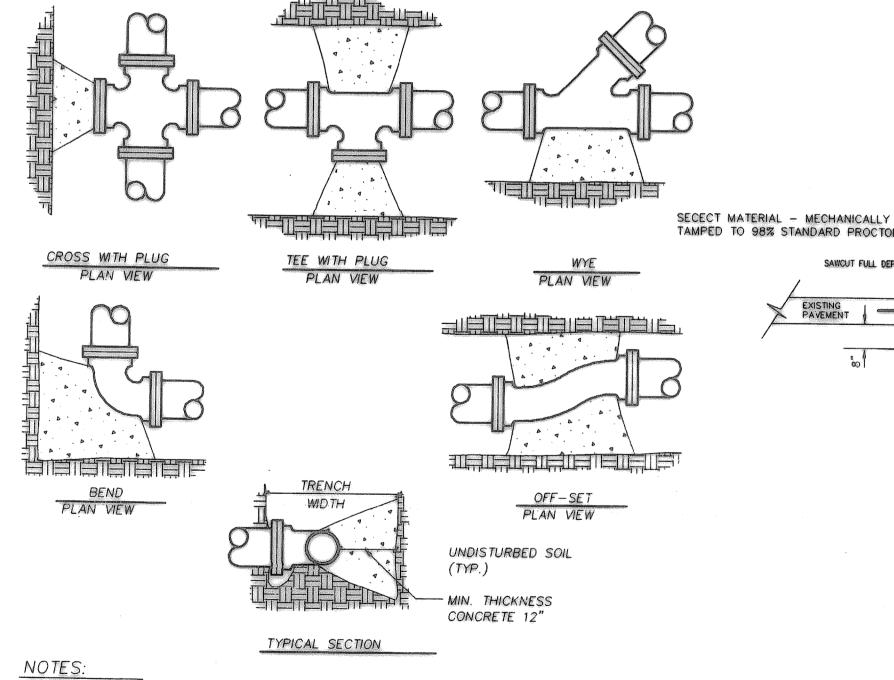


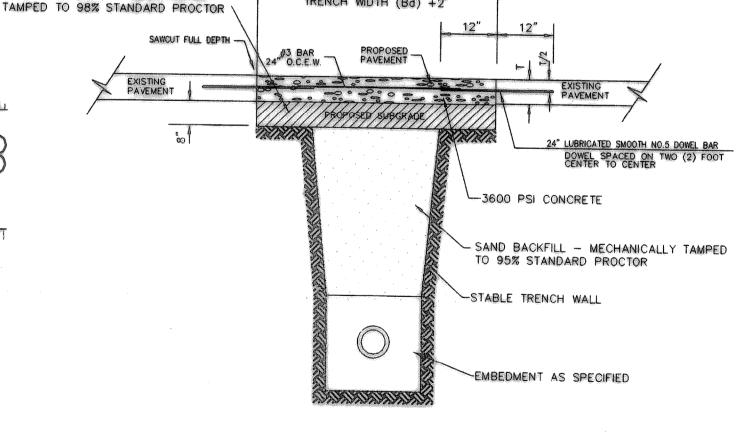
BUTTERFLY VALVE INSTALLATION DETAIL



- 1. THRUST BLOCKS SHALL BE POURED AGAINST UNDISTURBED SOIL 2. IN UNSTABLE MATERIALS, FOR VERTICAL BENDS OR OFFSETS, BLOCKING SHALL BE DESIGNED FOR ACTUAL THRUST USING THE FORMULA P=125(H)(A)SIN 1/2 WHERE H=1-1/2 RATED HEAD, A=AREA OF PIPE IN SQ. FT., =ANGLE, AND
- P=THUST IN POUNDS. 3. BEFORE POURING, PLUGS SHALL BE WRAPPED WITH VISQUEEN AND A BOARD PLACED IN FRONT.
- 4. CONC. SHALL BE 2500 PSI MIN. 5. THRUST BLOCKS SHOWN ALSO APPLY TO SANITARY FORCE MAINS. 6. PLUMBING CONTRACTOR TO FURNISH SIZES OF THRUST BLOCKS FOR APPROVAL PRIOR TO CONSTRUCTION.

TYPICAL THRUST BLOCKS

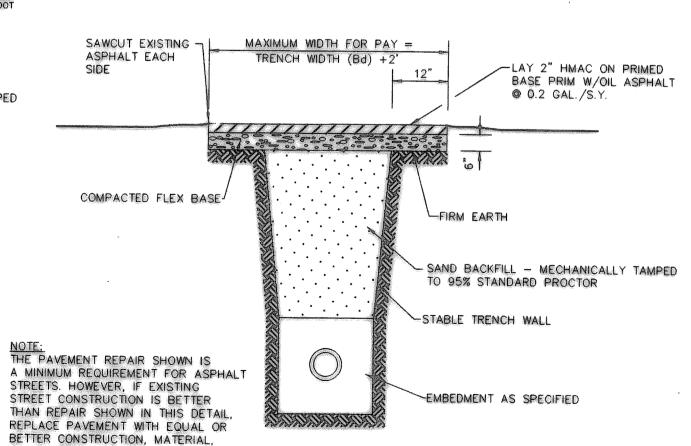
NOT TO SCALE



NO. 5 SMOOTH DOWEL BAR MAY BE USED IN 5", 6" AND 7" PAVEMENT THICKNESS.

2. LONGITUDINAL BUTT CONSTRUCTION MAY BE UTILIZED IN PLACE OF LONGITUDINAL HINGED (KEYWAY) JOINT AT CONTRACTOR'S OPTION.

3. DOWEL BARS SHALL BE DRILLED INTO PAVEMENT HORIZONTALLY BY USE OF A MECHANICAL RIG. DRILLING BY HAND IS NOT APPLICABLE. PUSHING DOWEL BARS INTO GREEN CONCRETE IS NOT ACCEPTABLE.

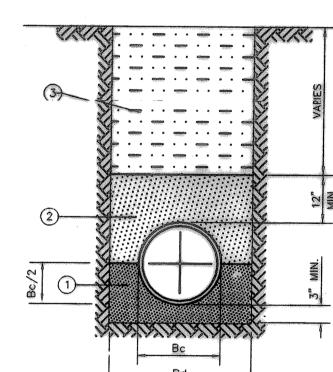


GRANULAR MATERIAL (SAND) — TOP OF LAYER IS TO BE PLACED TO GRADE TO PROVIDE UNIFORM SUPPORT OF PIPE BARREL, EXCAVATE BELL HOLES. COMPACT TO 95% PROCTOR DENSITY. GRANULAR MATERIAL (SAND) — COMPACT TO 90% STANDARD PROCTOR DENSITY EXCEPT UNDER STRUCTURES, ROADWAYS AND PAVEMENT WHERE 95% DENSITY IS REQUIRED. SELECT MATERIAL FREE OF ROCKS, CLUMPS OR DEBRIS LARGER THAN 6" IN GREATEST DIMENSION. COMPACT TO 90% STANDARD PROCTOR DENSITY. UNDER STRUCTURES, ROADWAYS AND PAVEMENT, COMPACT TO 95% STANDARD PROCTOR DENSITY.

AS SHOWN

CLASS "C-2" EMBEDMENT WATER AND SANITARY SEWER

* 1000 * * 1000 * * 1000



- FINE GRADATION CRUSHED STONE TOP LAYER
 IS TO BE PLACED TO GRADE TO PROVIDE UNIFORM
 SUPPORT OF PIPE BARREL. EXCAVATE BELL HOLES.
- SELECT MATERIAL FREE OF ROCKS, CLUMPS OR DEBRIS
 LARGER THAN 6" IN GREATEST DIMENSION. COMPACT TO
 90% STANDARD PROCTOR DENSITY. UNDER STRUCTURES,
 ROADWAYS AND PAVEMENT, USE GRANULAR MATERIAL (SAND)
 COMPACTED TO 95% STANDARD PROCTOR DENSITY.
- SELECT MATERIAL FREE OF ROCKS, CLUMPS OR DEBRIS
 LARGER THAN 6" IN GREATEST DIMENSION. COMPACT TO
 90% STANDARD PROCTOR DENSITY. UNDER STRUCTURES,
 ROADWAYS AND PAVEMENT, COMPACT TO 95% STANDARD PROCTOR DENSITY.

CLASS "B+" EMBEDMENT ROOF DRAIN LINES, FORCE MAIN AND STORM SEWER LINES



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SHW Group Inc Architects + Engineer

SHEET NUMBER

UTILITY DETAILS

EMBEDMENT UNDER ASPHALT STREETS & PAVEMENT REPAIR DETAIL

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SET NUMBER

EMBEDMENT UNDER CONCRETE STREETS
& PAVEMENT REPAIR DETAIL

THICKNESSES & QUALITY.