

CITY OF WICHITA, KANSAS

SANITARY AND STORM SEWER ALTERATIONS TO SERVE LOTS 1 + 2, BLOCK 2, KUMC ADDITION TO WICHITA, KANSAS

CITY OF WICHITA PRIVATE PROJECT NO. 534PPS (607861)
CITY ENGINEER: MICHAEL E. LINDEBAK

SHEET INDEX

- 1 COVER SHEET + DEMO. PLAN
- 2 PUBLIC UTILITY PLAN
- 3 MANHOLE DETAILS
- 4 INLET DETAILS + M.H. COVERS

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4

LEGEND

- EXISTING TREE
- EXISTING LIGHT POLE
- EXISTING COVER POLE
- SEWER
- UNDERGROUND TELEPHONE
- FENCE
- EXISTING SANITARY SEWER
- EXISTING MANHOLE
- AREAS TO BE DEMOLISHED

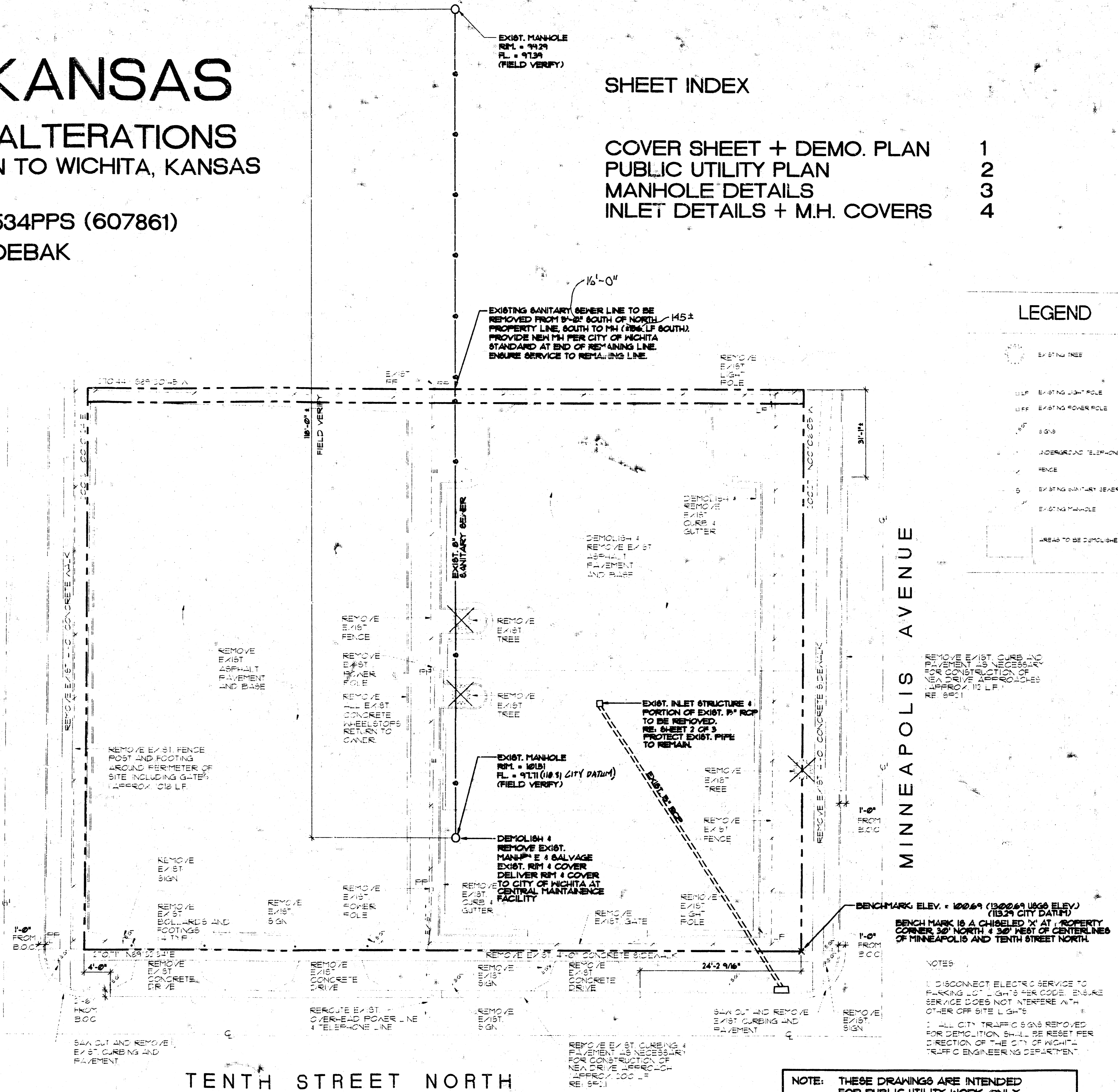
APPROVED AS NOTED
BY CITY ENGINEER OF WICHITA

Sanitary Sewers VRH 2/6/95
Storm Sewers VRH 2/6/95
Driveway Approaches _____
Water Mains _____
Paving _____

NOTE TO CONTRACTOR
INSPECTION AND TESTING FOR THIS PROJECT IS TO BE PROVIDED BY A LICENSED CONSULTING ENGINEERING FIRM UNDER CONTRACT WITH THE OWNER. 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 THE PUBLIC RIGHT-OF-WAY BY THE CONTRACTOR WITHOUT SUCH INSPECTION NOR SHALL ANY WORK BE COMMENCED IN DEDICATED EASEMENTS OR PUBLIC RIGHT-OF-WAY WITHOUT WRITTEN AUTHORIZATION BY THE CITY ENGINEER.

KANSAS AVENUE

MINNEAPOLIS AVENUE



TENTH STREET NORTH

NOTE: THESE DRAWINGS ARE INTENDED FOR PUBLIC UTILITY WORK ONLY. OTHER DRAWING DATA SHOWN ON THESE DRAWINGS IS FOR INFORMATION ONLY

- NOTES FOR COMPLIANCE WITH CITY OF WICHITA, DEPARTMENT OF ENGINEERING REQUIREMENTS:
- G.C. SHALL SUBMIT COPIES OF PROJECT PERFORMANCE BOND TO DEPARTMENT OF ENGINEERING
 - G.C. SHALL PROVIDE A MAINTENANCE BOND TO THE CITY OF WICHITA FOR A PERIOD OF TWO YEARS. G.C. SHALL COORDINATE REQUIREMENTS WITH DEPARTMENT OF ENGINEERING
 - G.C. SHALL SUBMIT AS-BUILT DRAWINGS TO THE CITY OF WICHITA AT COMPLETION OF PUBLIC UTILITY WORK.

(A) DEMOLITION PLAN

Booked San. Sew. 11-28-95 JKB
From 15 Boils

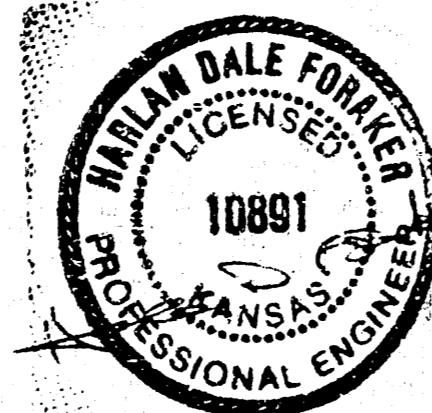
SCALE: 1" = 20'-0"

Professional Engineer Seal: **ARLON DALE FOREMAN**, License No. 106891, State of Kansas. Date: 2-6-95.

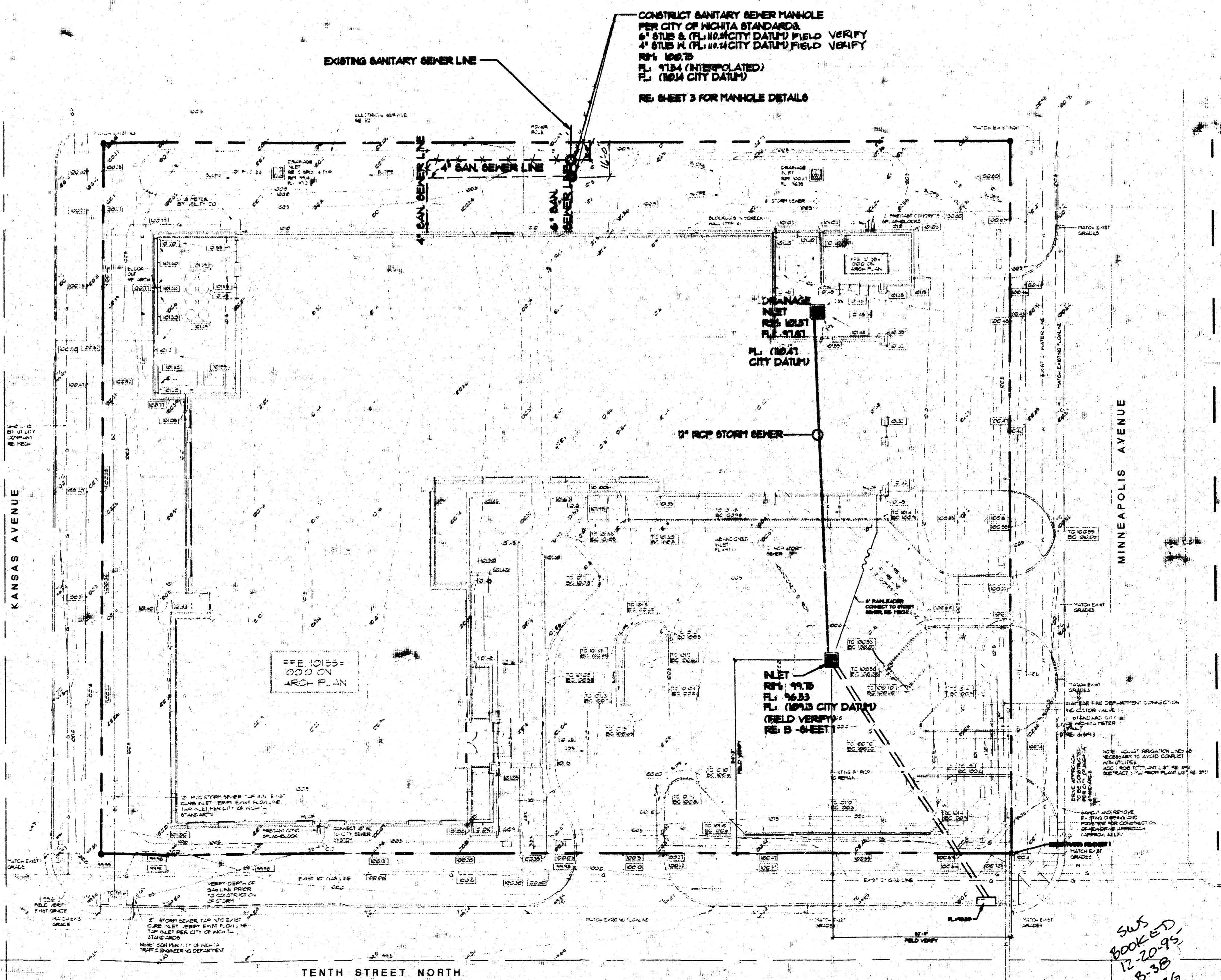
OBLINGER MASON McCLUGGAGE & VAN SICKLE CORPORATION
Address: 2844 N. Lincoln, Wichita, Kansas 67202
Phone: 313-282-0451, 313-282-0450 FAX

SEDGWICK COUNTY REGIONAL FORENSIC SCIENCE CENTER
TENTH ST. 11TH AND MINNEAPOLIS WICHITA, KANSAS

PROJECT NO. 928
DATE: 11-28-95
REVISED: _____
DRAWN: _____
CHECKED: _____
SHEET 1 OF 4
OF SHEETS



RS-BJC
8-24-95



- NOTES
1. DRAINAGE UTILITIES AND UTILITY CORRESPONDENCY
 2. EXISTING UTILITIES TO BE MAINTAINED
 3. EXISTING UTILITIES TO BE REMOVED AND RELOCATED
 4. VERIFY ALL UTILITY LOCATIONS PRIOR TO CONSTRUCTION
 5. VERIFY ALL UTILITIES ARE FREE FROM TO FACILITY USE
 6. FLOORLINE COMPACT PER CITY OF WICHITA STANDARDS

- LEGEND
- 12" - 24" - 36" - 48" - 60" - 72" - 84" - 96" - 108" - 120" - 144" - 180" - 216" - 240" - 270" - 300" - 360" - 420" - 480" - 540" - 600" - 660" - 720" - 780" - 840" - 900" - 960" - 1020" - 1080" - 1140" - 1200" - 1260" - 1320" - 1380" - 1440" - 1500" - 1560" - 1620" - 1680" - 1740" - 1800" - 1860" - 1920" - 1980" - 2040" - 2100" - 2160" - 2220" - 2280" - 2340" - 2400" - 2460" - 2520" - 2580" - 2640" - 2700" - 2760" - 2820" - 2880" - 2940" - 3000"
 - PROPOSED CO. UTILITY
 - EXISTING SANITARY SEWER
 - EXISTING STORM SEWER
 - EXISTING WATER
 - EXISTING GAS
 - EXISTING ELECTRICAL
 - EXISTING TELEPHONE
 - EXISTING CABLE
 - EXISTING FIBER OPTIC
 - EXISTING DRAINAGE
 - EXISTING EROSION CONTROL
 - EXISTING LANDSCAPE
 - EXISTING PAVEMENT
 - EXISTING CURB
 - EXISTING SIDEWALK
 - EXISTING DRIVEWAY
 - EXISTING GARAGE
 - EXISTING PORCH
 - EXISTING DECK
 - EXISTING PATIO
 - EXISTING TERRACE
 - EXISTING BALCONY
 - EXISTING STAIR
 - EXISTING ELEVATOR
 - EXISTING ESCALATOR
 - EXISTING MECHANICAL
 - EXISTING ELECTRICAL
 - EXISTING TELEPHONE
 - EXISTING CABLE
 - EXISTING FIBER OPTIC
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 - EXISTING PATIO
 - EXISTING TERRACE
 - EXISTING BALCONY
 - EXISTING STAIR
 - EXISTING ELEVATOR
 - EXISTING ESCALATOR
 - EXISTING MECHANICAL

(A) PUBLIC UTILITY PLAN

SCALE: 1" = 10'-0"

OBLINGER
MASON
MCULLIGGAGE
S. VAN SICKLE
CORPORATION

Architects Partner's Landscape Architects
P.O. Box 8848
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913 262-0451
913 262-0465 FAX

SEDGWICK COUNTY REGIONAL
FORENSIC SCIENCE CENTER
TENTH ST. NORTH AND MINNEAPOLIS
WICHITA, KANSAS

PROJECT NO. 428
DATE: REVISED
DRAWN: CHECKED:

SHEET
2 OF 4
OF 8 SHEETS

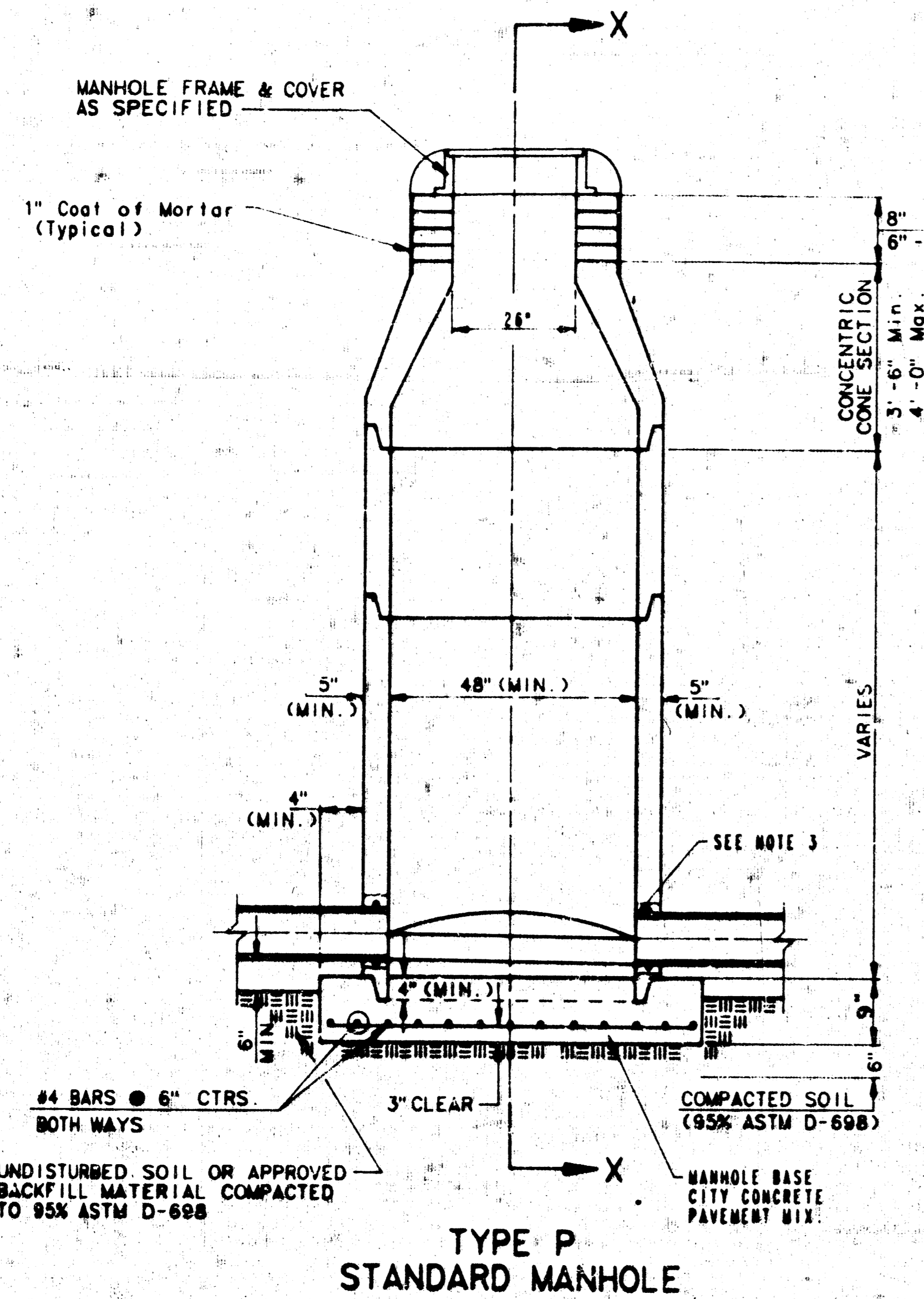
SUS
BOOK 57D
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MCA

SEWER APPURTENANCES DETAILS

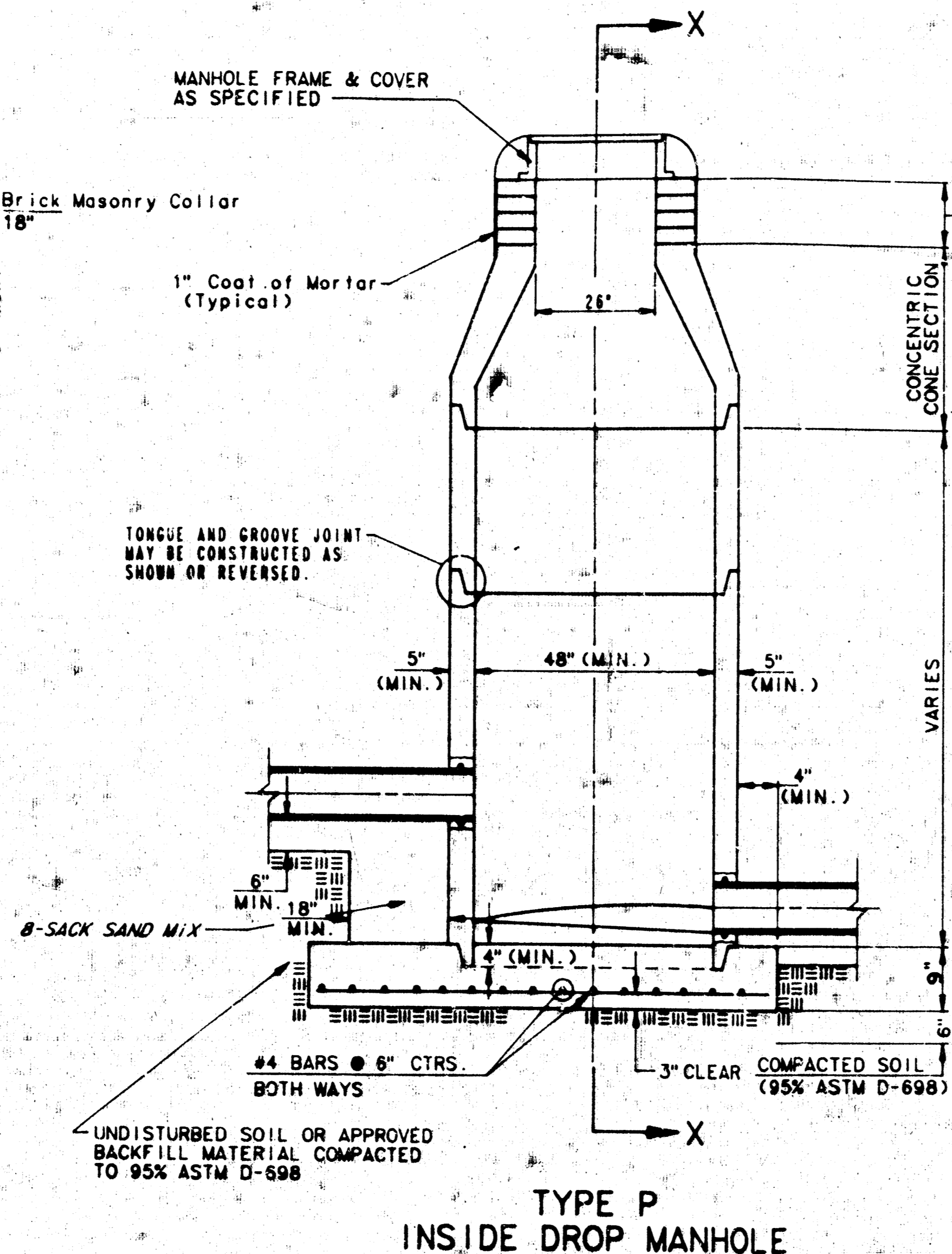
ADOPTED AS STANDARD DESIGN

BY

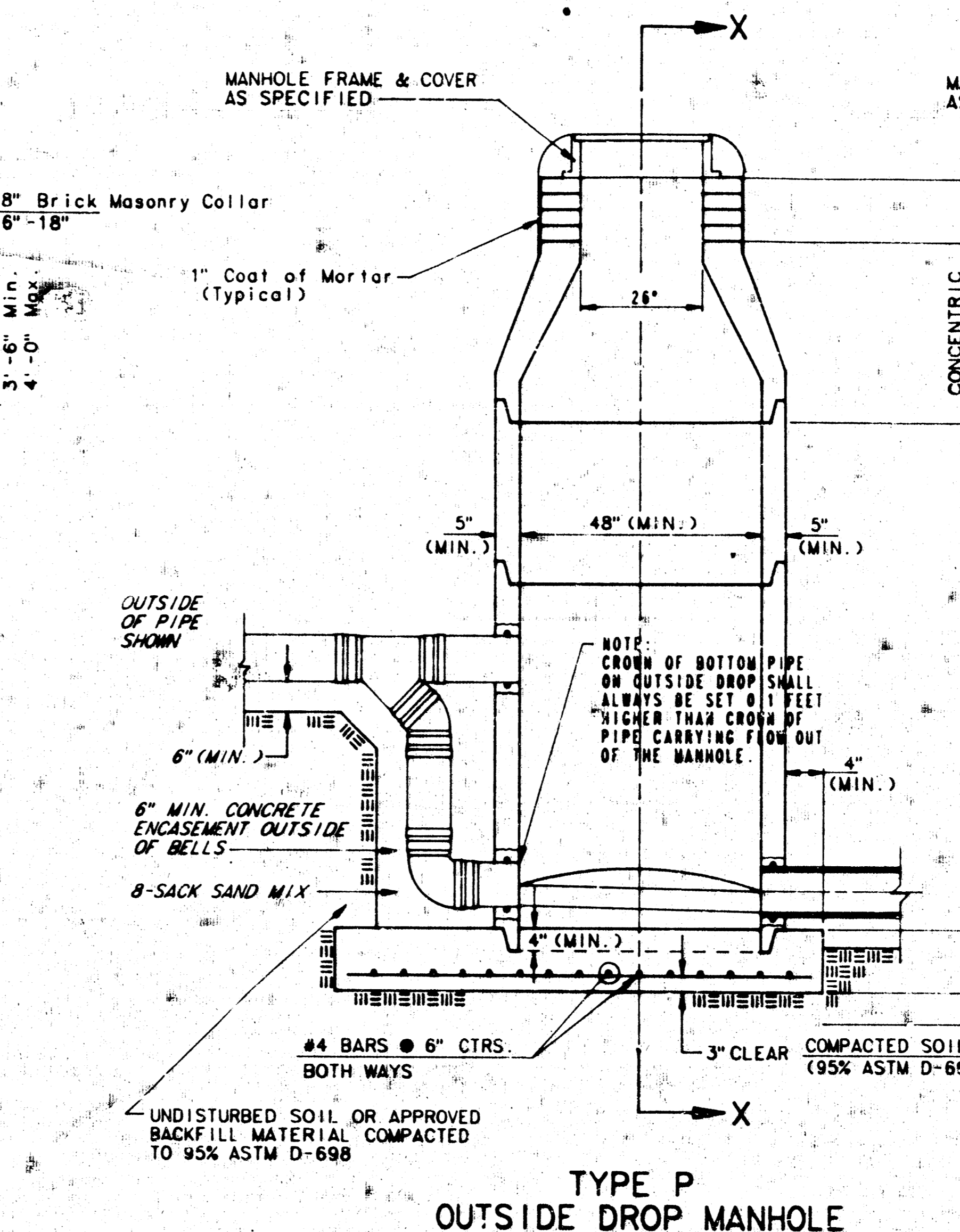
CITY OF WICHITA



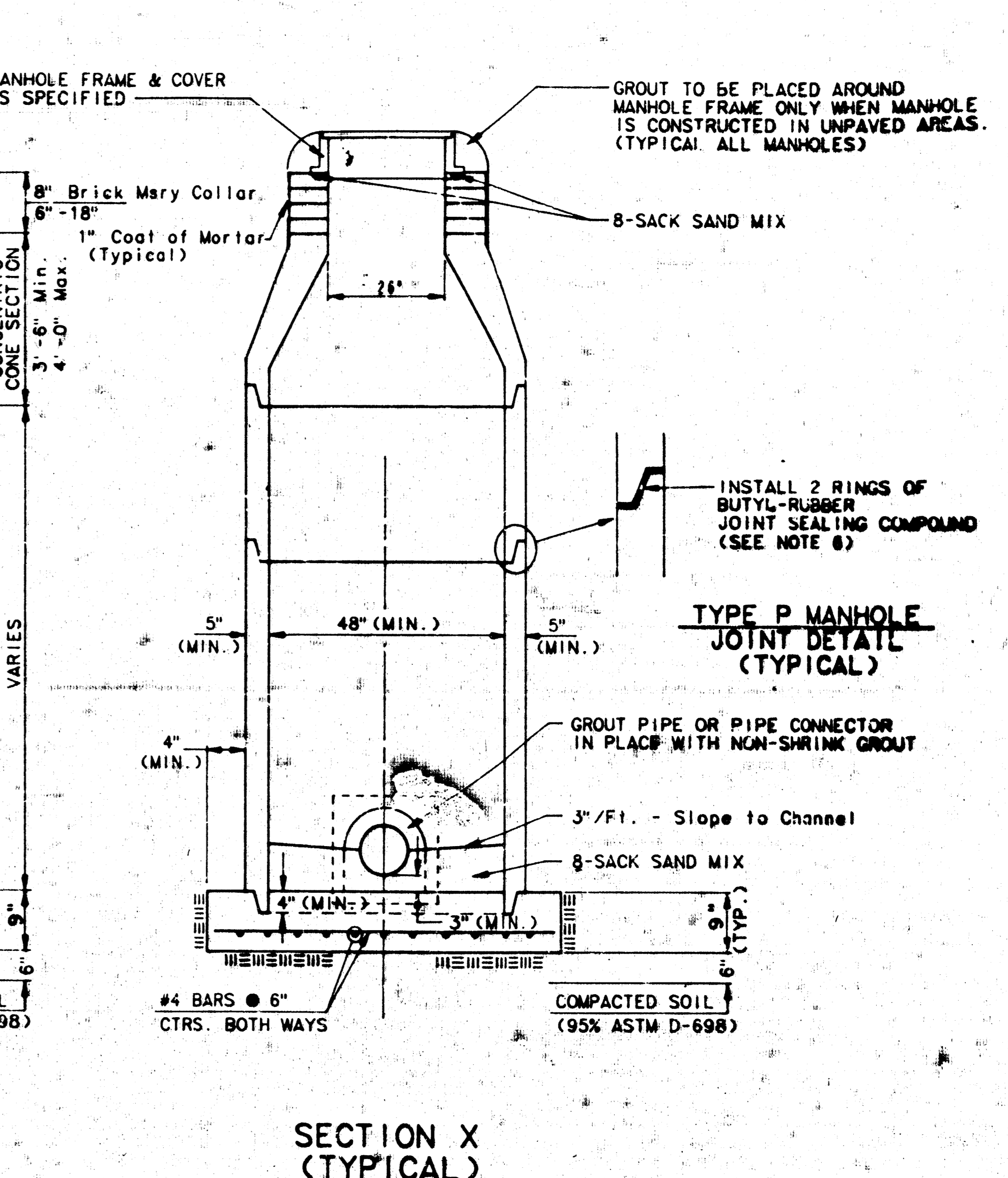
**TYPE P
STANDARD MANHOLE**



**TYPE P
INSIDE DROP MANHOLE**



**TYPE P
OUTSIDE DROP MANHOLE**



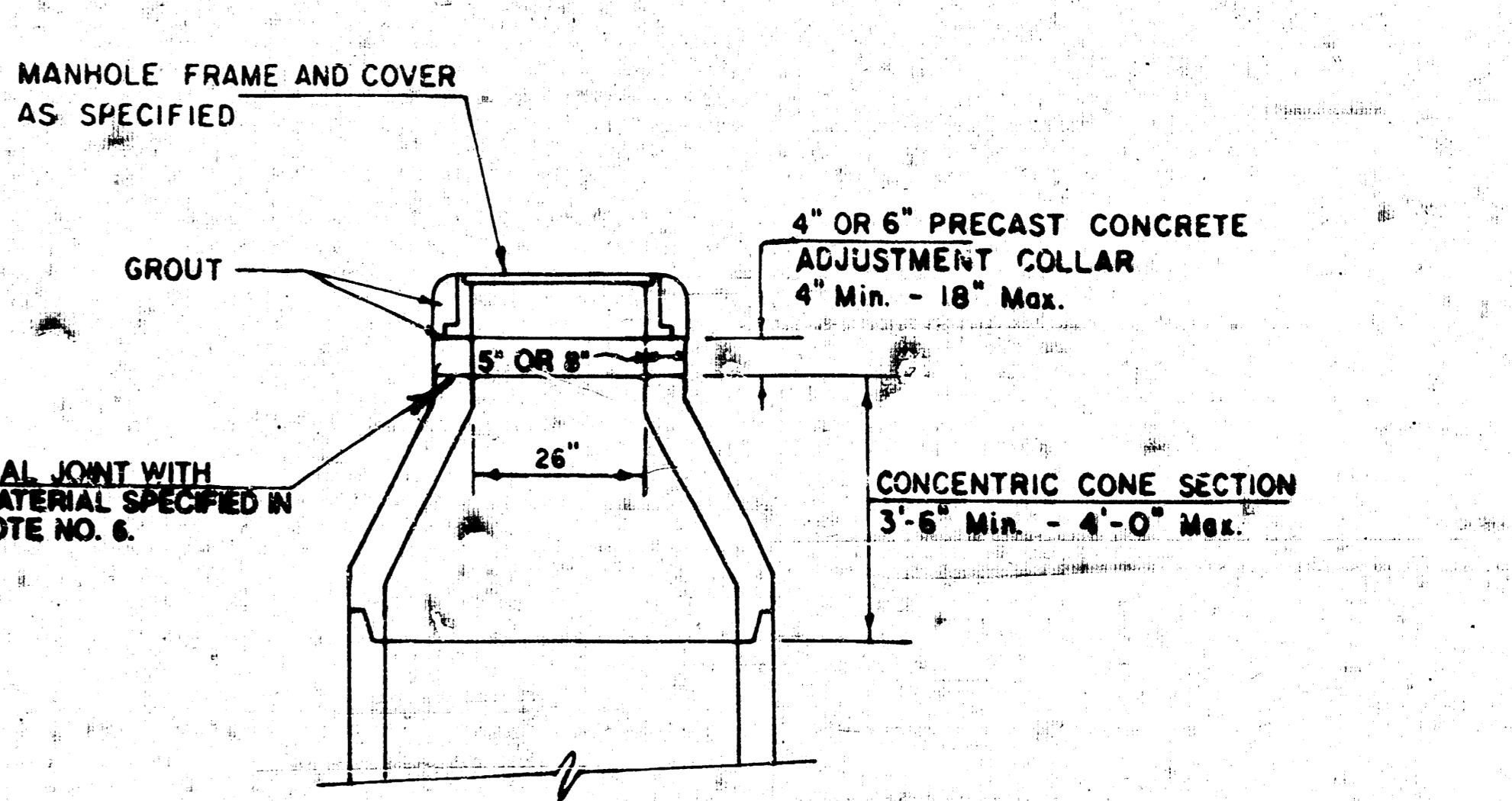
**SECTION X
(TYPICAL)**

GENERAL NOTES
PRECAST MANHOLE NOTES

1. ALL PRECAST CONCRETE MANHOLE SECTIONS SHALL CONFORM TO THE LATEST REVISION 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 JOINT 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 2 COATS TOWEC SERIES 60 HI-BUILD EPOXYLITE, DRY THICKNESS OF 4 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\"/>

11. REINFORCING STEEL SHALL BE INSTALLED IN THE MANHOLE BASES AND SHALL CONSIST OF NO. 4 BARS PLACED ON 8\"/>
- 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 ON THE DRAWING. THIS WORK, INCLUDING MODIFICATION OF MANHOLE FLOOR, SHALL BE PERFORMED 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 SEWER 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 SLOPE TOWARD THE FLOW CHANNELS. PIPES LAID THROUGH MANHOLES SHALL HAVE THE TOP HALF REMOVED TO REVEAL 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.

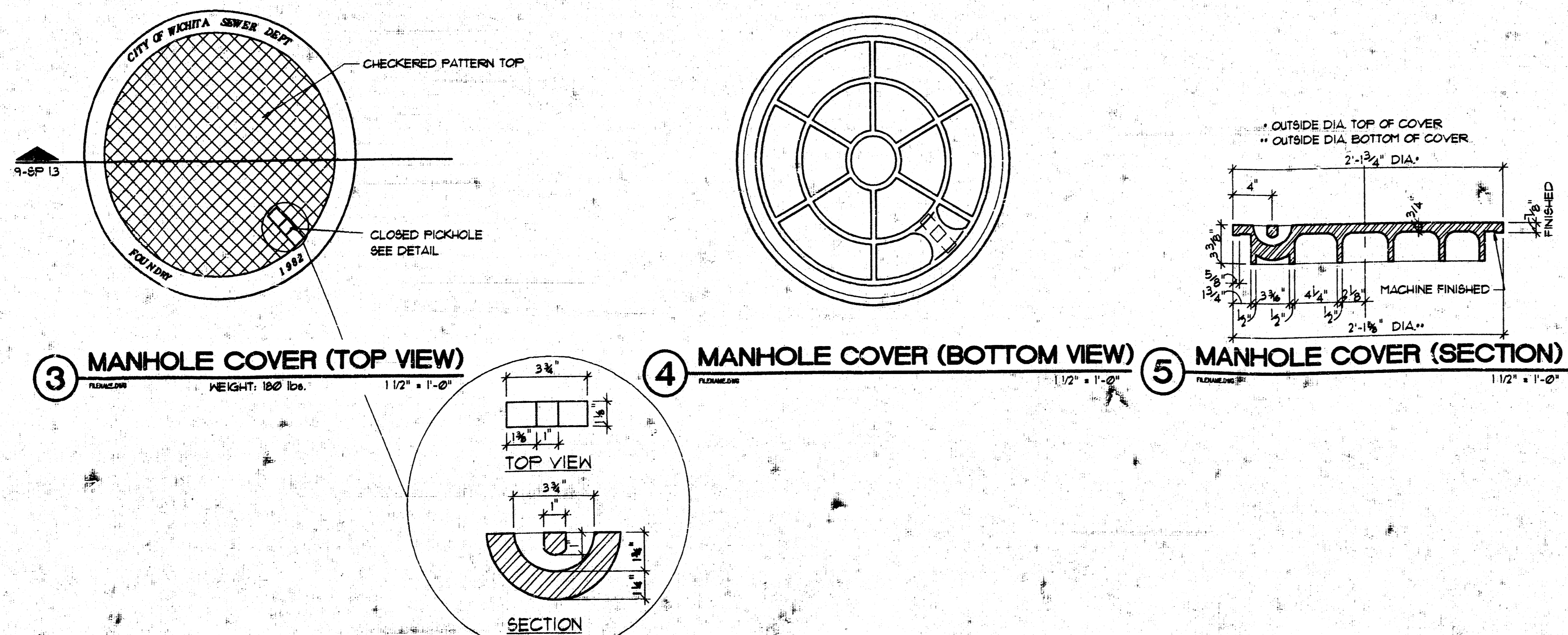
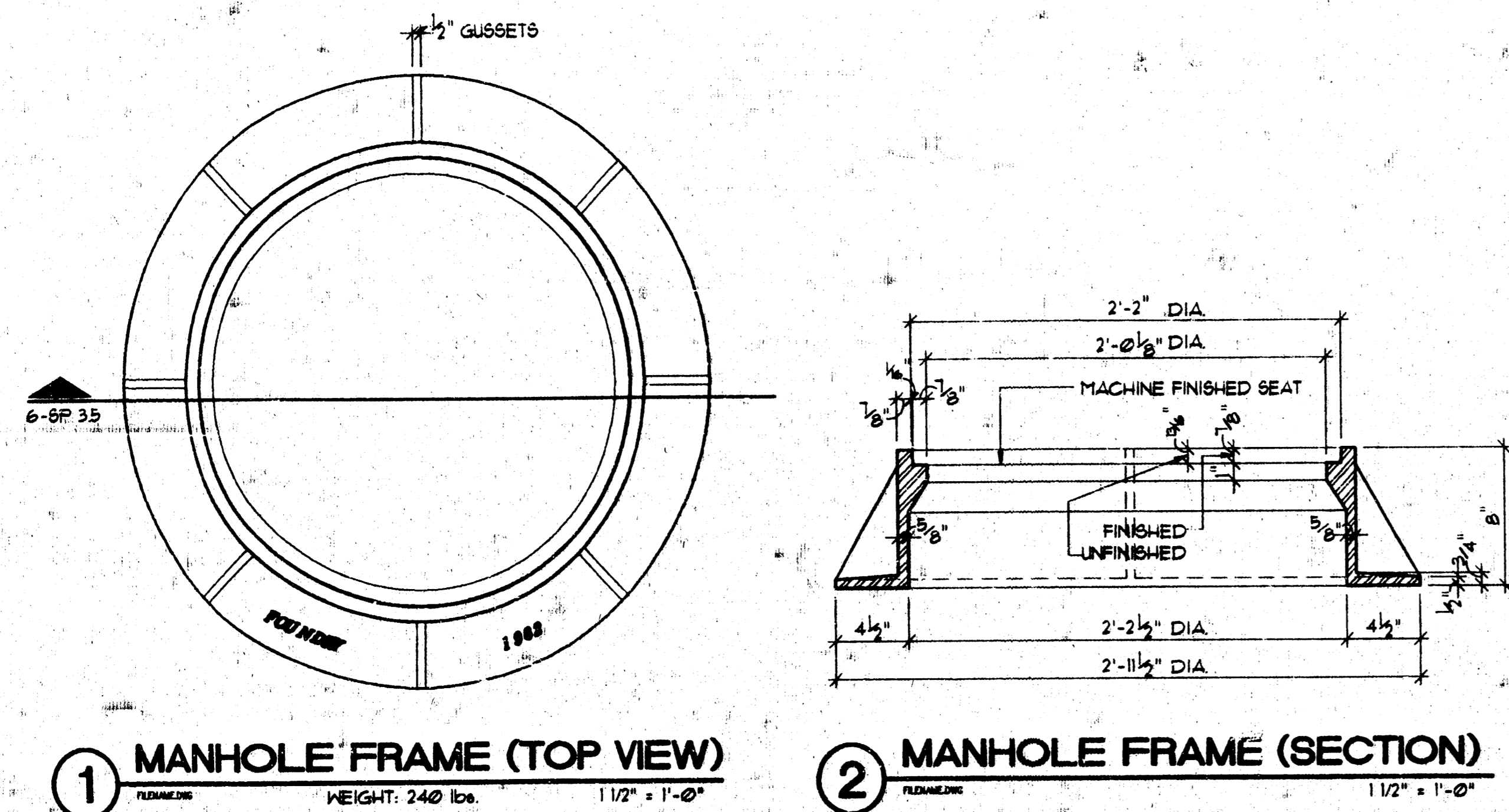
15. MANHOLE COVER CASTINGS AND MANHOLE FRAME CASTINGS SHALL CONFORM TO THE REQUIREMENTS AS INDICATED IN THE STANDARD SPECIFICATIONS AND AS SHOWN IN THE STANDARD DETAIL DRAWING.
16. THE VERTICAL FREE FALL DROP INSIDE MANHOLES SHALL NOT EXCEED 2'. THE CROWNS OF INFLOWING PIPES SHALL NEVER BE SET LOWER 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\"/>
- 18. A BRICK MASONRY COLLAR SHALL BE INSTALLED BETWEEN THE CAST IRON FRAME AND THE CONCENTRIC CONE. THE COLLAR WILL HAVE 8\"/>



**ALTERNATE CONSTRUCTION
IN UNPAVED AREAS**

REVISED NOV. 1983
NOTE NO. 16 REVISED JAN. 1981
Revised 3-21-89
Revised 8-10-88
Revised: June 12, 1988

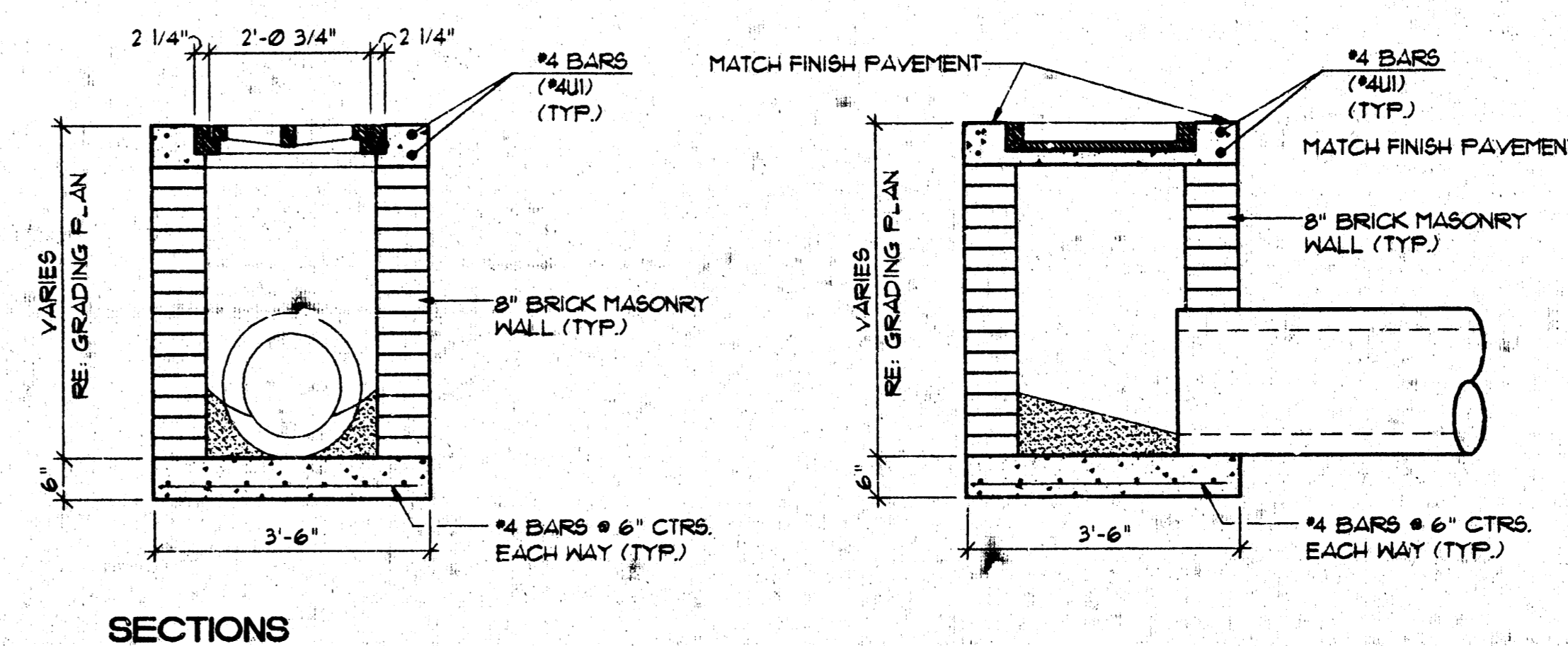
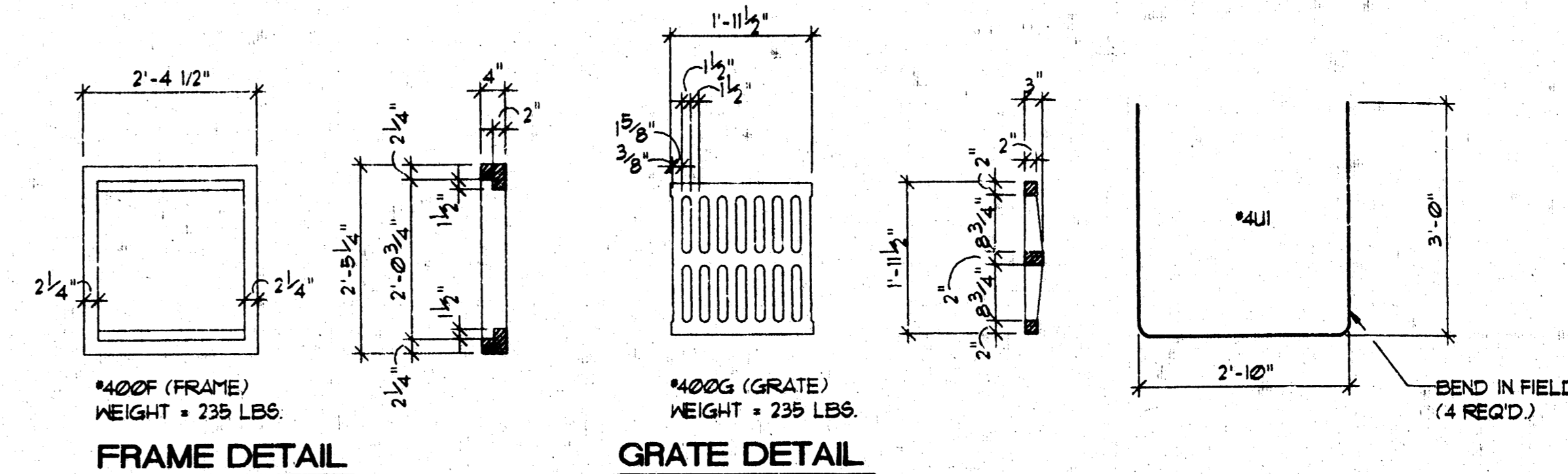
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NOTE: TAKEN FROM CITY OF WICHITA STANDARD DRAWING.

GENERAL NOTES:

1. CONCRETE SHALL BE MIX USED IN CONCRETE PAVEMENT. ALL EXPOSED EDGES SHALL BE FINISHED WITH AN APPROVED EDGING TOOL.
2. REINFORCING STEEL SHALL BE MINIMUM GRADE 40, ASTM A615. ALL DIMENSIONS RELATIVE TO PLACEMENT OF REINFORCING ARE TO THE CENTERLINE OF BARS UNLESS OTHERWISE NOTED.
3. INLET CASTINGS SHALL BE MANUFACTURED USING GOOD QUALITY GRAY IRON CONFORMING TO CLASS 30 OF ASTM DESIGNATION A-48. DIMENSIONS AND WEIGHTS SHOWN ON THE DETAILED DRAWINGS SHALL BE CONSIDERED AS MINIMUM REQUIREMENTS AND ANY DEVIATIONS FROM THE DIMENSIONS SHOWN MUST BE SPECIFICALLY APPROVED. THE FINISHED CASTINGS SHALL BE OF UNIFORM QUALITY, FREE FROM BLOWHOLES, POROSITY, HARD SPOTS, SHRINKAGE DISTORTIONS OR OTHER EFFECTS.
4. INLET FLOOR SHALL BE SHAPED WITH UNREINFORCED CONCRETE TO CREATE FLOW CHANNELS AND TO INCREASE HYDRAULIC EFFICIENCY SUCH THAT THE INLET WILL BE SELF CLEANING BETWEEN ALL INLET AND/OR OUTLET PIPES.



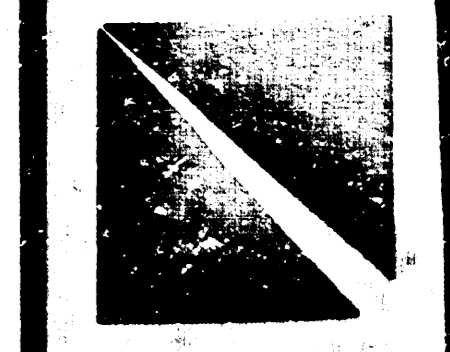
(B) INLET DETAILS

NOTE: DETAILS TAKEN FROM CITY OF WICHITA STANDARD DETAILS.

GENERAL NOTES:

1. MANHOLE CASTINGS SHALL BE MANUFACTURED USING GOOD QUALITY GRAY IRON CONFORMING TO CLASS 30 OF ASTM DESIGNATION A-48. DIMENSIONS AND WEIGHTS SHOWN ON THE DETAILED DRAWINGS SHALL BE CONSIDERED AS MINIMUM REQUIREMENTS AND ANY DEVIATIONS FROM THE DIMENSIONS SHOWN MUST BE SPECIFICALLY APPROVED. THE FINISHED CASTINGS SHALL BE OF UNIFORM QUALITY, FREE FROM BLOWHOLES, POROSITY, HARD SPOTS, SHRINKAGE DISTORTIONS OR OTHER DEFECTS.
2. MANHOLE CASTINGS SHALL BE MANUFACTURED SUCH THAT A COVER MANUFACTURED BY ANY ONE FOUNDRY WILL FIT INTERCHANGEABLY INTO A FRAME MANUFACTURED BY ANOTHER FOUNDRY AND STILL MEET ALLOWABLE CLEARANCES AND NON-ROCKING REQUIREMENTS. THIS WILL REQUIRE MANUFACTURING OF THE MATCHING FACES ON THE COVER AND THE FRAME TO CLOSE TOLERANCES.
3. THE OUTSIDE CIRCUMFERENCE OF THE VERTICAL FACE OF THE COVER AND THE INSIDE CIRCUMFERENCE OF THE VERTICAL FACE IN THE FRAME RECESS SHALL BE MANUFACTURED TO TOLERANCES SUCH THAT THE CLEARANCE BETWEEN THE COVER AND FRAME WILL NOT EXCEED 1/8" AT ANY POINT AROUND THE CIRCUMFERENCE OF THE COVER. THE SEATING SURFACES BETWEEN THE COVER AND FRAME SHALL BE MACHINED SUCH THAT THESE SURFACES SHALL MAKE FULL CONTACT FOR THEIR FULL CIRCUMFERENCE TO PRECLUDE THE COVER FROM ROCKING IN THE FRAME.
4. THE MANHOLE FRAME AND COVER SHALL BE MARKED WITH LETTERING INDICATING THE NAME OF THE MANUFACTURER AND THE YEAR WHEN THE COVER OR FRAME WAS CAST. THE COVER SHALL BE FURTHER IDENTIFIED WITH REGARDS TO OWNERSHIP USING LETTERS AT LEAST 1" IN HEIGHT. THIS IDENTIFICATION SHALL BE CITY OF WICHITA SEWER DEPARTMENT. THE WORD DEPARTMENT MAY BE ABBREVIATED. THE TEXTURE OF THE TOP SURFACE OF THE COVER SHALL BE MANUFACTURED IN A CHECKERED PATTERN DESIGN AS INDICATED ON THE DRAWINGS. SMOOTH BLOCKOUTS SHALL BE UTILIZED TO HIGHLIGHT THE LETTERING ON THE COVER SURFACE. THE TOTAL AREA OF SMOOTH SURFACE BLOCKOUT SHALL NOT EXCEED THE AREA AS INDICATED ON THE DRAWINGS. POSITIONING OF SMOOTH BLOCKOUTS AND LETTERING MAY VARY FROM THAT SHOWN ON THE DETAILED DRAWING.

OBLENDER
 MASON
 MCGILGAGLE
 & VAN SICKLE
 CORPORATION



PROJ. NO. 9236
 DATE: _____
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SEDGWICK COUNTY REGIONAL
 FORENSIC SCIENCE CENTER
 TENTH ST. NORTH AND MINNEAPOLIS
 WICHITA, KANSAS

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SHEET
 4 OF 4
 OF SHEETS