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CONSTRUCTION PLANS

Sanitary Sewer Extensions

GREAT PLAINS BUSINESS PARK 2ND ADDITION TO THE CITY OF WICHITA, KANSAS

MICHAEL E. LINDEBAK, P.E. - CITY ENGINEER

PRIVATE PROJECT NO. 317PPS
INDEX CODE 607861

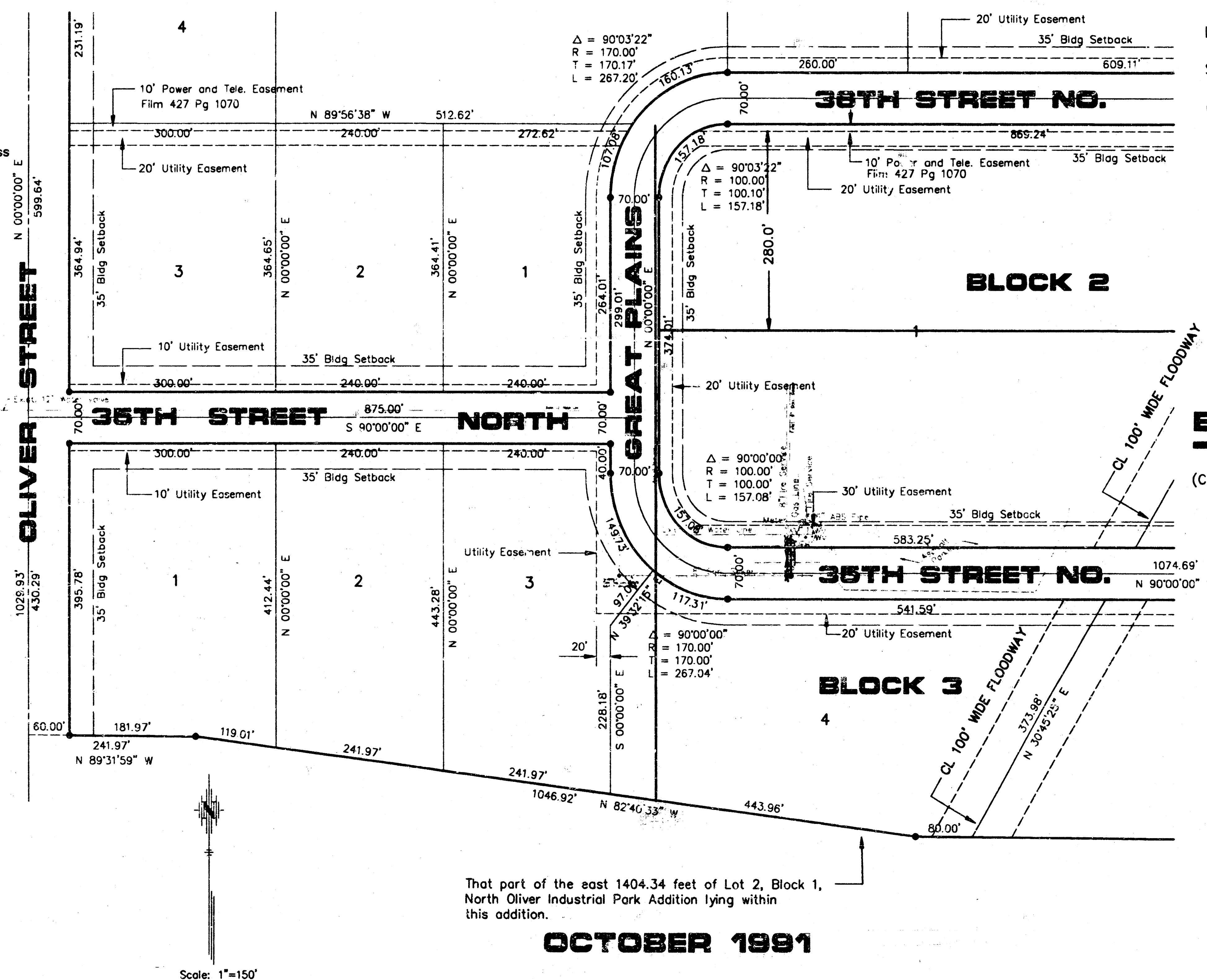
GENERAL NOTES:

- Underground utility service lines and overhead 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.
- Rubble from the removal of miscellaneous structures and excess excavation which is to be wasted shall be disposed of on sites to be provided by the Contractor. These sites shall be approved by the Engineer as to suitability, appearance and site location. Locations that, in the opinion of the Engineer, will leave an unsightly will not be approved.
- 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 subsidiary to the other pay items of work.
- 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 or a licensed professional engineer in accordance with state laws.
- Trees and shrubs in public right-of-way which are in direct conflict with proposed new construction shall be removed by the Contractor with the Engineer's approval. Trees and shrubs which are not in direct conflict with proposed new construction shall be saved and protected from damage.
- Contractor will be required to provide a minimum advance notice of twenty-four (24) hours to utility companies prior to starting any excavation as follows:

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

K.P. & L. Gas Service Company	263-7511
Kansas Gas & Electric	264-1141
Arkia Gas Company	942-8350
Southwestern Bell Telephone Company	1-571-2611
City of Wichita Water Department	268-4908
City of Wichita Sewer Maintenance	268-4071

- See City of Wichita Supplemental Specification for Flowable Fill, mix proportion Specification.



INDEX

TITLE SHEET	SHEET 1
LINE NO. 1	SHEET 2
SEWER APPURTENANCES DETAILS	SHEET 3
MANHOLE FRAME & COVER DETAIL	SHEET 4
GREAT PLAINS BUSINESS PARK 2ND ADDITION PLAT	SHEET 5

BENCH MARKS

(City of Wichita Datum)

1. "B" out on Southeast Cor. of East Headwall of ROB 133 S. Railroad Elev. 177.50

NOTE TO CONTRACTOR

INSPECTION AND TESTING FOR THIS PROJECT IS TO BE PROVIDED BY A LICENSED CONSULTING ENGINEERING FIRM UNDER CONTRACT WITH THE OWNER/DEVELOPER, SAID INSPECTION IS IN ACCORDANCE WITH THE CITY OF WICHITA STANDARD CONSTRUCTION ENGINEERING PRACTICES AND CERTIFIED BY 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.

APPROVED AS NOTED

By CITY ENGINEER OF WICHITA

Sanitary Sewers VRH 11/22/91

Storm Sewers _____

Driveway Approaches _____

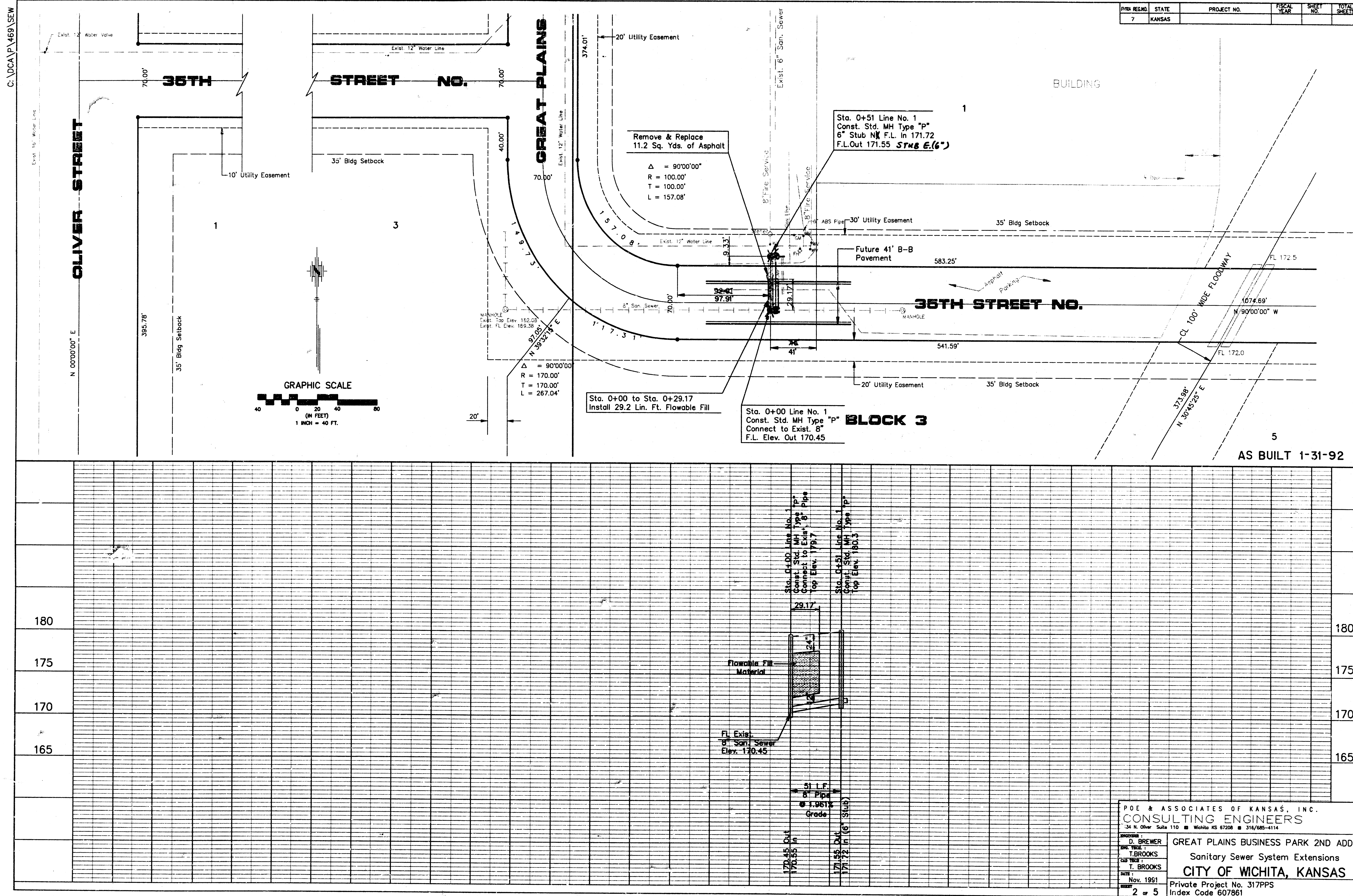
Water Mains _____

Paving _____

AS BUILT 1-31-92

SHEET 1 OF 5

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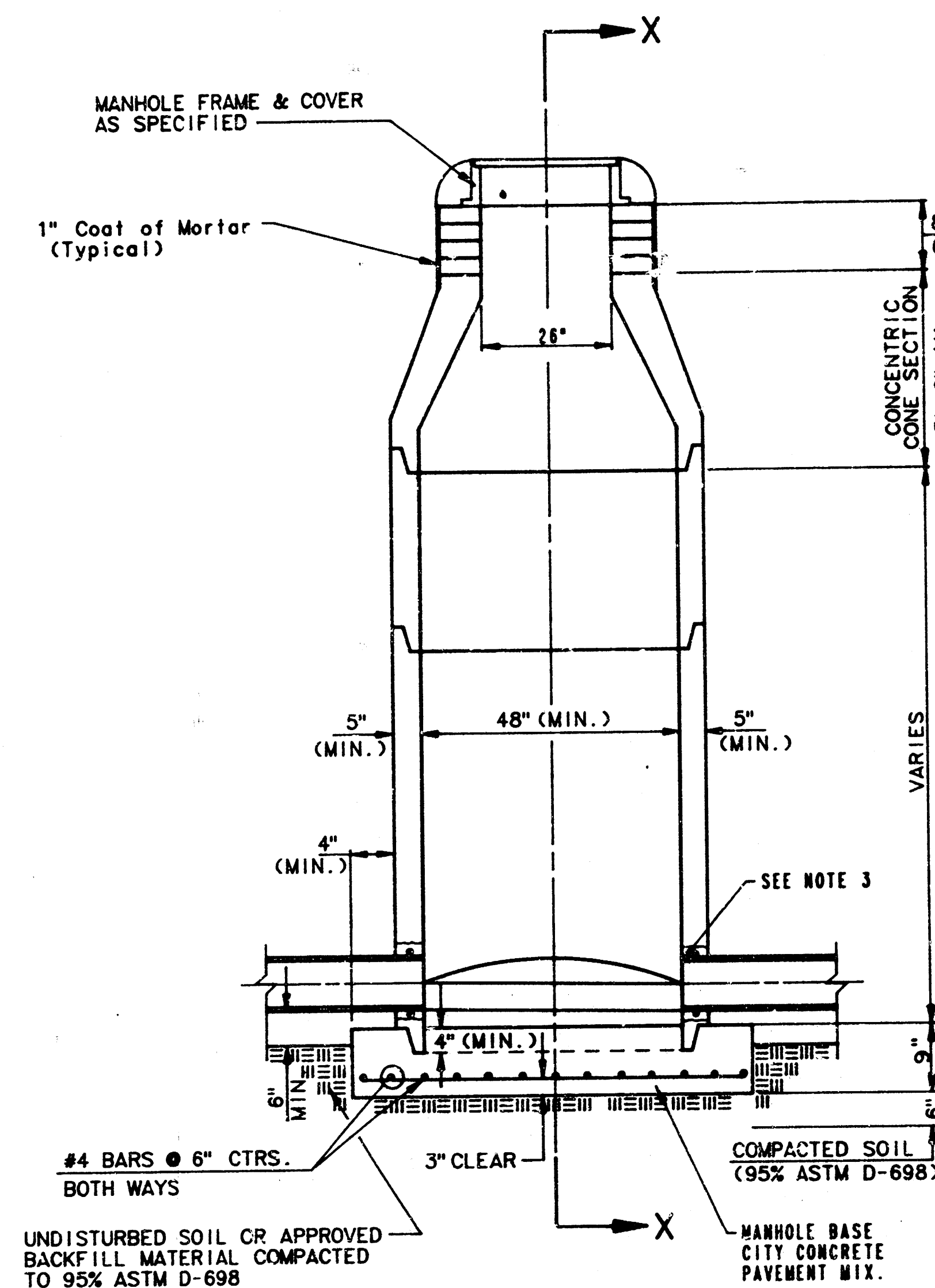
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SEWER APPURTENANCES DETAILS

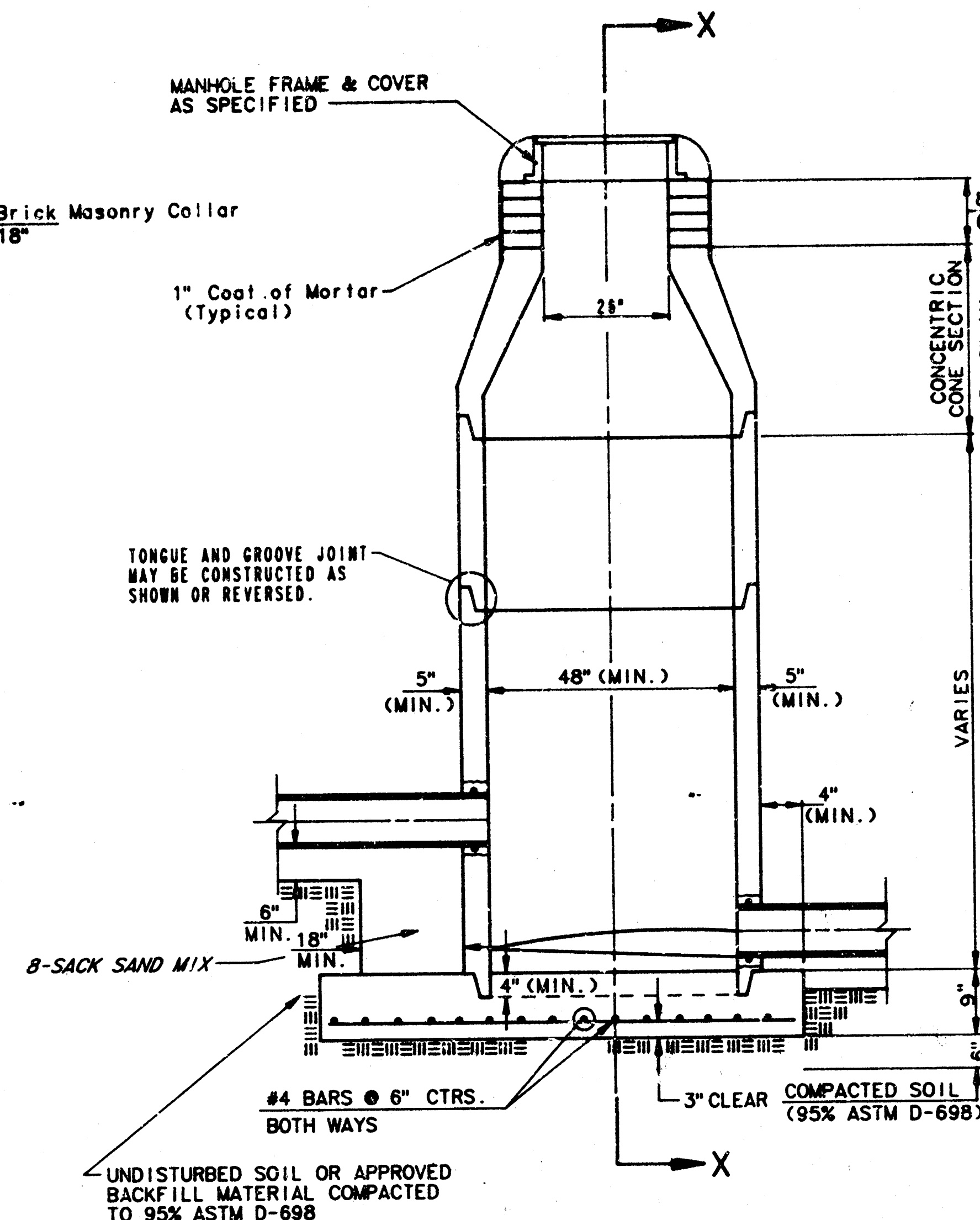
ADOPTED AS STANDARD DESIGN

BY

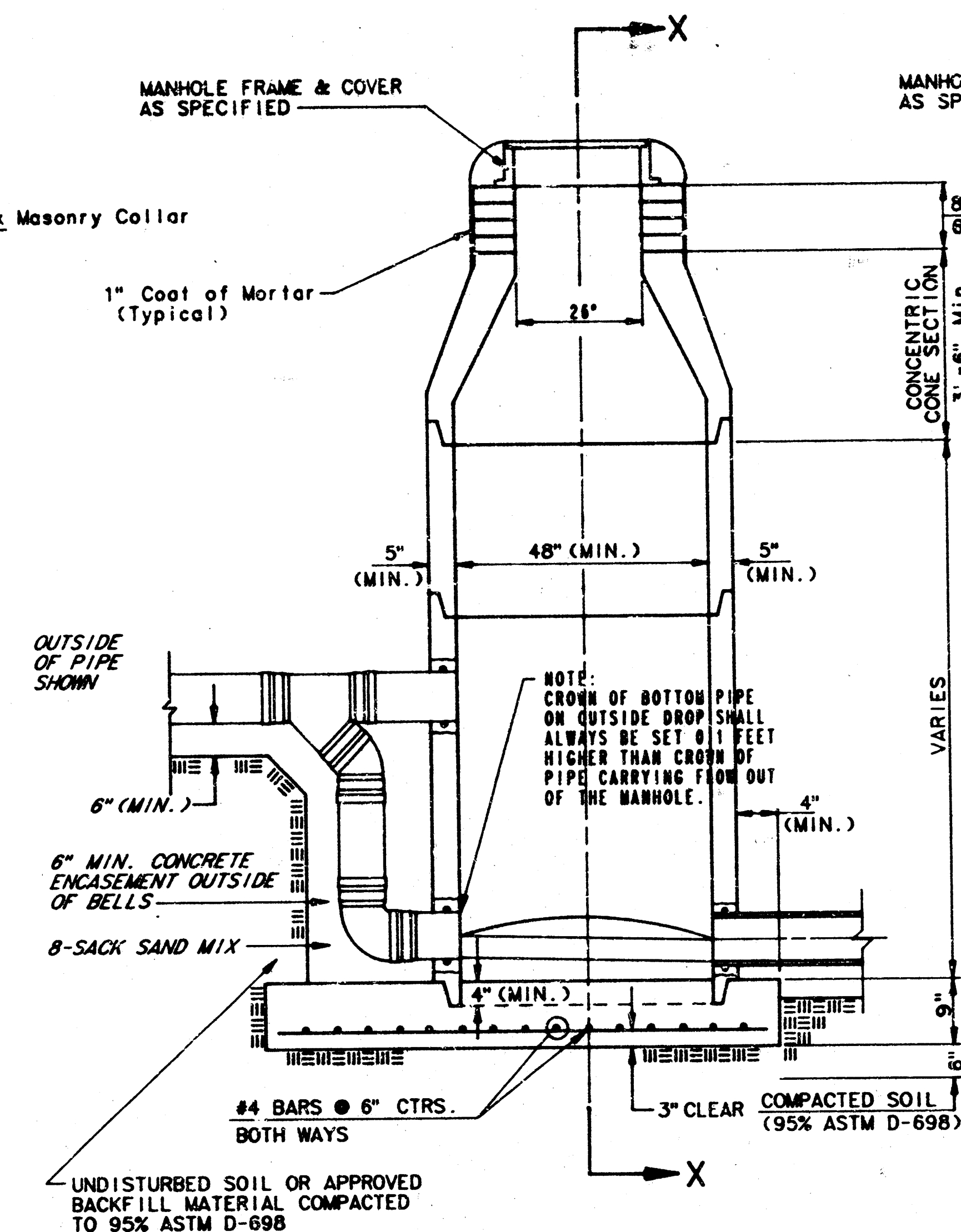
CITY OF WICHITA



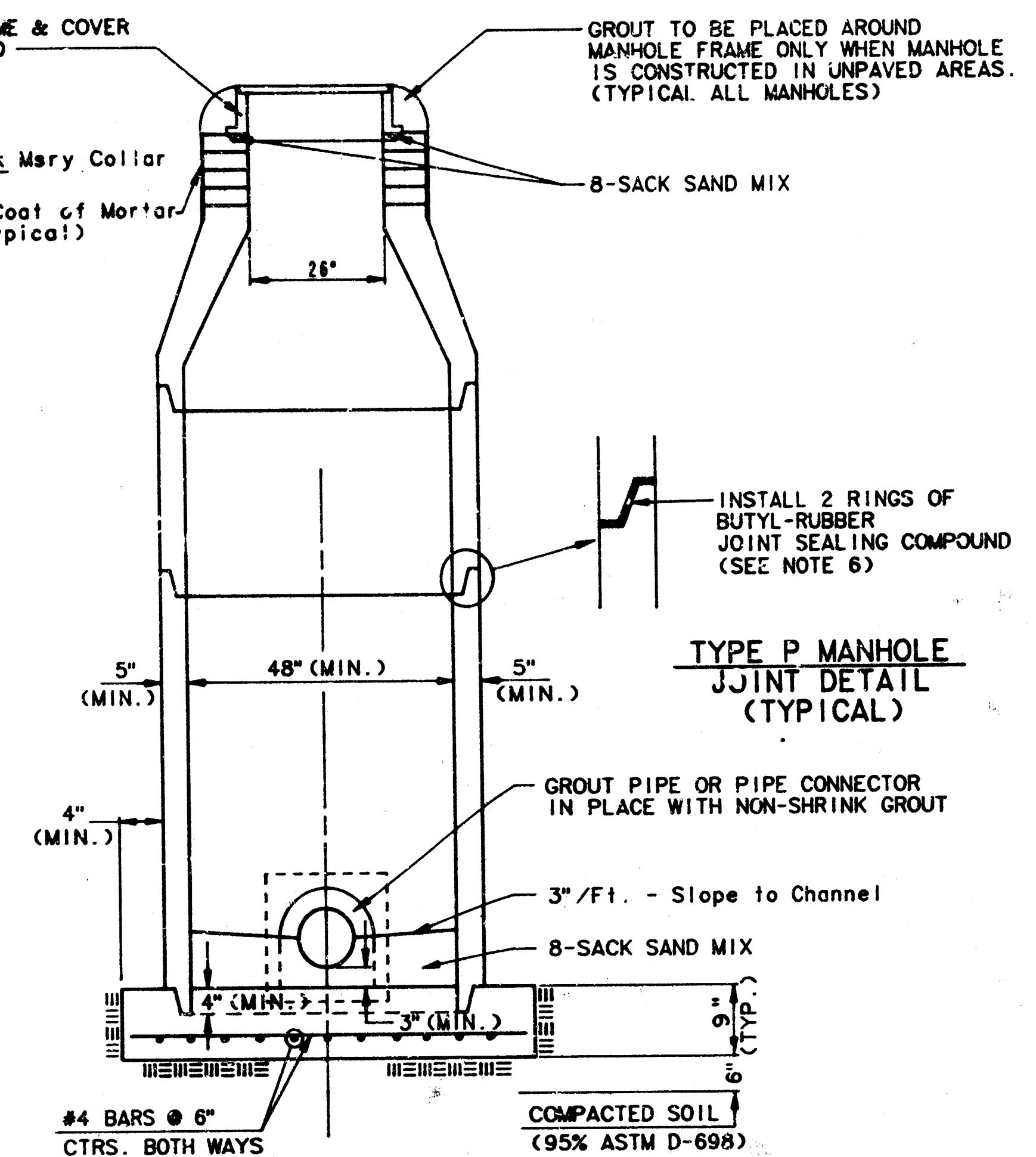
TYPE P
STANDARD MANHOLE



TYPE P
INSIDE DROP MANHOLE



TYPE P
OUTSIDE DROP MANHOLE



SECTION X
(TYPICAL)

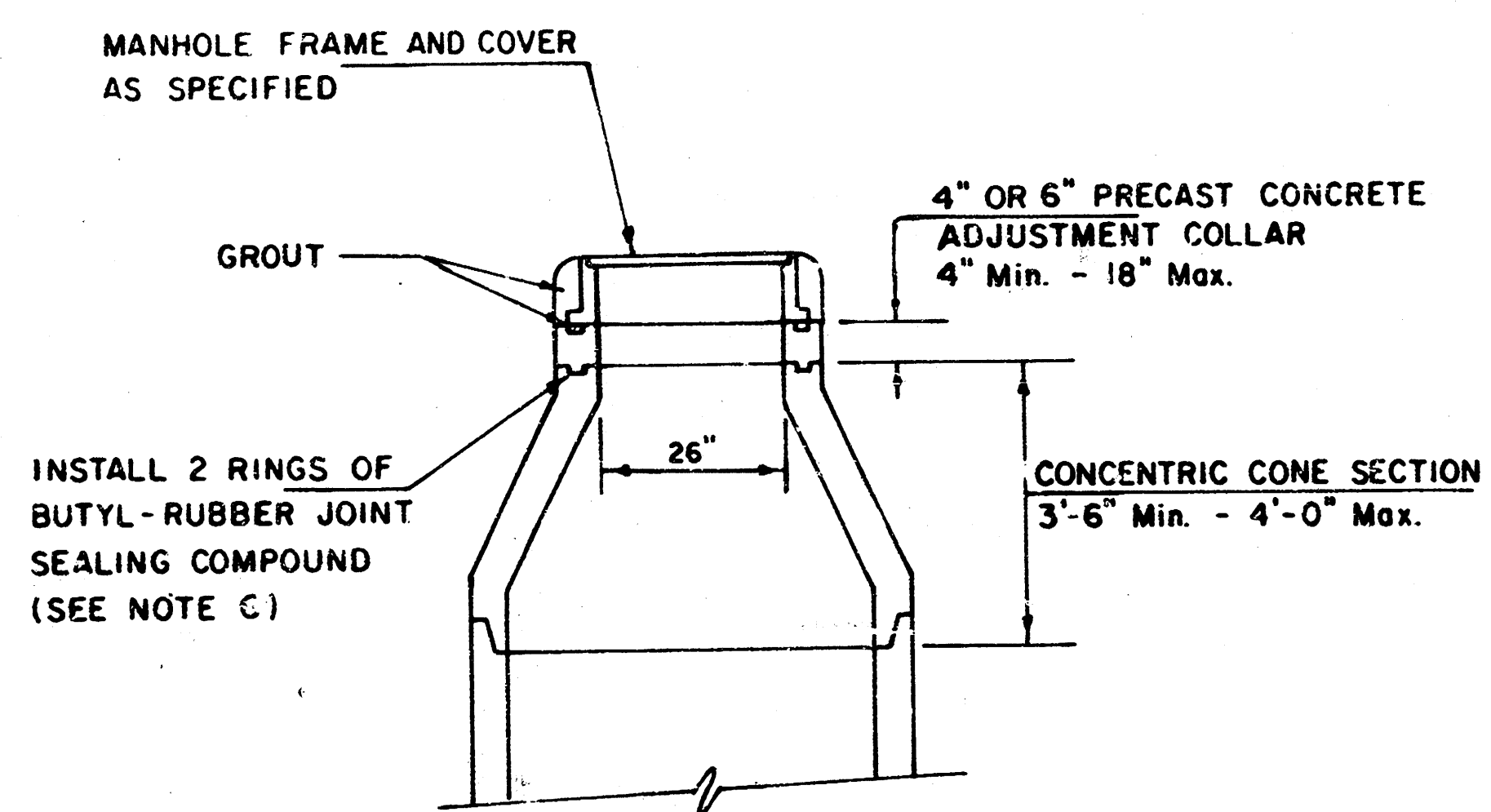
GENERAL NOTES

PRECAST MANHOLE NOTES

- ALL PRECAST CONCRETE MANHOLE SECTIONS SHALL CONFORM TO THE LATEST REVISION OF A.S.T.M. C478 AS MODIFIED BY THE SPECIFICATIONS.
- NON-SHRINK GROUT SHALL BE NON-METALLIC TYPE.
- 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 ENCASUREMENT A MINIMUM OF 3 FEET FROM THE MANHOLE WALL AND TO THE FIRST JOINT FOR V.C.P. SUCH THAT THE JOINT REMAINS FLEXIBLE.
- ALL INSIDE SURFACES OF THE CONCRETE MANHOLE WHICH WOULD BE EXPOSED TO SEWER GAS SHALL BE COATED WITH 2 COATS THWEC SERIES 66 HI-BUILD EPOXYLINE, DRY THICKNESS OF 8 MILS (MIN.)
- EXTERIOR MANHOLE WALLS SHALL BE COATED WITH 1 COAT MOBILARMA 633 BITUMINOUS COATING.
- JOINT SEALING COMPOUND SHALL BE KENT SEAL NO. 2 OR APPROVED EQUAL.
- PRECAST MANHOLES SHALL BE SET AT LEAST 4 INCHES INTO THE MANHOLE BASE.
- 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.
- LIFTING HOLES SHALL BE FILLED WITH NON-SHRINK GROUT AND THE INTERIOR SURFACE COATED AS SPECIFIED.
- 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.

- 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 1" 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.
- 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 CONSTRUCTION ON EXISTING MANHOLE.
- 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 INFLUING 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 REAT 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.
- 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.

- 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.
- THE VERTICAL FREE FALL DROP INSIDE MANHOLES SHALL NOT EXCEED 2'. THE CROWNS OF INFLUING PIPES SHALL NEVER BE SET LOWER THAN THE CROWN OF THE OUTFLOWING PIPE.
- 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.
- A 8" MASONRY COLLAR SHALL BE INSTALLED BETWEEN THE CAST IRON FRAME AND THE CONCENTRIC CONE. THE COLLAR WILL HAVE 4" WALLS AND A VERTICAL HEIGHT OF 6" MINIMUM AND 10" MAXIMUM. A 1" COAT OF MORTAR WILL BE PLASTERED ON THE OUTSIDE OF THE COLLAR.



ALTERNATE CONSTRUCTION
IN UNPAVED AREAS

Great Plains Business Park 2nd Add
Project No. 317PPS
Index Code 607861
Sheet 3 of 5

NOTE NO. 16 REVISED JAN. 1991
Revised 3-21-89
Revised 8-10-88
Revised: June 12, 1986

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MANHOLE FRAME AND COVER DETAIL

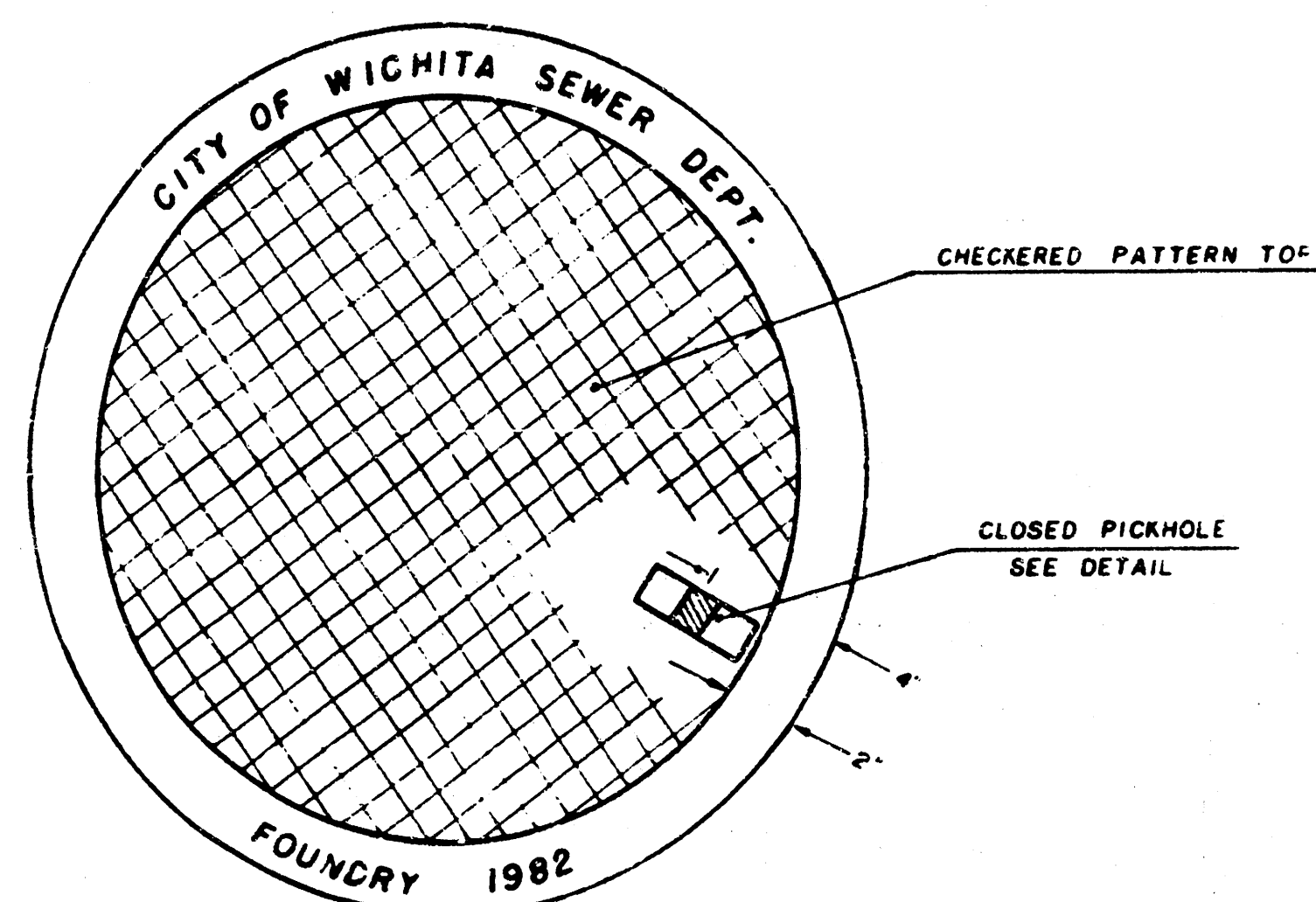
ADOPTED AS STANDARD DESIGN

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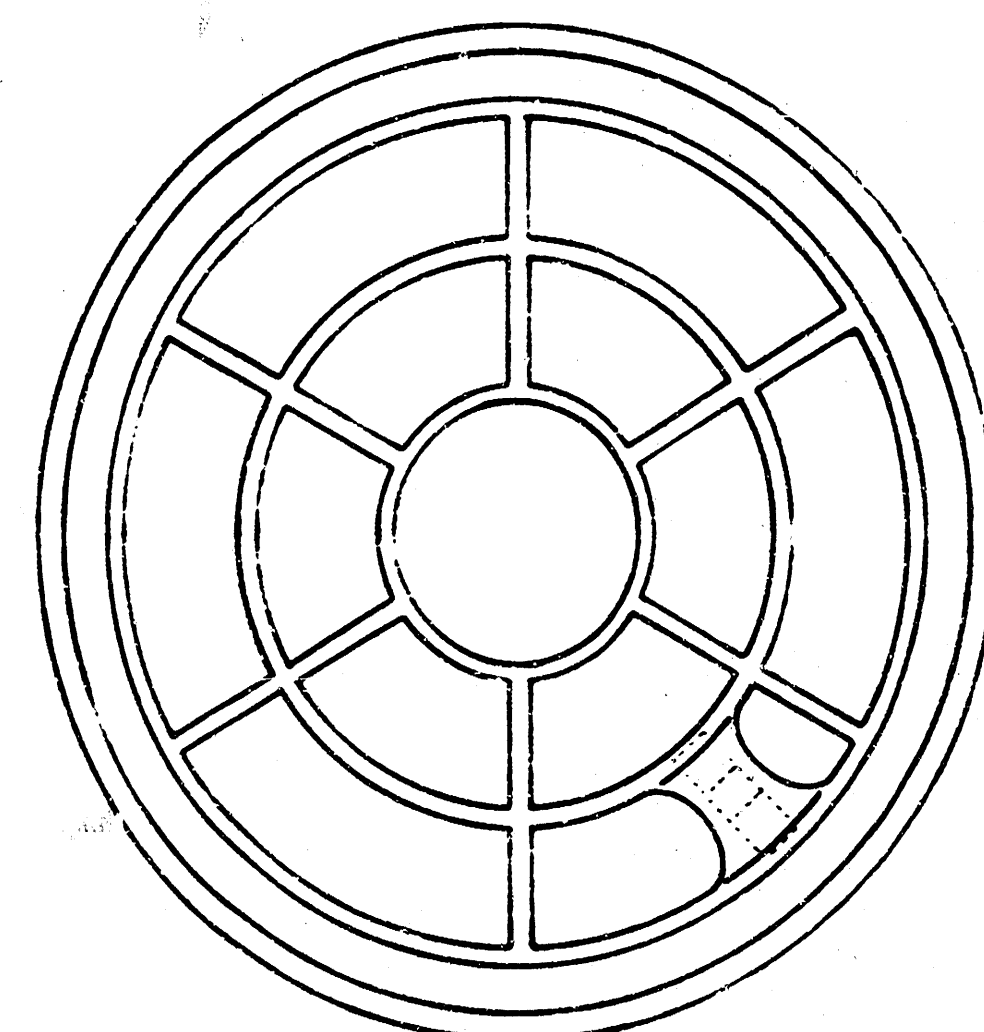
City of Wichita, Kansas

MANHOLE COVER

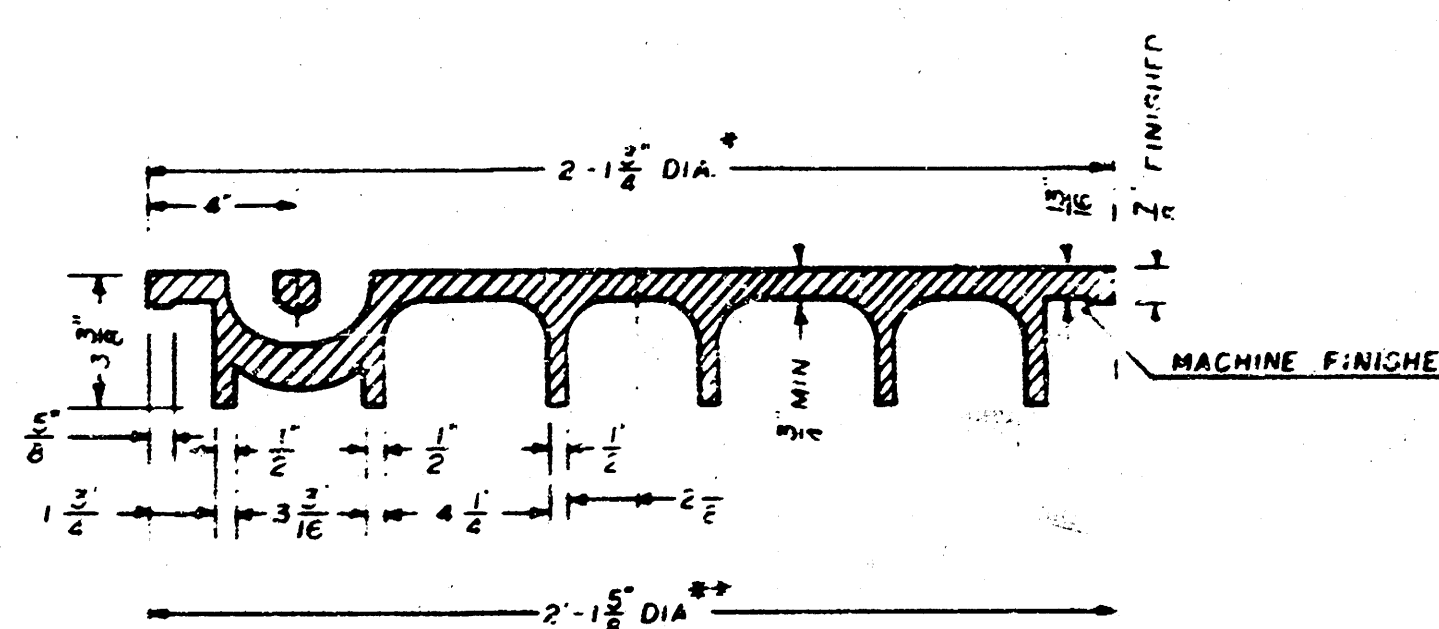
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TOP VIEW



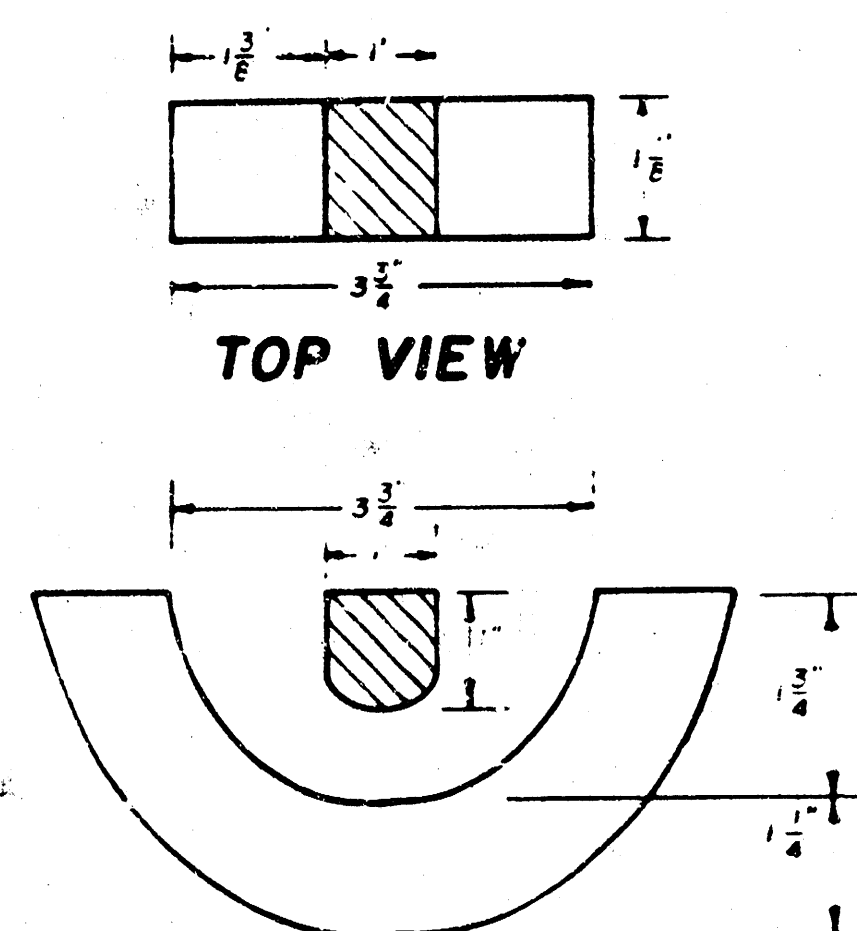
BOTTOM VIEW



SECTION VIEW

* OUTSIDE DIA. TOP OF COVER
** OUTSIDE DIA. BOTTOM OF COVER

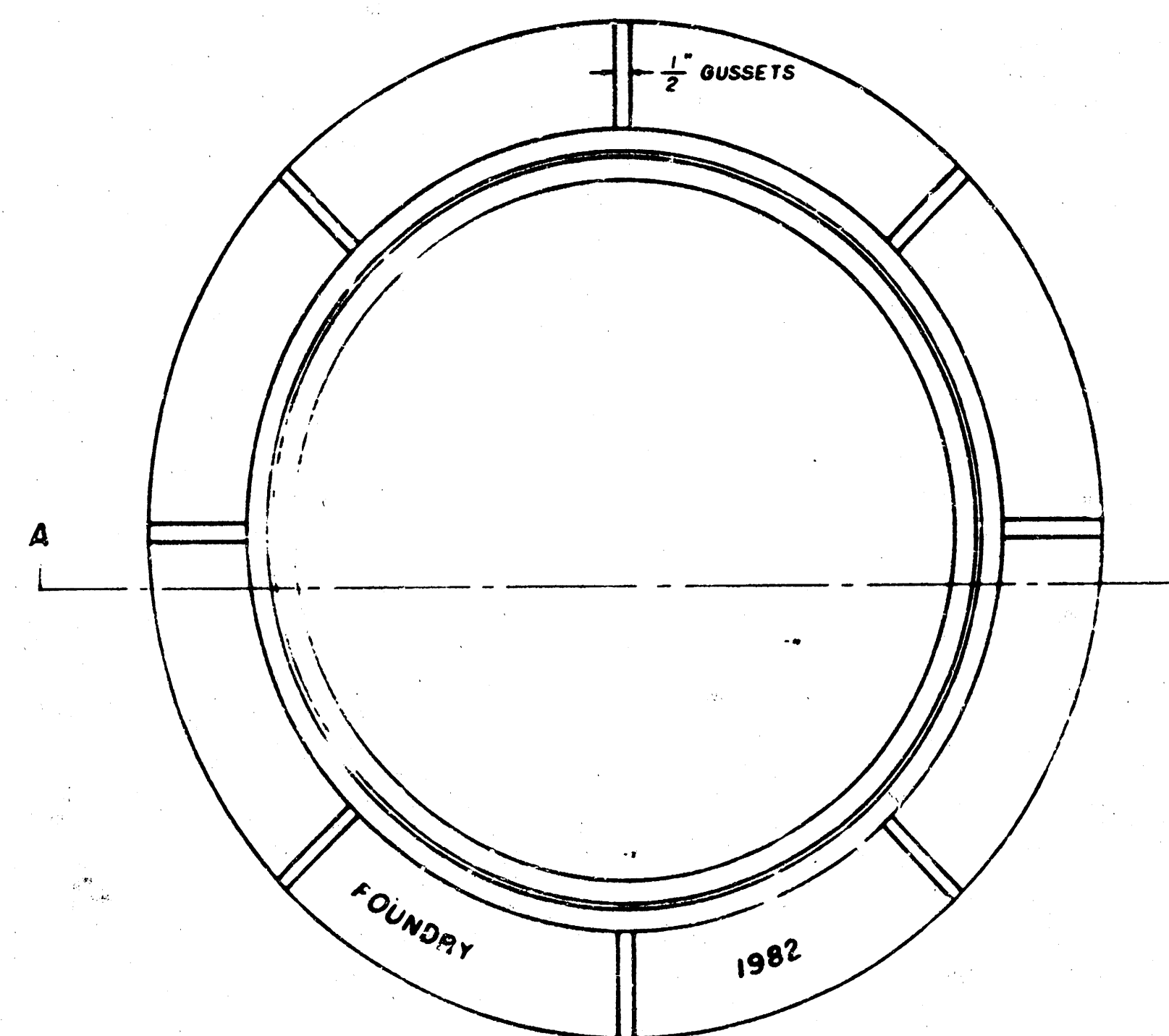
PICKHOLE DETAIL



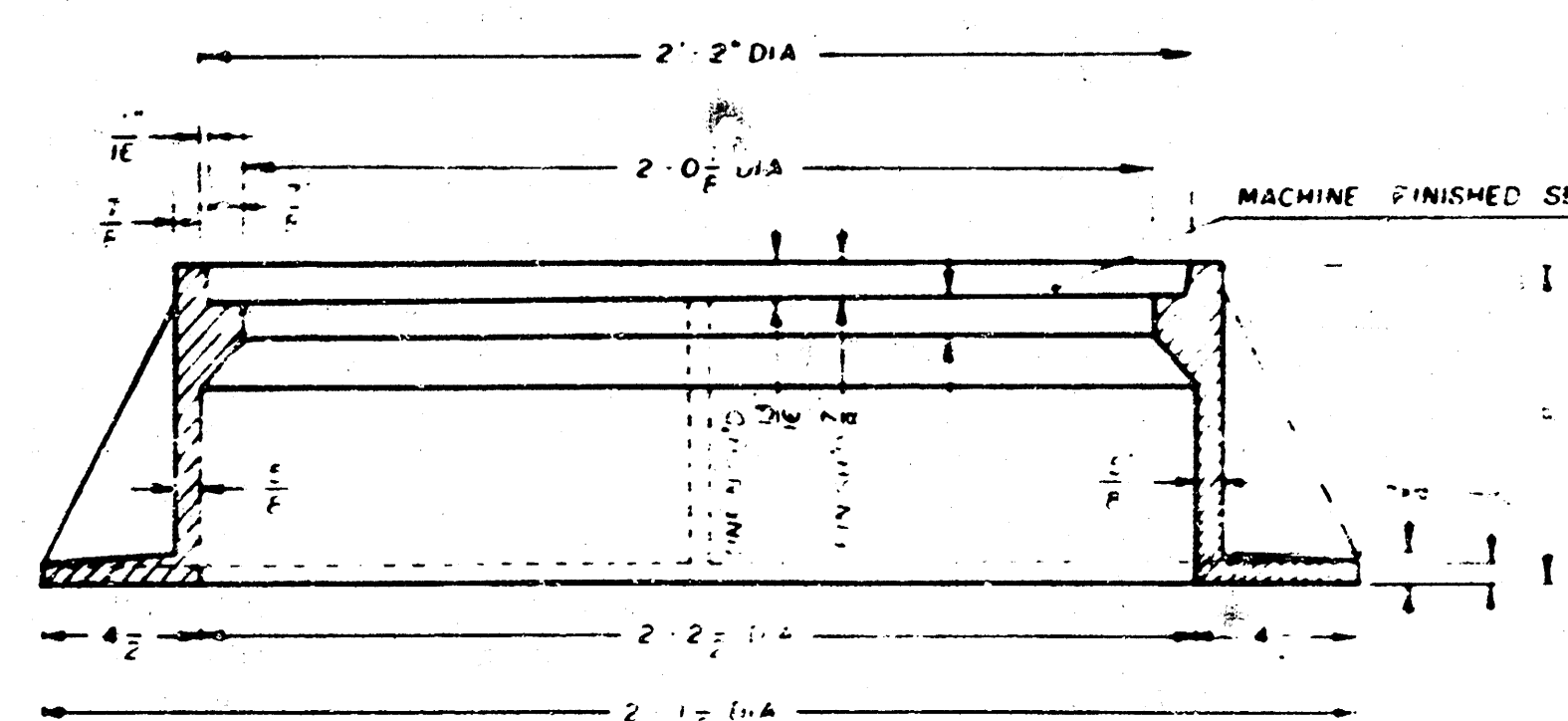
SECTION VIEW

MANHOLE FRAME

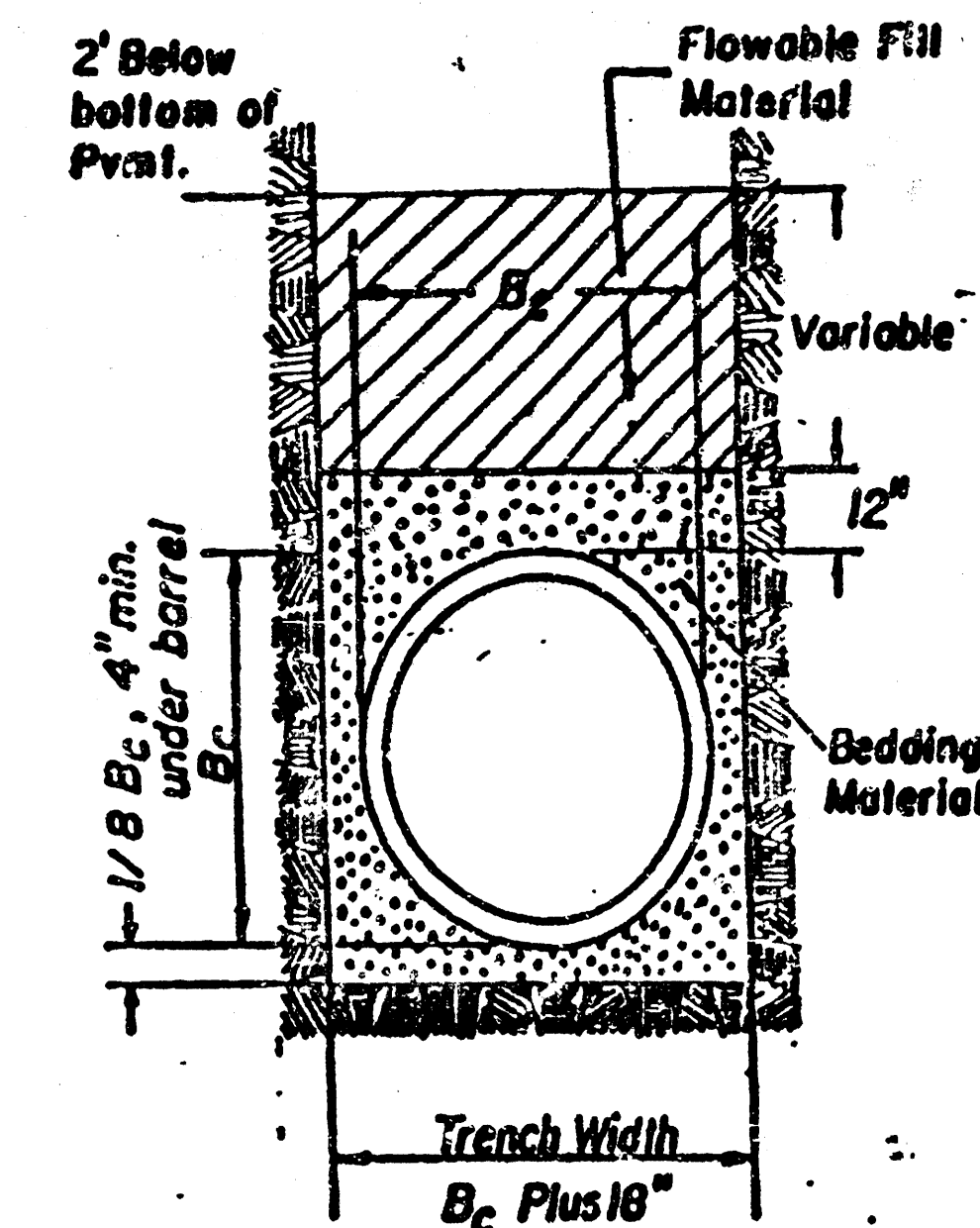
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TOP VIEW



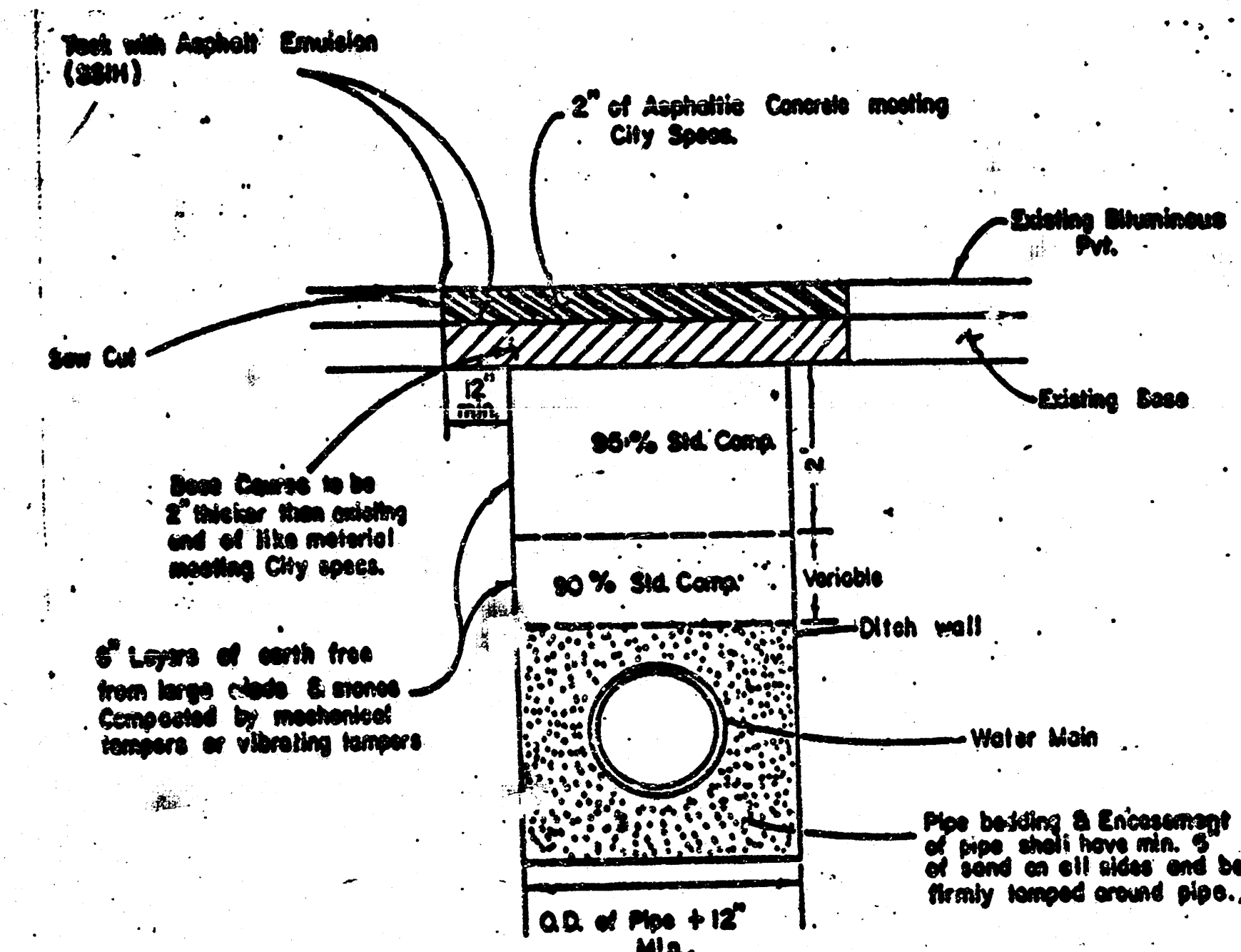
SECTION A-A



Detail Of Flowable Fill
For Sanitary Sewer Pipe &
Water Line.

GENERAL NOTES

- MANHOLE CASTINGS SHALL BE MANUFACTURED USING GOOD QUALITY GRAY IRON CONFORMING TO CLASS 30 OF A.S.T.M. 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.
- MANHOLE CASTINGS SHALL BE COATED WITH AN ASPHALT PAINT RESULTING IN A SMOOTH, TOUGH AND TENACIOUS COATING WHICH IS NOT BRITTLE OR TACKY.
- 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.
- 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.
- 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 DRAWING. POSITIONING OF SMOOTH BLOCKOUTS AND LETTERING MAY VARY FROM THAT SHOWN ON THE DETAILED DRAWING.



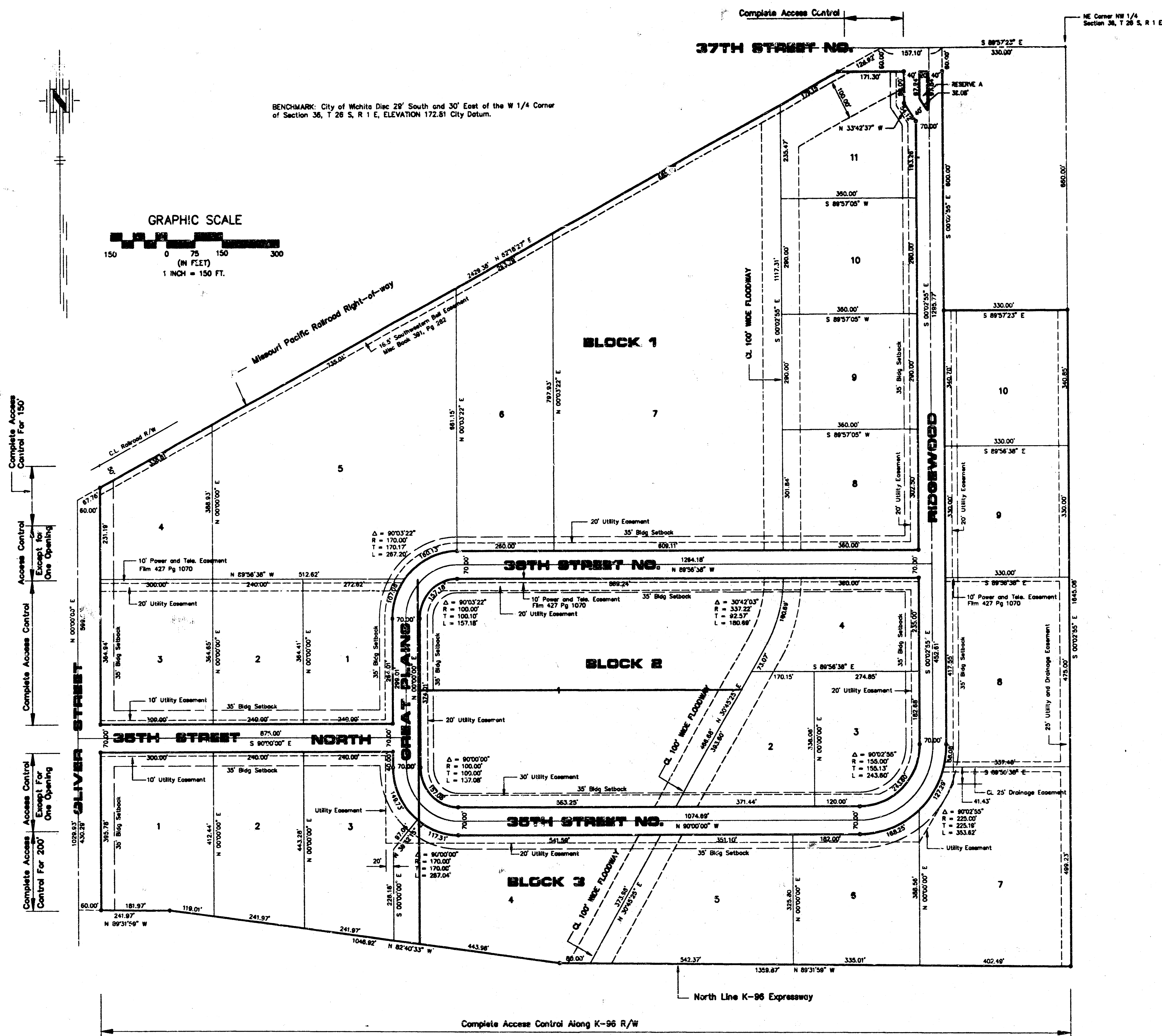
AS BUILT 1-31-92

Standard Density Test, as described in the latest edition of ASTM D 698, shall be performed to verify the above requirements to the satisfaction of the Dept. of Operations and Maintenance. All testing will be performed by the City of Wichita Materials Lab. at no expense to the Contractor.

When laying under paving, parallel with the centerline of the Street, a minimum of one (1) Standard Density Test shall be performed on each 300 lineal feet of ditch or as determined by the Materials Lab.

Great Plains Business Park
2nd Addition
Project No. 317PPS
Index Code 607861
Sheet 4 of 5

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STATE OF KANSAS, COUNTY OF SEDGWICK: ss.

I, Kenny E. Hill, being a duly licensed Land Surveyor in said County and State, do hereby certify that I have been in responsible charge of surveying and plotting "GREAT PLAINS BUSINESS PARK 2ND ADDITION" to Wichita, Kansas, being described as follows:

A replat of North Oliver Industrial Park Addition, an adjacent tract and Great Plains Business Park Addition being more particularly described as follows:
Commencing at the Northeast corner of the Northwest Quarter (NW 1/4) of Section 36, Township 26 South, Range 1 East of the 6th P.M. Sedgwick County, Kansas; thence N 89° 57' 23" W along the North line of said Northwest Quarter (NW 1/4) for a distance of 330.00 feet to the point of beginning; thence S 0° 02' 55" E for a distance of 660.00 feet to the Southwest corner of Town and Country Christian Church Addition; thence S 89° 57' 23" E for a distance of 330.00 feet to the Southeast corner of Town and Country Christian Church Addition; thence S 0° 02' 55" E for a distance of 1645.08 feet on the East line of the Northwest Quarter (NW 1/4) of said Section 36 to a point on the North line of the K-96 Expressway right-of-way; thence N 89° 31' 59" W for a distance of 1359.87 feet on the North line of said Expressway; thence N 82° 40' 33" W for a distance of 1046.92 feet on the North line of said Expressway; thence N 89° 31' 59" W for a distance of 241.97 feet on the North line of said Expressway extended, to a point on the West line of the Northwest Quarter (NW 1/4) of said Section 36; thence N 0° 00' 00" E for a distance of 1029.93 feet; thence N 82° 18' 27" E along the South line of the Missouri Pacific Railroad Right-of-way for a distance of 2429.38 feet to a point on the North line of the Northwest Quarter (NW 1/4) of said Section 36; thence S 89° 57' 23" E for a distance of 157.10 feet to the point of beginning, containing 103.96 acres more or less. Easements and other public reservations are hereby vacated to conform to those shown on the plat by virtue of KSA 12-512(b) as amended.

The accompanying plat is a true and correct exhibit of property surveyed.

Dated this _____ day of _____, 1991.

Kenny E. Hill, L.S.

KNOW ALL MEN BY THESE PRESENTS:

That we, the undersigned, have caused the land described in the Surveyor's Certificate to be plotted into lots, blocks, streets and a reserve. The streets are hereby dedicated to and for the use of the public. Easements are hereby granted as indicated for the construction and maintenance of drainage and utilities. Reserve A is for landscaping, entry monuments and utilities. The reserve is to be owned and maintained by the owners of Lot 1, Block 2, Great Plains Business Park 2nd Addition. All outlots' rights of access to or from Oliver Street, 37th Street North and K-96 Expressway over and across the North line of Lot 11, Block 1, the South line of Lots 1 through 7, Block 3, the West line of Lot 1, Block 3, except for one opening in the North 185 feet, the West line of Lot 3 and 4, Block 1, except for one opening to Lot 4 being a minimum of 150.00 feet south of the centerline of the Missouri Pacific Railroad right-of-way are hereby granted to the appropriate governing body. The floodway shall be the responsibility of the adjacent property owners until such time as the governing body exercising jurisdiction elects to assume responsibility for maintenance and improvement of the drainage, provided further that no building shall be constructed on or within said floodway, nor shall any fill, change of grade, creation of channel or any other work be carried on without the permission of the Wichita-Valley Center Flood Control office or their successors in office. A minimum building pad elevation on City of Wichita Datum shall be maintained on the following lots: Lot 3, Block 1, elevation 178.0, Lots 4 and 5, Block 1, elevation 178.6, the North 1/2 of Lot 7 and all of Lot 10, Block 1, elevation 185.0, the South 1/2 of Lot 7 and all of Lots 8 and 9, Block 1, elevation 183.0, Lot 11, Block 1, elevation 187.0, Lots 1, 2 and 4, Block 2, elevation 179.0, Lots 4 and 5, Block 3, elevation 176.5. Minimum building pads are referencing floor elevations.

The City of Bel Aire, Kansas

Great Plains Ventures, Inc.

Harold Smith, Mayor

Kenneth W. Rix, Vice-President

Attest: Sherry L. Cutter, City Clerk

STATE OF KANSAS, COUNTY OF SEDGWICK: ss.

This instrument was acknowledged before me on this _____ day of _____, 1991, by Kenneth W. Rix, Harold Smith and Sherry L. Cutter.

Notary Public

My Appointment Expires:

This plat of GREAT PLAINS BUSINESS PARK 2ND ADDITION to Wichita, Sedgwick County, Kansas has been submitted to and approved by this WICHITA-SEDGWICK COUNTY METROPOLITAN AREA PLANNING COMMISSION, Wichita, Kansas.

Dated this _____ day of _____, 1991.

WICHITA-SEDGWICK COUNTY METROPOLITAN AREA PLANNING COMMISSION

George D. Sherman, Chairman

Marvin S. Kraut, Secretary

This plat approved and all dedications shown hereon accepted by the City Council of the City of Wichita, Kansas, this _____ day of _____, 1991.

Bob Knight, Mayor

Pat Burnett, Deputy City Clerk

Entered on transfer record this _____ day of _____, 1991.

Don Wright, County Clerk

This is to certify that this instrument was filed for record in the Register of Deeds Office at _____ A.M.-P.M. on the _____ day of _____, 1991.

Pat Kettler, Register of Deeds

Ed Resa, Chief Deputy

GREAT PLAINS BUSINESS PARK 2ND ADDITION

TO WICHITA, SEDGWICK COUNTY, KANSAS

Sheet 5 of 5
Project No. 317PPS
Index Code 607861

AS BUILT 1-31-92

18-10-1-9

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