SANITARY SEWER EXTENTIONS TO SERVE
LOT 5, METRO WEST INDUSTRIAL PARK ADD.

Private Project Number
650 PPS (607881)

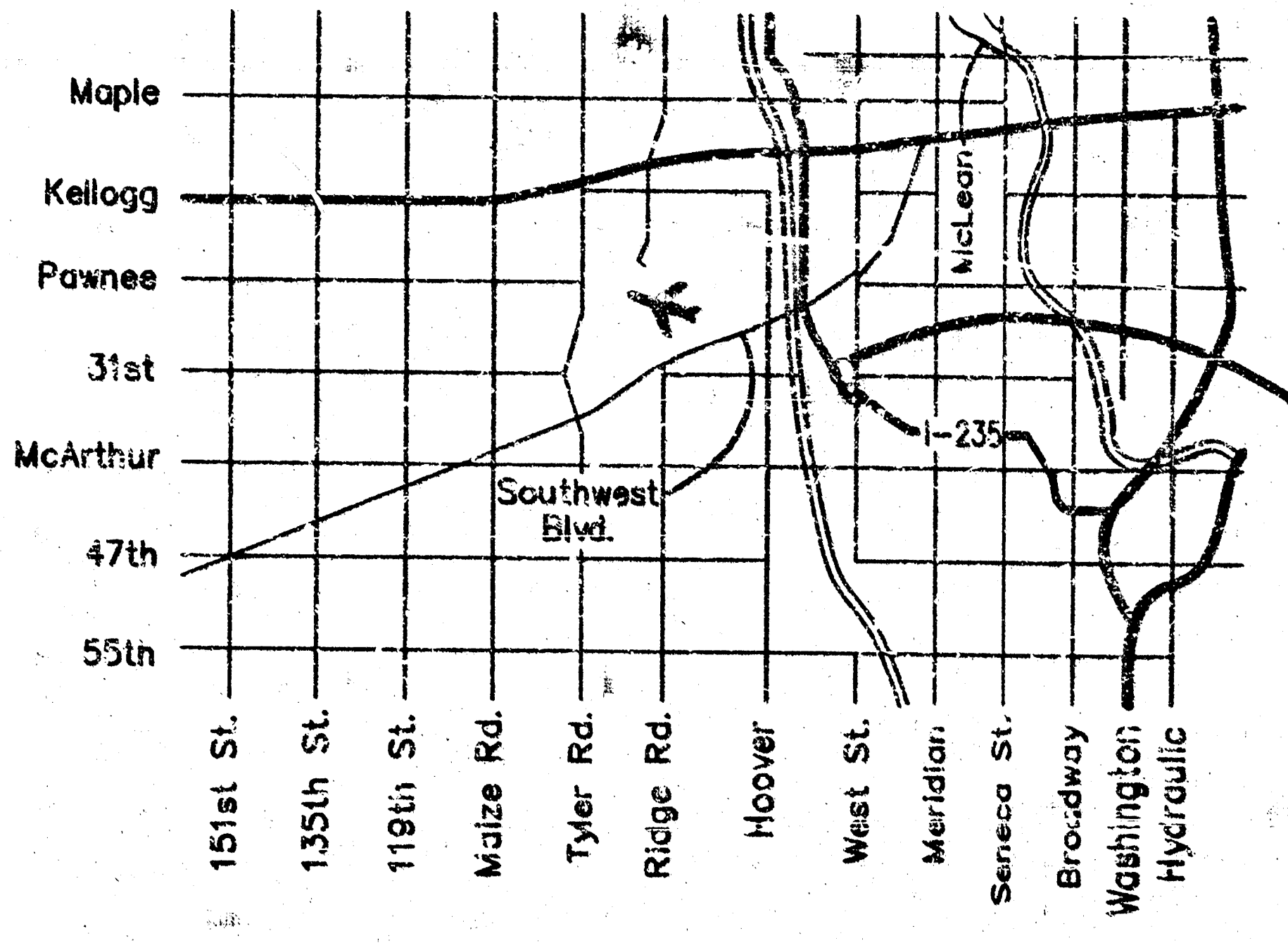
CITY OF WICHITA, KANSAS

Michael E. Lindebak, City Engineer
August, 1996

BENCHMARKS:

#1 R.R. Spike in S. Side of Power Pole
51.5' E. of ℄ Railroad Tracks
& 25.0' N. of ℄ 31st Street S.
Elev= 103.33 City Datum

Location Map



General Notes

1. Underground utility service lines and overhead utility pole lines are to be adjusted as necessary by others prior to construction unless the plans specifically call for their adjustment by the Contractor or unless the plans specifically identify a utility to be adjusted by its owner during construction. Existing utilities and their location, as shown on the plans, represent the best information obtainable for design. The Contractor will be required to work around existing utilities within the right-of-way which do not conflict with proposed construction.

2. The Contractor shall give all property owners and/or tenants of developed property abutting the construction of this project a minimum of five (5) days advance notice prior to start of construction.

3. The Contractor shall be responsible for preserving property irons. The Contractor will be required to re-establish any property irons which are damaged or destroyed by his construction operations. Such irons shall be re-established by a licensed land surveyor in accordance with state laws.

4. Contractor will be required to provide notice to utility companies a minimum of twenty-four (24) hours prior to any excavation, as follows:

   Kansas One-Call — 687-2470

   The Contractor must notify the following in case of an emergency:

K.P.L. Gas Service Company	383-6650
Kansas Gas & Electric Company	383-8600
Cablevision	262-4270
or	263-2061
Southwestern Bell Telephone Company	1-571-2611
City of Wichita Water Dept.	268-4908
City of Wichita Sewer Maintenance	268-4071

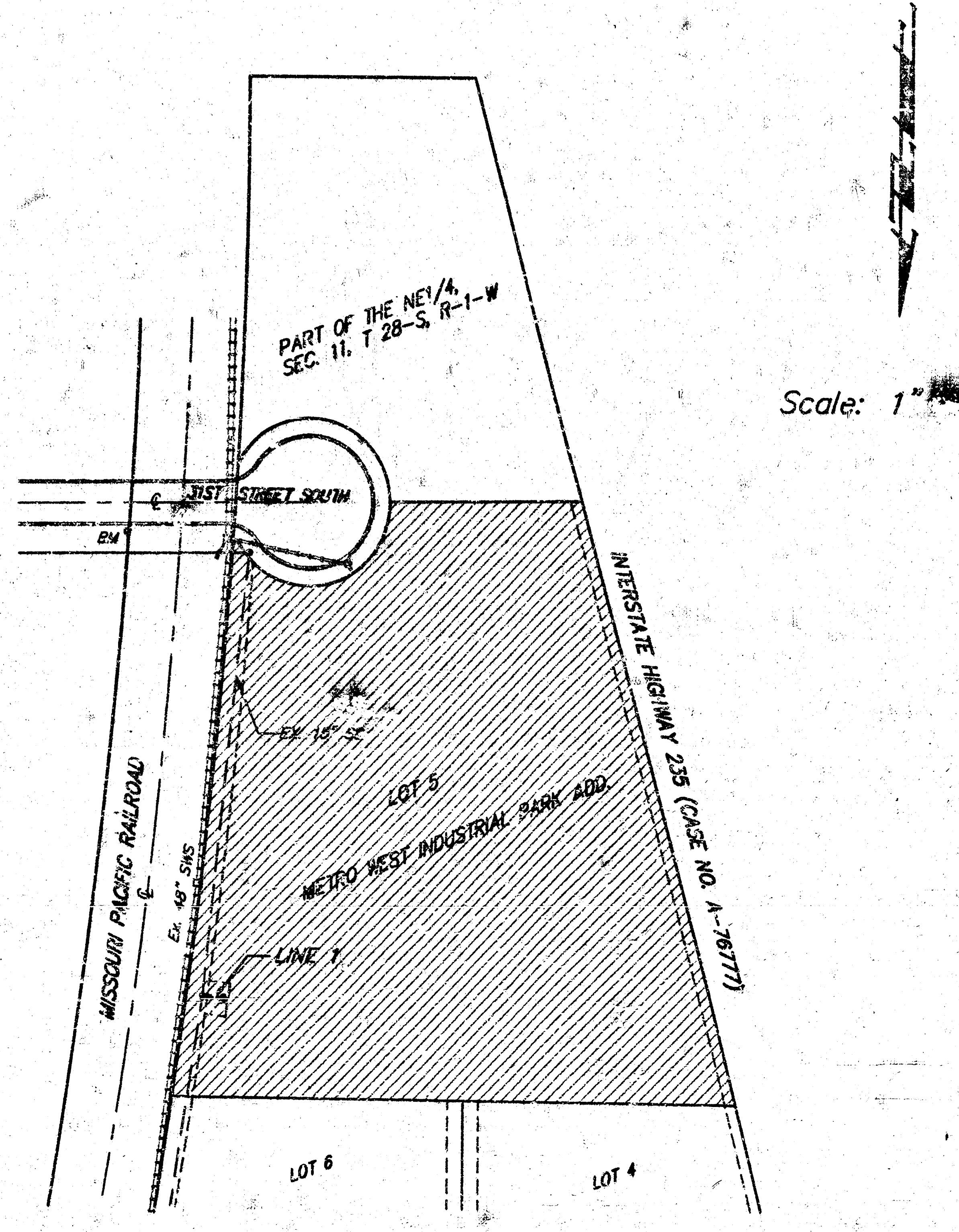
5. Existing utilities and their locations, as shown on the plans, represent the best information obtainable for design. Location information has been obtained from the various utility companies and is either from company record drawings or company-provided field locations. The Contractor will be required to work around existing utilities which do not conflict with proposed construction. The Contractor shall verify all utility locations prior to construction of this project.

6. Contractor shall verify depth & location of existing utilities prior to construction.

7. The Contractor shall be responsible for maintaining continuous flow of sewage through construction. Contractor's proposed method for maintaining sewage flow shall be approved by the Engineer. Cost of maintaining flow of sewage through construction will not be paid for directly and this cost shall be considered subsidary to the other pay items of work.

INDEX:

1 Title Sheet
2 Plan/Profile Sheet
3 Standard Manhole Detail Sheet


PART OF THE NE1/4, SEC. 11, T 28-S, R-1-W
31ST STREET SOUTH
℄
BM
EX. 15" S.
EX. 18" SWS
MISSOURI PACIFIC RAILROAD
℄
LOT 5
METRO WEST INDUSTRIAL PARK ADD.
INTERSTATE HIGHWAY 235 (CASE NO. A-76777)
LINE 1
LOT 6
LOT 4
Scale: 1"

BENEFIT AREA ▨

Booked
RPL
1/27/97

APPROVED AS NOTED
BY CITY ENGINEER OF WICHITA

Sanitary Sewers Gene Roth

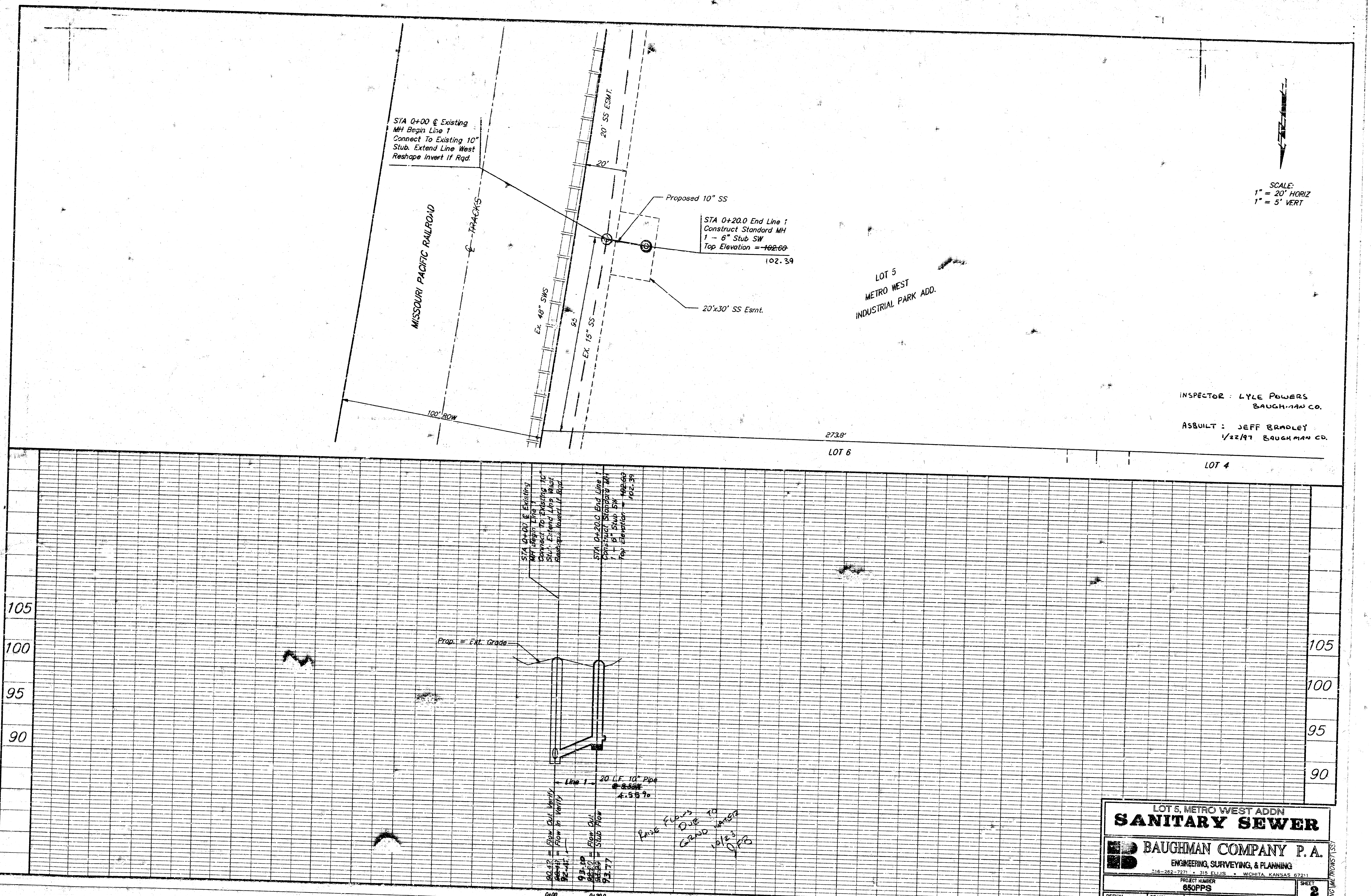
NOTE TO CONTRACTORS

Inspection and testing for this project is to be provided by a Licensed Consulting Engineering Firm under contract with the Owner/Developer. Said inspection to be in accordance with the City of Wichita standard construction engineering practices and certified by a Licensed Professional Engineer. No work shall be performed in dedicated easements or public right-of-way by the Contractor without such inspection nor shall any work be commenced without written authorization by the City Engineer. All Construction and Materials shall comply with the City of Wichita Specifications and Standards (on file and available in the City Engineer's Office).

BRENT WOOTEN
6179

INSPECTOR:
LYLE POWERS
ASBUILT: 1/22/97
JFB
BAUGHMAN CO.

BAUGHMAN COMPANY P. A.
ENGINEERING & SURVEYING
316/262-7271 • 315 ELLIS • WICHITA, KANSAS 67211


STA 0+00 ℄ Existing MH Begin Line 1 Connect To Existing 10" Stub. Extend Line West Reshape Invert If Rqd.
20' SS ESMT.
20'
Proposed 10" SS
STA 0+20.0 End Line 1 Construct Standard MH 1 - 6" Stub SW Top Elevation = ~~102.60~~ 102.39
20'x30' SS Esmt.
MISSOURI PACIFIC RAILROAD
℄ TRACKS
Ex. 48" SWS
SS
Ex. 15" SS
100' ROW
LOT 5 METRO WEST INDUSTRIAL PARK ADD.
273.8'
LOT 6
LOT 4
SCALE: 1" = 20' HORIZ 1" = 5' VERT
105
100
95
90
Prop. = Ext. Grade
Line 1
20 L.F. 10" Pipe
~~@ 3.55%~~
4.55%
90.42 = Flow Out Verify
~~90.42~~ = Flow In Verify
92.41
93.10 = Flow Out
~~92.60~~
~~92.29~~ = Stub Flow
93.77
0+00
0+20.0

INSPECTOR : LYLE POWERS
BAUGHMAN CO.

ASBUILT : JEFF BRADLEY
1/22/97 BAUGHMAN CO.

Raise Flows Due To Grnd Water
10/23
JFB

LOT 5, METRO WEST ADDN
SANITARY SEWER

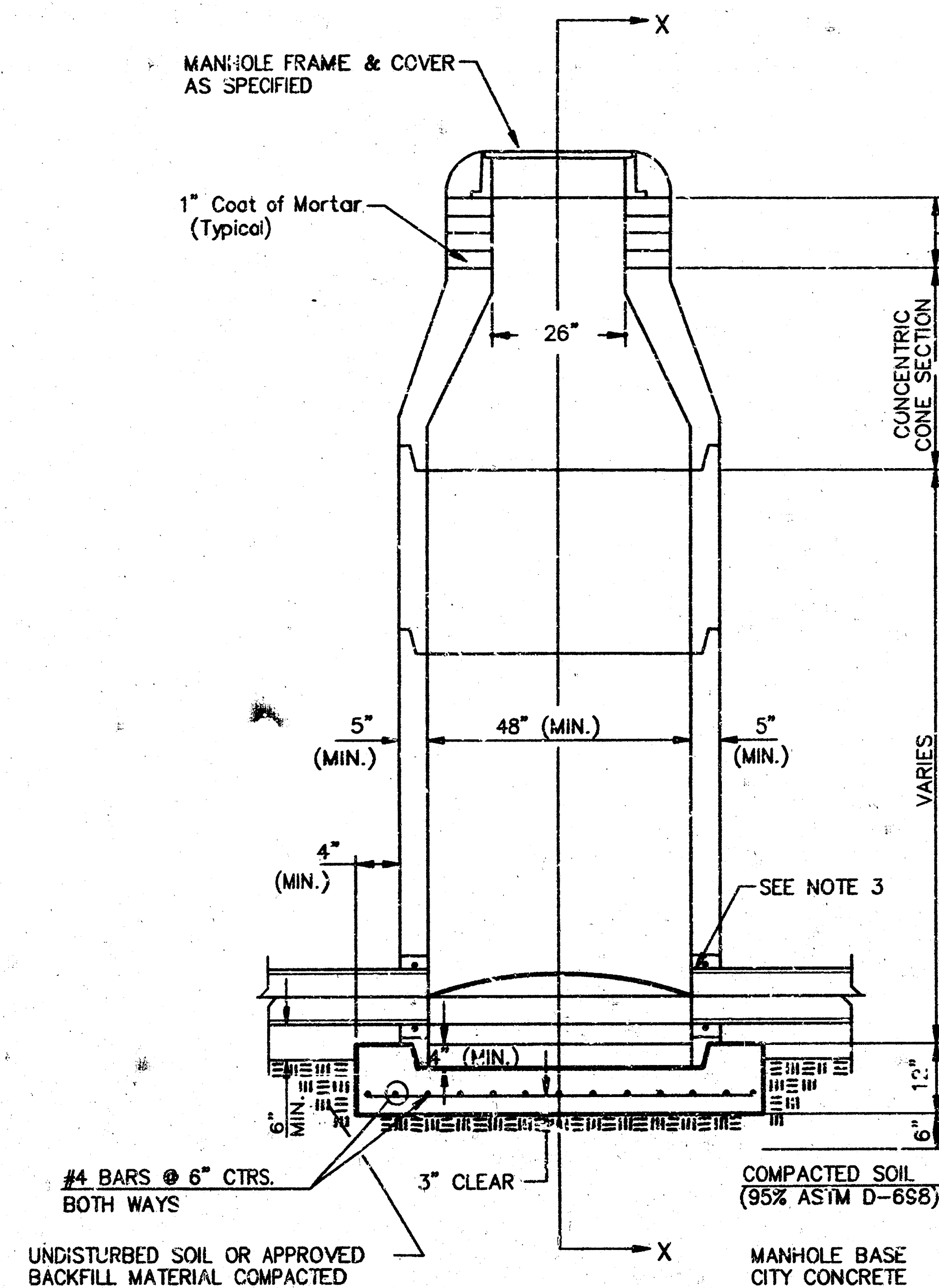
BAUGHMAN COMPANY P.A.
ENGINEERING, SURVEYING, & PLANNING
316-262-7271 • 315 ELLIS • WICHITA, KANSAS 67211

PROJECT NUMBER
650PPS

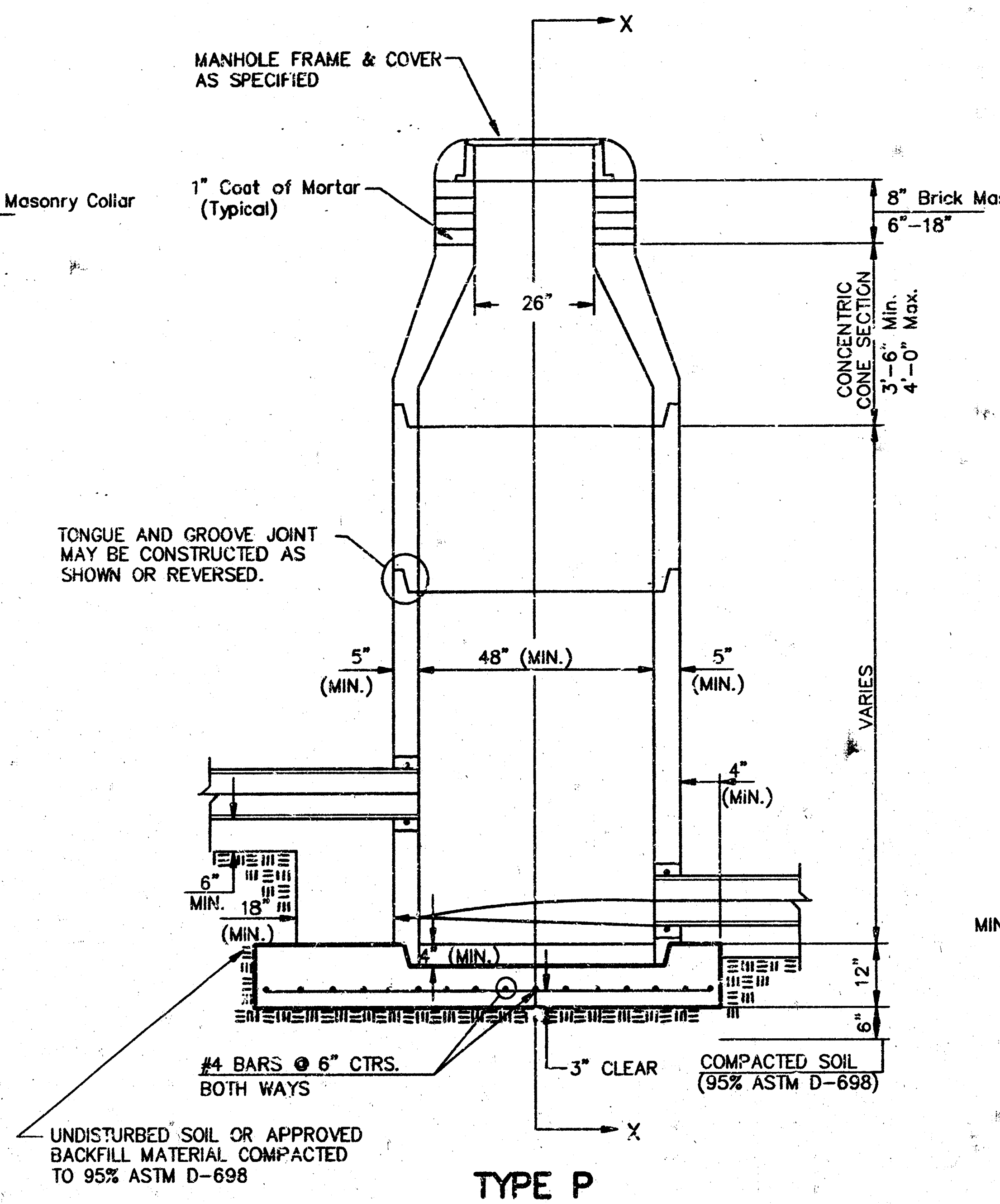
DESIGN	DRAWN	APPROVED	DATE	SCALE	SHEET
JFB	TAz		AUG '96	NOTED	2 OF 3

F:\ENG\METROWST\SS\

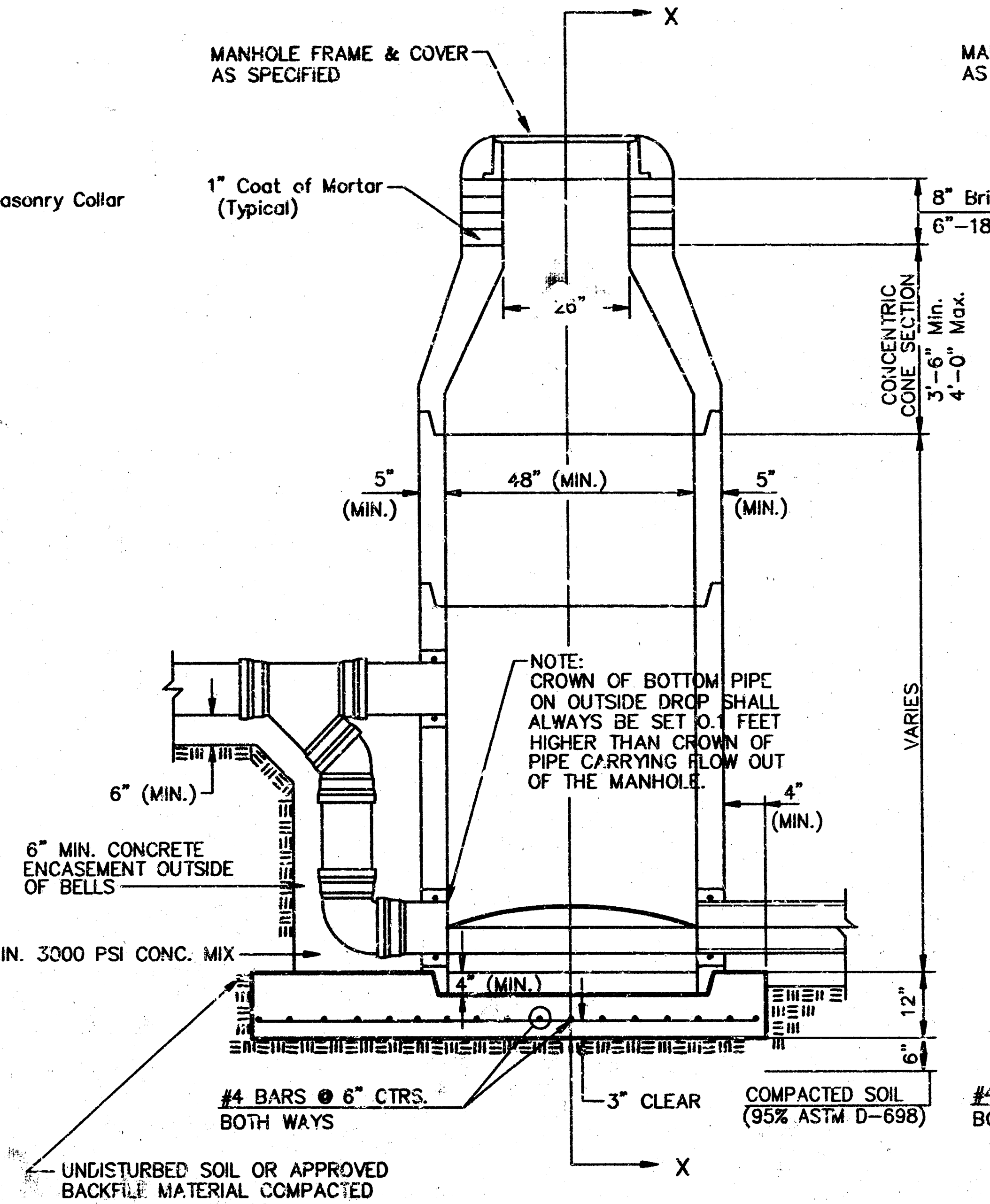
SEWER APPURTENANCES DETAILS


MANHOLE FRAME & COVER AS SPECIFIED
1" Coat of Mortar (Typical)
8" Brick Masonry Collar
6"–18"
26"
CONCENTRIC CONE SECTION 3'–6" Min. 4'–0" Max.
5" (MIN.)
48" (MIN.)
5" (MIN.)
VARIES
4" (MIN.)
SEE NOTE 3
4" (MIN.)
12"
6" MIN.
6"
#4 BARS @ 6" CTRS. BOTH WAYS
3" CLEAR
COMPACTED SOIL (95% ASTM D–698)
X
X
UNDISTURBED SOIL OR APPROVED BACKFILL MATERIAL COMPACTED TO 95% ASTM D–698
MANHOLE BASE CITY CONCRETE PAVEMENT MIX.

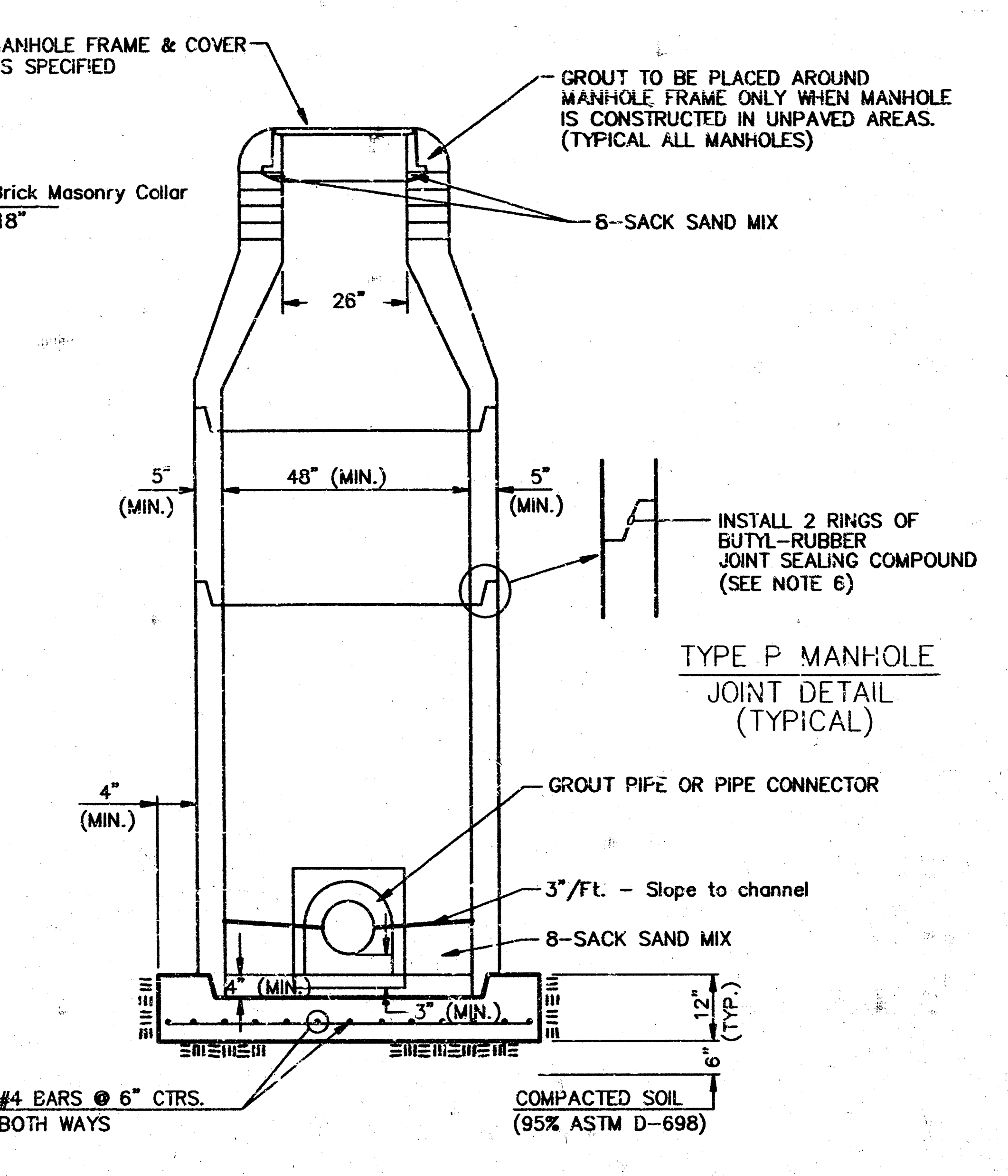
TYPE P
STANDARD MANHOLE


MANHOLE FRAME & COVER AS SPECIFIED
1" Coat of Mortar (Typical)
8" Brick Masonry Collar
6"–18"
26"
CONCENTRIC CONE SECTION 3'–6" Min. 4'–0" Max.
TONGUE AND GROOVE JOINT MAY BE CONSTRUCTED AS SHOWN OR REVERSED.
5" (MIN.)
48" (MIN.)
5" (MIN.)
VARIES
4" (MIN.)
6" MIN.
18" (MIN.)
4" (MIN.)
12"
6"
#4 BARS @ 6" CTRS. BOTH WAYS
3" CLEAR
COMPACTED SOIL (95% ASTM D–698)
X
X
UNDISTURBED SOIL OR APPROVED BACKFILL MATERIAL COMPACTED TO 95% ASTM D–698

TYPE P
INSIDE DROP MANHOLE


MANHOLE FRAME & COVER AS SPECIFIED
1" Coat of Mortar (Typical)
8" Brick Masonry Collar
6"–18"
26"
CONCENTRIC CONE SECTION 3'–6" Min. 4'–0" Max.
5" (MIN.)
48" (MIN.)
5" (MIN.)
NOTE: CROWN OF BOTTOM PIPE ON OUTSIDE DROP SHALL ALWAYS BE SET 0.1 FEET HIGHER THAN CROWN OF PIPE CARRYING FLOW OUT OF THE MANHOLE.
6" (MIN.)
6" MIN. CONCRETE ENCASEMENT OUTSIDE OF BELLS
MIN. 3000 PSI CONC. MIX
VARIES
4" (MIN.)
4" (MIN.)
12"
6"
#4 BARS @ 6" CTRS. BOTH WAYS
3" CLEAR
COMPACTED SOIL (95% ASTM D–698)
X
X
UNDISTURBED SOIL OR APPROVED BACKFILL MATERIAL COMPACTED TO 95% ASTM D–698

TYPE P
OUTSIDE DROP MANHOLE


MANHOLE FRAME & COVER AS SPECIFIED
GROUT TO BE PLACED AROUND MANHOLE FRAME ONLY WHEN MANHOLE IS CONSTRUCTED IN UNPAVED AREAS. (TYPICAL ALL MANHOLES)
8–SACK SAND MIX
26"
5" (MIN.)
48" (MIN.)
5" (MIN.)
INSTALL 2 RINGS OF BUTYL–RUBBER JOINT SEALING COMPOUND (SEE NOTE 6)
TYPE P MANHOLE
JOINT DETAIL (TYPICAL)
4" (MIN.)
GROUT PIPE OR PIPE CONNECTOR
3"/Ft. – Slope to channel
8–SACK SAND MIX
4" (MIN.)
3" (MIN.)
12" (TYP.)
6"
#4 BARS @ 6" CTRS. BOTH WAYS
COMPACTED SOIL (95% ASTM D–698)

SECTION X
(TYPICAL)

GENERAL NOTES

PRECAST MANHOLE NOTES

1. ALL PRECAST CONCRETE MANHOLE SECTIONS SHALL CONFORM TO THE LATEST REVISIONS OF A.S.T.M. C478 AS MODIFIED BY THE SPECIFICATIONS.

2. NON–SHRINK GROUT SHALL BE NON–METALLIC TYPE.

3. APPROVED FLEXIBLE WATERSTOP GASKETS SHALL BE INSTALLED TO JOIN THE SEWER TO THE MANHOLE WALL WHEN A.B.S. COMPOSITE PIPE OR P.V.C. PIPE IS USED. FOR OTHER TYPES OF PIPE THE SEWER SHALL BE GROUTED IN PLACE WITH NON–SHRINK GROUT. THE SEWER PIPE SHALL BE SUPPORTED WITH CONCRETE ENCASEMENT A MINIMUM OF 3 FEET FROM THE MANHOLE WALL AND TO THE FIRST JOINT FOR V.C.P. SUCH THAT THE JOINT REMAINS FLEXIBLE.

4. ALL INSIDE SURFACES OF THE CONCRETE MANHOLE WHICH WOULD BE EXPOSED TO SEWER GAS SHALL BE COATED WITH [illegible] COATS TNEMEC SERIES 66 HI–BUILD EPOXOLINE, DRY THICKNESS OF 8 MILS (MIN.)

5. EXTERIOR MANHOLE WALLS SHALL BE COATED WITH 1 COAT MOBILARMA 633 BITUMINOUS COATING.

6. JOINT SEALING COMPOUND SHALL BE KENT SEAL NO. 2 OR APPROVED EQUAL.

7. PRECAST MANHOLES SHALL BE SET AT LEAST 4 INCHES INTO THE MANHOLE BASE.

8. TOP OF MANHOLE FLOOR SLAB SHALL BE AT LEAST 3 INCHES BELOW THE FLOW LINE OF THE OUTLET PIPE TO INSURE SUFFICIENT MINIMUM THICKNESS OF SHAPED INVERT.

9. LIFTING HOLES SHALL BE FILLED WITH NON–SHRINK GROUT AND THE INTERIOR SURFACE COATED AS SPECIFIED.

10. MORTAR USED IN MASONRY CONSTRUCTION SHALL CONTAIN 8 SACKS OF CEMENT PER CUBIC YARD. CONCRETE USED IN MANHOLE BASES SHALL CONFORM TO THE REQUIREMENTS OF CONCRETE FOR CONCRETE PAVEMENT CONSTRUCTION AS SPECIFIED IN THE CITY STANDARD PAVING SPECIFICATIONS USING CITY CONCRETE PAVEMENT MIX WITHOUT AIR ENTRAINING ADMIXTURE. MORTAR SHALL BE PLACED AROUND THE MANHOLE RING AS SHOWN ON THE DRAWINGS WHEN MANHOLES ARE CONSTRUCTED IN UNPAVED AREAS. MANHOLES CONSTRUCTED WHERE PIPE SIZES ARE SMALLER THAN 24" SHALL HAVE AN INSIDE DIAMETER OF 4'. MANHOLES CONSTRUCTED WHERE PIPE SIZES ARE 24" OR LARGER SHALL HAVE AN INSIDE DIAMETER OF 5'. COMPLETED MANHOLE SHALL BE WITHOUT LEAKS AND WATER TIGHT.

11. REINFORCING STEEL SHALL BE INSTALLED IN THE MANHOLE BASES AND SHALL CONSIST OF NO. 4 BARS PLACED ON 6" CENTERS IN BOTH DIRECTIONS. THE MANHOLE BASE REINFORCEMENT SHALL BE PLACED AT LEAST 3" ABOVE THE BOTTOM OF THE MANHOLE BASE. ALL COSTS FOR FURNISHING AND INSTALLING REINFORCING STEEL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE MANHOLE.

12. OPENINGS SHALL BE CUT INTO THE MANHOLE WALL WHEN OUTSIDE DROPS ARE CONSTRUCTED ON EXISTING MANHOLES. SUCH OPENINGS CUT INTO EXISTING MANHOLES SHALL BE AS SMALL AS PRACTICAL TO FACILITATE INSTALLING AND GROUTING THE NEW PIPE IN PLACE. WATERSTOP GASKETS SHALL BE USED WITH P.V.C. AND A.B.S. COMPOSITE PIPE. THE NEW PIPE SHALL BE GROUTED INTO THE OPENING USING AN APPROVED NONSHRINK GROUT FOR THE FULL MANHOLE WALL THICKNESS. THE EXTERIOR OF THE COMPLETED CONNECTION SHALL BE SEALED WITH AN APPROVED BITUMINOUS COATING SUCH THAT THE CONNECTION WILL BE WATER TIGHT. FLOOR OF MANHOLE SHALL BE MODIFIED TO FORM NEW FLOW CHANNEL FOR THE NEW CONNECTION AS INDICATED BY THE DRAWING. THIS WORK, INCLUDING MODIFICATION OF MANHOLE FLOOR, SHALL BE PAID FOR AT THE UNIT PRICE BID FOR OUTSIDE DROP STACK CONSTRUCTED ON EXISTING MANHOLE.

13. THE FLOORS OF ALL MANHOLES SHALL BE SHAPED WITH FLOW CHANNELS SUCH THAT THE MANHOLES WILL BE SELF CLEANING AND FREE OF AREAS WHERE SOLIDS COULD BE DEPOSITED AS SEWAGE FLOWS THROUGH THE MANHOLE FROM ALL INLET PIPES TO THE OUTLET PIPE. FLOW CHANNELS SHALL BE FORMED TO MATCH THE BOTTOM HALVES OF THE INFLOWING PIPES AND THE OUTFLOWING PIPE AS SHOWN BY THE DRAWINGS EXCEPT FOR INSIDE DROP MANHOLES. FLOW CHANNELS FOR INSIDE DROP MANHOLES SHALL BE CONSTRUCTED AS INDICATED BY THE DRAWING. MANHOLE FLOORS SHALL HAVE SLOPES OF 3 INCHES PER FOOT IN THE AREAS OUTSIDE OF THE FLOW CHANNELS SLOPED TOWARD THE FLOW CHANNELS. PIPES LAID THROUGH MANHOLES SHALL HAVE THE TOP HALF REMOVED TO NEAT LINES FOR THE FULL INSIDE DIAMETER OF THE MANHOLE. MANHOLE FLOORS SHALL THEN BE SHAPED AROUND THE BOTTOM HALF OF THE PIPE WHICH FORMS THE FLOW CHANNEL.

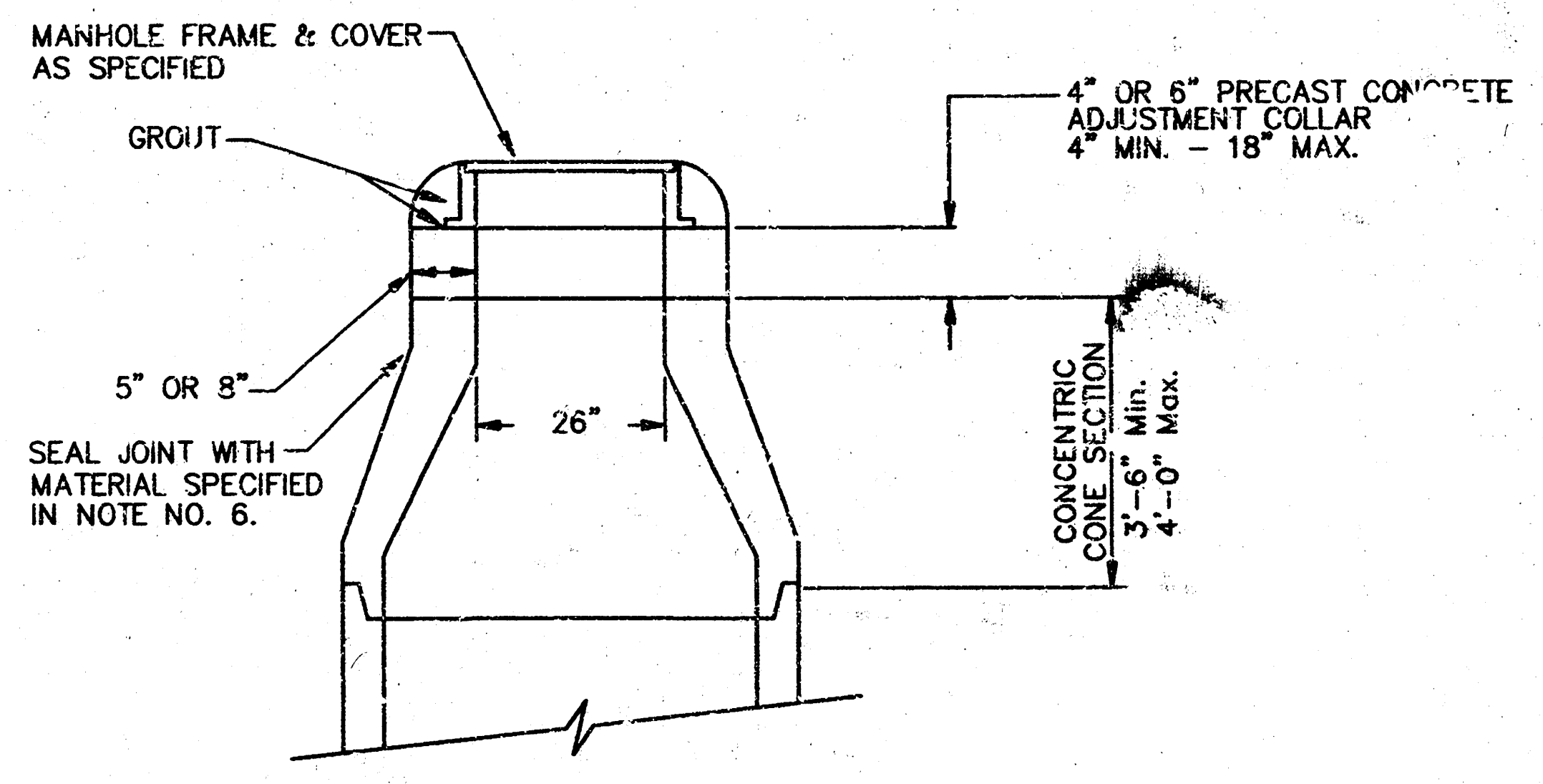
14. PIPES INSTALLED WITHIN THE EXCAVATION MADE FOR THE MANHOLE SHALL BE CRADLED WITH CONCRETE TO THE LIMITS OF THE MANHOLE EXCAVATION. WHEN CLAY PIPE IS USED, THE CRADLE SHALL EXTEND TO THE FIRST JOINT OUTSIDE THE MANHOLE. THE CRADLE SHALL BE TERMINATED AT THE CLAY PIPE JOINT IN A MANNER WHICH WILL MAINTAIN THE FLEXIBILITY OF THE JOINT. COST OF CRADLE WITHIN MANHOLE EXCAVATION OR TO CLAY PIPE JOINTS ADJACENT TO MANHOLE SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE MANHOLE.

15. MANHOLE COVER CASTINGS AND MANHOLE FRAME CASTINGS SHALL CONFORM TO THE REQUIREMENTS AS INDICATED IN THE STANDARD SPECIFICATIONS AND AS SHOWN IN THE STANDARD DETAIL DRAWING.

16. THE VERTICAL DROP IN INSIDE DROP MANHOLES SHALL NOT EXCEED 2' FOR INFLOWING PIPES SIZED 12" OR SMALLER AND 2' FOR INFLOWING PIPES LARGER THAN 12". THE CROWNS OF INFLOWING PIPES SHALL NEVER BE SET LOWER THAN THE CROWN OF THE OUTFLOWING PIPE.

17. STANDARD MANHOLES AND STANDARD INSIDE DROP MANHOLES SHALL BE BID AS STANDARD MANHOLES FOR THE TYPE AND DIAMETER INDICATED. OUTSIDE DROP MANHOLES SHALL BE BID AS STANDARD OUTSIDE DROP MANHOLES FOR THE TYPE AND DIAMETER INDICATED. ALL MANHOLE DIAMETERS WILL BE 4' UNLESS INDICATED OTHERWISE.

18. A BRICK MASONRY COLLAR SHALL BE INSTALLED BETWEEN THE CAST IRON FRAME AND THE CONCENTRIC CONE. THE COLLAR WILL HAVE 8" WALLS AND A VERTICAL HEIGHT OF 6" MINIMUM AND 18" MAXIMUM. A 1" COAT OF MORTAR WILL BE PLASTERED ON THE OUTSIDE OF THE COLLAR. THE USE OF PRE–CAST CONCRETE SPACERS FOR MANHOLE TOP ADJUSTMENT IS ALSO ALLOWED.


MANHOLE FRAME & COVER AS SPECIFIED
GROUT
4" OR 6" PRECAST CONCRETE ADJUSTMENT COLLAR 4" MIN. – 18" MAX.
5" OR 8"
SEAL JOINT WITH MATERIAL SPECIFIED IN NOTE NO. 6.
26"
CONCENTRIC CONE SECTION 3'–6" Min. 4'–0" Max.

ALTERNATE CONSTRUCTION
IN UNPAVED AREAS

CITY OF WICHITA
STD. MANHOLE DETAILS
& SEWER APPURTENANCES DETAILS

BAUGHMAN COMPANY P. A.
ENGINEERING, SURVEYING, & PLANNING
316–262–7271 • 315 ELLIS • WICHITA, KANSAS 67211

PROJECT NUMBER					SHEET
DESIGN	DRAWN NOV.93	APPROVED	DATE	SCALE	OF

14-3-4-12