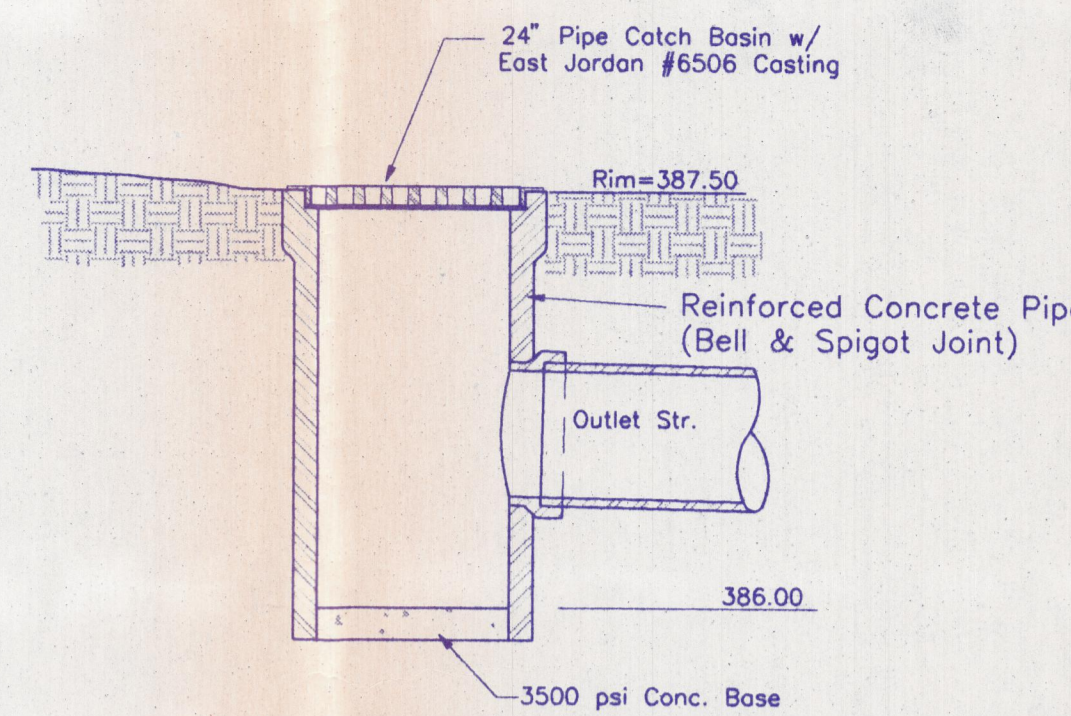


# STRUCTURE DATA

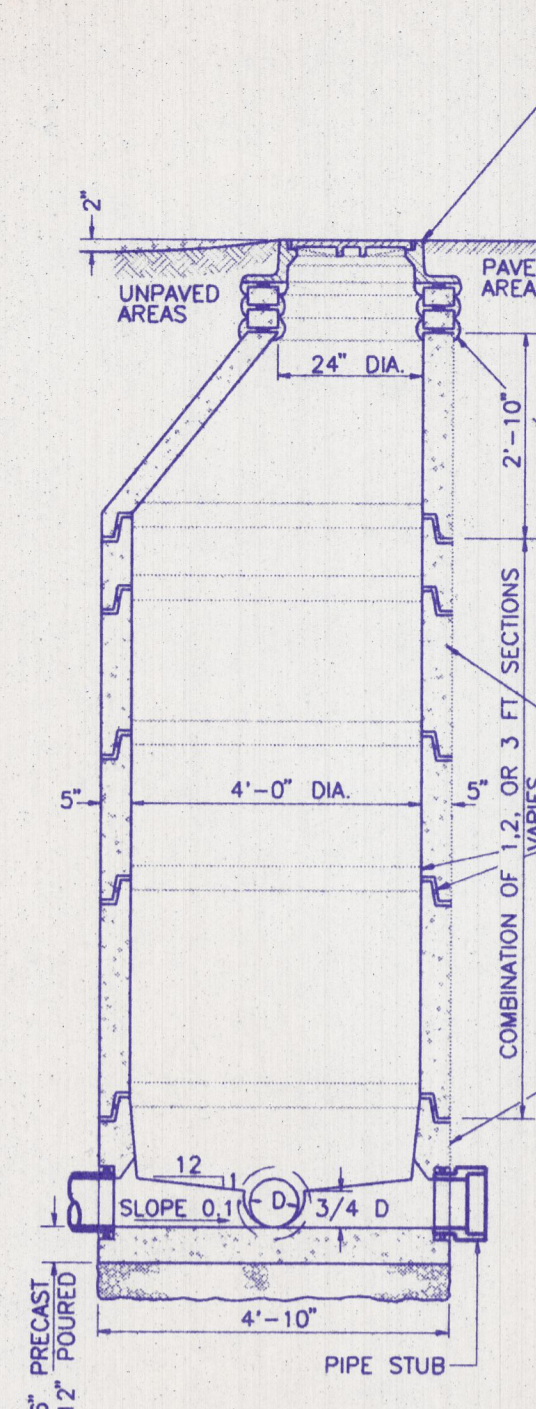
STRUCTURE NUMBER	LOCATION	NORTHING	EASTING	SIZE INCHES	DESCRIPTION	LENGTH FT.	FLOW LINE		PIPE END SECTION EA.	REMARKS
							UP STREAM ELEV.	DOWN STREAM ELEV.		
400	0+73.5			24	RCP ONLY	170	386.71	386.20		Remove End Section Extend Pipe As Shown to Str. 403
401	2+40			12	Inlet Type J-10	2	387.16	386.92		Casting EL=389.66
402	2+40			12	Inlet Type M-10	2	386.92	386.87		Casting EL=389.66
403	2+40			24	Manhole Type D-4 (Mod.)	107	386.20	385.88	1	Outlet Pipe to Begin PSD Rim El=390.00
404	8+00			24		25	384.53	384.45	1	Inlet pipe & End PSD
405	8+25			12	Inlet Type J-10	24	386.50	386.26		Casting EL=389.20
406	8+25			12	Inlet Type M-10	18	386.26	385.50		Casting EL=389.20
407	8+25			24	Manhole Type D-4 (Mod.)	78	384.45	384.22		Connect to Headwall Rim 387.50
407A					Headwall					See Detail Below
408	11+75			12	Inlet Type J-10	24	386.35	386.23		Casting EL=388.35
409	11+75			12	Inlet Type M-10	12	386.23	386.17		Casting EL=388.35
410	11+75			15	Inlet Type F-7	255	385.00	384.25		Connect to Headwall Rim 387.25
411	21+80 Circle Dr.			12	Inlet Type J-10	36	386.49	386.31		Casting EL=388.74 (Not in This Contract)
412	21+80 Circle Dr.			12	Inlet Type M-10	124	386.31	385.57		Casting EL=388.74 (Not in This Contract-install 10' Stub Out of Str. 414)
413	15+14.61			12	Inlet Type J-10	24	385.75	385.50		Casting EL=388.39
413A	14+92.17			12	24" Pipe Catch Basin	35	386.00	385.75		Casting EL=387.50
414	15+14.61			15	Inlet Type M-10	140	385.50	384.80		Casting EL=388.39 (Outlet Submerged)
416	13+10.62			15	Spec. Outlet Cntrl. Str.	150	385.50	385.00		Rim El=387.67, Pool El=386.50 See Detail Below

## NOTES

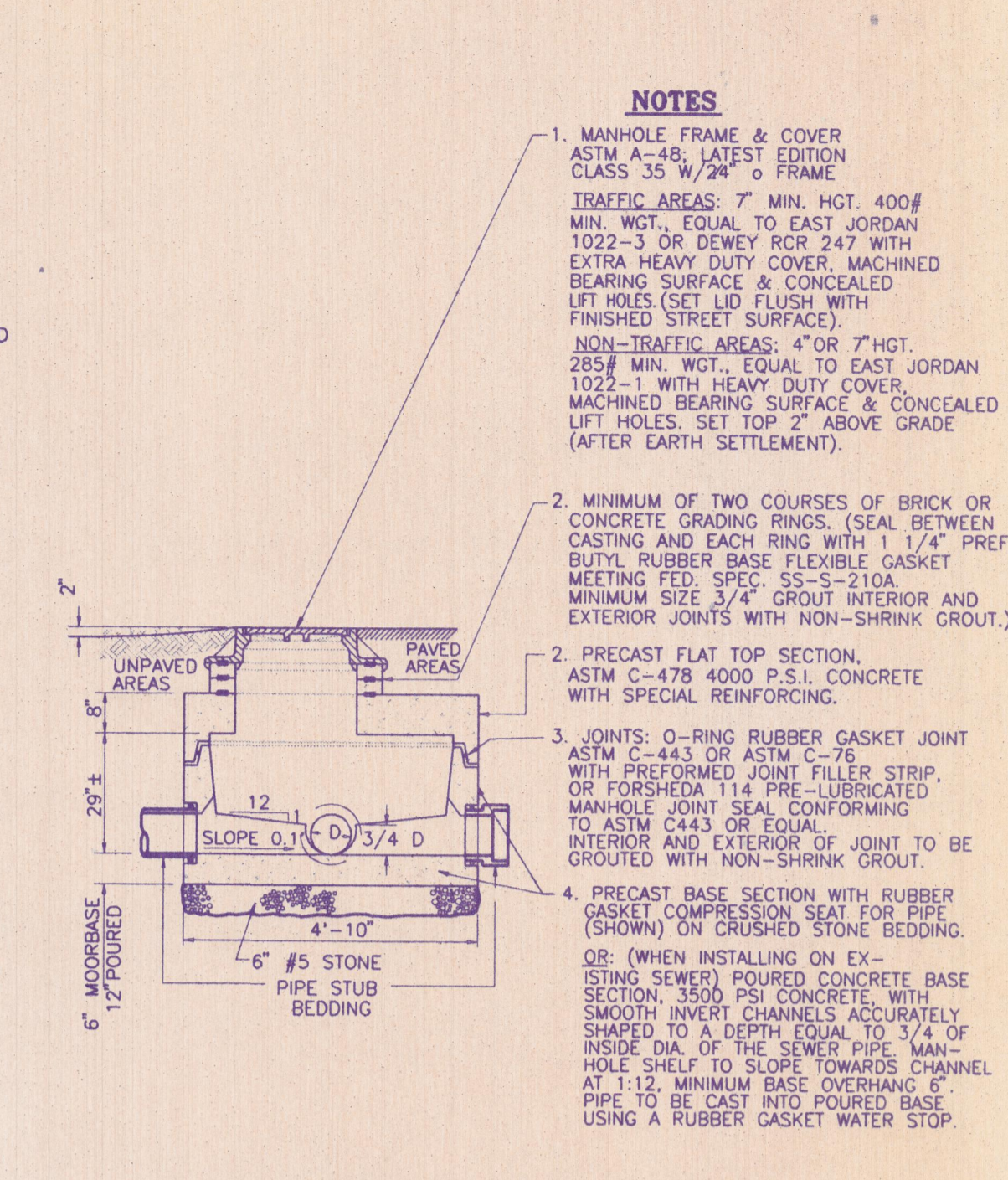
- MANHOLE FRAME & COVER: ASTM A-48, LATEST EDITION, CLASS 35 WITH 24" DIAMETER FRAME.
- TRAFFIC AREAS: 7" MIN. HGT. 400# MIN. WGT. EQUAL TO EAST JORDAN 1022-3 OR DEWEY RCP 247 WITH EXTRA HEAVY DUTY COVER, MACHINED BEARING SURFACE & CONCEALED LIFT HOLES. (SET LID FLUSH WITH FINISHED STREET SURFACE).
- NON-TRAFFIC AREAS: 4" OR 7" HGT. 285# MIN. WGT. EQUAL TO EAST JORDAN 1022-1 WITH HEAVY DUTY COVER, MACHINED BEARING SURFACE & CONCEALED LIFT HOLES. (SET LID FLUSH WITH FINISHED STREET SURFACE).
- MINIMUM OF TWO (MAXIMUM 16") OF CONCRETE GRADING RINGS. (SEAL BETWEEN CASTING AND EACH RING WITH 1/4" PREFORMED BUTYL RUBBER BASE FLEXIBLE GASKET MEETING FED. SPEC. SS-5-210A MINIMUM SIZE 3/4" GROUT INTERIOR AND EXTERIOR JOINTS WITH NON-SHRINK GROUT.)
- PRECAST CONE AND RISER SECTIONS ASTM C-478, 4000 P.S.I. CONCRETE.
- JOINTS: O-RING RUBBER GASKET JOINT WITH PREFORMED JOINT FILLER STRIP, OR FORSHEDA 114 PRE-LUBRICATED MANHOLE JOINT SEAL CONFORMING TO ASTM C443 OR EQUAL. INTERIOR AND EXTERIOR OF JOINT TO BE GROUTED WITH NON-SHRINK GROUT.
- PRECAST BASE SECTION WITH RUBBER GASKET COMPRESSION SEAT FOR PIPE (SHOWN) ON CRUSHED STONE BEDDING.
- OR: (WHEN INSTALLING ON EXISTING SEWER) POURED CONCRETE BASE SECTION, 3500 P.S.I. CONCRETE WITH SMOOTH INVERT CHANNELS ACCURATELY SHAPED TO A DEPTH EQUAL TO 3/4 OF INSIDE DIA. OF THE SEWER PIPE. MANHOLE JOINT SEAL CONFORMING TO ASTM C443 OR EQUAL. AT 1:12 MINIMUM BASE OVERHANG 6" PIPE TO BE CAST INTO POURED BASE USING A RUBBER GASKET WATER STOP.



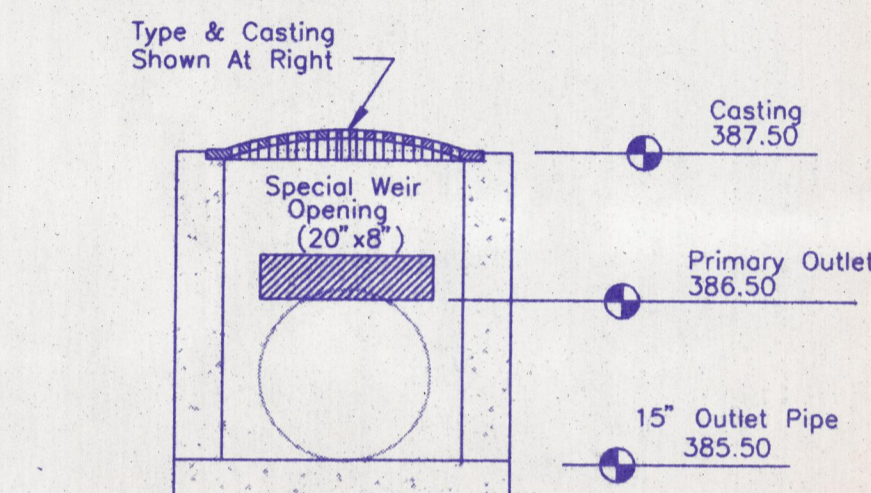
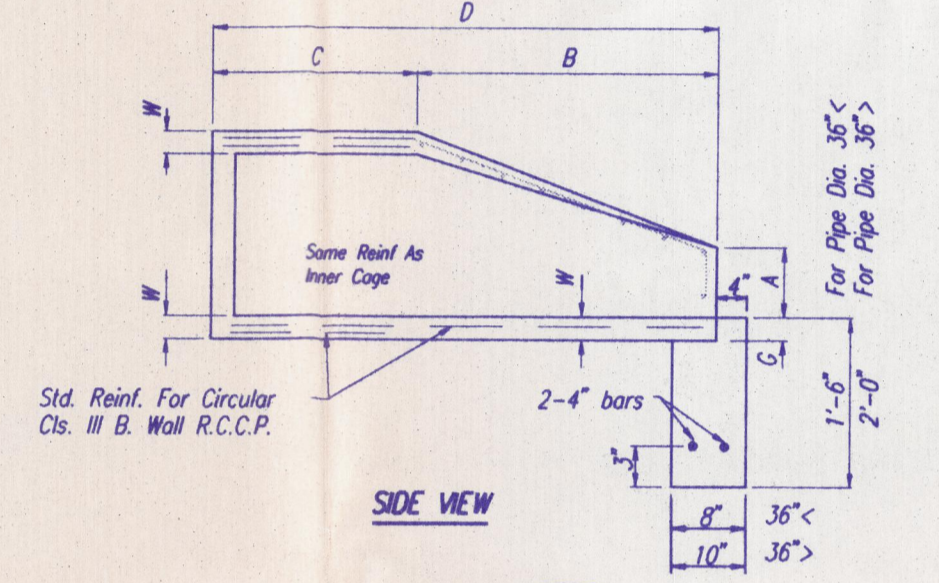
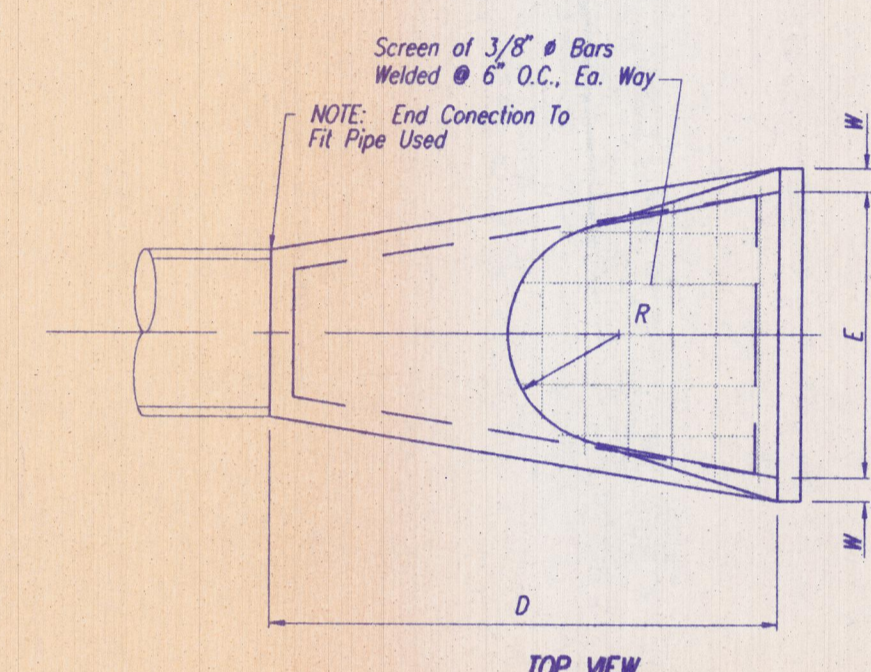
**PIPE CATCH BASIN DETAIL**  
Scale: 1/2" = 1'-0"



**PRECAST CONCRETE MANHOLE Type C-4**  
NOT TO SCALE

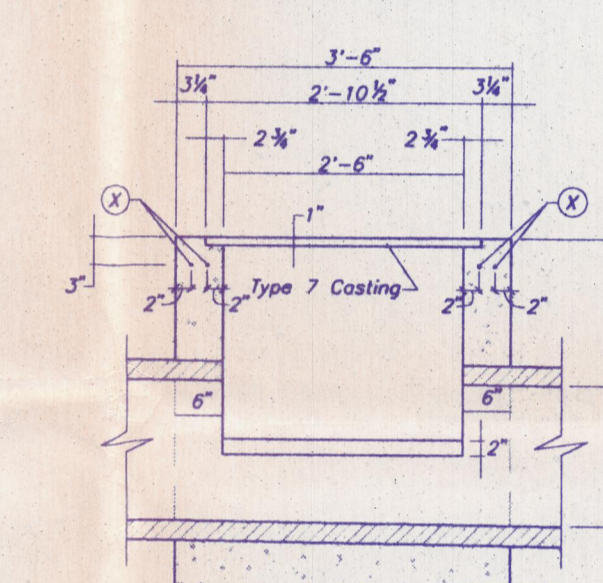


**PRECAST CONCRETE SHALLOW SANITARY SEWER MANHOLE Type C-4 (modified)**  
NOT TO SCALE

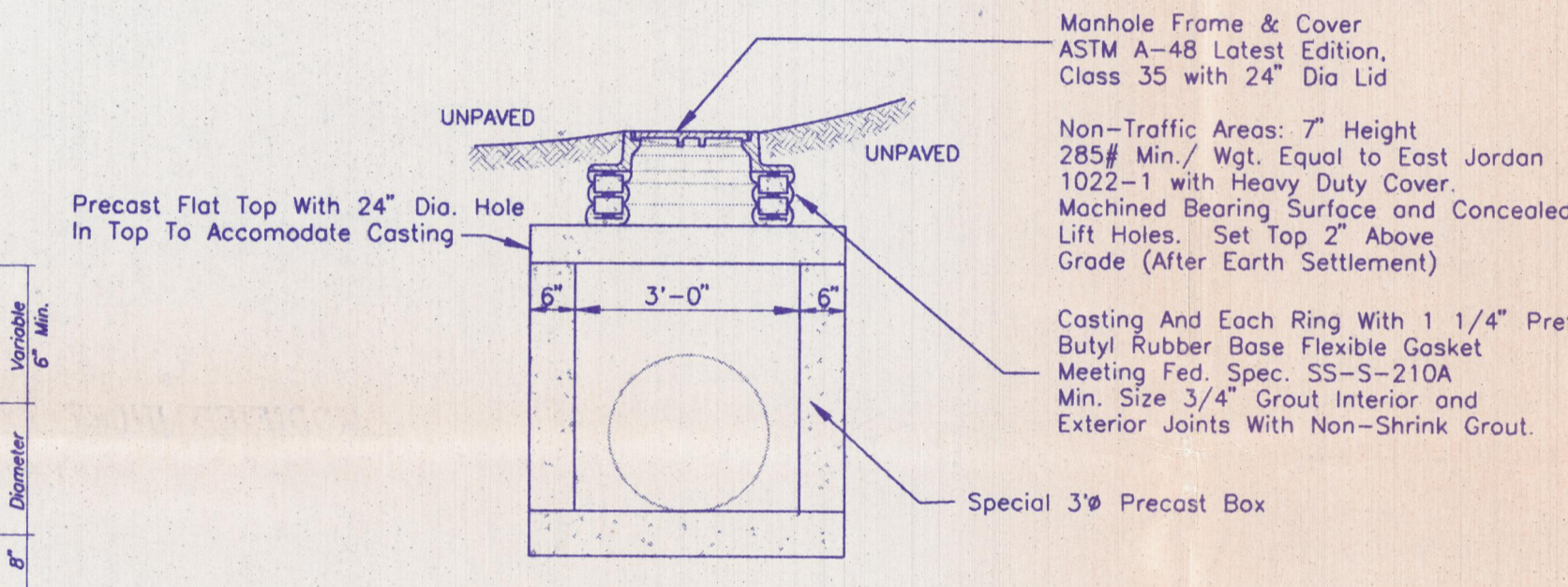


**OUTLET CONTROL STRUCTURE**  
MODIFIED INLET TYPE "F-7"

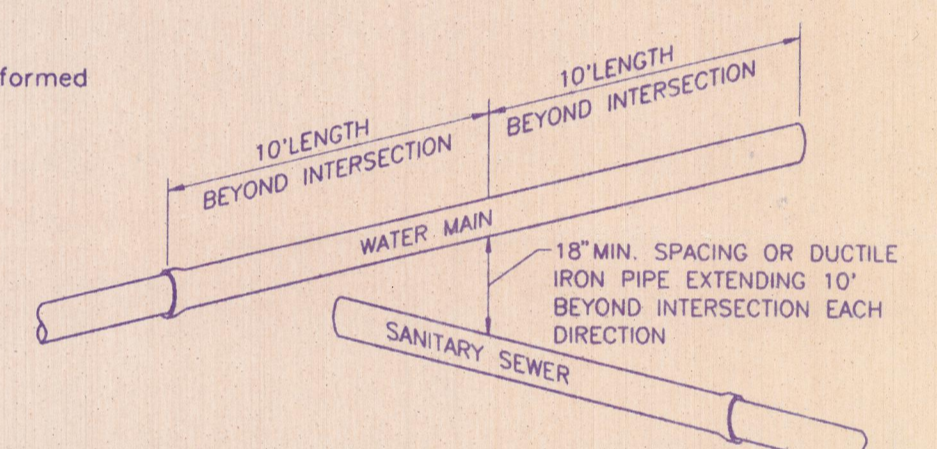
**TYPE 7 CASTING**



**INLET TYPE "F-7" DETAIL**  
NOT TO SCALE



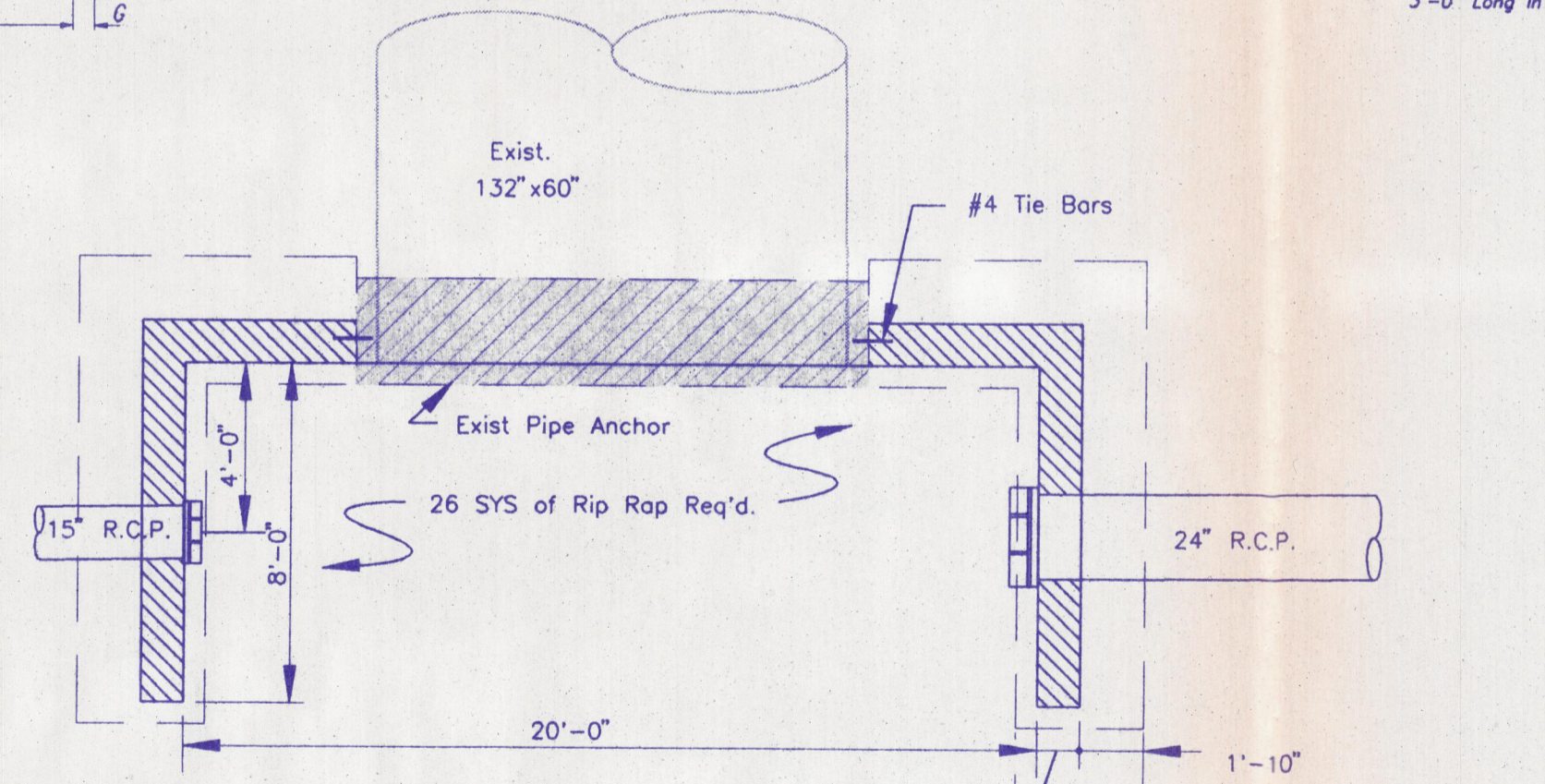
**MANHOLE TYPE "D-4" MODIFIED**  
NOT TO SCALE



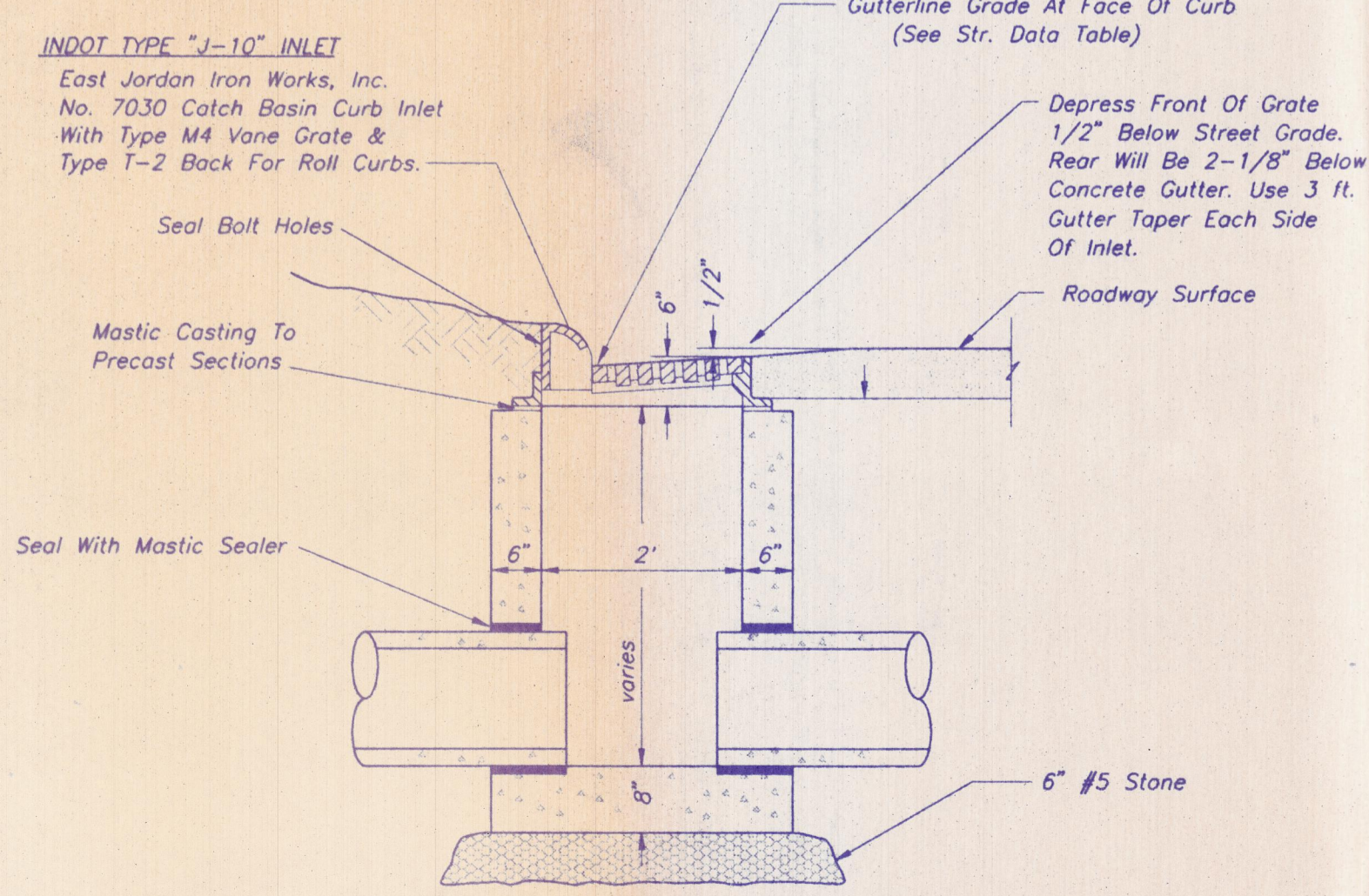
**SANITARY SEWER CROSSING**  
CROSSING ARRANGED SO THAT SEWER JOINTS WILL BE EQUIDISTANT AND AS FAR AS POSSIBLE FROM WATER MAIN JOINTS.

DIA.	WGT. (LBS)	Wall	A	B	C	D	E	G	R	SLOPE
12"	530	2"	5"	2'-0"	4'-1/2"	4'-7"	2'-0"	2"	9"	2:1
15"	740	2-1/4"	7"	2'-3"	3'-10"	4'-7"	2'-6"	2 1/4"	11"	2:1
18"	990	2-1/2"	10"	2'-11"	3'-10"	4'-7"	3'-0"	2 1/2"	12"	2:1
21"	1280	2-3/4"	10"	2'-11"	3'-10"	4'-7"	3'-0"	2 3/4"	13"	2:1
24"	1520	3"	10"	3'-2 1/2"	2'-6"	4'-7"	4'-0"	3"	14"	2:1
27"	1930	3-1/4"	10 1/2"	5'-3"	2'-1 1/2"	6'-1 1/2"	4'-6"	3 1/4"	14 1/2"	3:1
30"	2190	3-1/2"	1'-0"	5'-3"	1'-7 1/2"	6'-1 1/2"	5'-0"	3 1/2"	15"	3:1
33"	3200	3-3/4"	1'-11 1/2"	6'-0"	3'-3 1/4"	8'-1 3/4"	5'-6"	3 3/4"	17 1/2"	3:1
36"	4100	4"	1'-3"	5'-5"	2'-10 1/4"	8'-1 3/4"	6'-0"	4"	20"	3:1

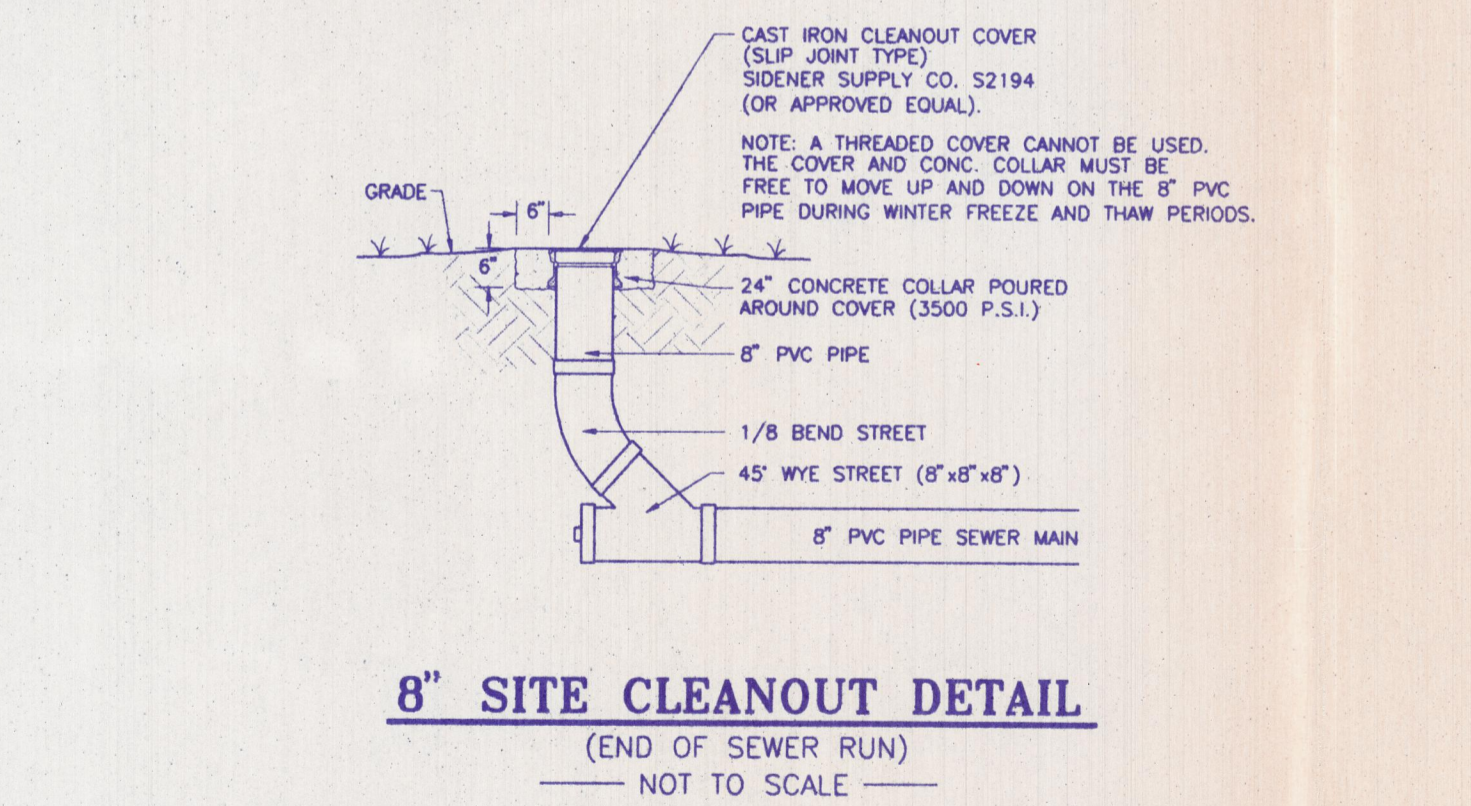
**CONCRETE END SECTION DETAIL**  
Not To Scale



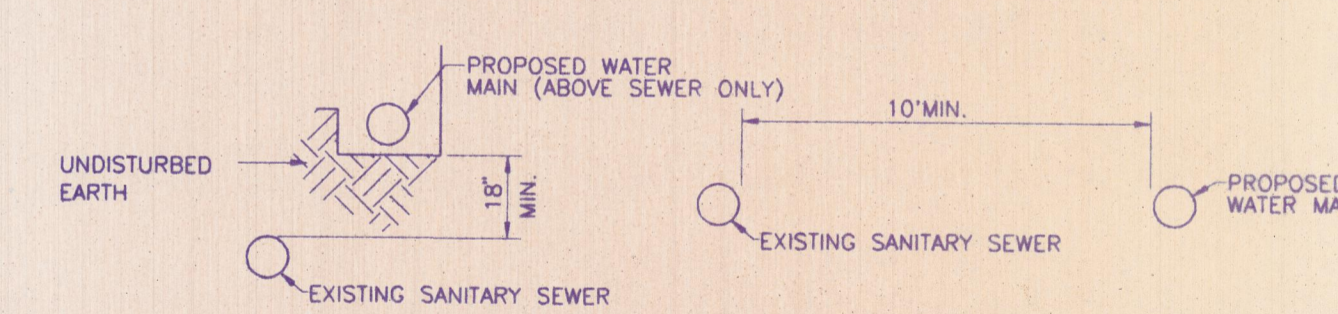
**HEADWALL DETAIL**  
Not To Scale



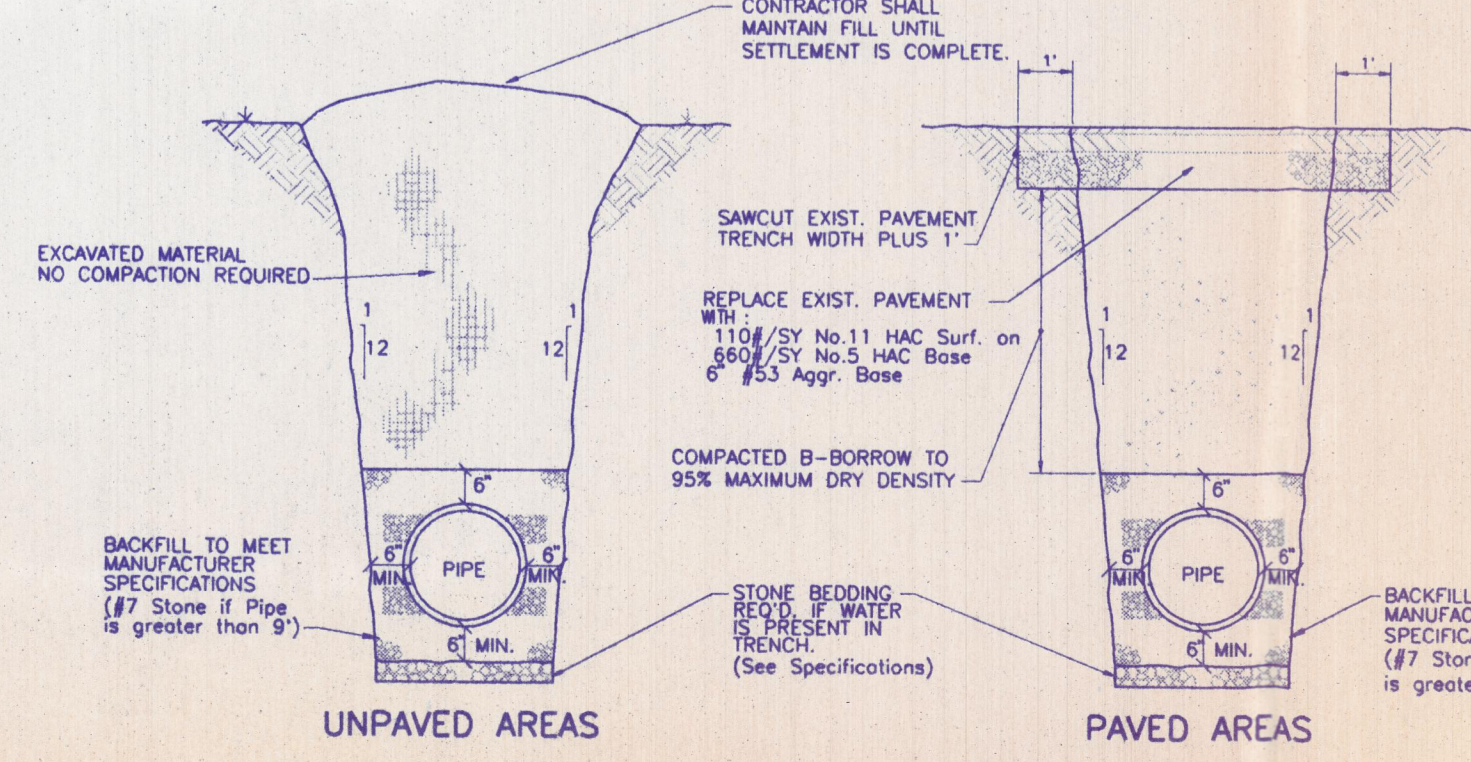
**PRECAST SHALLOW CURB INLET DETAIL**  
Not To Scale



**8" SITE CLEANOUT DETAIL**  
(END OF SEWER RUN)  
NOT TO SCALE



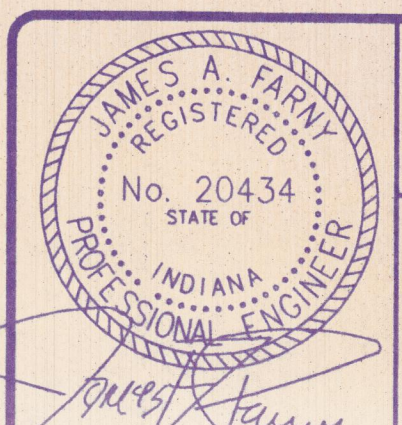
**PARALLEL SEWER/WATER LINES**  
IF 10" MIN. HORIZONTAL SPACING CANNOT BE MAINTAINED, THE WATER LINE MUST SIT ON A SHELVE OF UNDISTURBED EARTH A MINIMUM OF 18" VERTICAL DISTANCE FROM THE TOP OF THE SEWER PIPE.



**SANITARY SEWER TRENCH/PIPE BEDDING DETAIL**  
NOT TO SCALE

## GENERAL SANITARY SEWER NOTES

- SANITARY SEWER PIPE**
- PVC Composite Sewer Pipe Shall Conform to ASTM D-2680-80 and Cell Classification of the PVC Resin Shall Conform to ASTM D-3034-72.
  - PVC SDR28 Gravelly Sewer Pipe Material And Joints Shall Conform to ASTM D-3034, Latest Revisions.
  - PVC 200 PSI Minimum Pressure Pipe Material And Joints Shall Conform to ASTM D-2241, Or Latest Revisions.
  - Flexible Thermoplastic Sewer Pipe Installation Shall Conform to ASTM D-2321, Latest Revisions.
  - Where The Cover Over The Pipe Is Less Than Thirty (30) Inches, Additional Protection Shall Be Provided.
  - An Internal Drop Pipe Shall Be Installed To Within 2' Of The Btm. Of The Manhole Where The Sewer Enters The Existing Manhole.
  - All Sewers Shall Be Smoke Tested And/Or Low Pressure Air Tested.



**MISCELLANEOUS DETAILS UNDERGROUND**  
FOR  
**CROSSROADS**  
VANDERBURGH COUNTY, INDIANA

Prepared By: **BERNARDIN LOCHMUELLER & ASSOC., INC.**  
Planners - Engineers - Surveyors

DATE: 10/7/94  
PROJECT NO.: 93-133-1  
ISSUED: 10/7/94

**CS5.1**