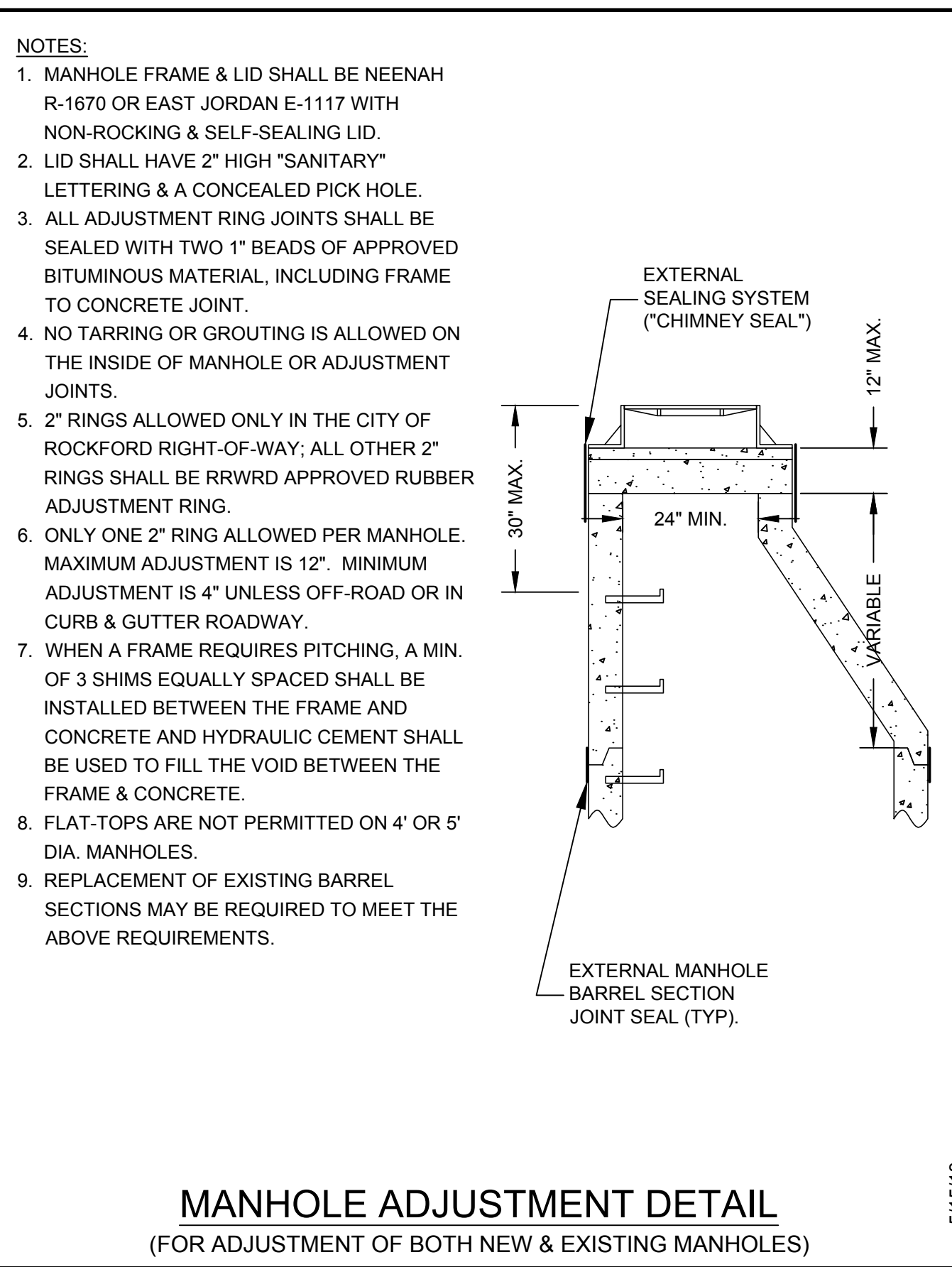


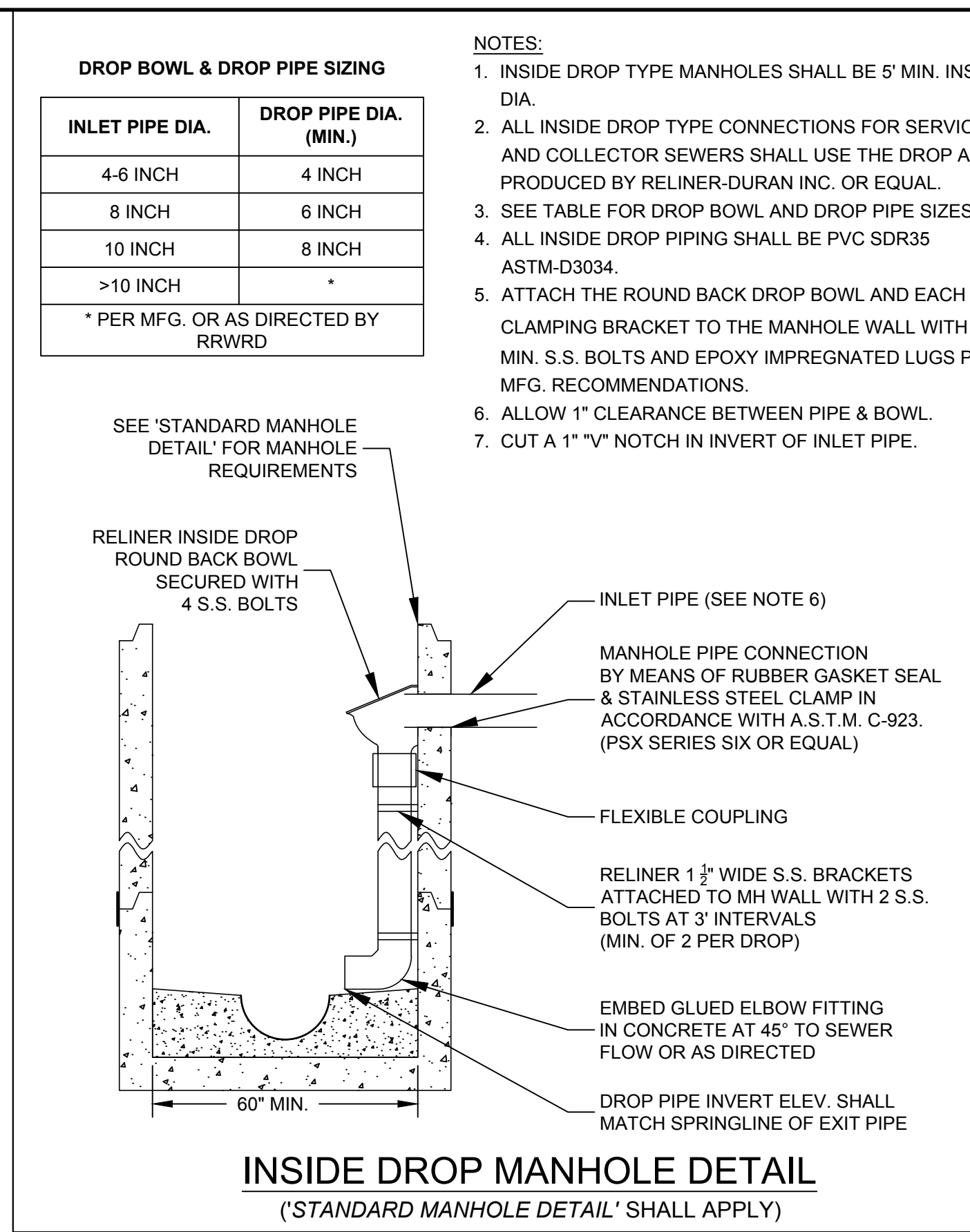
- NOTES:**
1. THE MAX. DROP FROM THE INVERT OF ANY PIPE TO THE CONCRETE CHANNEL UNDER THAT PIPE SHALL BE 8".
  2. MANHOLES LOCATED OUTSIDE OF PUBLIC RIGHT-OF-WAY SHALL BE MARKED WITH A STEEL FENCE POST AS DIRECTED.
  3. ALL NEW MANHOLES SHALL BE VACUUM TESTED PER A.S.T.M. C-1244 PRIOR TO ACCEPTANCE.
  4. ALL BARREL JOINTS SHALL BE SEALED WITH 3 1/2" x 3/8" BITUMINOUS MATERIAL ON THE LOWER SHIPLAP.
  5. ALL BARREL JOINTS SHALL BE SEALED WITH AN EXTERNAL BARREL SEAL CENTERED ON THE JOINT (MAR MAC MACWRAP OR EQ.)
  6. MANHOLE STRUCTURE SHALL BE CONSTRUCTED OF PRECAST REINFORCED CONCRETE MANHOLE RISER SECTIONS IN ACCORDANCE WITH A.S.T.M. C478-90 OR THE LATEST DESIGNATION.
  7. PRECAST FLAT TOPS ARE NOT APPROVED FOR USE.
  8. SEE 'MANHOLE ADJUSTMENT DETAIL' FOR ADJUSTMENT REQUIREMENTS.
  9. PIPE CONNECTIONS TO NEW MANHOLES SHALL BE MADE BY MEANS OF EITHER RUBBER GASKET SEAL (A-LOK OR APPROVED EQUAL) CONFORMING TO ASTM F-477 CAST INTEGRALLY IN MANHOLE WALL, OR RUBBER GASKET SEAL AND STAINLESS STEEL CLAMP (PSX SERIES SIX OR APPROVED EQUAL) CONFORMING TO ASTM C-923. FOR PIPE CONNECTIONS WITH A DEPTH OF >20 FT., A RUBBER GASKET SEAL (A-LOK OR APPROVED EQUAL) CONFORMING TO ASTM F-477 CAST INTEGRALLY IN MANHOLE WALL SHALL BE USED.
  10. PIPE CONNECTIONS TO EXISTING MANHOLES SHALL BE MADE BY MEANS OF CORE DRILLING MANHOLE WALL AND INSTALLING RUBBER GASKET SEAL AND STAINLESS STEEL CLAMP (PSX SERIES SIX OR APPROVED EQUAL) CONFORMING TO ASTM C-923.
  11. THE MAXIMUM DISTANCE FROM ANY INLET PIPE INVERT TO THE OUTLET PIPE INVERT SHALL BE 2'. A DISTANCE GREATER THAN 2' WILL REQUIRE AN INSIDE DROP CONNECTION PER 'INSIDE DROP MANHOLE DETAIL'.

**STANDARD MANHOLE DETAIL**  
(*'MANHOLE ADJUSTMENT DETAIL'* SHALL APPLY)



- NOTES:**
1. MANHOLE FRAME & LID SHALL BE NEENAH R-1670 OR EAST JORDAN E-1117 WITH NON-ROCKING & SELF-SEALING LID.
  2. LID SHALL HAVE 2" HIGH "SANITARY" LETTERING & A CONCEALED PICK HOLE.
  3. ALL ADJUSTMENT RING JOINTS SHALL BE SEALED WITH TWO 1" BEADS OF APPROVED BITUMINOUS MATERIAL, INCLUDING FRAME TO CONCRETE JOINT.
  4. NO TARRING OR GROUTING IS ALLOWED ON THE INSIDE OF MANHOLE OR ADJUSTMENT JOINTS.
  5. 2" RINGS ALLOWED ONLY IN THE CITY OF ROCKFORD RIGHT-OF-WAY; ALL OTHER 2" RINGS SHALL BE RRWRD APPROVED RUBBER ADJUSTMENT RING.
  6. ONLY ONE 2" RING ALLOWED PER MANHOLE. MAXIMUM ADJUSTMENT IS 12". MINIMUM ADJUSTMENT IS 4" UNLESS OFF-ROAD OR IN CURB & GUTTER ROADWAY.
  7. WHEN A FRAME REQUIRES PITCHING, A MIN. OF 3 SHIMS EQUALLY SPACED SHALL BE INSTALLED BETWEEN THE FRAME AND CONCRETE AND HYDRAULIC CEMENT SHALL BE USED TO FILL THE VOID BETWEEN THE FRAME & CONCRETE.
  8. FLAT-TOPS ARE NOT PERMITTED ON 4' OR 5' DIA. MANHOLES.
  9. REPLACEMENT OF EXISTING BARREL SECTIONS MAY BE REQUIRED TO MEET THE ABOVE REQUIREMENTS.

**MANHOLE ADJUSTMENT DETAIL**  
(FOR ADJUSTMENT OF BOTH NEW & EXISTING MANHOLES)



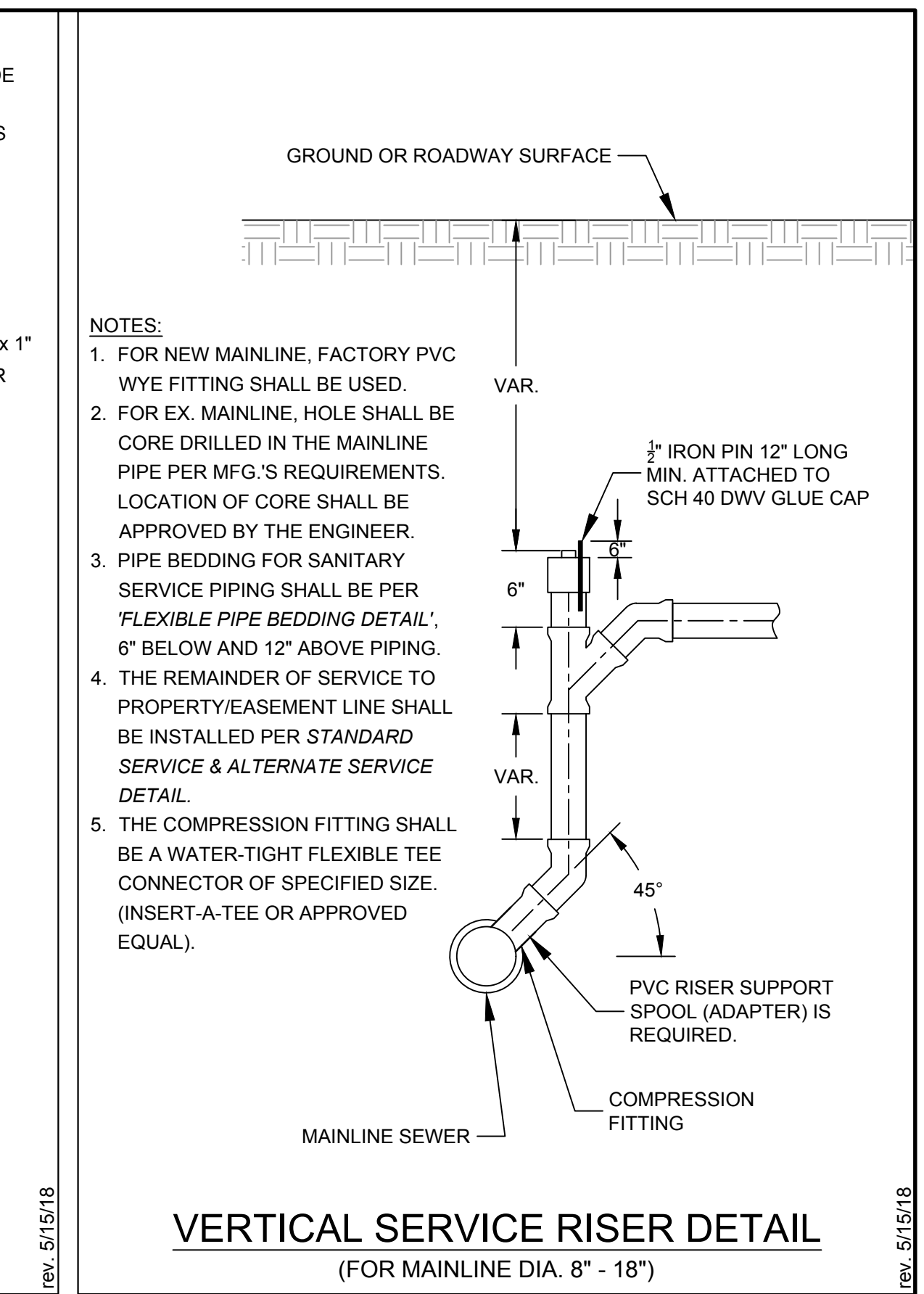
**DROP BOWL & DROP PIPE SIZING**

INLET PIPE DIA.	DROP PIPE DIA. (MIN.)
4-6 INCH	4 INCH
8 INCH	6 INCH
10 INCH	8 INCH
>10 INCH	*

\* PER MFG. OR AS DIRECTED BY RRWRD

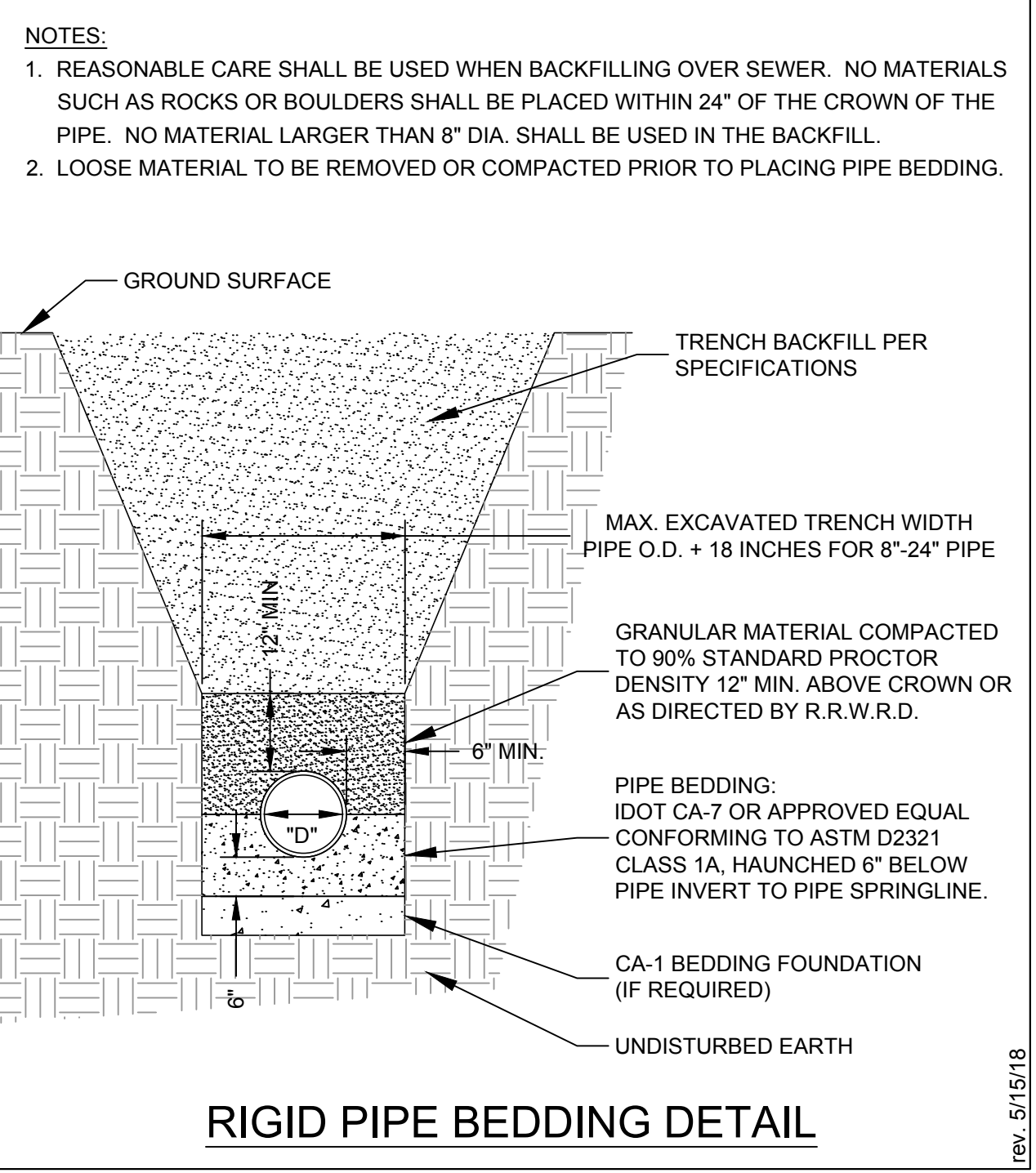
- NOTES:**
1. INSIDE DROP TYPE MANHOLES SHALL BE 5' MIN. INSIDE DIA.
  2. ALL INSIDE DROP TYPE CONNECTIONS FOR SERVICES AND COLLECTOR SEWERS SHALL USE THE DROP AS PRODUCED BY RELINER-DURAN INC. OR EQUAL.
  3. SEE TABLE FOR DROP BOWL AND DROP PIPE SIZES.
  4. ALL INSIDE DROP PIPING SHALL BE PVC SDR35 ASTM-D3034.
  5. ATTACH THE ROUND BACK DROP BOWL AND EACH CLAMPING BRACKET TO THE MANHOLE WALL WITH 3/8" x 1" MIN. S.S. BOLTS AND EPOXY IMPREGNATED LUGS PER MFG. RECOMMENDATIONS.
  6. ALLOW 1" CLEARANCE BETWEEN PIPE & BOWL.
  7. CUT A 1" "V" NOTCH IN INVERT OF INLET PIPE.

**INSIDE DROP MANHOLE DETAIL**  
(*'STANDARD MANHOLE DETAIL'* SHALL APPLY)



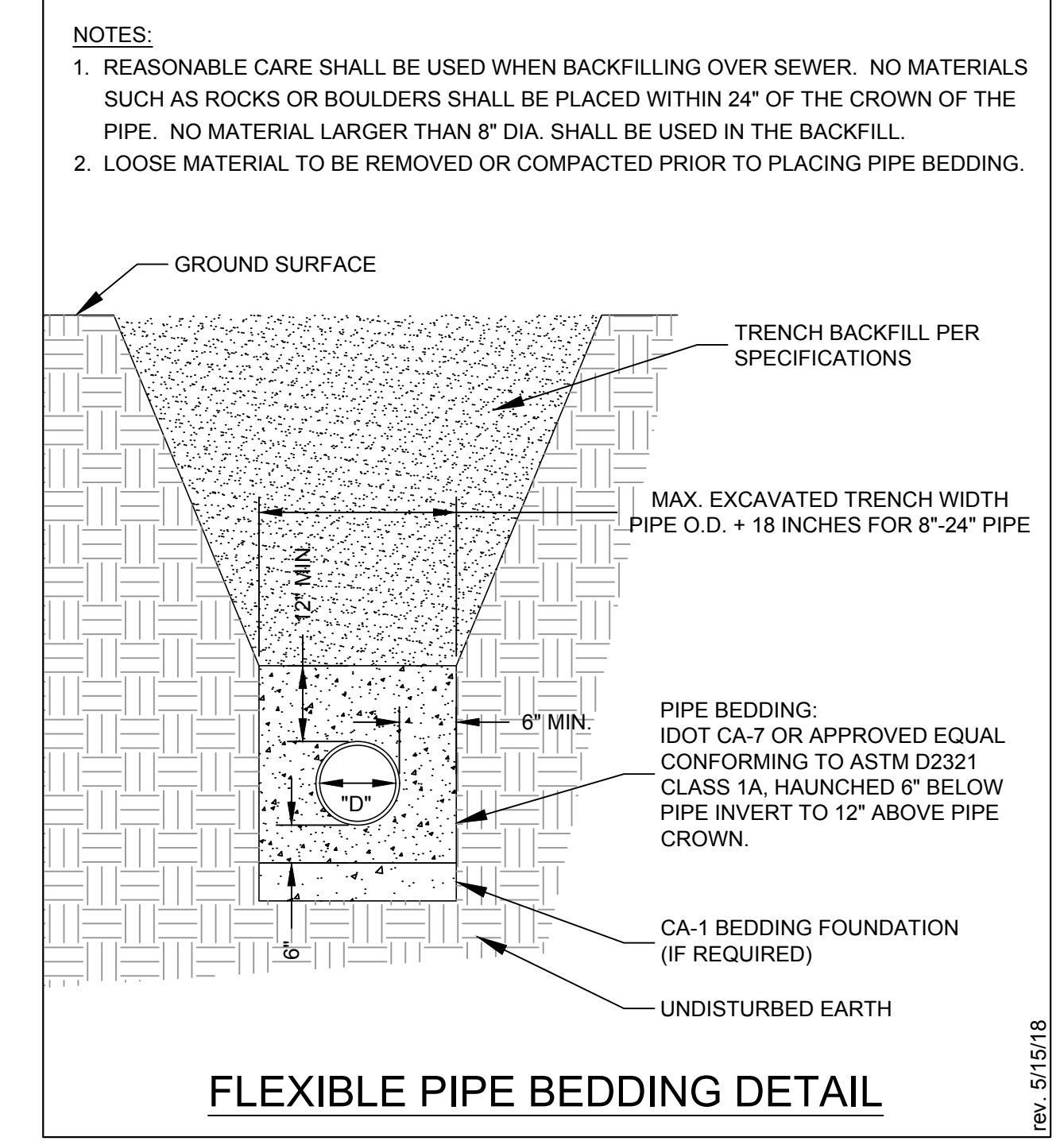
- NOTES:**
1. FOR NEW MAINLINE, FACTORY PVC WYE FITTING SHALL BE USED.
  2. FOR EX. MAINLINE, HOLE SHALL BE CORE DRILLED IN THE MAINLINE PIPE PER MFG.'S REQUIREMENTS. LOCATION OF CORE SHALL BE APPROVED BY THE ENGINEER.
  3. PIPE BEDDING FOR SANITARY SERVICE PIPING SHALL BE PER 'FLEXIBLE PIPE BEDDING DETAIL', 6" BELOW AND 12" ABOVE PIPING.
  4. THE REMAINDER OF SERVICE TO PROPERTY/EASEMENT LINE SHALL BE INSTALLED PER STANDARD SERVICE & ALTERNATE SERVICE DETAIL.
  5. THE COMPRESSION FITTING SHALL BE A WATER-TIGHT FLEXIBLE TEE CONNECTOR OF SPECIFIED SIZE. (INSERT-A-TEE OR APPROVED EQUAL).

**VERTICAL SERVICE RISER DETAIL**  
(FOR MAINLINE DIA. 8" - 18")



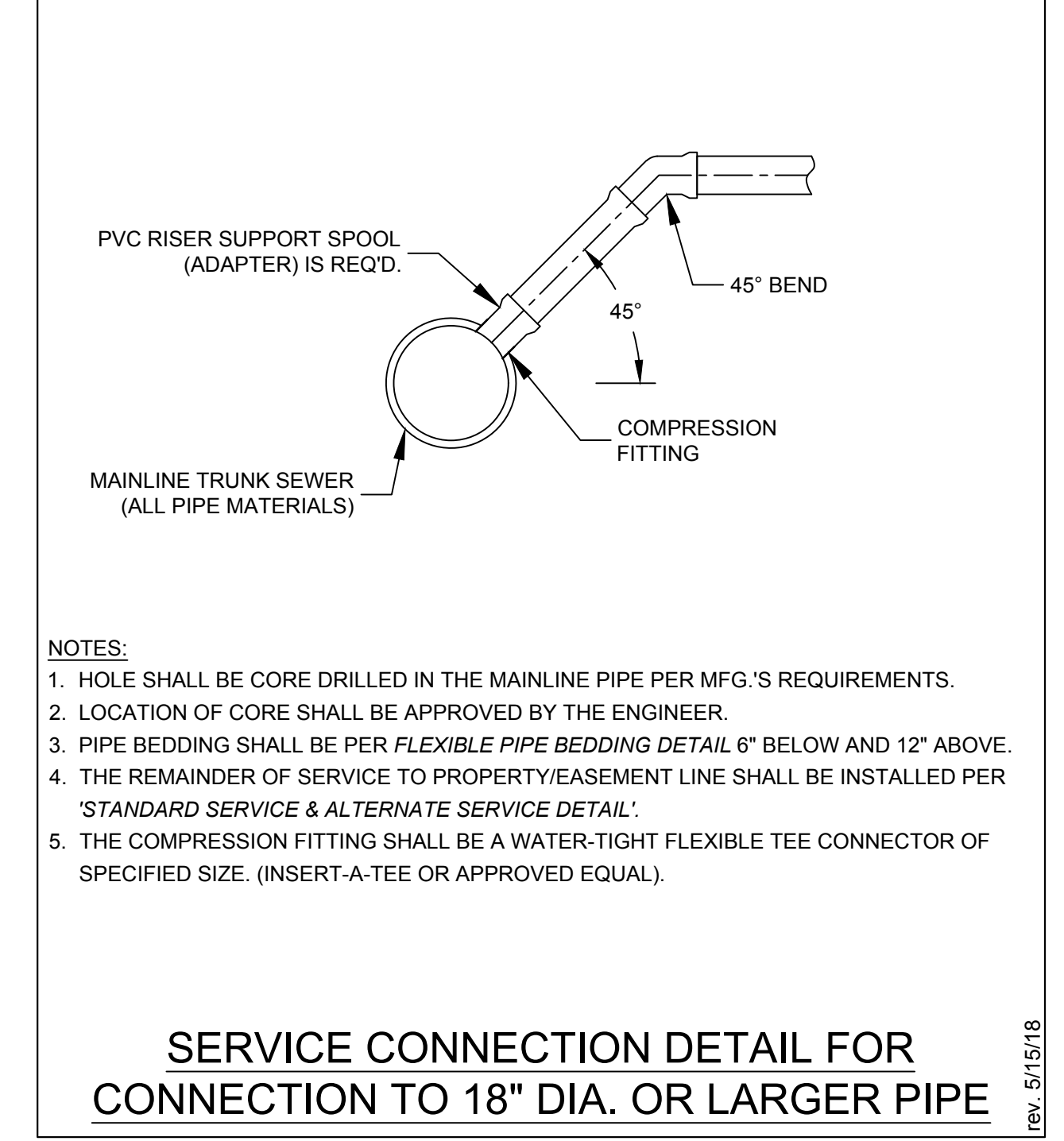
- NOTES:**
1. REASONABLE CARE SHALL BE USED WHEN BACKFILLING OVER SEWER. NO MATERIALS SUCH AS ROCKS OR BOULDERS SHALL BE PLACED WITHIN 24" OF THE CROWN OF THE PIPE. NO MATERIAL LARGER THAN 8" DIA. SHALL BE USED IN THE BACKFILL.
  2. LOOSE MATERIAL TO BE REMOVED OR COMPACTED PRIOR TO PLACING PIPE BEDDING.

**RIGID PIPE BEDDING DETAIL**



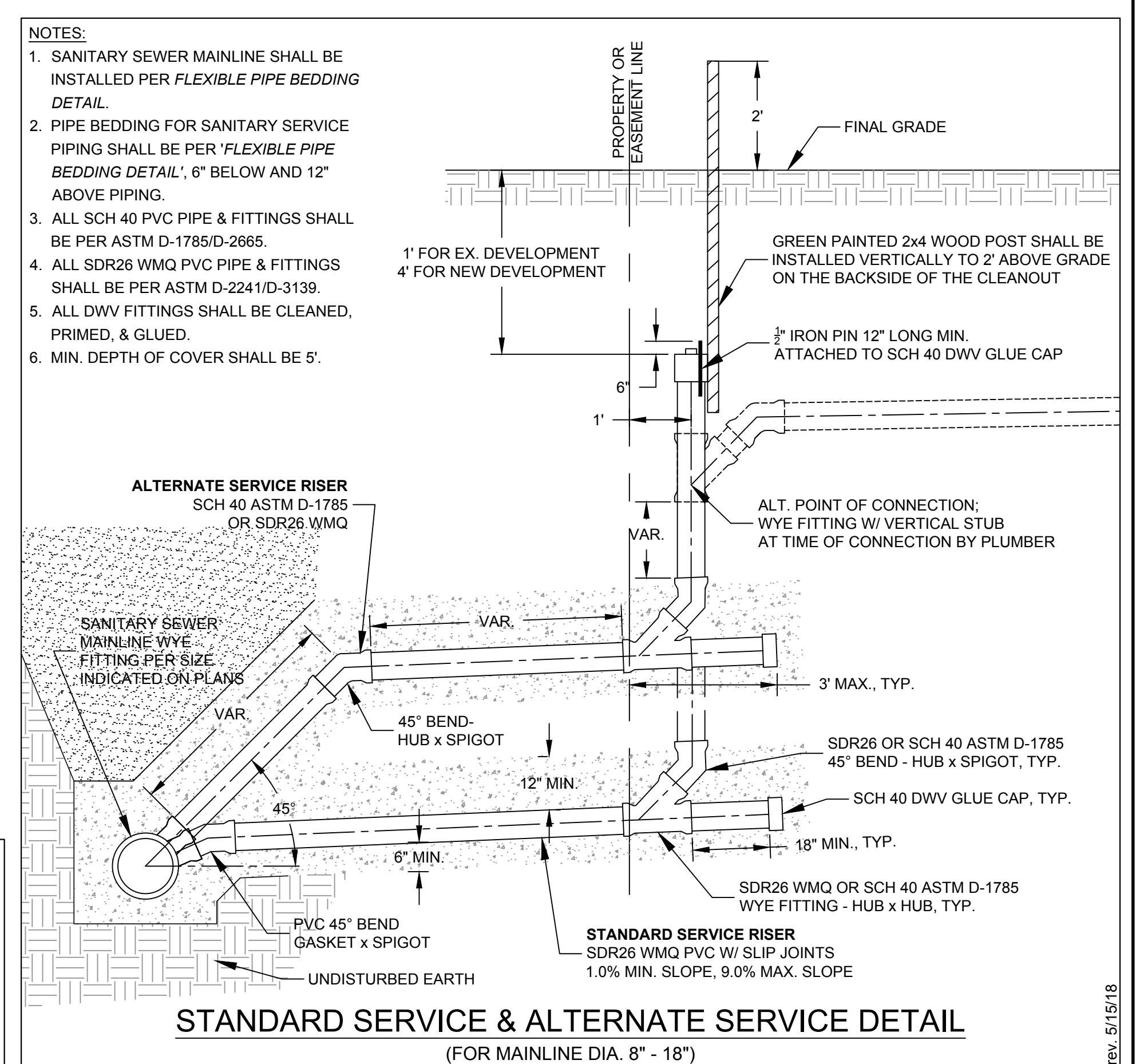
- NOTES:**
1. REASONABLE CARE SHALL BE USED WHEN BACKFILLING OVER SEWER. NO MATERIALS SUCH AS ROCKS OR BOULDERS SHALL BE PLACED WITHIN 24" OF THE CROWN OF THE PIPE. NO MATERIAL LARGER THAN 8" DIA. SHALL BE USED IN THE BACKFILL.
  2. LOOSE MATERIAL TO BE REMOVED OR COMPACTED PRIOR TO PLACING PIPE BEDDING.

**FLEXIBLE PIPE BEDDING DETAIL**



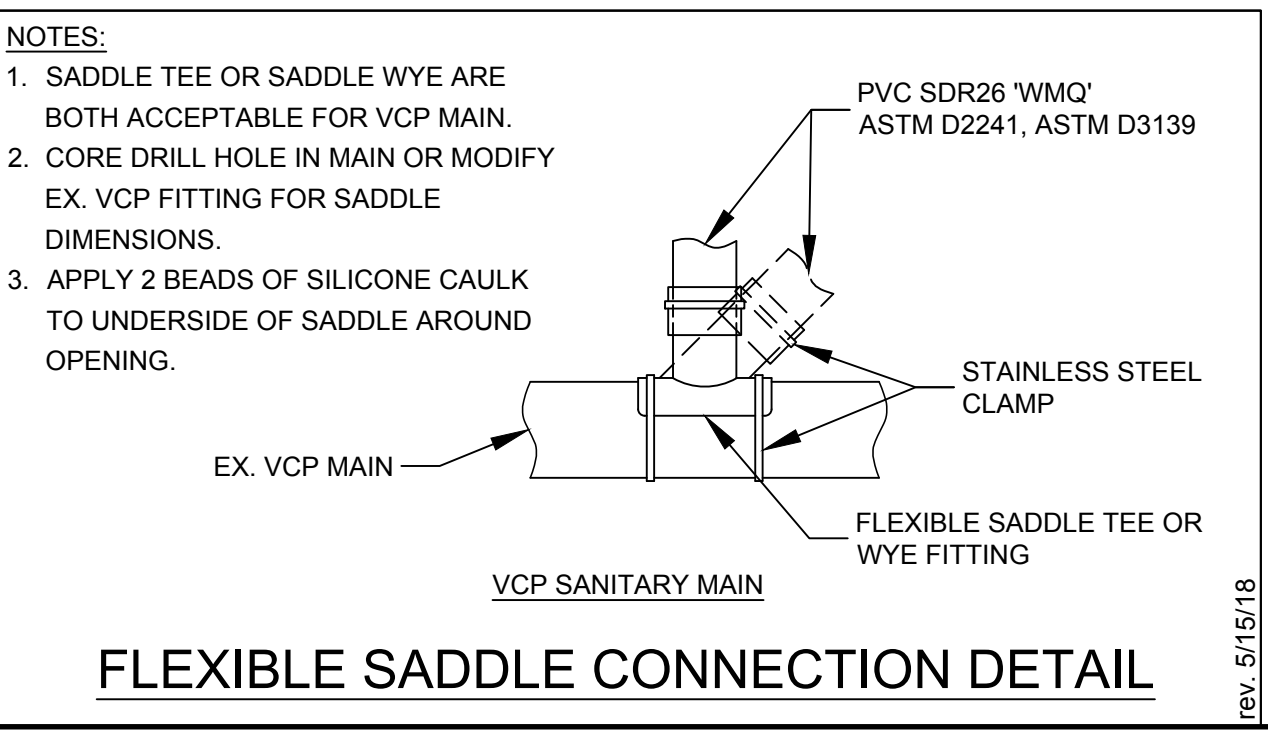
- NOTES:**
1. HOLE SHALL BE CORE DRILLED IN THE MAINLINE PIPE PER MFG.'S REQUIREMENTS.
  2. LOCATION OF CORE SHALL BE APPROVED BY THE ENGINEER.
  3. PIPE BEDDING SHALL BE PER FLEXIBLE PIPE BEDDING DETAIL 6" BELOW AND 12" ABOVE.
  4. THE REMAINDER OF SERVICE TO PROPERTY/EASEMENT LINE SHALL BE INSTALLED PER 'STANDARD SERVICE & ALTERNATE SERVICE DETAIL'.
  5. THE COMPRESSION FITTING SHALL BE A WATER-TIGHT FLEXIBLE TEE CONNECTOR OF SPECIFIED SIZE. (INSERT-A-TEE OR APPROVED EQUAL).

**SERVICE CONNECTION DETAIL FOR CONNECTION TO 18" DIA. OR LARGER PIPE**



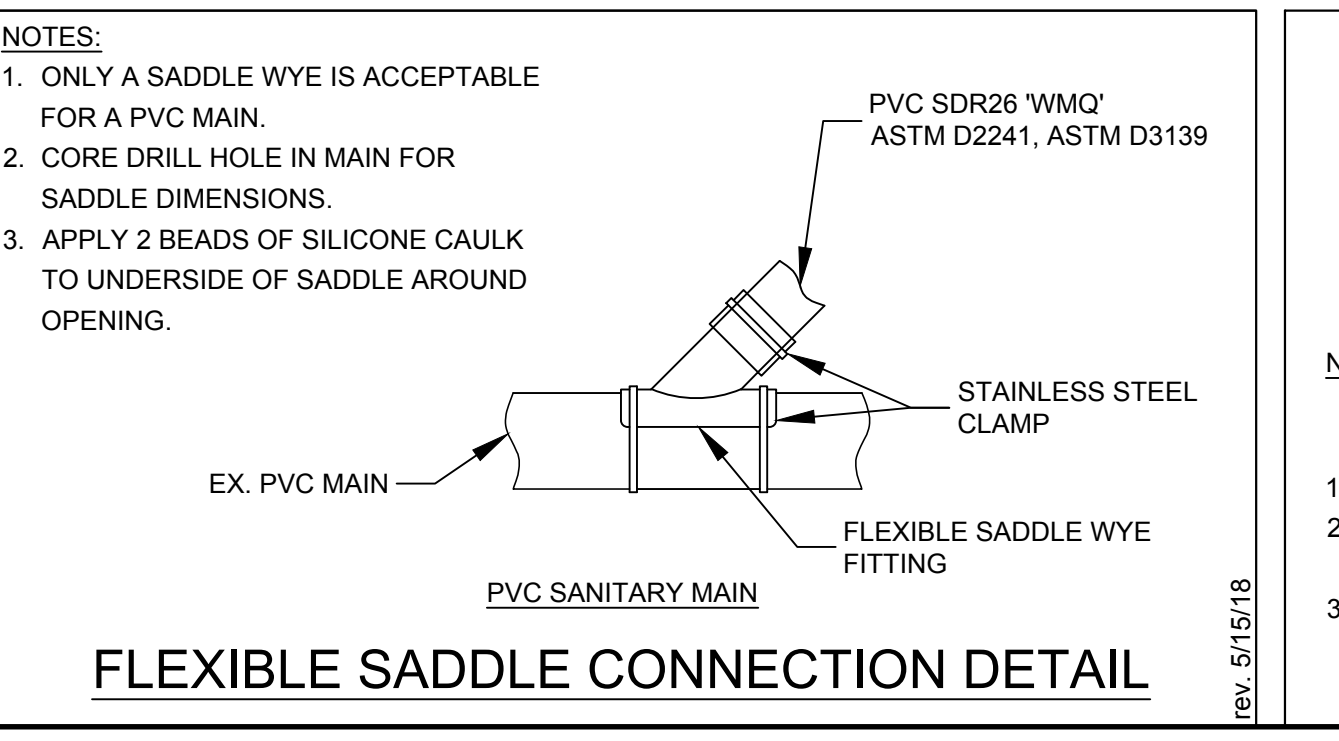
- NOTES:**
1. SANITARY SEWER MAINLINE SHALL BE INSTALLED PER FLEXIBLE PIPE BEDDING DETAIL.
  2. PIPE BEDDING FOR SANITARY SERVICE PIPING SHALL BE PER 'FLEXIBLE PIPE BEDDING DETAIL', 6" BELOW AND 12" ABOVE PIPING.
  3. ALL SCH 40 PVC PIPE & FITTINGS SHALL BE PER ASTM D-1785/D-2665.
  4. ALL SDR26 WMQ PVC PIPE & FITTINGS SHALL BE PER ASTM D-2241/D-3139.
  5. ALL DWV FITTINGS SHALL BE CLEANED, PRIMED, & GLUED.
  6. MIN. DEPTH OF COVER SHALL BE 5'.

**STANDARD SERVICE & ALTERNATE SERVICE DETAIL**  
(FOR MAINLINE DIA. 8" - 18")



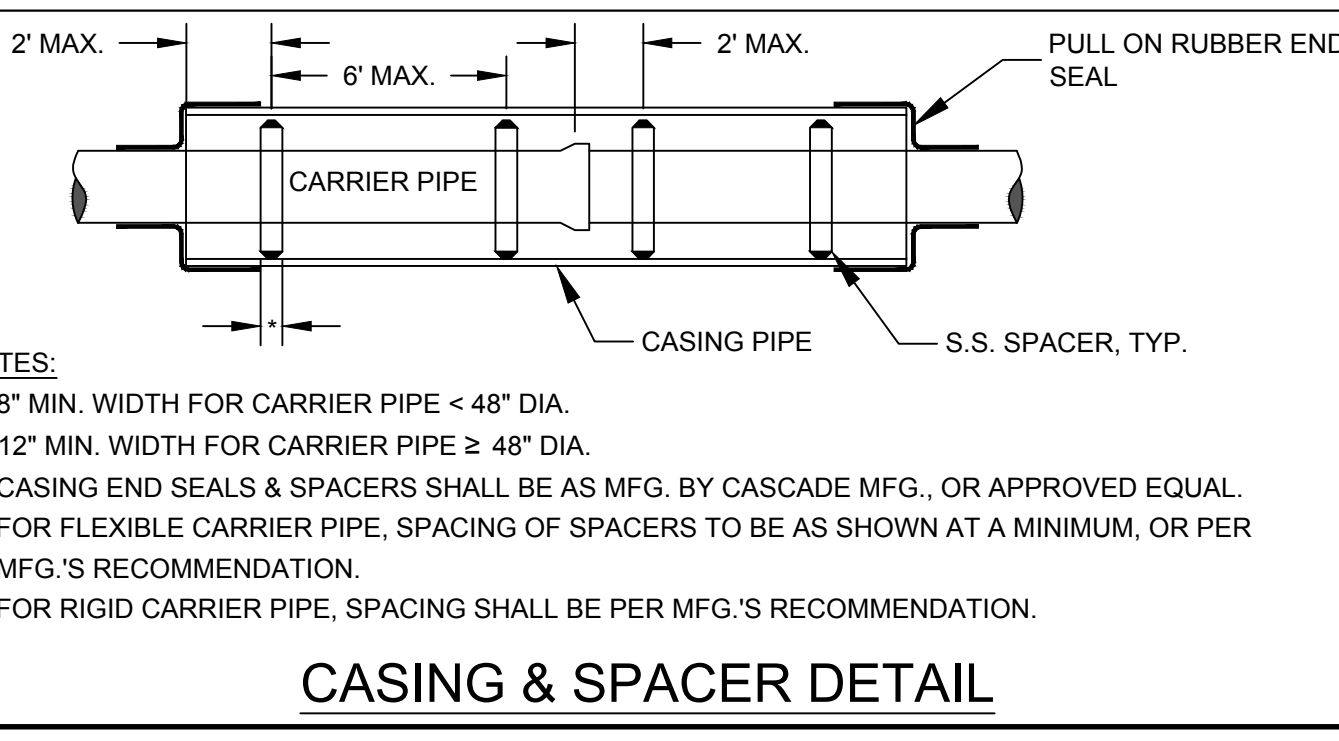
- NOTES:**
1. SADDLE TEE OR SADDLE WYE ARE BOTH ACCEPTABLE FOR VCP MAIN.
  2. CORE DRILL HOLE IN MAIN OR MODIFY EX. VCP FITTING FOR SADDLE DIMENSIONS.
  3. APPLY 2 BEADS OF SILICONE CAULK TO UNDERSIDE OF SADDLE AROUND OPENING.

**FLEXIBLE SADDLE CONNECTION DETAIL**



- NOTES:**
1. ONLY A SADDLE WYE IS ACCEPTABLE FOR A PVC MAIN.
  2. CORE DRILL HOLE IN MAIN FOR SADDLE DIMENSIONS.
  3. APPLY 2 BEADS OF SILICONE CAULK TO UNDERSIDE OF SADDLE AROUND OPENING.

**FLEXIBLE SADDLE CONNECTION DETAIL**



- NOTES:**
1. CASKING END SEALS & SPACERS SHALL BE AS MFG. BY CASCADE MFG., OR APPROVED EQUAL.
  2. FOR FLEXIBLE CARRIER PIPE, SPACING OF SPACERS TO BE AS SHOWN AT A MINIMUM, OR PER MFG.'S RECOMMENDATION.
  3. FOR RIGID CARRIER PIPE, SPACING SHALL BE PER MFG.'S RECOMMENDATION.

**CASING & SPACER DETAIL**

**Rock River Water Reclamation District**

**ROCK RIVER WATER RECLAMATION DISTRICT**  
**STANDARD DETAILS**  
(NOT TO SCALE)

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