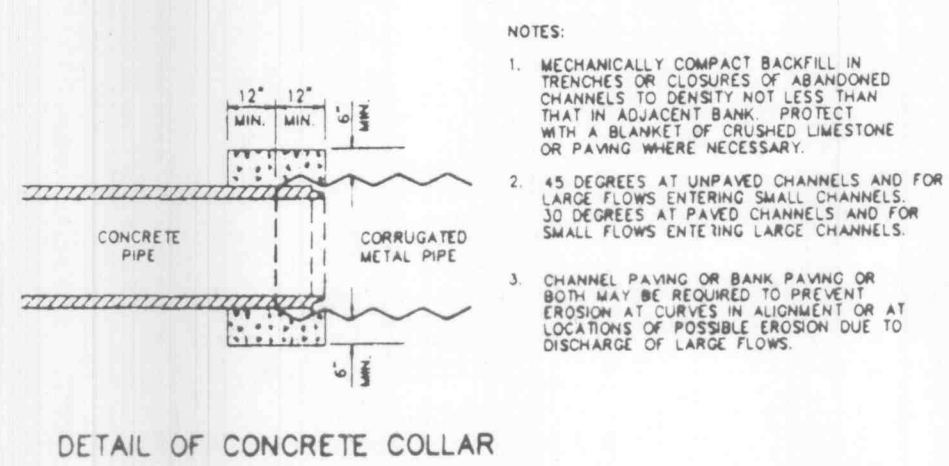
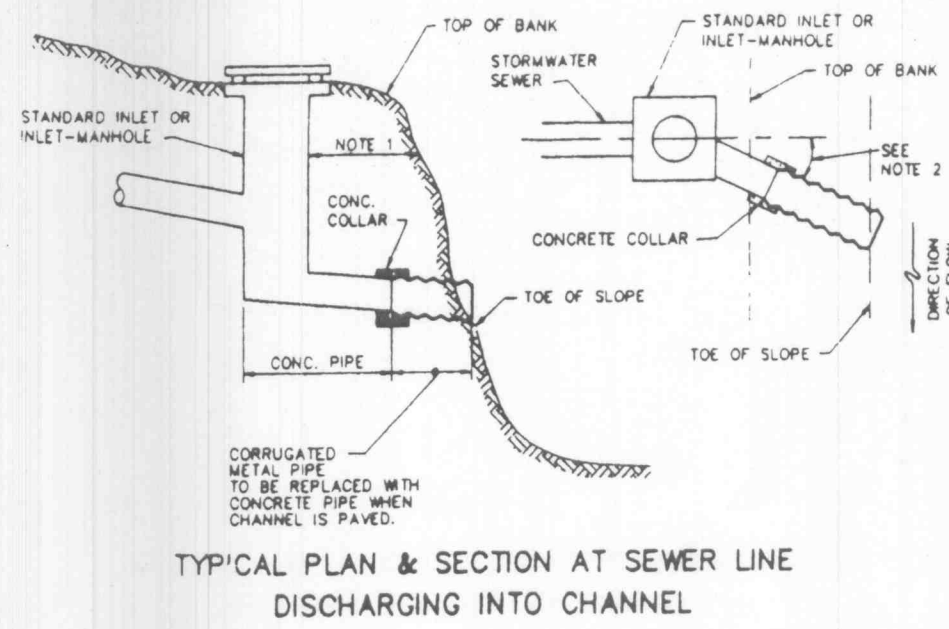
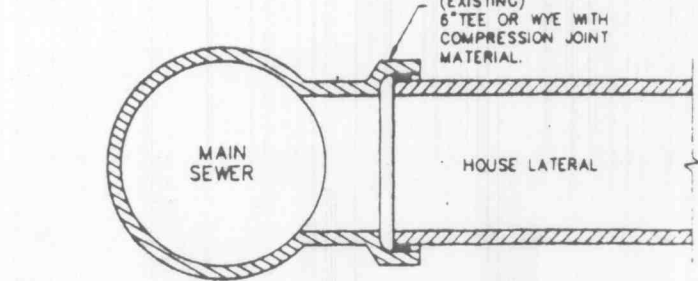


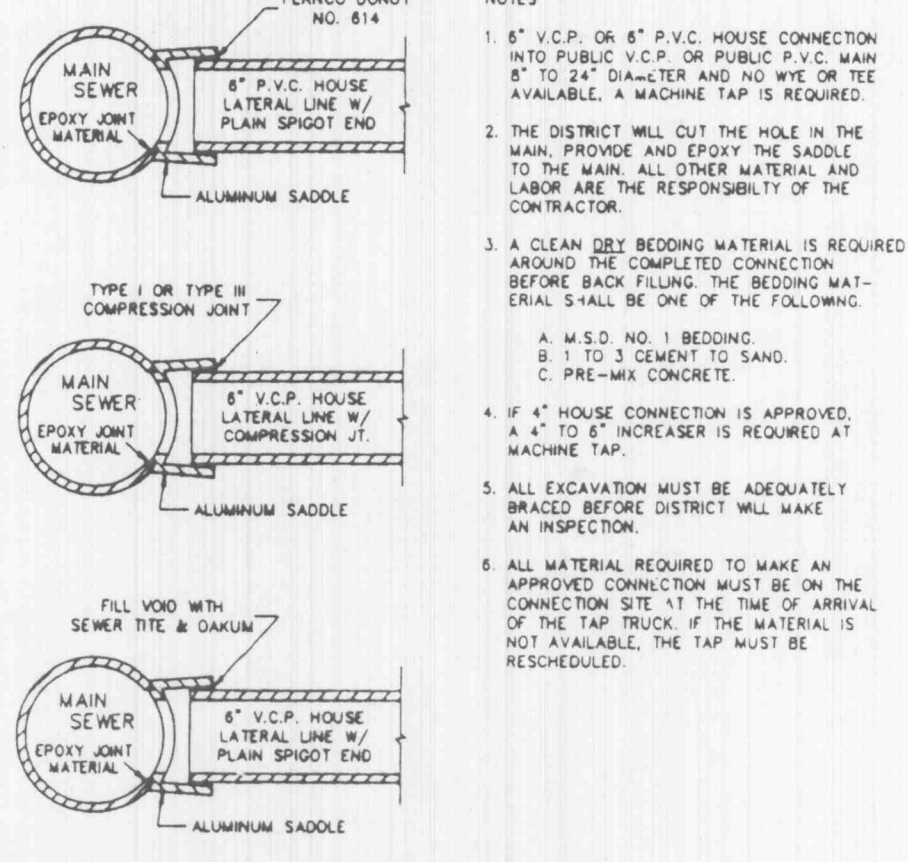
FLARED END SECTION



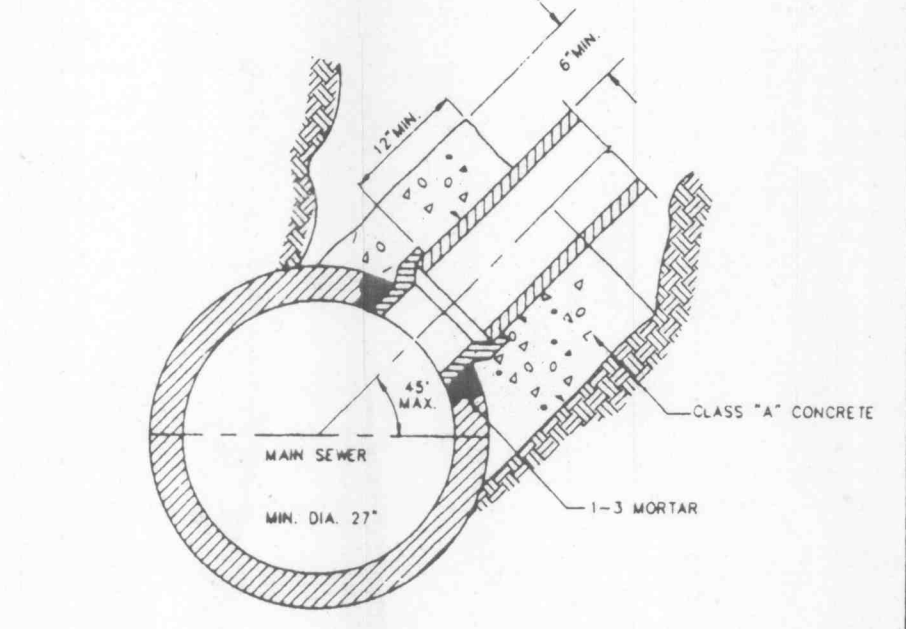
STORMWATER CHANNELS  
METROPOLITAN ST. LOUIS SEWER DISTRICT  
Standard Details of Sewer Construction  
Dr. R.G.W.  
Ch. J.C.K. 1992 SHEET 58



HOUSE CONNECTION TO EXISTING TEE OR WYE  
METROPOLITAN ST. LOUIS SEWER DISTRICT  
Standard Details of Sewer Construction  
Dr. R.G.W.  
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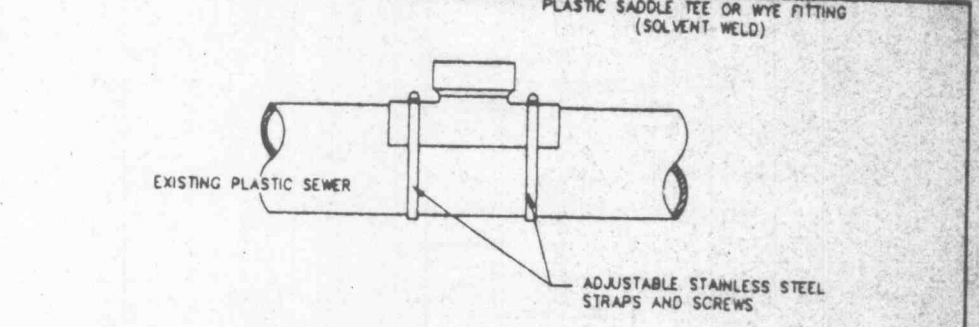


MACHINE TAP  
METROPOLITAN ST. LOUIS SEWER DISTRICT  
Standard Details of Sewer Construction  
Dr. W.S.H.  
Ch. J.C.K. 1992 SHEET 60



HOUSE CONNECTIONS ALLOWED BY TEE SADDLE  
METROPOLITAN ST. LOUIS SEWER DISTRICT  
Standard Details of Sewer Construction  
Dr. D.A.B.  
Ch. J.C.K. 1992 SHEET 61

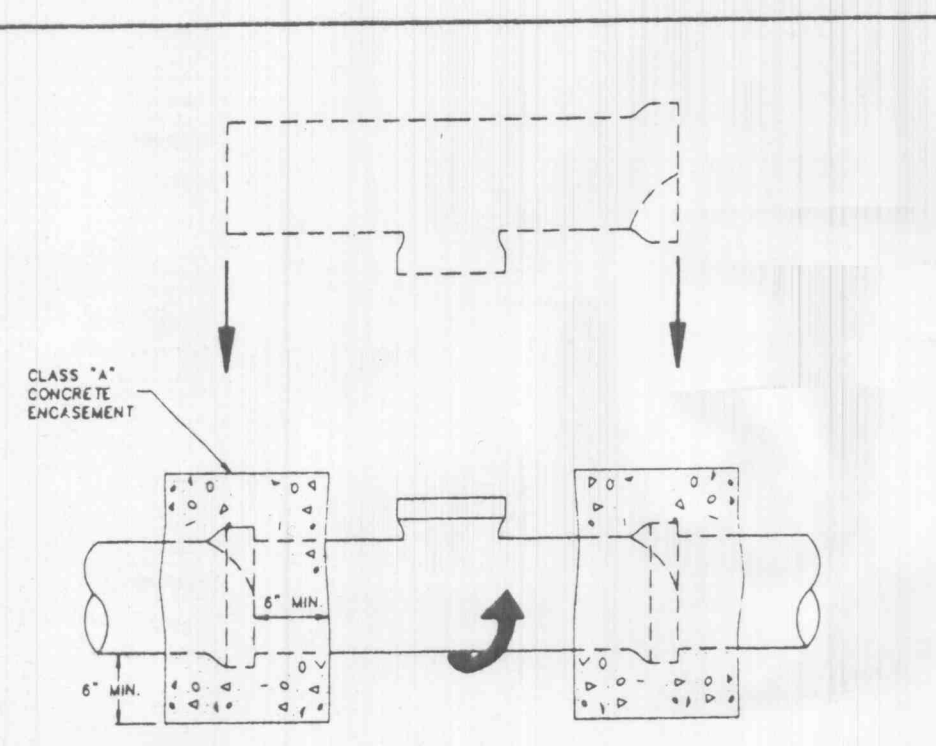
**CONSTRUCTION DETAILS**



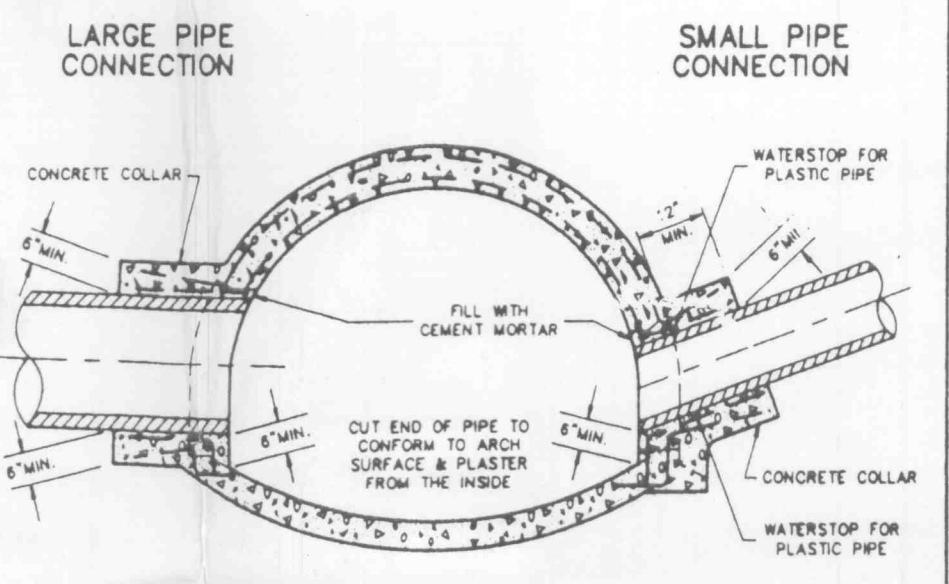
WHEN A CONNECTION TO A PLASTIC PIPE IS ALLOWED AND A CONNECTION IS LARGER THAN 8" IN DIAMETER, A SOLVENT WELD WYE OR TEE FITTING OF A SIMILAR MATERIAL MUST BE USED. (EXAMPLE: 10" X 8") THIS IS ACCOMPLISHED BY CAREFULLY CUTTING A HOLE WITH A SAW IN THE MAIN AT THE REQUIRED LOCATION. AFTER CUTTING AND SHAVING THE HOLE TO THE SIZE OF THE FITTING, THE FOLLOWING STEPS SHOULD BE TAKEN:

- CLEAN AND DRY BOTH INSIDE SADDLE WYE SURFACE AND PIPE SURFACE TO BE SOLVENT CEMENTED.
- IMPORTANT: APPLY A LIBERAL, HEAVY COAT OF ONE-STEP SOLVENT CEMENT TO THE INSIDE SURFACE OF THE SADDLE WYE AND TO THE EXTERIOR WELDING SURFACE OF THE PIPE.
- WITHOUT DELAY, WAX THE SURFACES AND STRAP DOWN TIGHTLY. A BEAD OF SOLVENT SHOULD APPEAR AFTER THE SADDLE HAS BEEN STRAPPED DOWN TIGHTLY.
- USING A RAG OR PAPER TOWEL, Wipe BEAD AND ANY EXCESS SOLVENT CEMENT OFF PIPE AND SADDLE.
- ALLOW 30-60 MINUTES FOR SET-UP BEFORE BACKFILLING. CURE TIME DEPENDS ON SIZE FIT OF MATERIALS BEING INSTALLED AND VARIOUS COOL-DRY CONDITIONS.
- DISCARD OLD SOLVENT IF IT BECAME JELLED OR LUMPY.
- A CLEAN, DRY BEDDING MATERIAL IS REQUIRED AROUND THE COMPLETED CONNECTION BEFORE BACKFILLING. THE BEDDING MATERIAL SHOULD BE ONE OF THE FOLLOWING:
  - A. M.S.D. #1 BEDDING
  - B. 1 TO 3 CEMENT TO SAND MIX
  - C. "PRE-MIX" CONCRETE

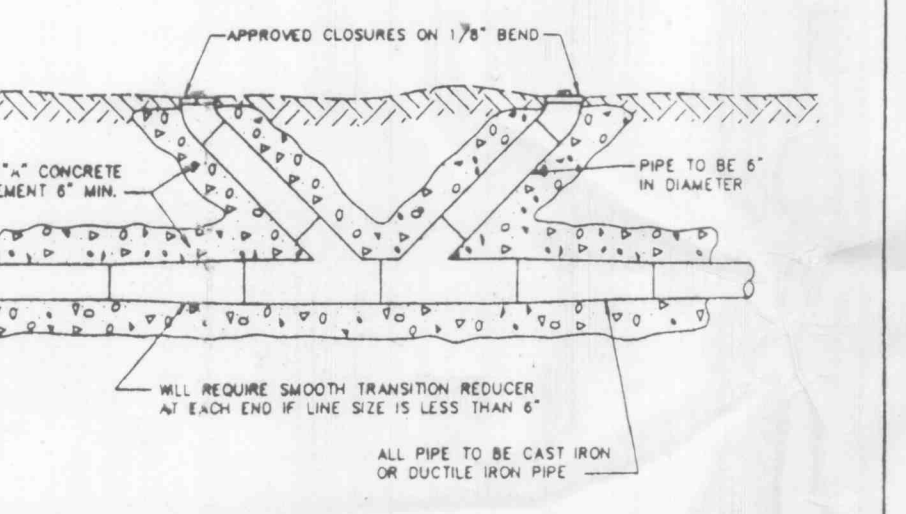
8" (& LARGER) CONNECTION TO PLASTIC PIPE  
METROPOLITAN ST. LOUIS SEWER DISTRICT  
Standard Details of Sewer Construction  
Dr. D.A.B.  
Ch. J.C.K. 1992 SHEET 62



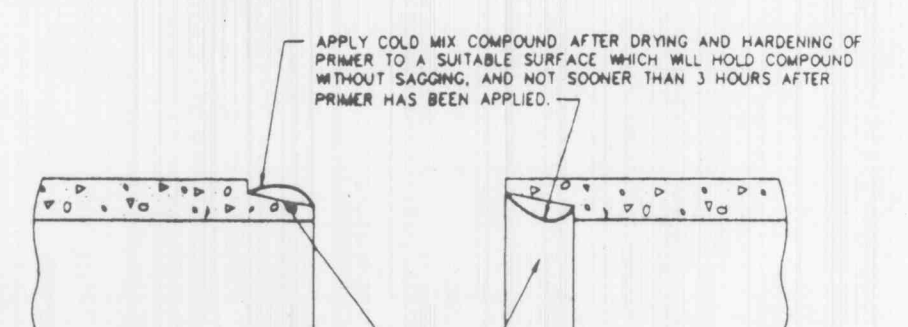
ROLL-IN (FOR EXISTING CLAY OR CONCRETE PIPE)  
METROPOLITAN ST. LOUIS SEWER DISTRICT  
Standard Details of Sewer Construction  
Dr. D.A.B.  
Ch. J.C.K. 1992 SHEET 63



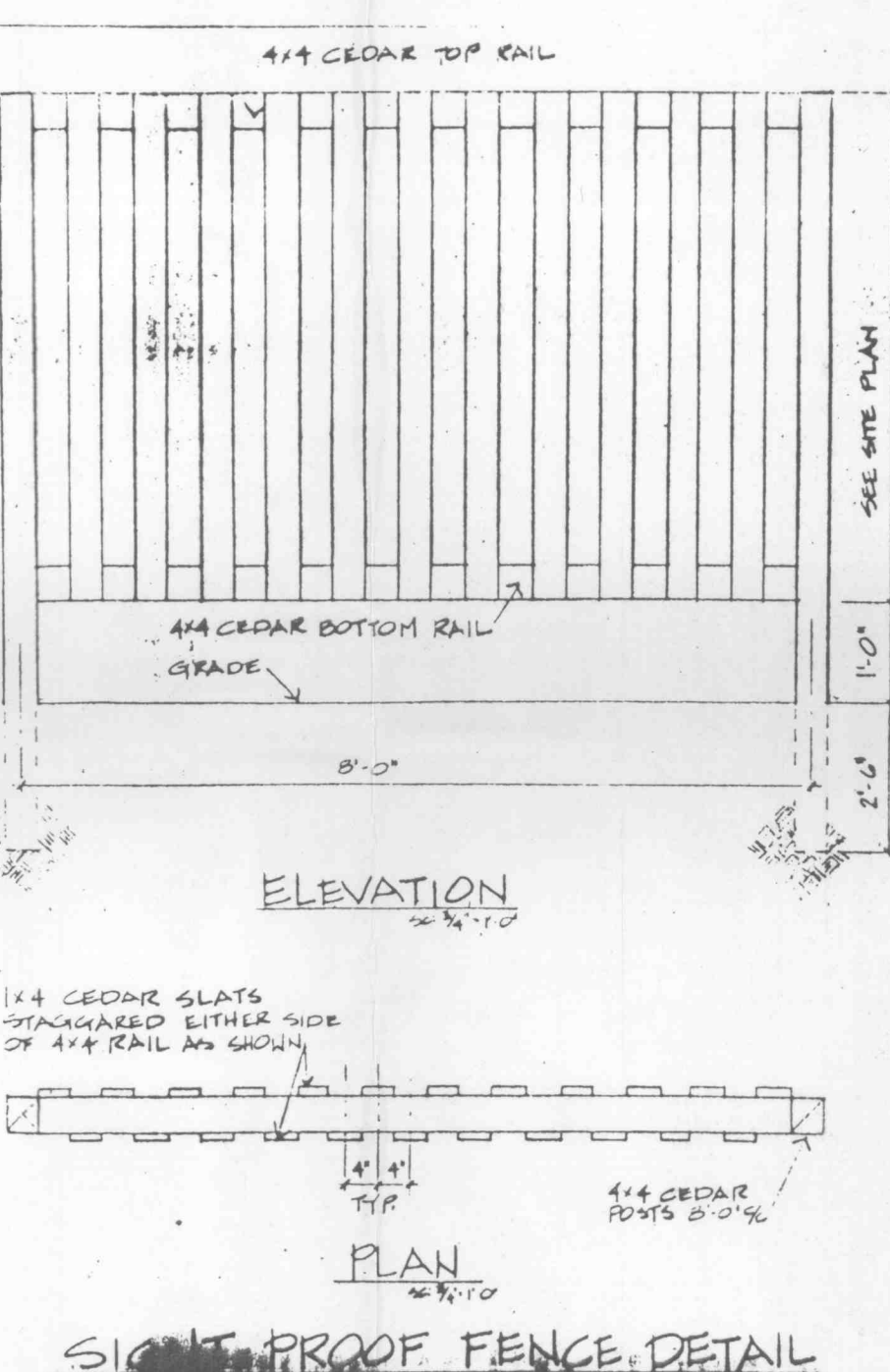
CONNECTIONS TO LARGE SEWERS  
METROPOLITAN ST. LOUIS SEWER DISTRICT  
Standard Details of Sewer Construction  
Dr. W.S.H.  
Ch. J.C.K. 1992 SHEET 64



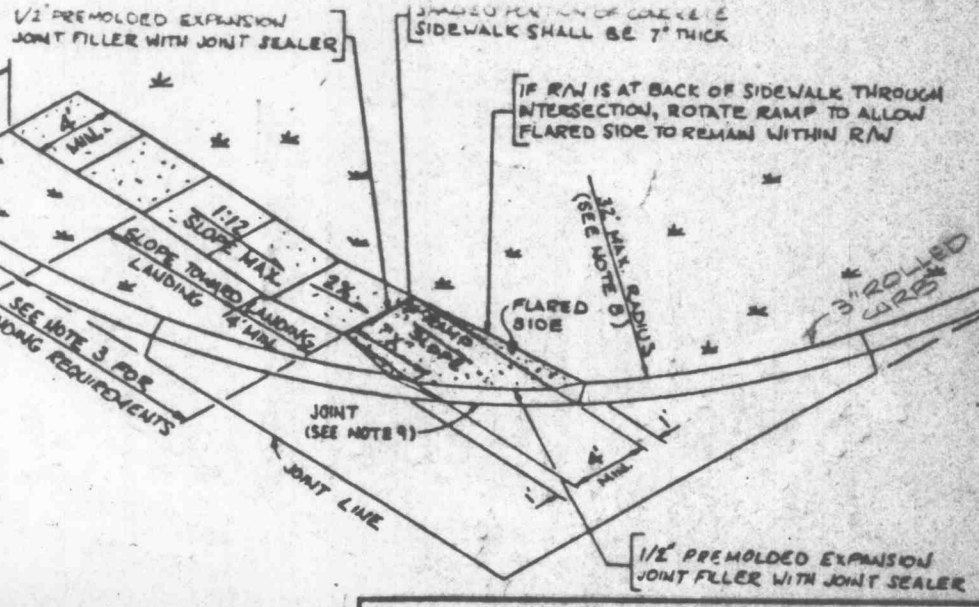
FORCE MAIN CLEANOUT (6" DIA. & SMALLER)  
METROPOLITAN ST. LOUIS SEWER DISTRICT  
Standard Details of Sewer Construction  
Dr. R.G.W.  
Ch. J.C.K. 1992 SHEET 65



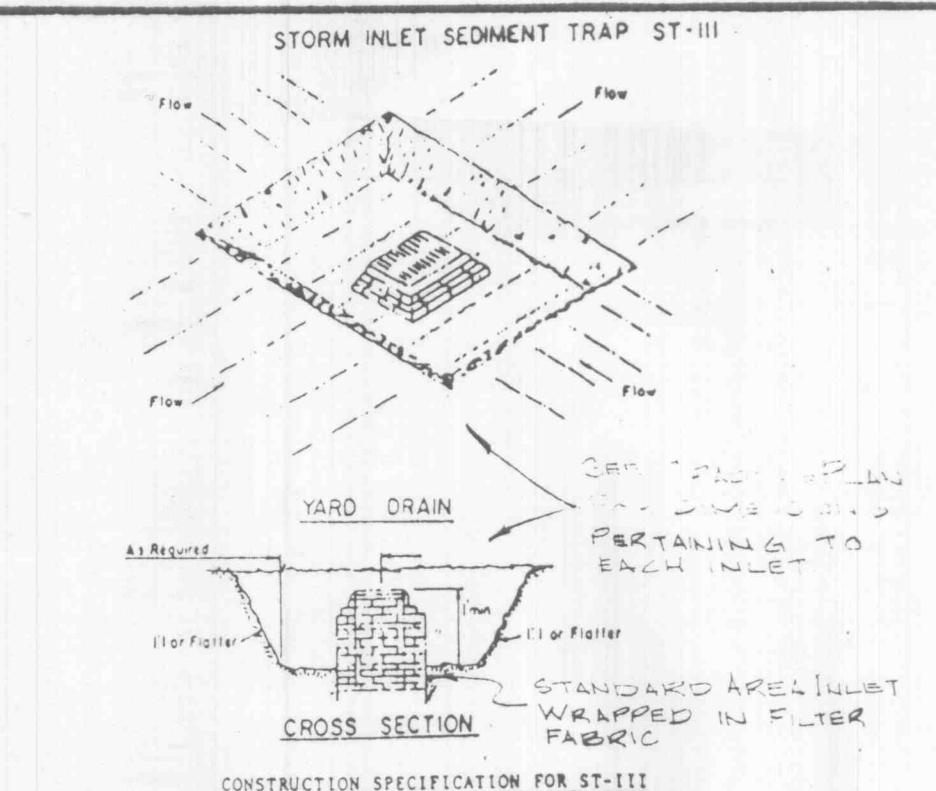
TONGUE AND GROOVE CONCRETE PIPE JOINTS  
METROPOLITAN ST. LOUIS SEWER DISTRICT  
Standard Details of Sewer Construction  
Dr. D.A.B.  
Ch. J.C.K. 1992 SHEET 66



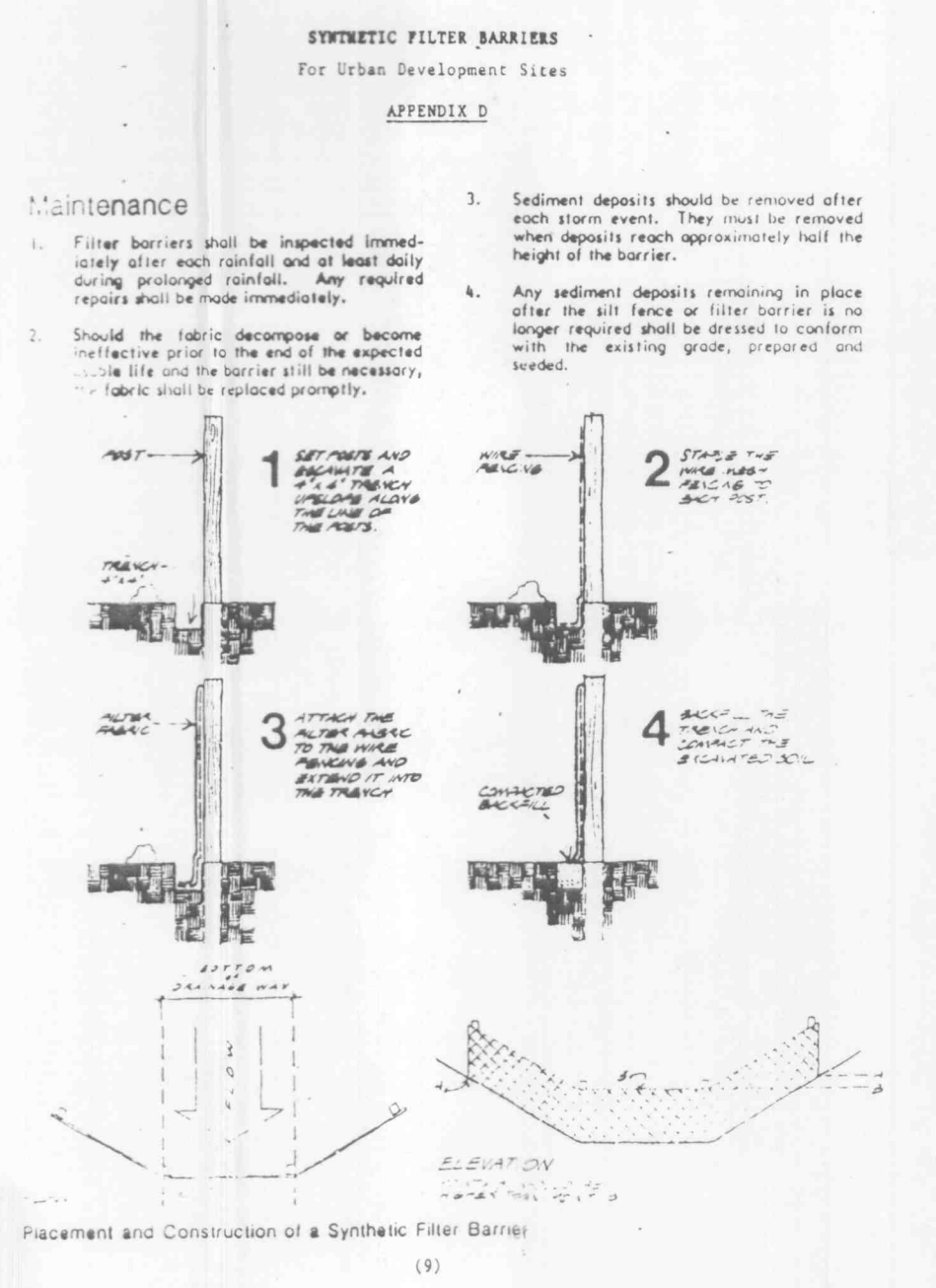
SIGHT PROOF FENCE DETAIL  
METROPOLITAN ST. LOUIS SEWER DISTRICT  
Standard Details of Sewer Construction  
Dr. D.A.B.  
Ch. J.C.K. 1992 SHEET 67



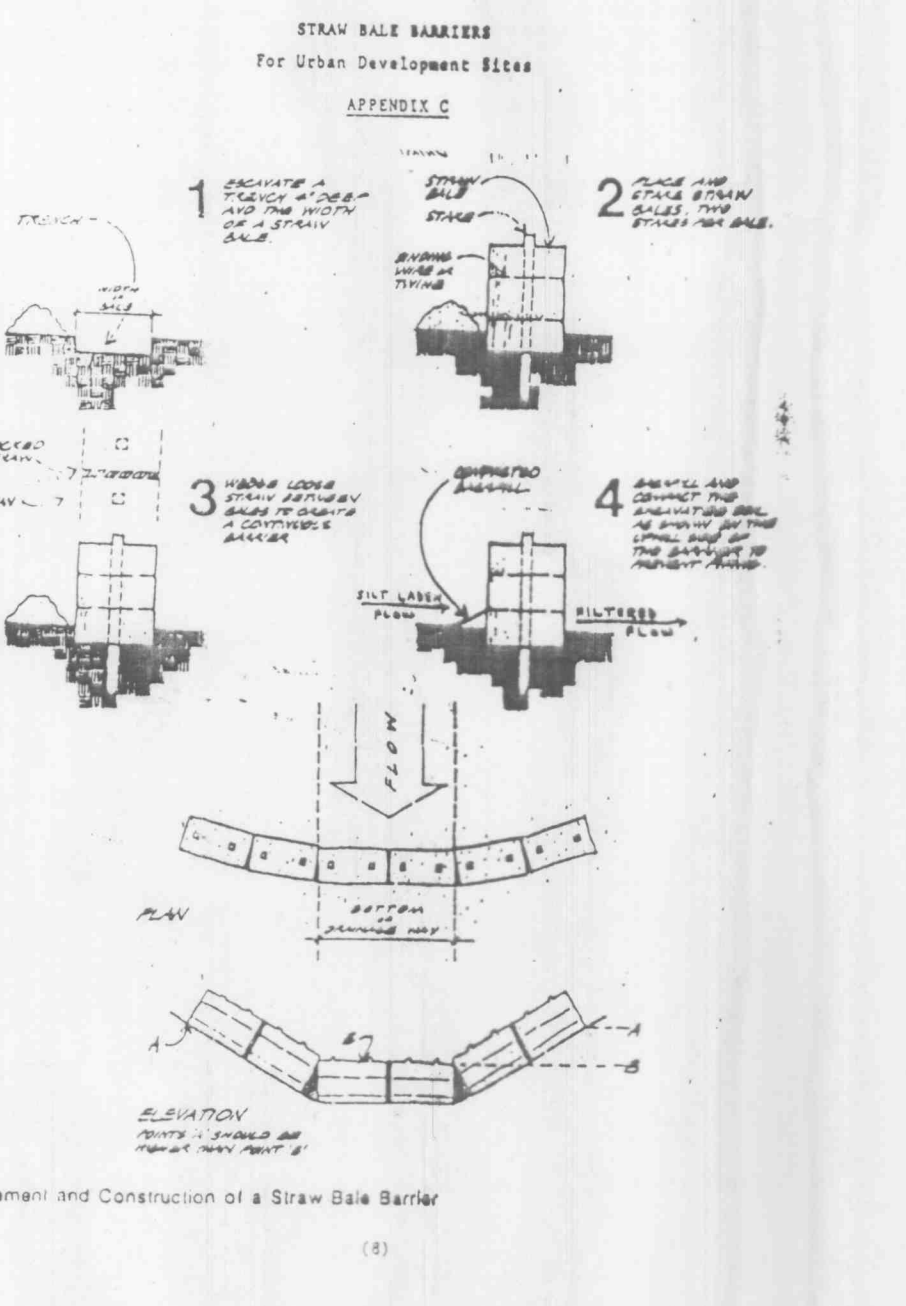
TYPE 3 CURB RAMP  
METROPOLITAN ST. LOUIS SEWER DISTRICT  
Standard Details of Sewer Construction  
Dr. D.A.B.  
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- Sediment shall be removed and the trap restored to its original dimensions when the sediment has accumulated to 1/2 the design depth of one trap. Removed sediment shall be deposited in a suitable area and in such a manner that it will not erode.
- The volume of sediment storage shall be 1800 cubic feet per acre of contributory drainage.
- The structure shall be inspected after each rain and repairs made as needed.
- Construction operations shall be carried out in such a manner that erosion and water pollution shall be minimized.
- The sediment trap shall be removed and the area stabilized when the constructed drainage area has been properly stabilized.
- All cut slopes shall be 1:1 or flatter.



SYNTHETIC FILTER BARRIERS  
METROPOLITAN ST. LOUIS SEWER DISTRICT  
Standard Details of Sewer Construction  
Dr. W.S.H.  
Ch. J.C.K. 1992 SHEET 69



STRAW BALE BARRIERS  
METROPOLITAN ST. LOUIS SEWER DISTRICT  
Standard Details of Sewer Construction  
Dr. W.S.H.  
Ch. J.C.K. 1992 SHEET 70

$n = 0.045$  grass ( $n = 0.02$  unvegetated)

Depth = 1.0'  $q = 8$   
Slope = 10%  $wp = 15.17$

$V = 1.486 / 0.045 (8 / 15.17)^{2/3} (.01)^{1/2}$   
 $= 2.16$  f.p.s. ( $V = 4.85$  fps)

$Q = 2.16(8) = 17.28$  c.f.s. ( $Q = 38.8$  c.f.s.)

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Depth = 0.75'  $q = 3.94$   
Slope = 5.0%  $wp = 11.63$

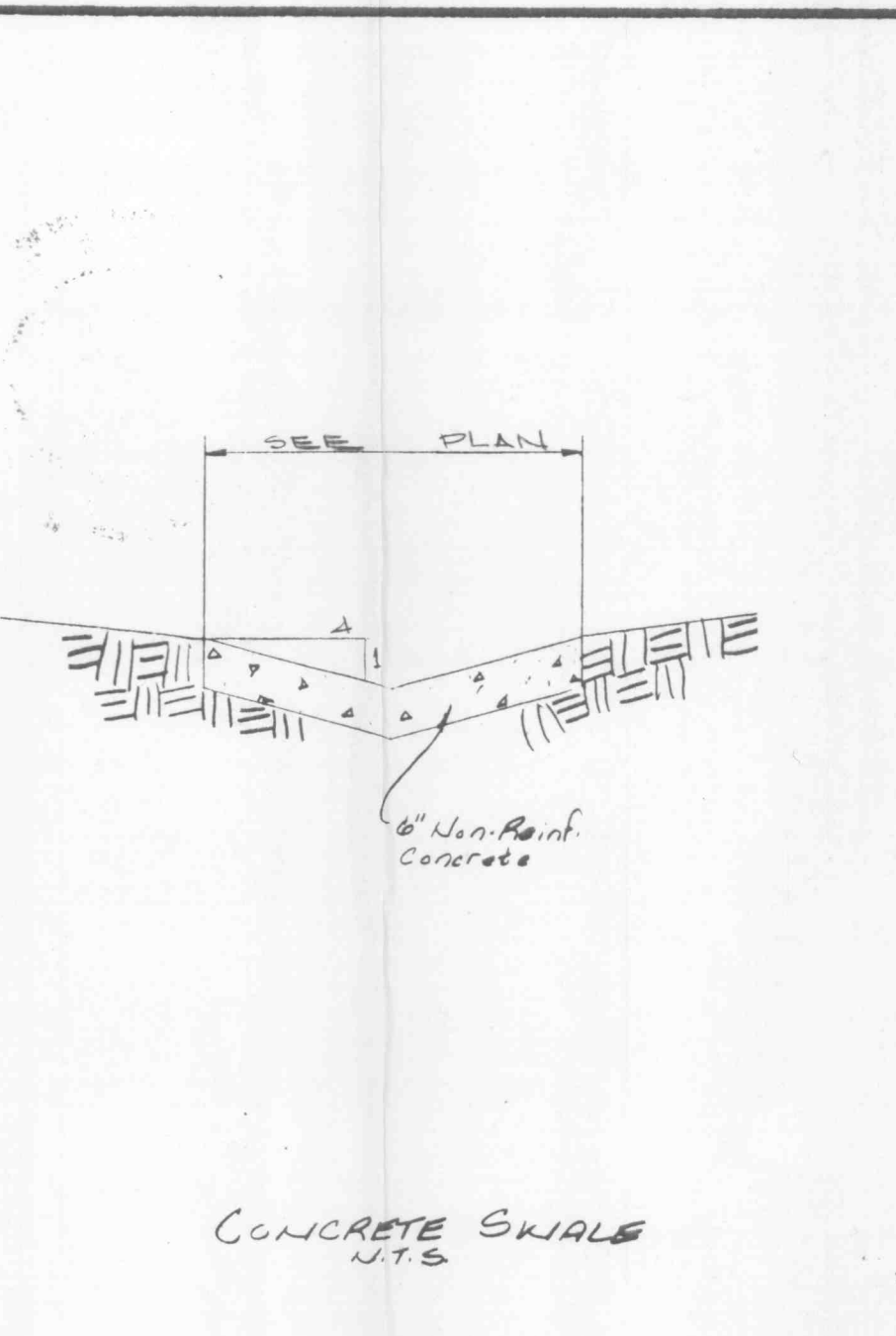
$V = 1.486 / 0.045 (3.94 / 11.63)^{2/3} (.05)^{1/2}$   
 $= 3.59$  f.p.s. ( $V = 8.07$  fps)

$Q = 3.59(3.94) = 14.14$  c.f.s. ( $Q = 31.8$  c.f.s.)

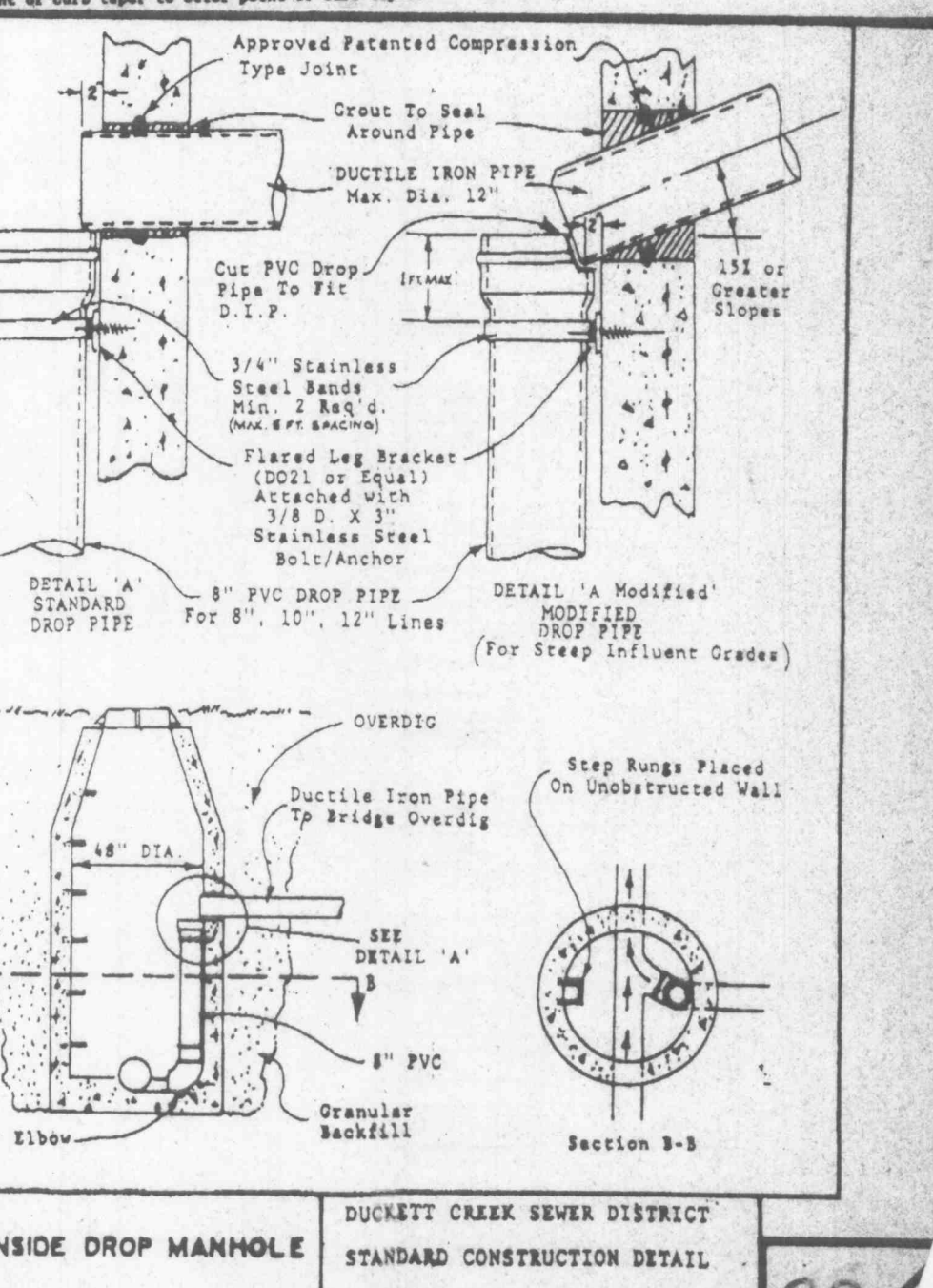
**GRASS LINED 1' W. FLAT BOTTOM DIVERSION DITCH**

NOTES:

GRASS LINED 1' W. FLAT BOTTOM DIVERSION DITCH  
METROPOLITAN ST. LOUIS SEWER DISTRICT  
Standard Details of Sewer Construction  
Dr. W.S.H.  
Ch. J.C.K. 1992 SHEET 71



INSIDE DROP MANHOLE  
DUCKETT CREEK SEWER DISTRICT  
STANDARD CONSTRUCTION DETAIL  
DETAIL NO. JAN. 1989



DUCKETT CREEK SEWER DISTRICT STANDARD CONSTRUCTION DETAIL  
DETAIL NO. JAN. 1989