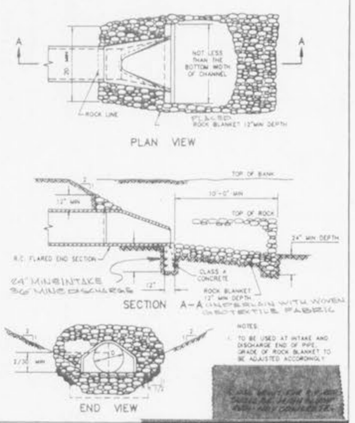
CONSTRUCTION DETAILS

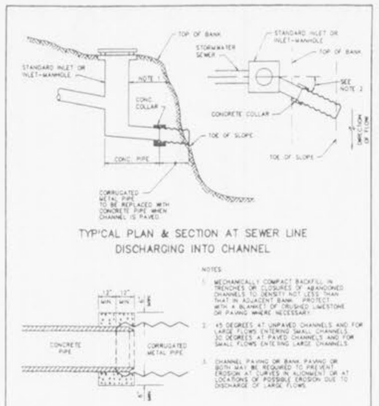


NOTES

1. TO BE USED AT INTAKE AND DISCHARGE END OF PIPE. GRADE OF ROCK BLANKET TO BE ADJUSTED ACCORDINGLY.

FLARED END SECTION

METROPOLITAN ST. LOUIS SEWER DISTRICT Standard Details of Sewer Construction		
Dr. R.G.W. Ch. J.C.K.	1992	SHEET 57



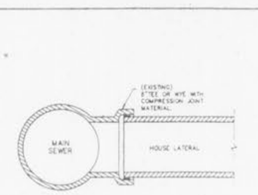
TYPICAL PLAN & SECTION AT SEWER LINE DISCHARGING INTO CHANNEL

DETAIL OF CONCRETE COLLAR

NOTES

1. MECHANICALLY COMPACT BACKFILL IN TRENCHES OR CLOSURES OF ABANDONED CHANNELS (DENSITY NOT LESS THAN THAT IN ADJACENT BANK. PROTECT WITH A BLANKET OF RIPRAP, LIMESTONE OR PAVING WHERE NECESSARY.
2. 45 DEGREES AT UNPAVED CHANNELS AND FOR LARGE SKEWS ENTERING SMALL CHANNELS. 30 DEGREES AT PAVED CHANNELS AND FOR SMALL FLOWS ENTERING LARGE CHANNELS.
3. CHANNEL PAVING OR BANK PAVING OR BOTH MAY BE REQUIRED TO PREVENT EROSION AT CURVES IN ALIGNMENT OR AT LOCATIONS OF POSSIBLE EROSION DUE TO DISCHARGE OF LARGE FLOWS.

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

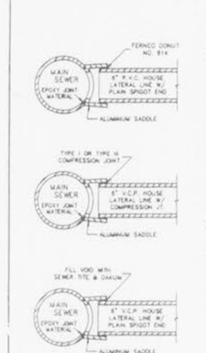


HOUSE CONNECTION

NOTES

1. 6" V.C.P. WITH COMPRESSION JOINT (SHOWN)
2. 8" V.C.P. WITHOUT COMPRESSION JOINT. USE SEWER TYE AND DAHLIN.
3. IF 4" HOUSE CONNECTION IS APPROVED, A 4" TO 8" INCREASER IS REQUIRED.
4. IF 8" P.V.C. IS USED A FERNCO ADAPTOR OR SEWER TYE AND DAHLIN MAY BE USED TO MAKE THE JOINT.
5. A CLEAN, DRY BEDDING MATERIAL IS REQUIRED AROUND THE COMPLETED CONNECTION BEFORE BACKFILLING. THE BEDDING MATERIAL SHALL BE ONE OF THE FOLLOWING:
   A. M.S.D. NO. 1 BEDDING
   B. 1 TO 3 CEMENT AND SAND
   C. PRE-MIX CONCRETE

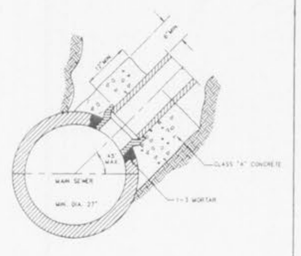
HOUSE CONNECTION TO EXISTING TEE OR WYE	METROPOLITAN ST. LOUIS SEWER DISTRICT Standard Details of Sewer Construction		
	Dr. D.A.B. Ch. J.C.K.	1992	SHEET 59



NOTES

1. 8" V.C.P. OR 8" P.V.C. HOUSE CONNECTION INTO PUBLIC V.C.P. OR PUBLIC P.V.C. MAIN 8" TO 24" DIAMETER AND NO WYE OR TEE AVAILABLE, A MACHINE TAP IS REQUIRED.
2. THE DISTRICT WILL CUT THE HOLE IN THE MAIN, PROVIDE AND EPOXY THE SADDLE TO THE MAIN. ALL OTHER MATERIAL AND LABOR ARE THE RESPONSIBILITY OF THE CONTRACTOR.
3. A CLEAN, DRY BEDDING MATERIAL IS REQUIRED AROUND THE COMPLETED CONNECTION BEFORE BACK FILLING. THE BEDDING MATERIAL SHALL BE ONE OF THE FOLLOWING:
   A. M.S.D. NO. 1 BEDDING
   B. 1 TO 3 CEMENT TO SAND.
   C. PRE-MIX CONCRETE.
4. IF 4" HOUSE CONNECTION IS APPROVED, A 4" TO 8" INCREASER IS REQUIRED AT MACHINE TAP.
5. ALL EXCAVATION MUST BE ADEQUATELY BRACED BEFORE DISTRICT WILL MAKE AN INSPECTION.
6. ALL MATERIAL REQUIRED TO MAKE AN APPROVED CONNECTION MUST BE ON THE CONNECTION SITE AT THE TIME OF ARRIVAL OF THE TAP TRUCK. IF THE MATERIAL IS NOT AVAILABLE, THE TAP MUST BE RESCHEDULED.

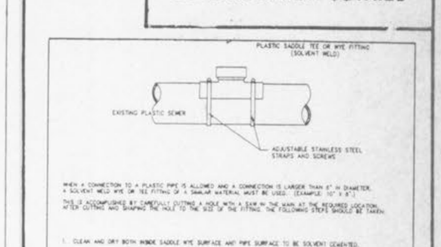
MACHINE TAP	METROPOLITAN ST. LOUIS SEWER DISTRICT Standard Details of Sewer Construction		
	Dr. W.S.H. Ch. J.C.K.	1992	SHEET 60



NOTES

1. THE OPENING SHALL BE CUT BY THE CONTRACTOR TO A SUFFICIENT SIZE TO PERMIT INSERTING A TEE SADDLE OR SHORT LENGTH OF PIPE AT THE REQUIRED ELEVATION AND ANGLE TO ALLOW AT LEAST TWO (2) INCHES SPACE AROUND THE PIPE. THIS SPACE WILL BE SOLIDLY FILLED WITH 1:3 CEMENT-SAND MORTAR AND THE NEW PIPE NEATLY TRIMMED AND POINTED UP FLUSH WITH THE INSIDE OF THE MAIN SEWER.
2. IF THERE ARE REINFORCING BARS IN THE SEWER WALL ONLY THOSE PREVENTING INSERTION OF THE PIPE MAY BE CUT. ALL OTHERS SHALL BE BENT INTO A CLASS "A" CONCRETE COLLAR AT THE JUNCTION OF THE CONNECTION PIPE AND THE MAIN SEWER.

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

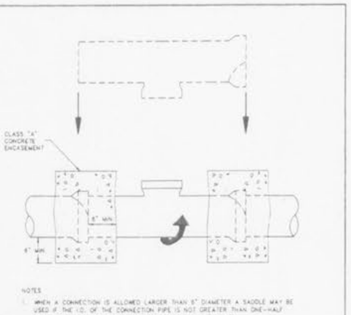


WHEN A CONNECTION TO A PLASTIC PIPE IS ALLOWED AND A CONNECTION IS LARGER THAN 8" IN DIAMETER, A SOLVENT WELD WYE OR TEE FITTING OF A SIMILAR MATERIAL MUST BE USED. (EXAMPLE 10" X 8").

THIS IS ACCOMPLISHED BY CAREFULLY CUTTING A HOLE WITH A SAW IN THE MAIN AT THE REQUIRED LOCATION. AFTER CUTTING AND SHAPING THE HOLE TO THE SIZE OF THE FITTING, THE FOLLOWING STEPS SHOULD BE TAKEN:

1. CLEAN AND DRY BOTH INSIDE SADDLE WYE SURFACE AND PIPE SURFACE TO BE SOLVENT CEMENTED.
2. IMPORTANT! APPLY A LIBERAL HEAVY COAT OF ONE-STEP SOLVENT CEMENT TO THE INSIDE SURFACE OF THE SADDLE WYE AND TO THE EXTERIOR MATING SURFACE TO THE PIPE.
3. WITHOUT DELAY, WARP THE SURFACES AND STRAP DOWN TIGHTLY. A BEAD OF SOLVENT SHOULD APPEAR AFTER THE SADDLE HAS BEEN STRAPPED DOWN TIGHTLY.
4. USING A RAG OR PAPER TOWEL, WIPE BEAD AND ANY EXCESS SOLVENT CEMENT OFF PIPE AND SADDLE.
5. ALLOW 30-40 MINUTES FOR SET-UP TIME BEFORE BACKFILLING. CURE TIME DEPENDS ON SIZE AT OF MATERIALS BEING INSTALLED AND VARIOUS COLD SHOP CONDITIONS.
6. DISCARD OLD SOLVENT IF IT BECOME JELLED OR LUMPY.
7. 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

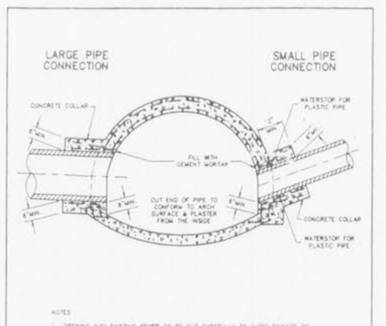
8" (& LARGER) CONNECTION TO PLASTIC MAIN	METROPOLITAN ST. LOUIS SEWER DISTRICT Standard Details of Sewer Construction		
	Dr. D.A.B. Ch. J.C.K.	1992	SHEET 62



NOTES

1. WHEN A CONNECTION IS ALLOWED LARGER THAN 8" DIAMETER A SADDLE MAY BE USED IF THE I.D. OF THE CONNECTION PIPE IS NOT GREATER THAN ONE-HALF (1/2) OF THE I.D. OF THE MAIN SEWER. (EXAMPLE 24" X 10").
2. IF THE I.D. OF THE CONNECTION PIPE IS GREATER THAN ONE-HALF (1/2) THE I.D. OF THE MAIN SEWER THE WYE OR TEE MUST BE "ROLLED IN". (EXAMPLE 15" X 8").
3. THIS IS ACCOMPLISHED BY BREAKING AWAY AND REMOVING ONE SECTION OF PIPE. THE TOP HALF OF THE BELL ON THE PIPE LYING ADJACENT TO THE GAP IS CAREFULLY BROKEN OFF. THE TOP HALF OF THE BELL ON THE MAIN REPLACEMENT SECTION (WITH A "TEE" "WYE") FITTING IS ALSO BROKEN OFF. THE REPLACEMENT PIPE IS THEN PLACED IN THE LINE GAP WITH THE STUB POINTED IN THE WRONG DIRECTION. THE BROKEN BELLS ON THE REPLACEMENT AND ADJOINING PIPE MAKE POSSIBLE FOR THE REPLACEMENT SECTION TO BE "ROLLED IN" INTO THE SEWER LINE WITHOUT DISTURBING THE ADJOINING PIPE SECTIONS. THE REPLACEMENT SECTION IS THEN ROTATED TO THE DESIRED POSITION AND THE BROKEN BELLS ARE ENCASED WITH A 8" CLASS "A" CONCRETE ENCASEMENT.

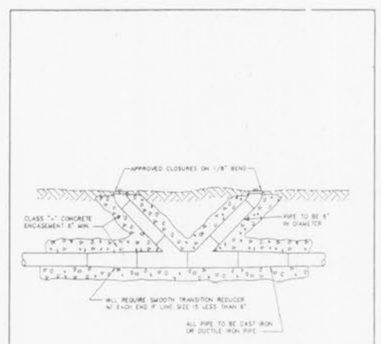
"ROLL-IN" (FOR EXISTING CLAY OR CONCRETE PIPE)	METROPOLITAN ST. LOUIS SEWER DISTRICT Standard Details of Sewer Construction		
	Dr. D.A.B. Ch. J.C.K.	1992	SHEET 63



NOTES

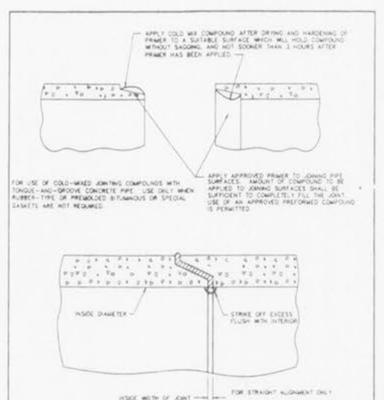
1. OPENING INTO EXISTING SEWER TO BE CUT CAREFULLY TO AVOID DAMAGE TO ADJACENT MASONRY.
2. HOLE TO BE CUT TO PROPER GRADE AND ELEVATION AND TO BE OF SUCH SIZE AS TO PERMIT A TWO-INCH SPACE ALL AROUND THE OUTSIDE OF THE PIPE.
3. THIS SPACE SHALL BE CAREFULLY FILLED WITH ONE PART CEMENT AND THREE PARTS SAND MORTAR COMPACTED INTO PLACE AFTER THE PIPE HAS BEEN INSERTED AND PROPERLY SUPPORTED TO LINE AND GRADE.
4. EXISTING REINFORCING BARS ARE TO BE BENT BACK INTO THE CONCRETE COLLAR AROUND THE PIPE TO PROVIDE REINFORCEMENT EQUALLY ON ALL SIDES.

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

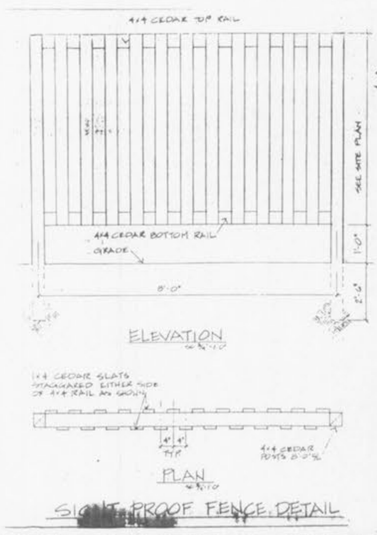


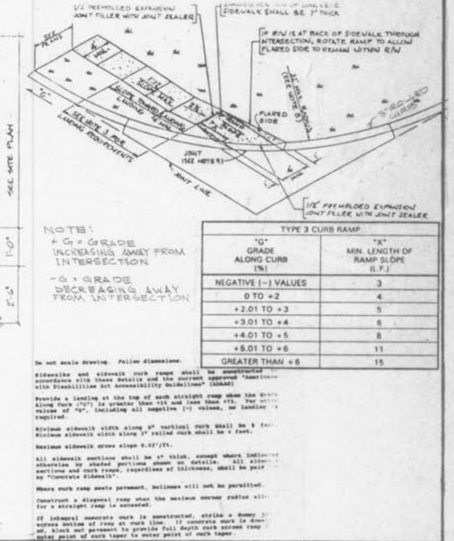
1800' MAXIMUM SPACING

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





NOTES:

+G = GRADE INCREASING AWAY FROM INTERSECTION

-G = GRADE DECREASING AWAY FROM INTERSECTION

TYPE 3 CURB RAMP

"G" GRADE ALONG CURB (%)	"X" MIN. LENGTH OF RAMP SLOPE (L.F.)
NEGATIVE (-) VALUES	3
0 TO +2	4
+2.01 TO +3	5
+3.01 TO +4	6
+4.01 TO +5	8
+5.01 TO +6	11
GREATER THAN +6	15

Do not scale drawing. Follow dimensions.

Sidewalks and sidewalk curb ramps shall be constructed in accordance with these details and the current approved "Americans with Disabilities Act Accessibility Guidelines" (ADAAG).

Provide a landing at the top of each straight ramp when the slope along the ramp is greater than +5% and less than +7%. For slopes of +5% including all negative (-) values, no landing is required.

Minimum sidewalk width along 6" vertical curb shall be 5 feet. Minimum sidewalk width along 3" rolled curb shall be 4 feet.

Maximum sidewalk cross slope 0.02"/1".

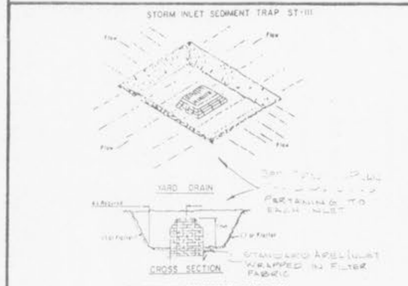
All sidewalk sections shall be 4" thick, except where indicated otherwise on shared portions shown on details. All sidewalks and curb ramps, regardless of thickness, shall be pair as "Concrete Sidewalk".

Where curb ramp meets pavement, bullnose will not be permitted.

Construct a diagonal ramp when the maximum corner radius allows for a straight ramp is exceeded.

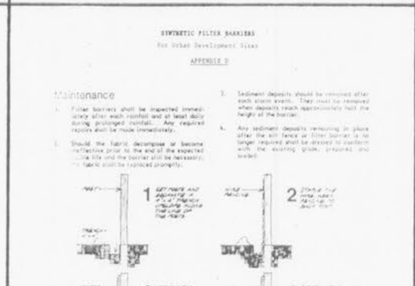
If integral concrete curb is constructed, strike a dummy joint across bottom of ramp at curb line. If concrete curb is doweled, block out pavement to provide full depth curb across ramp (outer point of curb taper to outer point of curb taper).

8" PVC DROP PIPE For 8", 10", 12" Lines	DUCKETT CREEK SEWER DISTRICT STANDARD CONSTRUCTION DETAIL DETAIL NO. JAN. 1989	CD/4



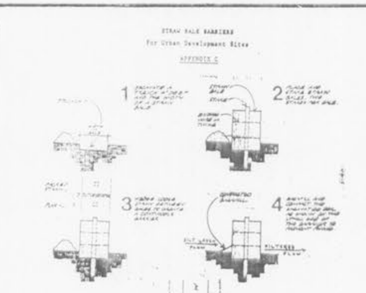
CONSTRUCTION SPECIFICATION FOR ST-III

1. Sediment shall be removed and the trap restored to its original dimensions when the sediment has accumulated to ½ the design depth of the trap. Removed sediment shall be deposited in a suitable area and in such a manner that it will not erode.
2. The volume of sediment storage shall be 1800 cubic feet per acre of contributory drainage.
3. The structure shall be inspected after each rain and repairs made as needed.
4. Construction operations shall be carried out in such a manner that erosion and water pollution shall be minimized.
5. The sediment trap shall be removed and the area stabilized when the constructed drainage area has been properly stabilized.
6. All cut slopes shall be 1:1 or flatter.



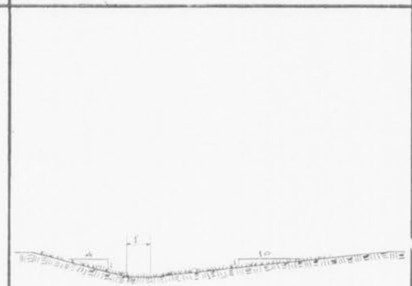
Placement and Construction of a Synthetic Filter Barrier

(D)



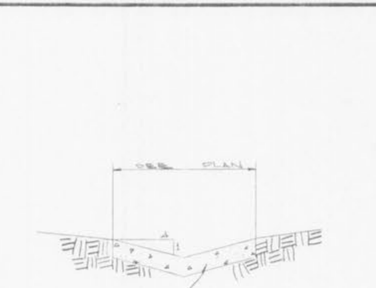
Placement and Construction of a Straw Bale Barrier

(C)



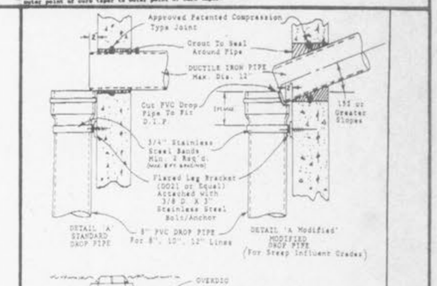
GRASS LINED 1'W. FLAT BOTTOM DIVERSION DITCH

NTS



CONCRETE SWALE

NTS



INSIDE DROP MANHOLE