER CONFIGURATION PER TYPICAL CASING DETAIL.

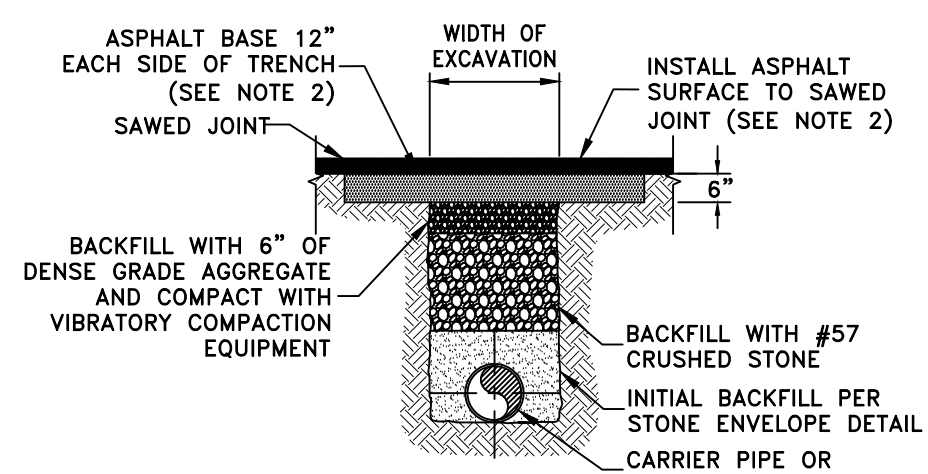
TYPICAL SPLIT CASING DETAIL

NOTES:
1.) FOR PIPE DIAMETERS LESS THAN OR EQUAL TO 10", 30" OF COVER IS REQUIRED. FOR PIPE DIAMETERS GREATER THAN OR EQUAL TO 12", 48" OF COVER IS REQUIRED. NO PIPE SHALL HAVE MORE THAN 48" OF COVER AT FINISHED GRADE UNLESS APPROVED BY WSB.
2.) WHEN INSTALLING WATER MAIN UNDER A ROADWAY, PIPE SHOULD BE BEDDED AND BACKFILLED WITH 100% #9M OR #57 STONE TO SUBGRADE.



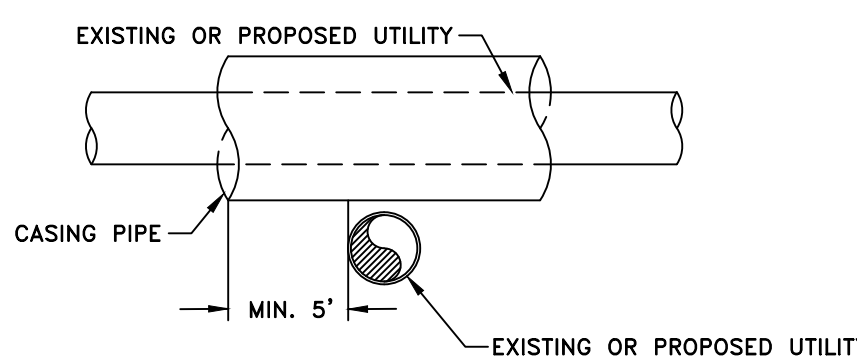
TYPICAL STONE ENVELOPE - WATER

NOTES:
1.) FOR BOTH CONCRETE AND ASPHALT PAVEMENT REPAIR, REFERENCE BOWLING GREEN PUBLIC WORKS STREET REPAIR METHOD DETAIL OR COORDINATE WITH GOVERNING ROAD AGENCY.
2.) FOR CONCRETE PAVEMENT, REPLACE WITH A CONTINUOUS SLAB FROM SUB-BASE TO SURFACE.



SURFACE RESTORATION (FOR CROSSING OF ALL STREETS & HIGHWAYS)

NOTES:
1.) IF A VERTICAL SEPARATION OF 18" CANNOT BE ACHIEVED BETWEEN ANY TWO UTILITY CROSSINGS DUE TO SITE CONSTRAINTS, STEEL OR PVC CASING SHALL BE UTILIZED DOWN TO A MINIMUM SEPARATION OF 6". THE LENGTH OF CASING SHALL BE ADEQUATE TO SPAN THE TRENCH OF THE UTILITY BEING CROSSED. SPACERS AND END CAPS ARE NOT NECESSARY, BUT THE ENDS OF THE CASING SHOULD BE SEALED WITH SPRAY FOAM.



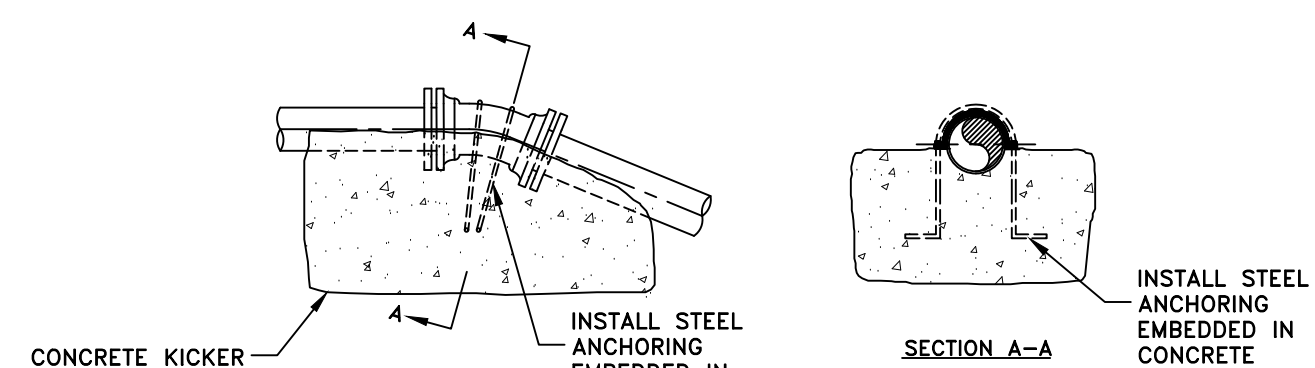
TYPICAL UTILITY CROSSING

CARRIER TYPE AND CASING PIPE SIZES (MIN) IN INCHES									
CARRIER PIPE NOM. DIA. (D1)	4	6	8	10	12	16	20	24	30
CASING PIPE NOM. DIA. (D2)	12	12	16	20	20	24	30	36	42
WALL THICKNESS	0.375	0.375	0.375	0.375	0.375	0.500	0.500	0.500	0.625

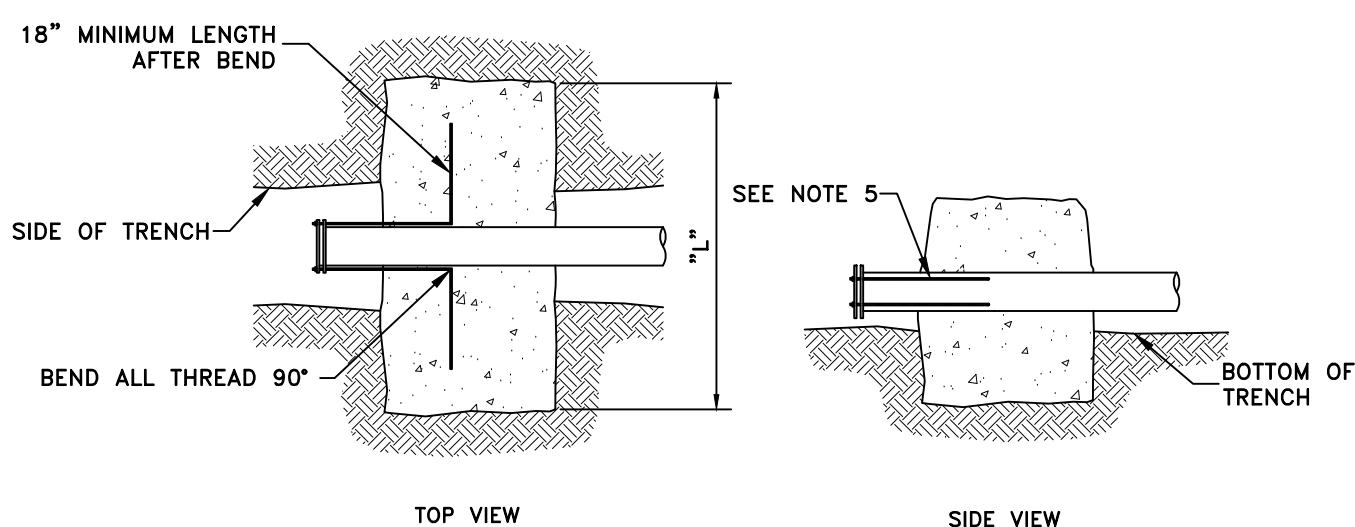
CASING SCHEDULE

NOTES:
1. CASING SIZES ARE BASED ON A TYPICAL TYTON JOINT WITH RESTRAINED JOINT GASKETS. IF A TRADITIONAL RESTRAINED JOINT SIMILAR TO TR FLEX OR EQUIVALENT IS UTILIZED, COORDINATE WITH WSB TO ENSURE SUFFICIENT CASING SIZE IS PROVIDED.
2. MINIMUM COVER AT LOWEST POINT IN RIGHT OF WAY SHOULD BE 4' TO TOP OF CASING FOR KYTC AND COUNTY ROADWAYS AND 5.5' TO BASE OF RAIL ON RAILROADS.
3. ALL CASINGS SHALL EXTEND THROUGH RIGHT OF WAY.
4. THE INSIDE DIAMETER OF THE CASING PIPE SHALL BE A MINIMUM OF 4 INCHES GREATER THAN THE OUTSIDE DIAMETER OF THE CARRIER PIPE BELL OR COUPLING.
5. FOR CASINGS 50 FEET IN LENGTH OR LONGER, ALL CARRIER PIPE SHALL BE DUCTILE IRON PIPE AND HAVE MECHANICAL RESTRAINED JOINTS.
6. STAINLESS STEEL SPACERS SHALL BE USED FOR ALL DUCTILE IRON PIPE OR ANY PIPE 12" IN DIAMETER AND LARGER.
7. PIPE TO BE USED AS A CASING SHALL CONFORM TO ASTM A252 STANDARD SPECIFICATION FOR WELDED & SEAMLESS STEEL PIPE PILES WITH A MINIMUM YIELD STRENGTH OF 35,000 PSI

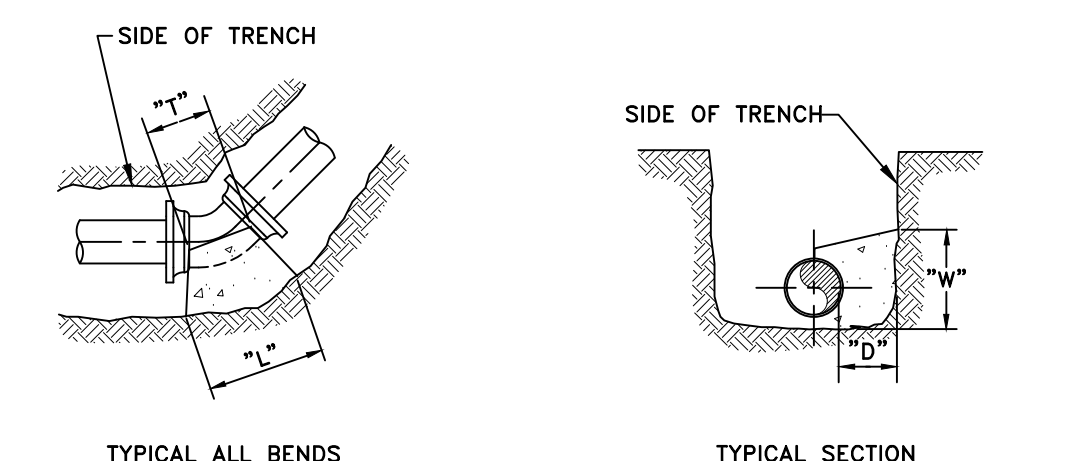
TYPICAL CASING DETAIL - WATER



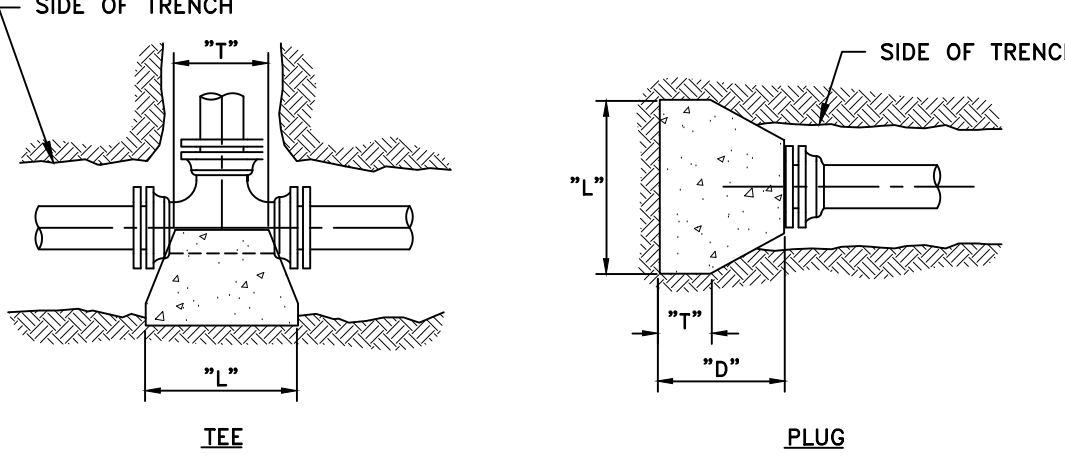
VERTICAL BEND PIPE ANCHOR DETAIL



CONCRETE REVERSE KICKER (DEADMAN) DETAIL



TYPICAL ALL BENDS



VALVES AT END OF LINE

NOTES:
1.) ALL FITTINGS SHALL INCLUDE RESTRAINT GLANDS: USE ROMAC RESTRAINT FOR PVC, USE ROMAC OR MEGALUG RESTRAINT FOR DIP.
2.) CONCRETE THRUST BLOCKS TO BE POURED AGAINST UNDISTURBED EARTH.
3.) PLASTIC BARRIER SHALL BE PLACED BETWEEN ALL CONCRETE AND PIPE AND/OR FITTINGS.
4.) ANCHOR BAR SHALL BE 5/8" MINIMUM DIAMETER.
5.) RODDING FOR A CONCRETE REVERSE KICKER SHALL BE AS FOLLOWS: ≤4" USE 2 RODS, 6"-10" USE 4 RODS & ≥12" PER ENGINEER.
6.) FITTINGS SHALL BE INSTALLED AS REQUIRED PER WSB INSPECTOR.

90° BENDS												
SIZE	2	4	6	8	10	12	14	16	18	20	24	30
"D"	6	8	8	10	12	14	22	22	24	24	30	30
"L"	16	20	24	30	32	34	68	68	80	80	96	120
"W"	8	10	12	18	22	24	34	34	40	40	48	60
"T"	10	12	16	20	22	22	38	38	40	40	44	52

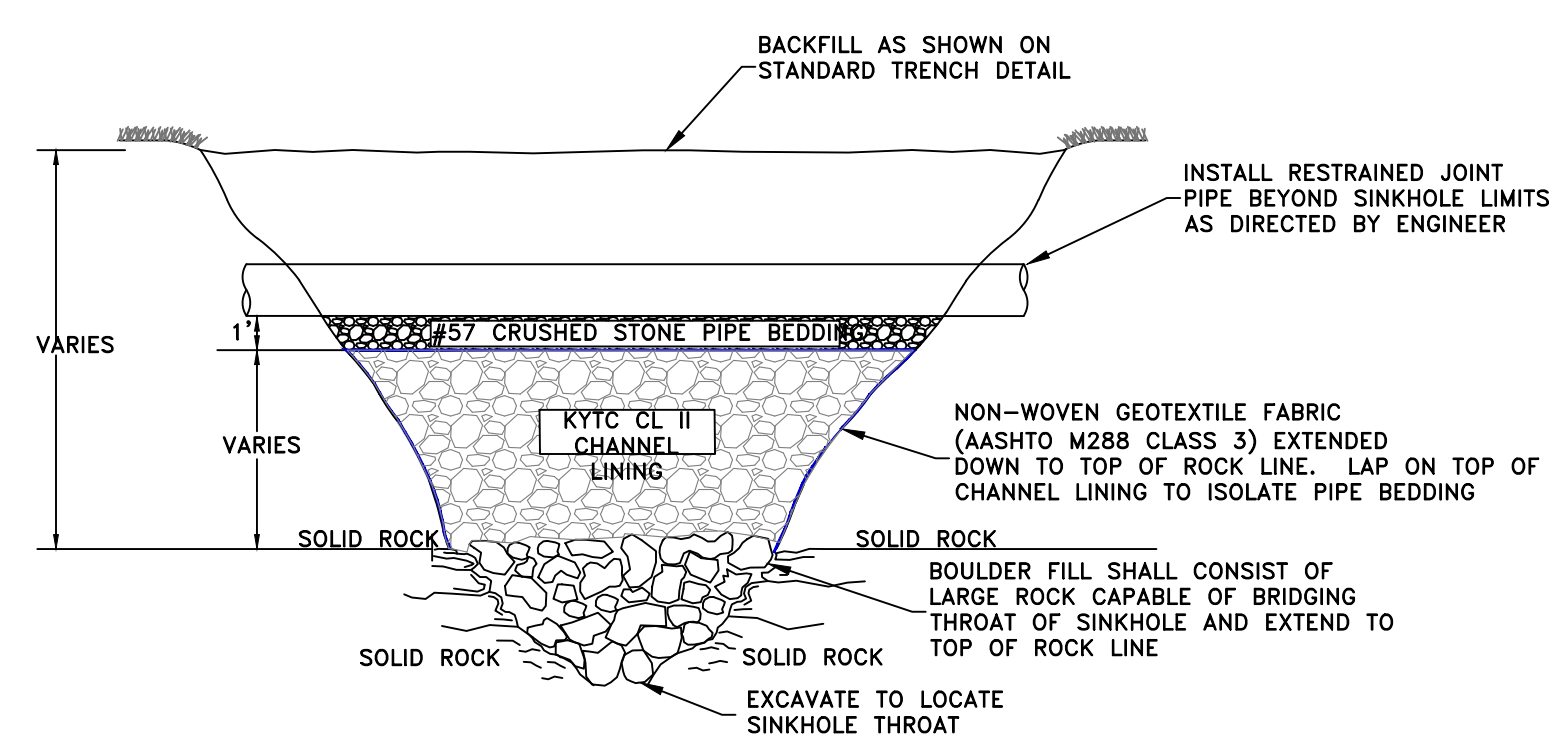
45° BENDS												
SIZE	2	4	6	8	10	12	14	16	18	20	24	30
"D"	6	6	8	10	12	12	22	22	24	24	30	30
"L"	14	18	18	22	24	24	51	51	60	60	72	90
"W"	8	10	12	16	18	18	25	25	29	29	36	44
"T"	10	12	16	18	18	18	38	38	40	40	44	52

22 1/2" & 11 1/4" BENDS												
SIZE	2	4	6	8	10	12	14	16	18	20	24	30
"D"	6	10	14	18	20	20	22	22	24	24	30	30
"L"	20	24	28	28	28	28	36	36	42	42	54	66
"W"	18	20	22	24	24	24	18	18	21	21	24	31
"T"	12	14	16	18	18	18	38	38	40	40	44	52

MINIMUM CONCRETE BLOCKING FOR PIPE & FITTINGS

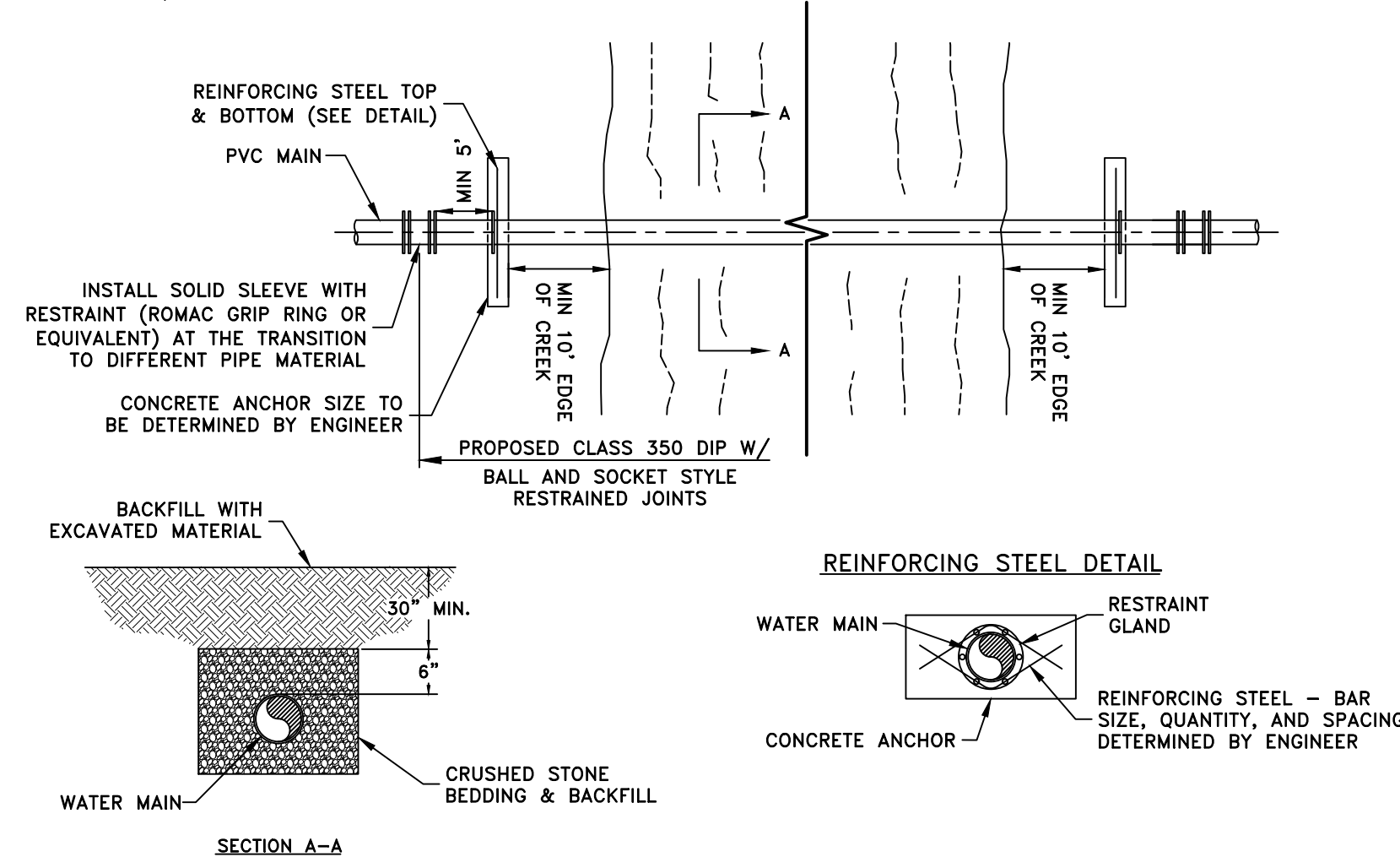
TEES, PLUGS & BLOWOFFS												
SIZE	2	4	6	8	10	12	14	16	18	20	24	30
"D"	12	16	18	24	28	30	30	30	30	30	30	36
"L"	12	16	18	24	28	30	60	60	72	72	84	102
"W"	14	16	18	18	22	24	28	28	32	32	40	51
"T"	10	10	12	12	12	12	38	38	40	40	44	52

*ALL DIMENSIONS ARE IN INCHES

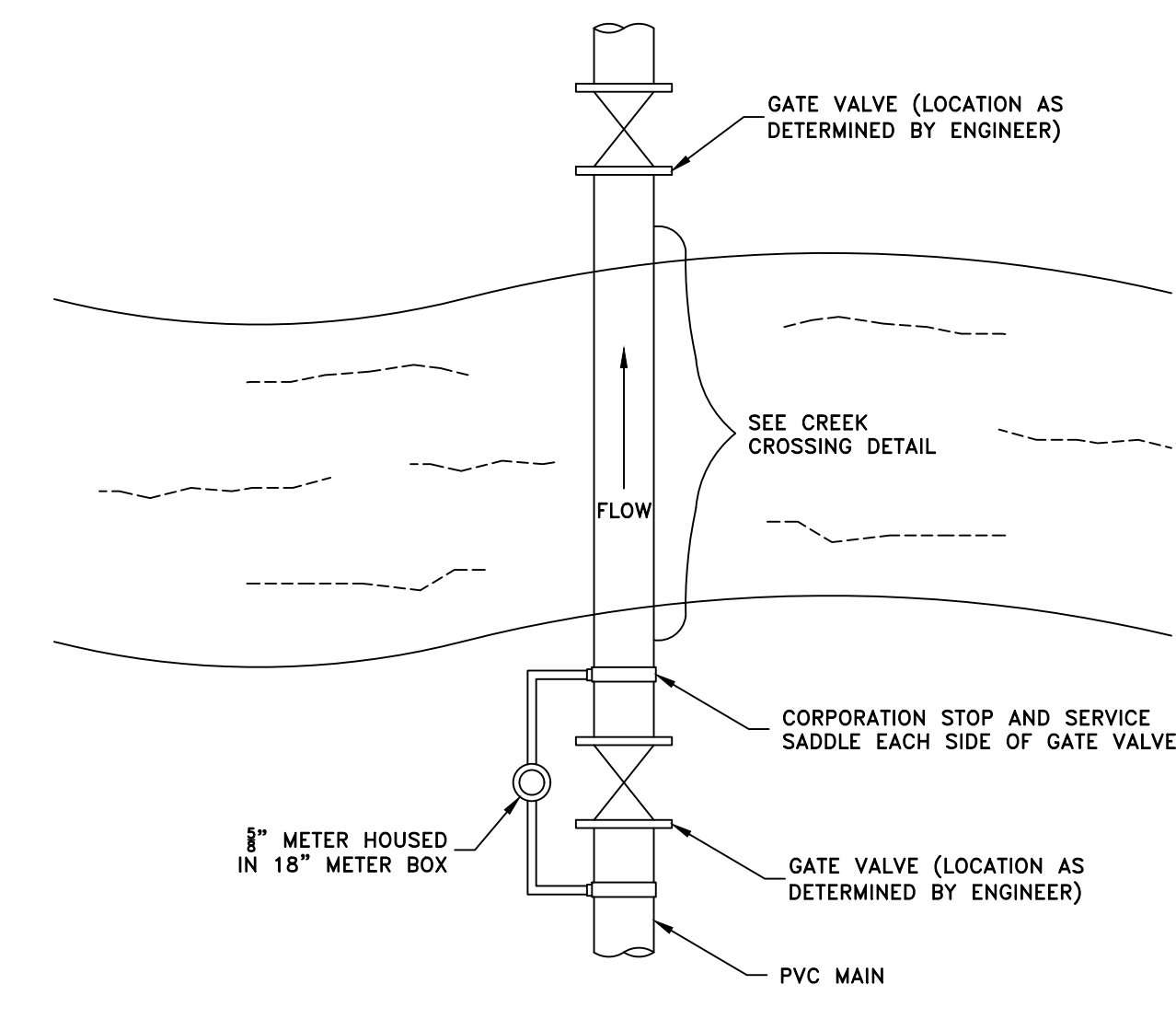


SINK HOLE REPAIR

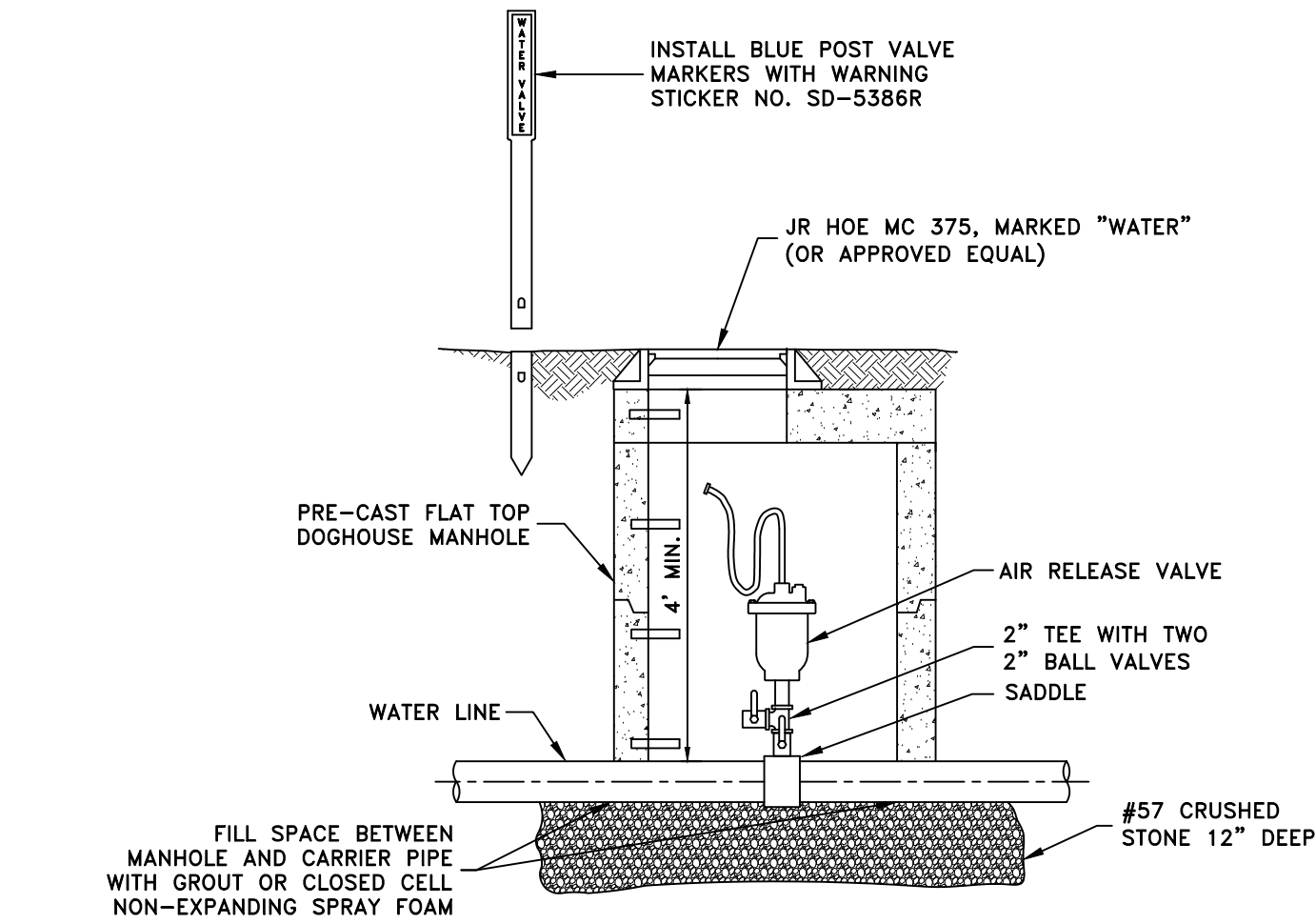
- NOTES:
- 1.) CREEK CROSSING AS SHOWN SHALL BE CONSTRUCTED ACROSS ALL MAJOR STREAMS AS INSTRUCTED BY ENGINEER.
 - 2.) CONSTRUCTION OF FITTINGS AND ANCHORS SHALL BE SYMMETRICAL ON EACH SIDE.
 - 3.) GATE VALVES ARE REQUIRED ON EACH SIDE OF THE CREEK CROSSING.
 - 4.) FOR CHANNELS GREATER THAN 15' IN WIDTH, A LEAK DETECTION STATION SHALL BE INSTALLED ON ONE SIDE OF THE STREAM (PER WSB LEAK DETECTION DETAIL). PLACEMENT TO BE DETERMINED BY WSB.



TYPICAL CREEK CROSSING

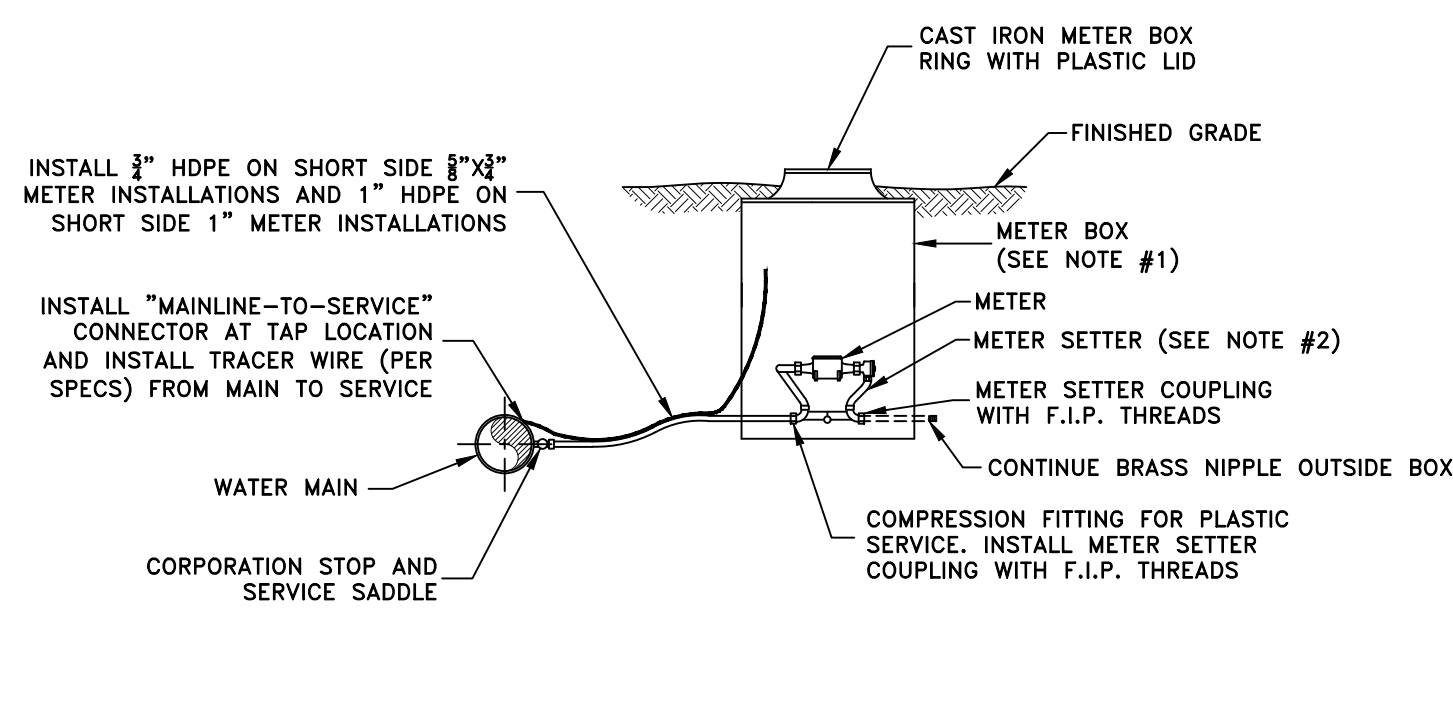


CREEK CROSSING LEAK DETECTION



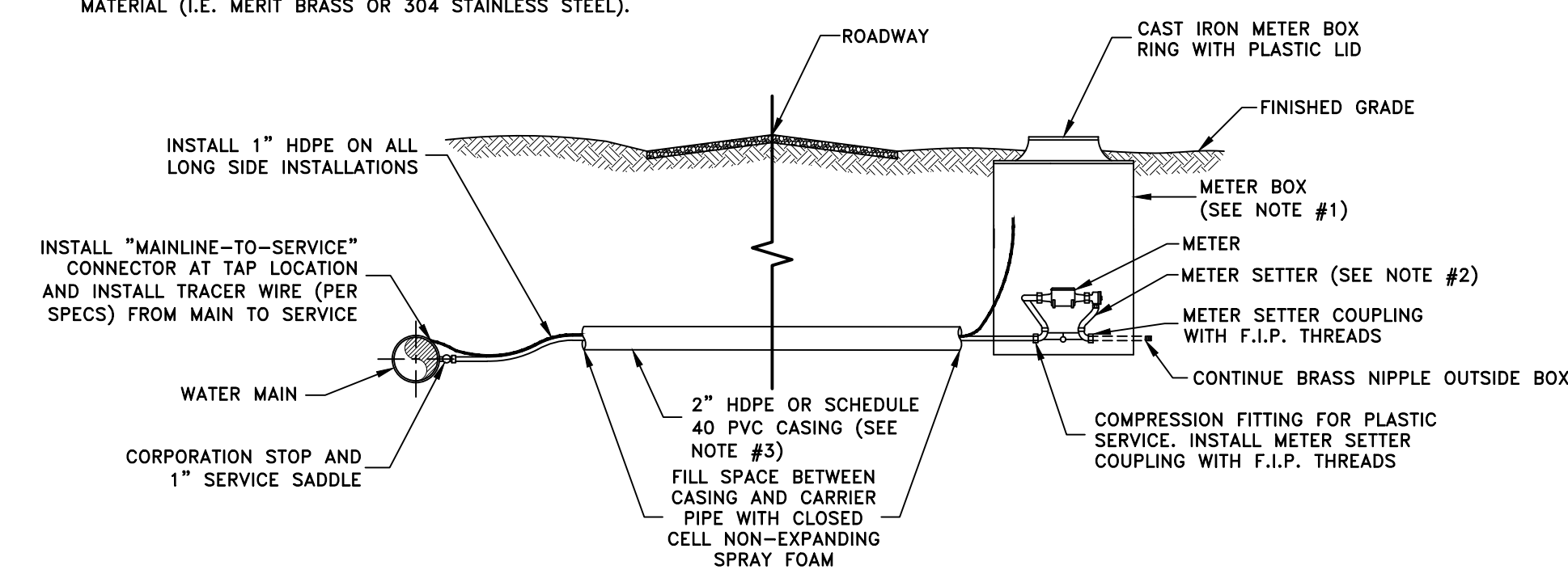
STANDARD AIR RELEASE STATION - WATER

- NOTES:
- 1.) ALL 3/4" & 1" METERS SHALL BE HOUSED IN AN 18" METER BOX. ALL 1" METERS SHALL BE HOUSED IN A 20" METER BOX.
 - 2.) FOR METER ASSEMBLIES REQUIRING PRESSURE REGULATORS, A TANDEM METER SETTER WILL BE REQUIRED. REFER TO STANDARD SPECIFICATIONS FOR REGULATOR AND TANDEM SETTER MODEL NUMBERS.
 - 3.) ON ROAD CROSSING SERVICE CONNECTIONS, REFER TO "LONG SIDE" SERVICE DETAIL.
 - 4.) IF THE SERVICE LINE IS LESS THAN 10 FEET AND TO BE WITHIN A 200' RADIUS OF AN UNDERGROUND FUEL STORAGE TANK, USE NON-PERMEABLE MATERIAL (I.E. MERIT BRASS OR 304 STAINLESS STEEL).



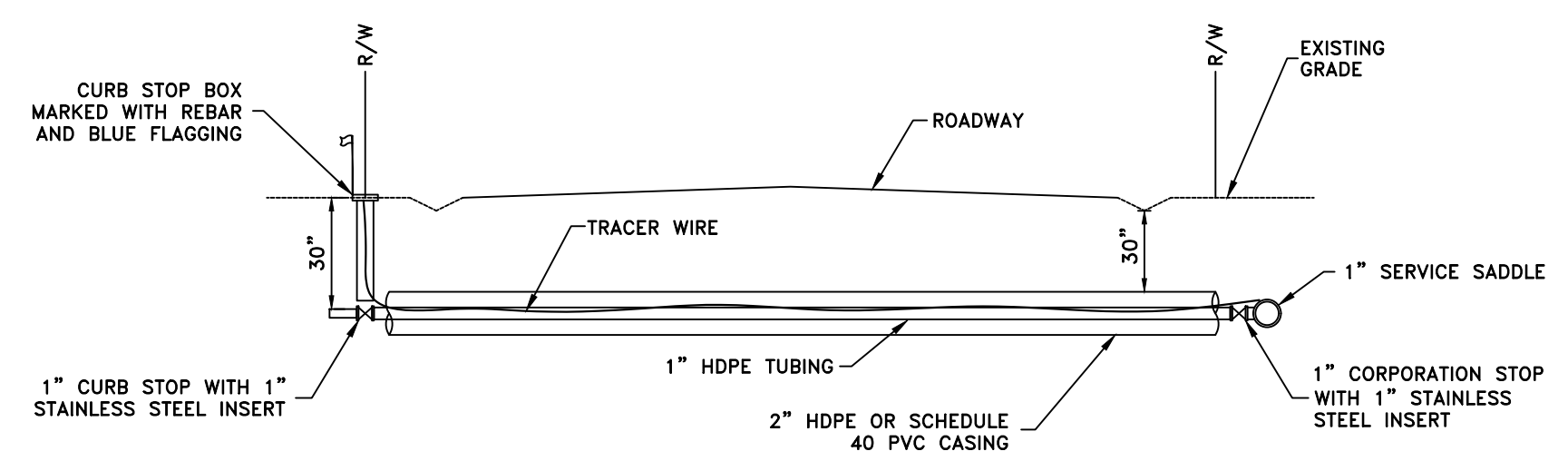
TYPICAL METER SETTING FOR "SHORT SIDE" 3/4" & 1" SERVICES

- NOTES:
- 1.) ALL 3/4" & 1" METERS SHALL BE HOUSED IN AN 18" METER BOX. ALL 1" METERS SHALL BE HOUSED IN A 20" OR 24" METER BOX.
 - 2.) FOR METER ASSEMBLIES REQUIRING PRESSURE REGULATORS, A TANDEM METER SETTER WILL BE REQUIRED. REFER TO STANDARD SPECIFICATIONS FOR REGULATOR AND TANDEM SETTER MODEL NUMBERS.
 - 3.) 4" HDPE OR SCHEDULE 40 PVC CASING SHOULD BE USED FOR A 2" CARRIER PIPE. FOR CASINGS ON ALL OTHER CARRIER PIPE DIAMETERS, REFER TO THE CASING SCHEDULE DETAIL.
 - 4.) IF THE SERVICE LINE IS LESS THAN 10 FEET AND TO BE WITHIN A 200' RADIUS OF AN UNDERGROUND FUEL STORAGE TANK, USE NON-PERMEABLE MATERIAL (I.E. MERIT BRASS OR 304 STAINLESS STEEL).



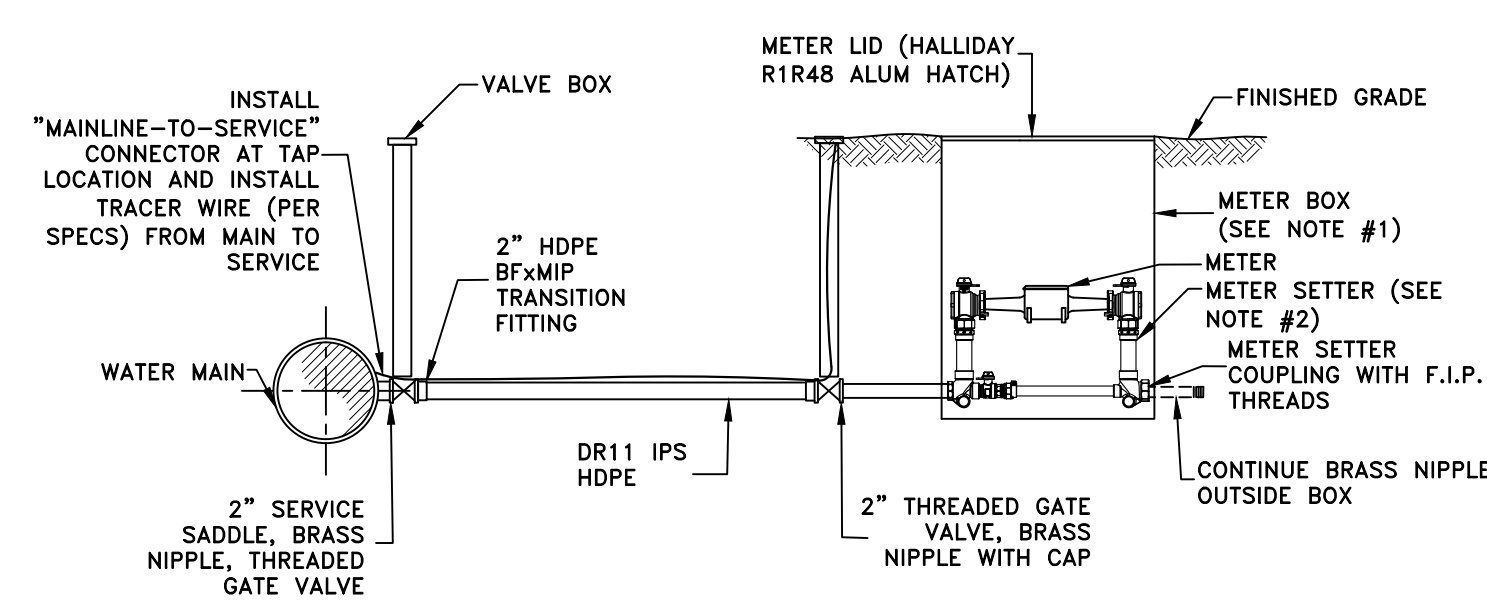
TYPICAL METER SETTING FOR "LONG SIDE" 3/4" & 1" SERVICES

- NOTES:
- 1.) NO TAPS SHALL BE MADE ON PRESSURIZED MAINS.
 - 2.) CURB STOPS INSTALLED ON PROPERTY CORNERS AS DIRECTED BY WSB.
 - 3.) CASING SHALL EXTEND THE ENTIRE RIGHT OF WAY, SHORTENED AS NEEDED FOR CURB STOP.
 - 4.) ALL CROSSINGS SHALL BE BACKFILLED WITH CRUSHED STONE.
 - 5.) IF MULTIPLE SERVICE CONNECTIONS ARE NEEDED, LARGER CASING MAY BE REQUIRED.
 - 6.) ALL FITTINGS SHALL BE INSTALLED WITH TEFLON TAPE OR JOINT COMPOUND.
 - 7.) ALL SHOWN MATERIAL SHALL BE SUPPLIED BY THE DEVELOPER.



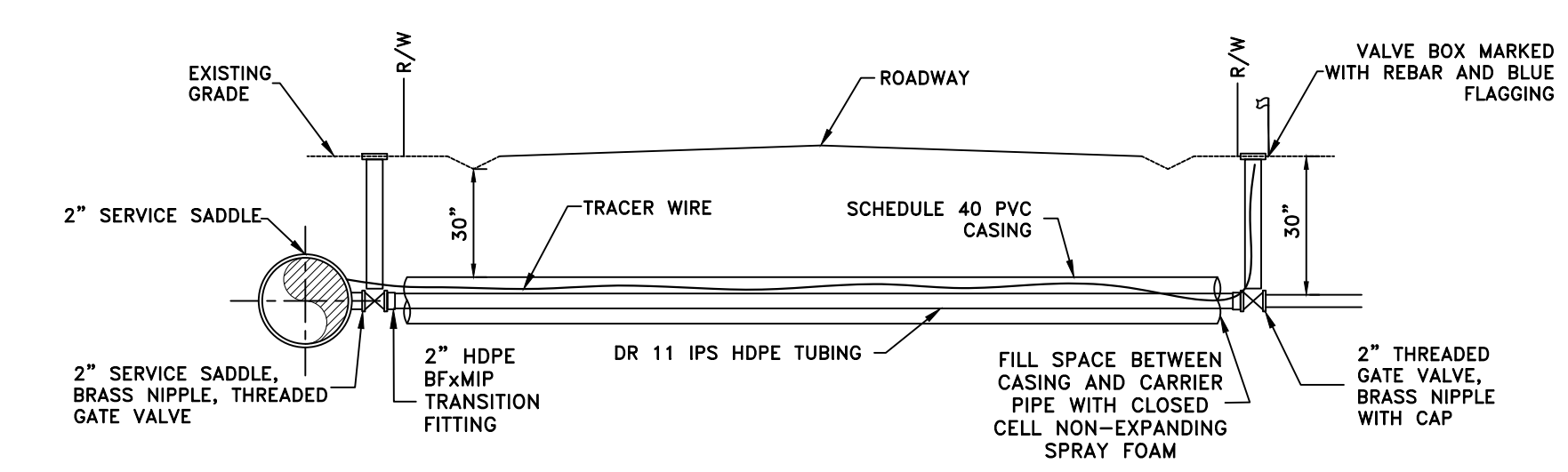
SERVICE LINE CROSSING DETAIL FOR SUBDIVISION

- NOTES:
- 1.) ALL 2" METERS SHALL BE HOUSED IN AN 48" METER BOX.
 - 2.) METER SETTER: VBB77-168-C17523-001-NL
 - 3.) IF HDPE SERVICE LINE TO METER IS TO BE UNDER CONCRETE OR ASPHALT INSTALL SCHEDULE 40 PVC CASING.
 - 4.) ON ROAD CROSSING SERVICE CONNECTIONS, REFER TO "2" LONG SIDE" SERVICE DETAIL.
 - 5.) ALL FITTINGS SHALL BE INSTALLED WITH TEFLON TAPE OR JOINT COMPOUND.
 - 6.) IF THE SERVICE LINE IS LESS THAN 10 FEET AND TO BE WITHIN A 200' RADIUS OF AN UNDERGROUND FUEL STORAGE TANK, USE NON-PERMEABLE MATERIAL (I.E. MERIT BRASS OR 304 STAINLESS STEEL).
 - 7.) IF THE SERVICE LINE IS LONGER THAN 10 FEET AND TO BE WITHIN A 200' RADIUS OF AN UNDERGROUND FUEL STORAGE TANK, USE NON-PERMEABLE MATERIAL (I.E. TAPPING SLEEVE/TEE AND VALVE WITH 4" DUCTILE IRON PIPE AND NITRILE GASKETS).



TYPICAL METER SETTING FOR 2" SERVICE LINE

- NOTES:
- 1.) GATE VALVES ARE TO BE INSTALLED ON PROPERTY CORNERS AS DIRECTED BY WSB.
 - 2.) CASING SHALL EXTEND THE ENTIRE RIGHT OF WAY, SHORTENED AS NEEDED FOR GATE VALVE.
 - 3.) ALL CROSSINGS SHALL BE BACKFILLED WITH CRUSHED STONE.
 - 4.) ALL FITTINGS SHALL BE INSTALLED WITH TEFLON TAPE OR JOINT COMPOUND.
 - 5.) ALL SHOWN MATERIAL SHALL BE SUPPLIED BY THE DEVELOPER.
 - 6.) IF THE SERVICE LINE IS LONGER THAN 10 FEET AND TO BE WITHIN A 200' RADIUS OF AN UNDERGROUND FUEL STORAGE TANK, USE NON-PERMEABLE MATERIAL (I.E. TAPPING SLEEVE/TEE AND VALVE WITH 4" DUCTILE IRON PIPE AND NITRILE GASKETS).



TYPICAL 2" LONG SIDE SERVICE LINE

SCALE: NOT TO SCALE

DATE: 04-22-2026

DWG NO.: WD2

DESIGNED: WCD

DRAWN: BCP

CHECKED: CRH

REVISIONS:

NO.	DATE:

DRAWING:

WD2