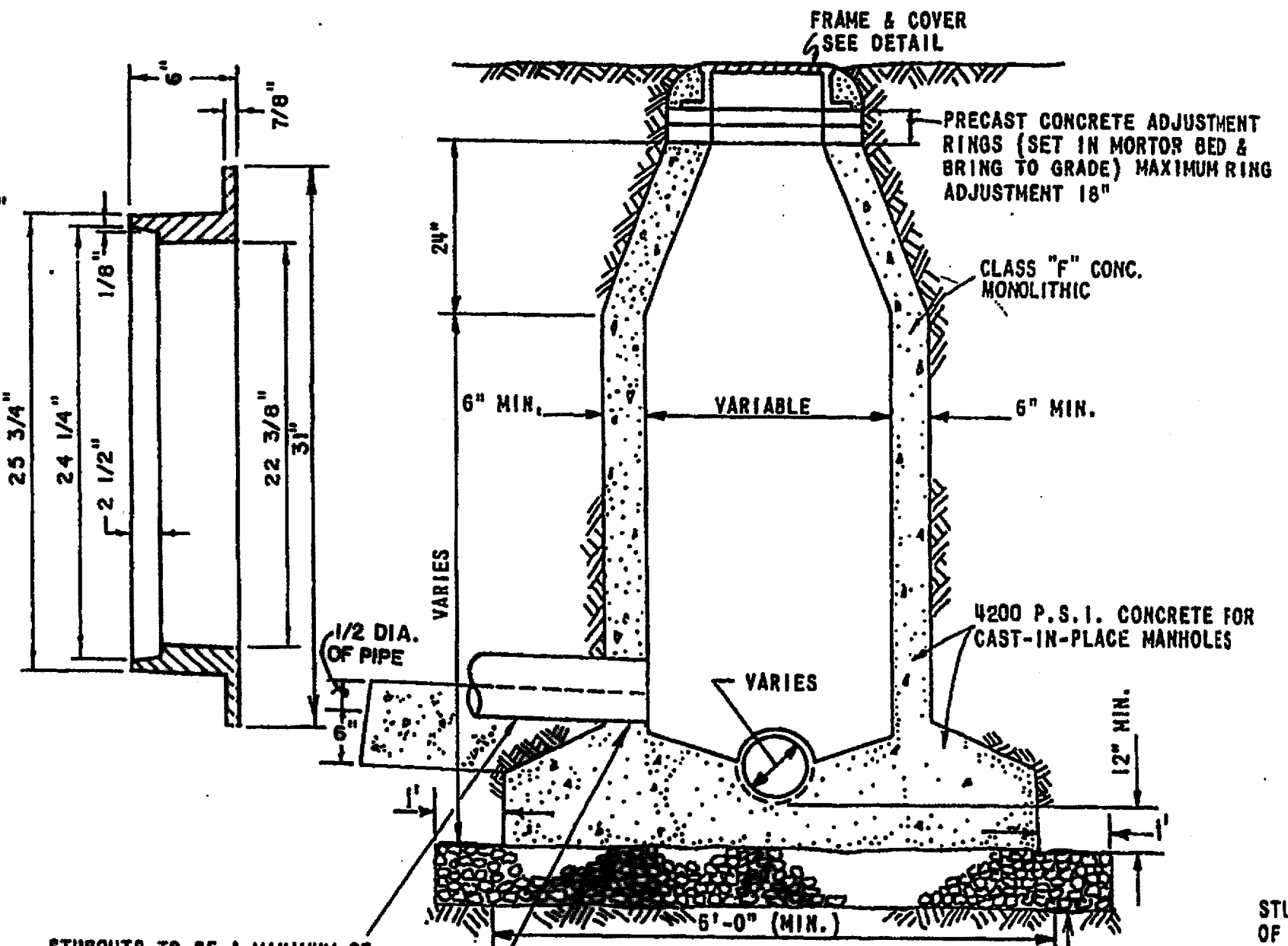
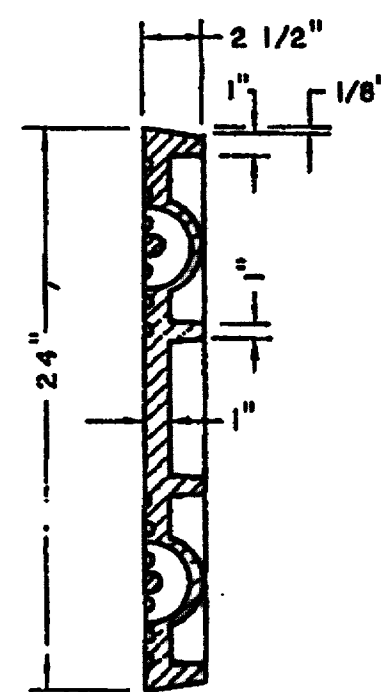


MANHOLE RING AND COVER

PROVIDE WITH PICK SLOTS ONLY B AND H 400-24 OR EQUAL



STANDARD CAST IN PLACE MANHOLE

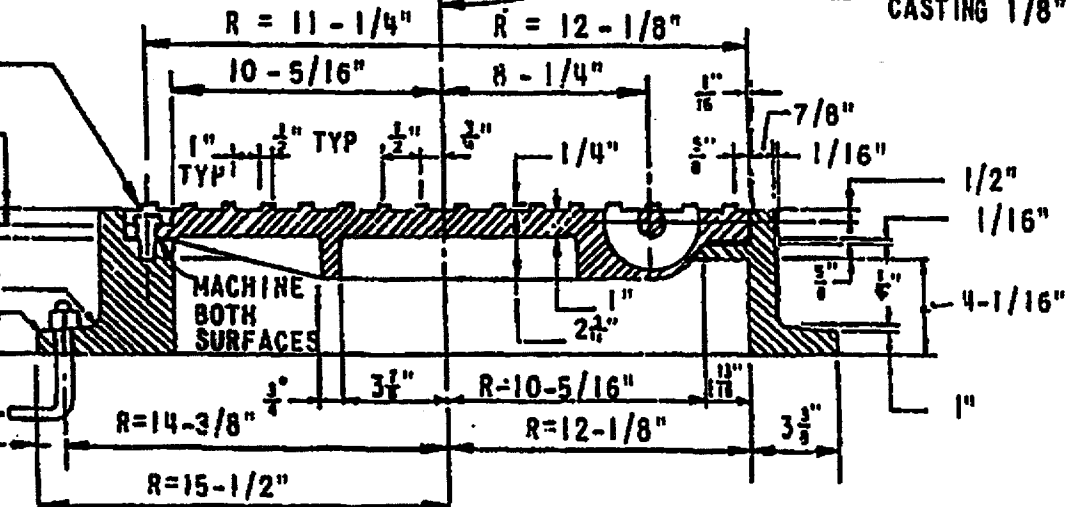
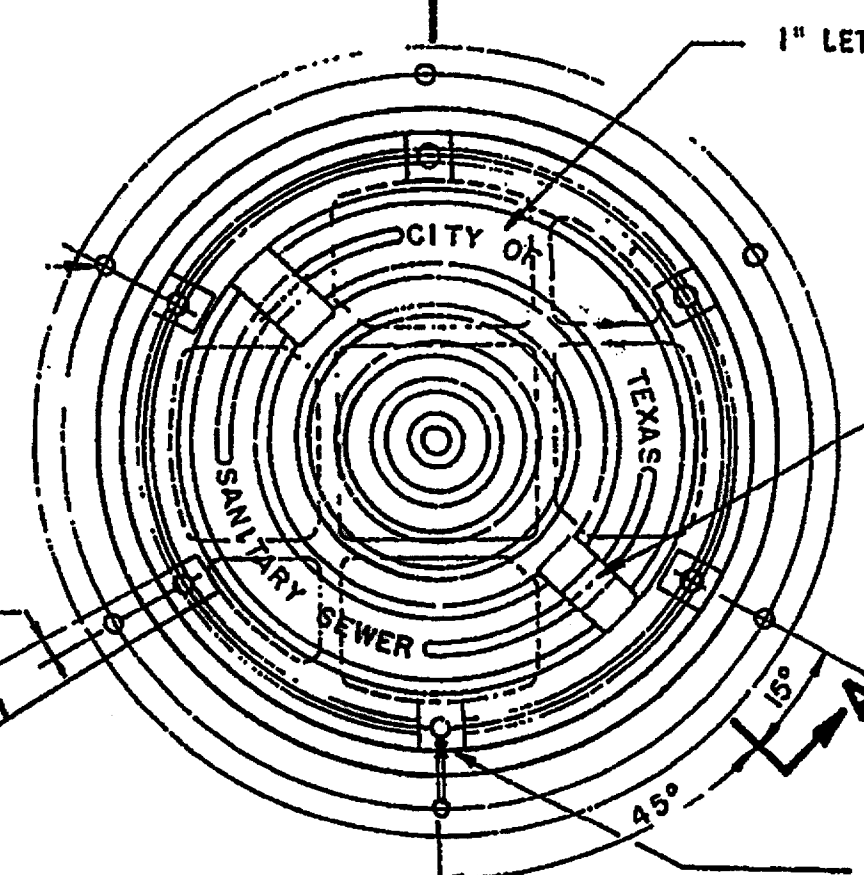
- CAST-IN-PLACE NOTES:**
- KEYWAYS REQUIRED FOR ALL CONSTRUCTION JOINTS.
 - P.V.C. WATER STOP REQUIRED FOR ALL JOINTS IN LOWER 4'-0" OF MANHOLES.
 - CONCRETE SHALL BE CLASS F P.S.I. (4200' P.S.I.)

GENERAL NOTES

- All Sanitary Sewer Pipe Shall Be Vitrified Clay Or PVC SDR-35 Pipe. Other Pipes Shall Be Subject To Approval By The City Engineer.
- Sanitary Sewer Pipe Joints Shall Conform To Current ASTM Designations For Vitrified Clay Pipe And For PVC Pipe.
- All Sanitary Sewer Laterals Shall Include 4" Tee Wye Bend, Pipe And Stopper Installed 10' Feet Downstream From The Water Main Service On Each Lot, Unless Otherwise Indicated On Plans. 6" Laterals Require M.H. At Main Sewer Pipe.
- Unless Otherwise Noted, All Material And Construction Shall Conform To The Standard Specifications And/or Special Provisions.
- In The Event An Item Is Not Covered In The City Of Plano Specifications, The City Engineer Decision Shall Apply.
- Drop Manhole Required For Connection Of 18" Or Greater.
- All Manholes Shall Be Vacuum Tested In Accordance With The Specs.
- All Pipes Entering & Leaving A Manhole Shall Be Cradled For A Distance Of 5' Outside Of M.H.

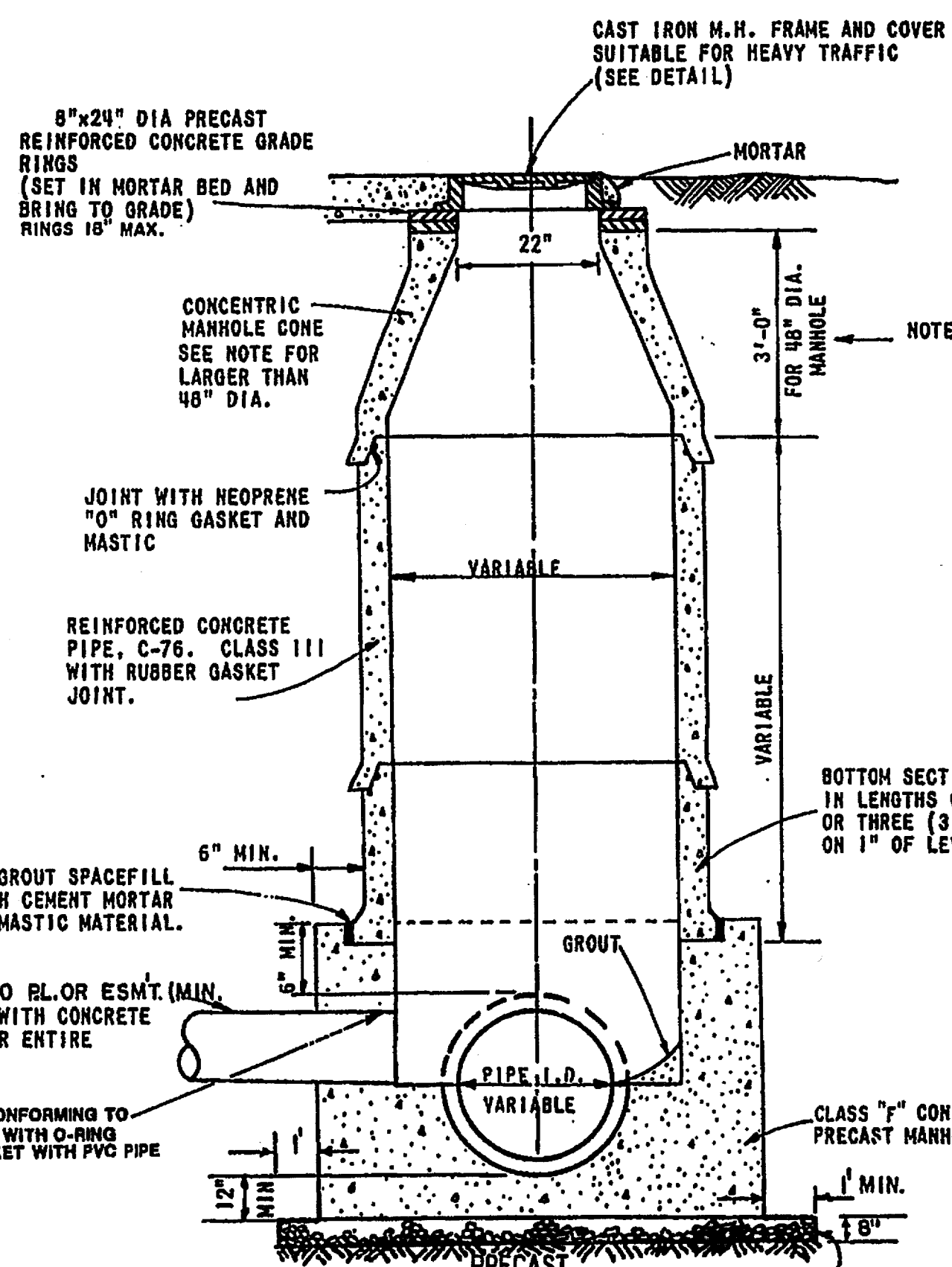
MANHOLE NOTES CONT'D ON SD-20

NOTE: FOR SEAL BETWEEN FRAME AND COVER USE EITHER A 1/16" COPPER GASKET OR A 1/4" DIA. NEOPRENE O-RING GASKET (LOCATION OF O-RING IS LEFT TO MFR. BUT SUBJECT TO APPROVAL BY CONST. ENG.)

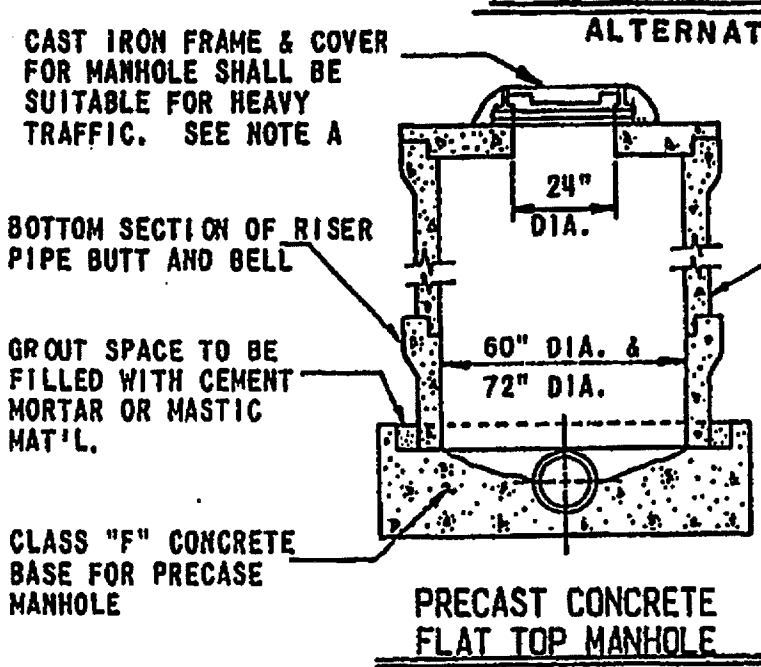


SECTION A-A PRESSURE TYPE MANHOLE RING AND COVER

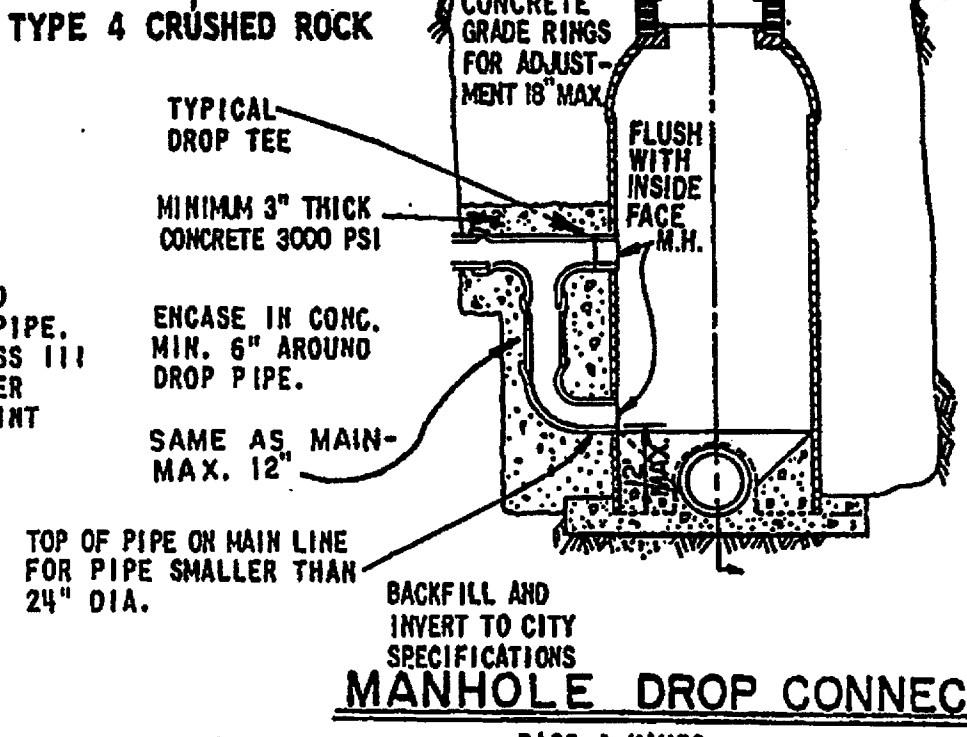
1" DIA. STEEL ROD MATERIAL PER ITEM 2.11.5(b)(2) RING & COVER MATERIAL PER ITEM 2.11.5(c)



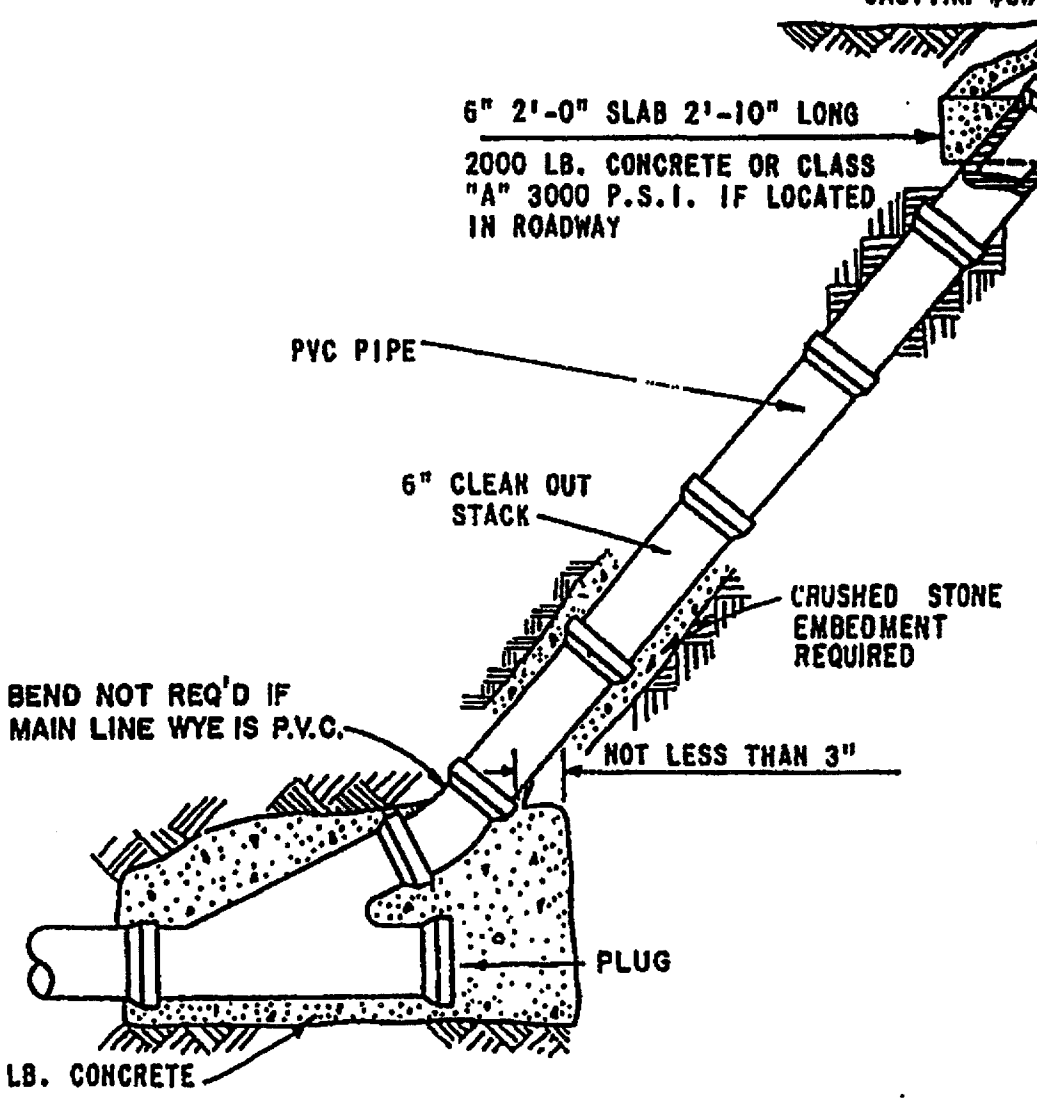
CONCRETE PIPE MANHOLE



PRECAST CONCRETE FLAT TOP MANHOLE



MANHOLE DROP CONNECTION

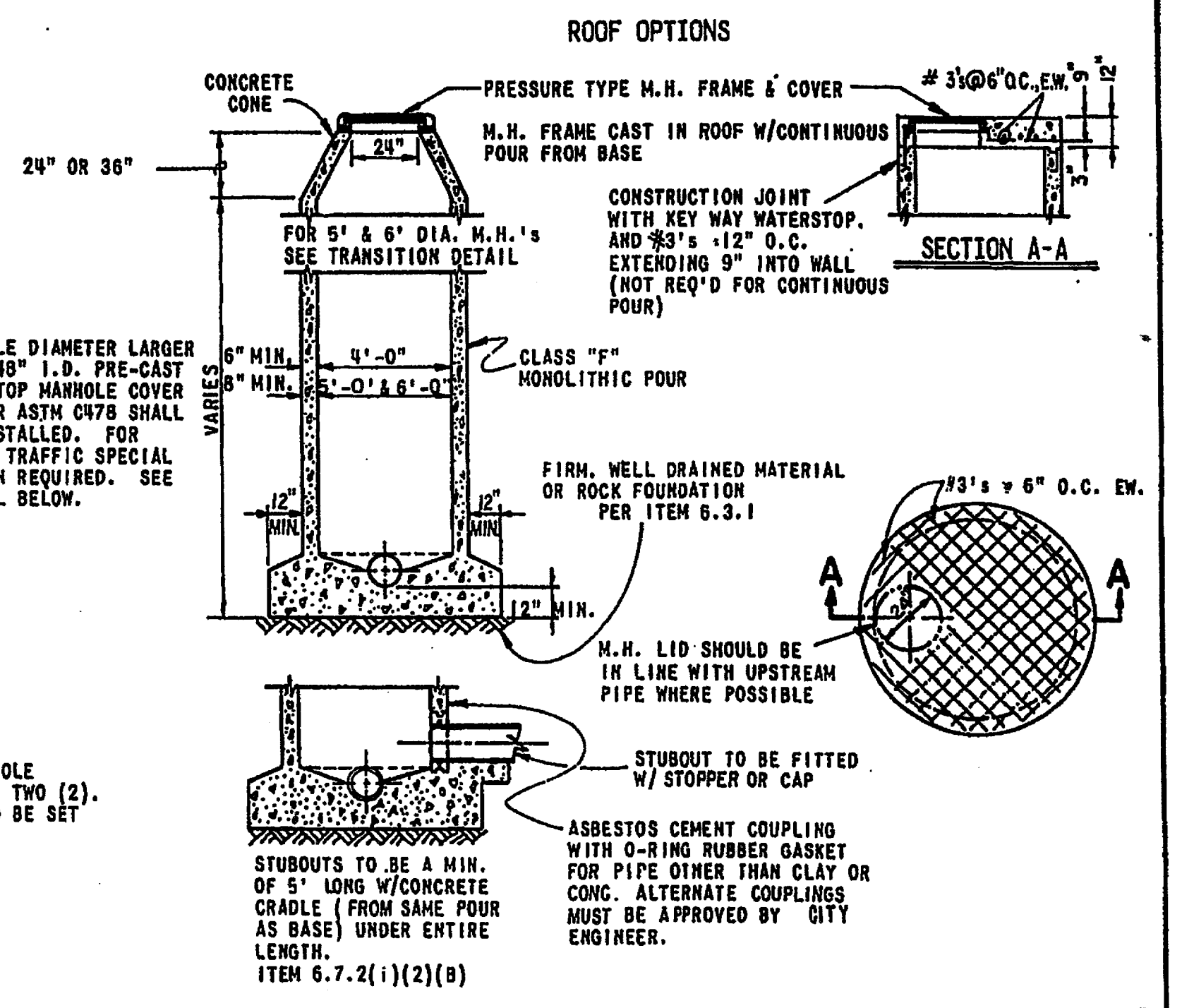


STANDARD CLEANOUT

NOTE: Shallower Parallel Line Required When Flow Line Of Sanitary Sewer Exceeds 12 Ft. Depth, Vertical Drop Connections Not Permitted.

FOR ADDITIONAL NOTES AND INFORMATION ON MANHOLE SEE SD-20

AS BUILT DATE 3.17.06



ROOF OPTIONS

CAST IRON M.H. FRAME AND COVER SUITABLE FOR HEAVY TRAFFIC (SEE DETAIL)

8"x24" DIA PRECAST REINFORCED CONCRETE GRADE RINGS (SET IN MORTAR BED AND BRING TO GRADE) RINGS 18" MAX.

CONCENTRIC MANHOLE CONE SEE NOTE FOR LARGER THAN 48" DIA.

JOINT WITH NEOPRENE "O" RING GASKET AND MASTIC

REINFORCED CONCRETE PIPE, C-76, CLASS III WITH RUBBER GASKET JOINT.

1" GROUT SPACEFILL WITH CEMENT MORTAR OR MASTIC MATERIAL.

STUB OUTS TO B.L. OR ESMT. (MIN. OF 5' LONG) WITH CONCRETE CRADLE UNDER ENTIRE LENGTH

COUPLING CONFORMING TO ASTM C-923 WITH O-RING GASKET, KOR-N-SEAL, A-LOK OR APPROVED EQUAL

CAST-IN-PLACE NOTES:

- KEYWAYS REQUIRED FOR ALL CONSTRUCTION JOINTS.
- P.V.C. WATER STOP REQUIRED FOR ALL JOINTS IN LOWER 4'-0" OF MANHOLES.
- CONCRETE SHALL BE CLASS F P.S.I. (4200' P.S.I.)

NOTE A: MANHOLE DIAMETER LARGER THAN 48" I.D. PRE-CAST FLAT TOP MANHOLE COVER AS PER ASTM C978 SHALL BE INSTALLED. FOR HEAVY TRAFFIC SPECIAL DESIGN REQUIRED. SEE DETAIL BELOW.

BOTTOM SECTION OF MANHOLE IN LENGTHS OF ONE (1), TWO (2), OR THREE (3) FEET. TO BE SET ON 1" OF LEVEL GROUT.

CLASS "F" CONCRETE BASE FOR PRECAST MANHOLE

FINISHED GRADE

STD. RING & COVER

CONCRETE GRADE RINGS FOR ADJUSTMENT IS MAX.

FLUSH WITH INSIDE FACE OF M.H.

ENCASE IN CONC. MIN. 6" AROUND DROP PIPE.

SAME AS MAIN-MAX. 12"

TOP OF PIPE OR MAIN LINE FOR PIPE SMALLER THAN 24" DIA.

BACKFILL AND INVERT TO CITY SPECIFICATIONS

MANHOLE DROP CONNECTION

BASS & HAYES CASTING #339

6" 2'-0" SLAB 2'-10" LONG 2000 LB. CONCRETE OR CLASS "A" 3000 P.S.I. IF LOCATED IN ROADWAY

6" SPIGOT PLUG J.N. MFG. CAT# 0079012 OR APPROVED EQUAL

KOR-N-SEAL, OR APPROVED EQUAL CONNECTOR, CONFORMING TO ASTM C-923

6" TO 18" PRESS-SEAL OR APPROVED EQUAL CONN. OVER 18"

EMBEDMENT AS SPECIFIED BY STANDARD DETAILS

NOTE: IF FALSE MANHOLE BOTTOMS REQUIRED, THEY SHALL BE CONSTRUCTED, INSTALLED & REMOVED.

PRECAST CONCRETE MANHOLE

ALTERNATE A OR B: CONCRETE CLASS ITEM 7.4.5 CONCRETE PIPE MATERIAL ITEM 2.12.4 MANHOLE MATERIAL ITEM 2.1.9 MANHOLE CONST. ITEM 6.7.2 (1) (1) (3)

NEOPRENE "O" RING GASKET AND MASTIC.

MORTAR COATING

USE PRECAST CONC. OR RINGS TO RAISE TO GRADE 1" MIN. 18" MAX. AS PER ITEM 2.3.3.

M.H. RING & COVER TO BE SET TO GRADE OF PROPOSED PAVEMENT OR FLUSH WITH PROPOSED GROUND GRADE.

CONSTRUCTION JOINT WITH KEY WAY WATERSTOP AND 3/8" x 1/2" O.C. EXTENDING 9" INTO WALL (NOT REQ'D FOR CONTINUOUS POUR)

CLASS "F" MONOLITHIC POUR

FIRM, WELL DRAINED MATERIAL OR ROCK FOUNDATION PER ITEM 6.3.1

M.H. LID SHOULD BE IN LINE WITH UPSTREAM PIPE WHERE POSSIBLE

STUBOUT TO BE FITTED W/ STOPPER OR CAP

ASBESTOS CEMENT COUPLING WITH O-RING RUBBER GASKET FOR PIPE OTHER THAN CLAY OR CONC. ALTERNATE COUPLINGS MUST BE APPROVED BY CITY ENGINEER.

STUBOUTS TO BE A MIN. OF 5' LONG W/ CONCRETE CRADLE (FROM SAME POUR AS BASE) UNDER ENTIRE LENGTH. ITEM 6.7.2 (1) (2) (B)

NCT STANDARD SPECIFICATIONS		S.A.S. 10-13-87	
NO.	REVISION	BY	DATE
PUBLIC WORKS DEPARTMENT OF ENGINEERING			
STANDARD CONSTRUCTION DETAILS SANITARY SEWER			
MANHOLE - CLEANOUT - CONNECTIONS			
DATE: JULY, 1996		SHEET SD-1	