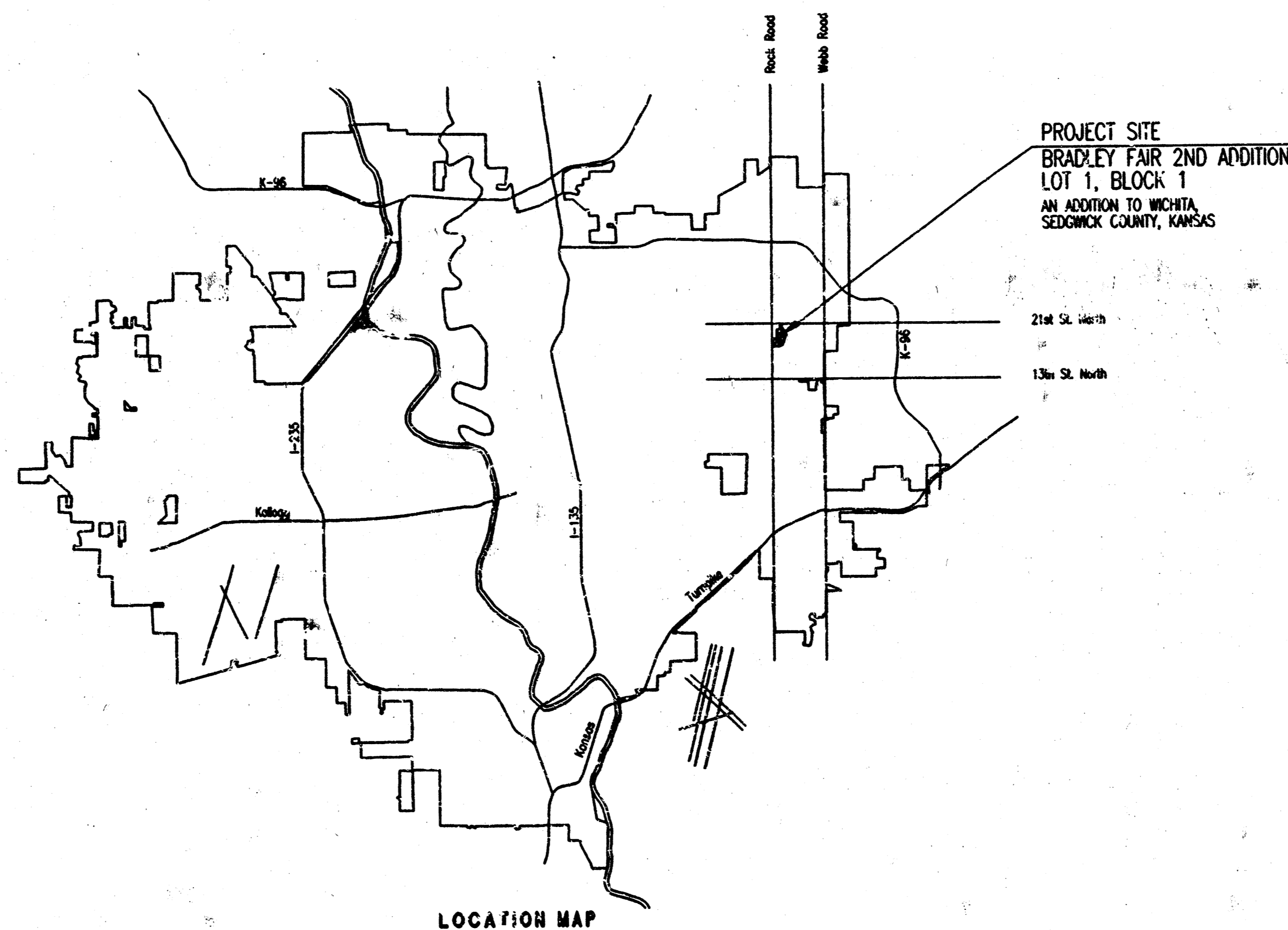


CONSTRUCTION PLANS FOR
LATERAL NO. 68, MAIN NO. 22
OF THE
OF WAR INDUSTRIES SEWER

IN
THE CITY OF WICHITA,
SEDGWICK COUNTY, KANSAS
MICHAEL E. LINDEBAK, P.E. - CITY ENGINEER



INDEX OF SHEETS

SHEET NO. 1	TITLE SHEET
SHEET NO. 2	KEY MAP AND GENERAL NOTES
SHEET NO. 3	PLAN
SHEET NO. 4	PLAN/PROFILE
SHEET NO. 5	TYPE "P" MANHOLE
SHEET NO. 6	FRAME AND COVER DETAILS
SHEET NO. 7	RISER DETAILS

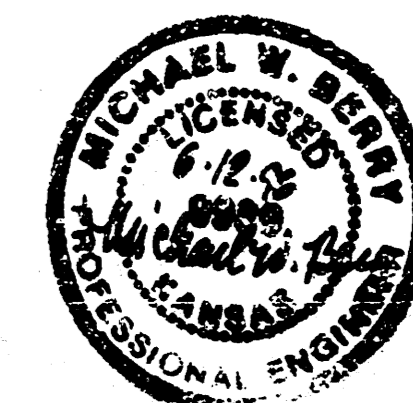
*Booked
8/16/96
ROL
As Built
N-221*

INDEX CODE 742759

CITY OF WICHITA PROJECT NO. 468-76-245-82600-000-000-001

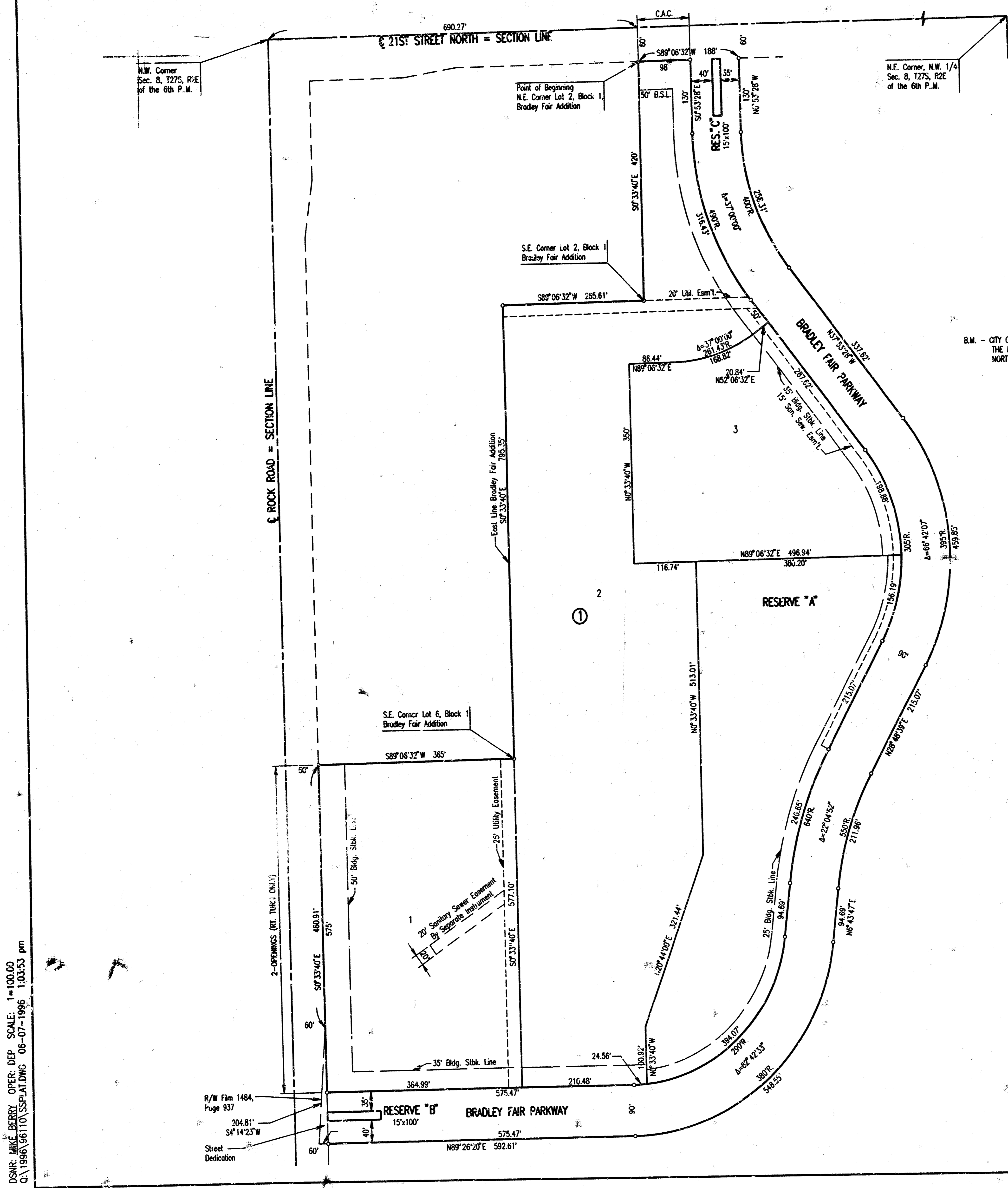
JUNE 1996

PLANS PREPARED BY
PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
ENGINEERS
WICHITA, KANSAS



SHEET NO.	TOTAL SHEETS
3	7

BRADLEY FAIR 2ND ADDITION TO WICHITA, SEDGWICK COUNTY, KANSAS



SCALE: 1"=100'

B.M. - CITY OF WICHITA B.M. DISC. 45' NORTH AND 48' EAST OF THE INTERSECTION OF THE CENTERLINES OF 21ST STREET NORTH AND ROCK ROAD. ELEV. 214.568 CITY DATUM

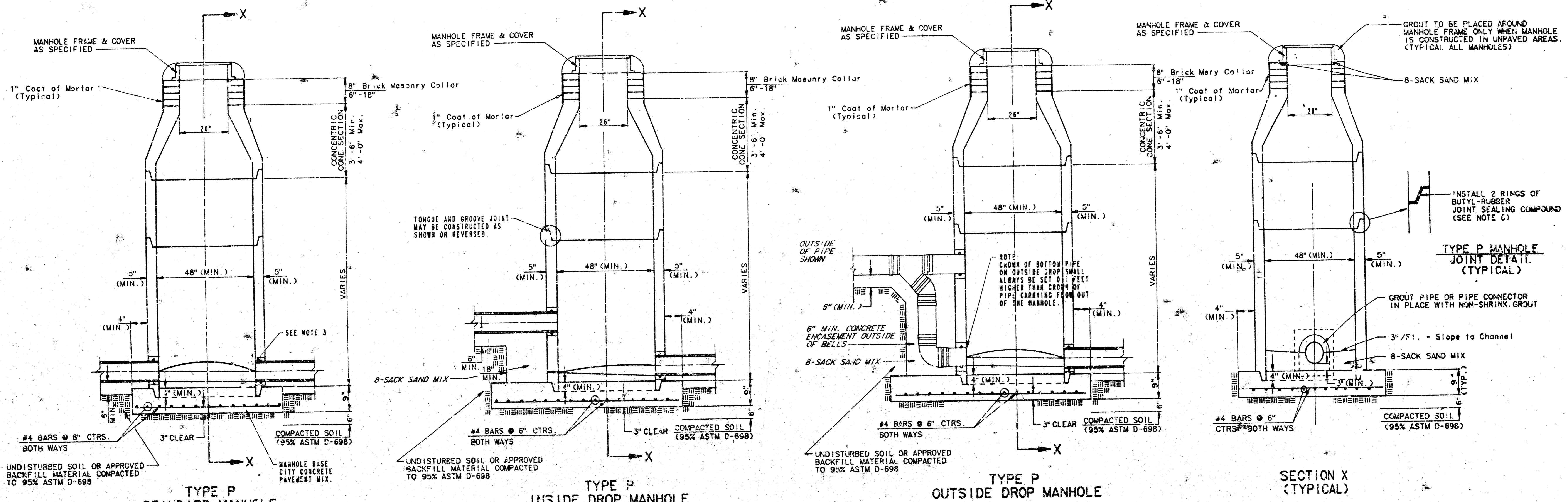
DSUR: MIKE BERRY OPER: DEP SCALE: 1"=100.00
CA: 1996/06/10/SSPLAT.DWG 06-07-1996 1:03:53 pm



BRADLEY FAIR 2ND ADDITION LATERAL NO. 58, MAIN NO. 22 WAR INDUSTRIES SEWER			
PLAT			
C.O.W. PROJ. NO. 468-76-245-62600-000-001			
PROFESSIONAL ENGINEERING CONSULTANTS, P.A. ENGINEERS WICHITA, KANSAS			
Designed by	Checked by		
Drawn by DEP	Date	MAR, 1996	Job No. 96110

SEWER APPURTENANCES DETAILS ADOPTED AS STANDARD DESIGN BY CITY OF WICHITA

Proj No 468-82600
Sheet No 5 of 7



- GENERAL NOTES**
- PRECAST MANHOLE NOTES**
- ALL PRECAST CONCRETE MANHOLE SECTIONS SHALL CONFORM TO THE LATEST REVISION OF A.S.T.M. C-78 AS MODIFIED BY THE SPECIFICATIONS.
 - NON-SHRINK GROUT SHALL BE NON-METALLIC TYPE.
 - APPROVED FLEXIBLE WATERSTOP CASSETS 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.
 - ALL INSIDE SURFACES OF THE CONCRETE MANHOLE WHICH WOULD BE EXPOSED TO SEWER GAS SHALL BE COATED WITH 2 COATS THEMEC SERIES 66 HI-BUILD EPOXYLINE, DRY THICKNESS OF 8 MILS (MIN.).
 - EXTERIOR MANHOLE WALLS SHALL BE COATED WITH 1 COAT MOBILARMA 633 BUTYRUMINUS 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 4". 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 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.
 - 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 CASSETS SHALL BE USED WITH P.V.C. AND 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 FLOOR 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.
 - 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 SLOPED 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.
 - 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 INFLOWING 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 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.
- ALTERNATE CONSTRUCTION IN UNPAVED AREAS**
- MANHOLE FRAME AND COVER AS SPECIFIED
- GROUT
- 4" OR 6" PRECAST CONCRETE ADJUSTMENT COLLAR
4" Min. - 18" Max.
- CONCENTRIC CONE SECTION
3'-6" Min. - 4'-0" Max.
- SEAL JOINT WITH MATERIAL SPECIFIED NOTE NO. 6.

REVISED NOV. 1993
NOTE NO. 16 REVISED JAN. 1991
Revised 3-21-89
Revised 8-10-88
Revised June 12, 1996

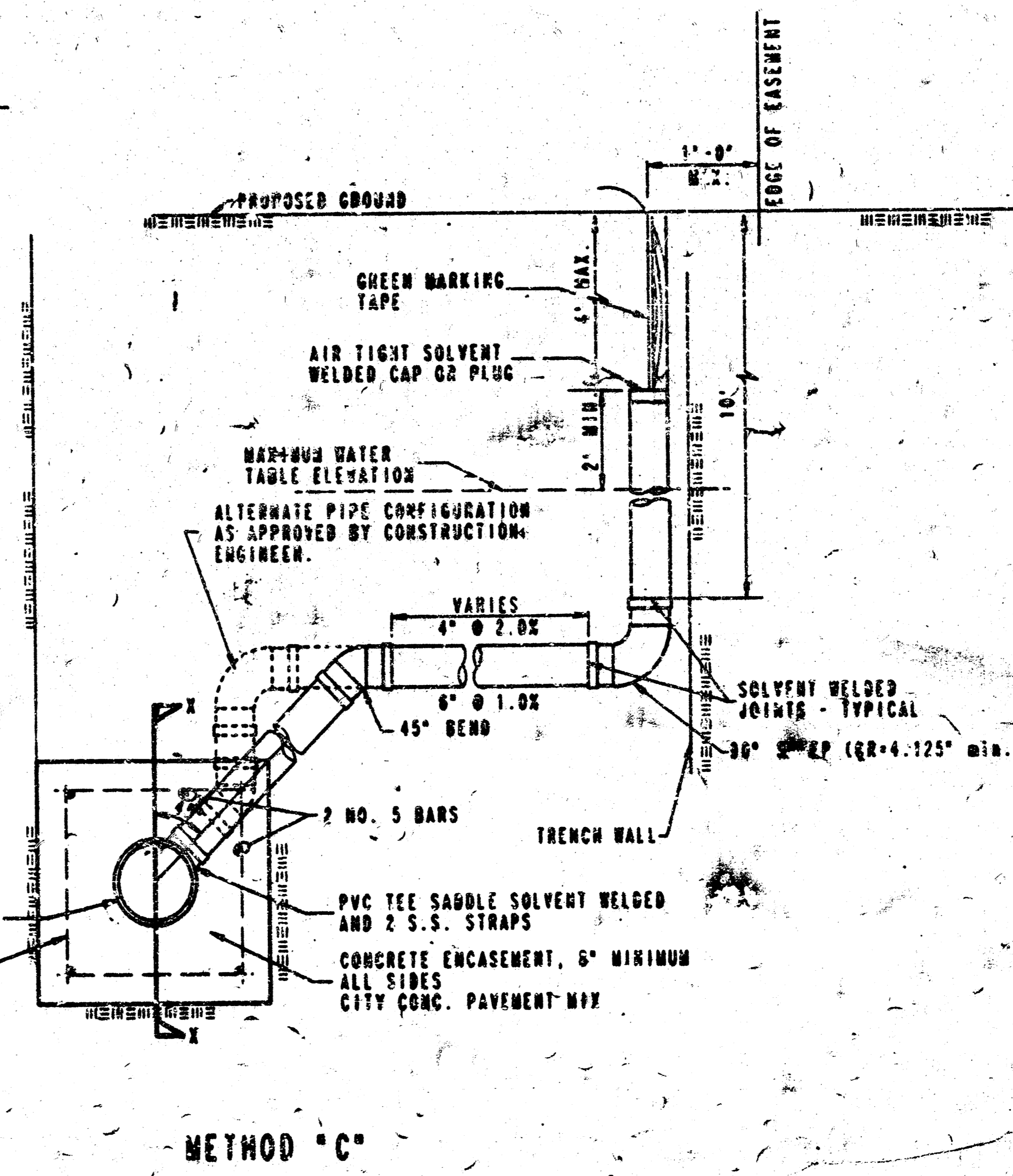
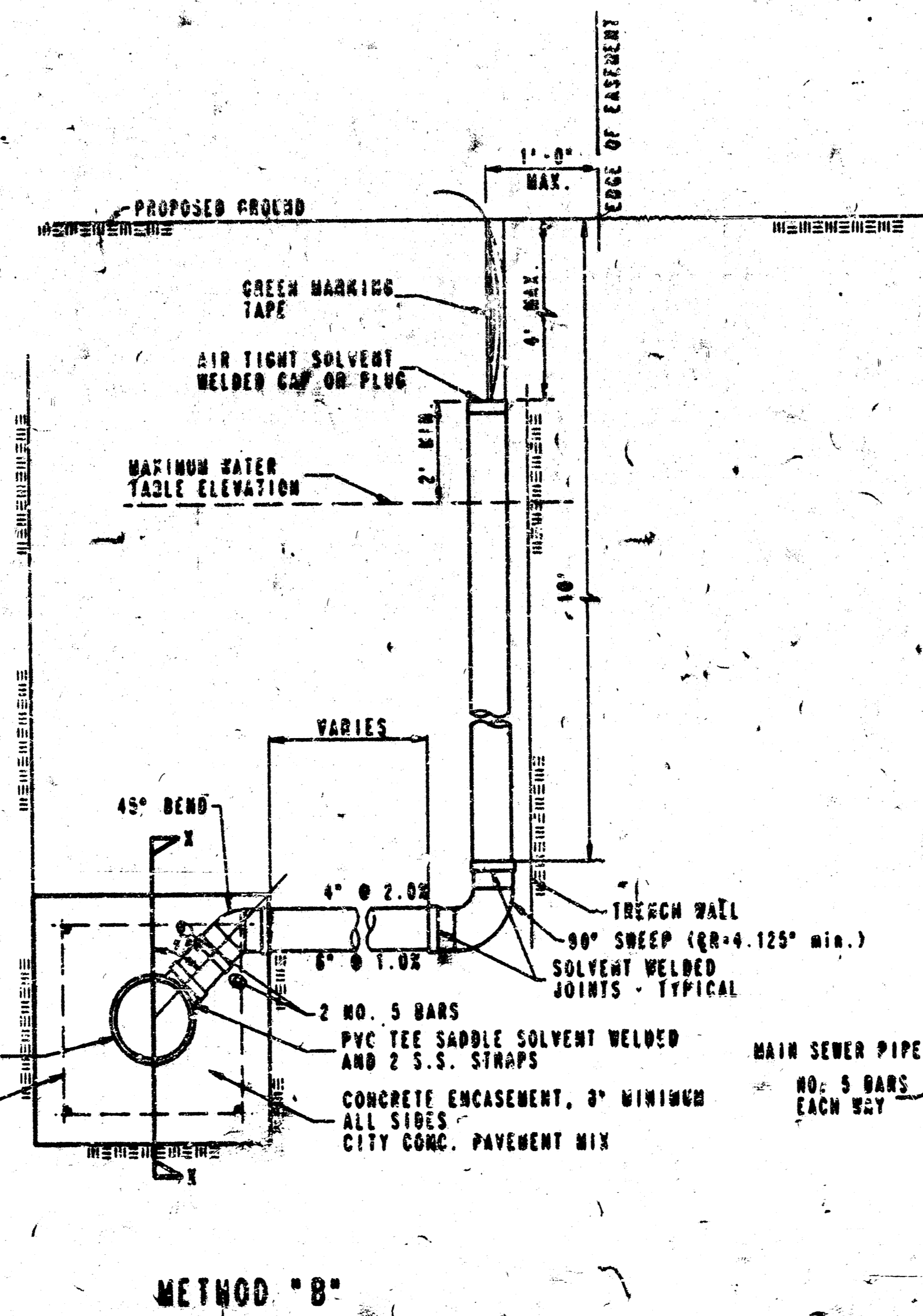
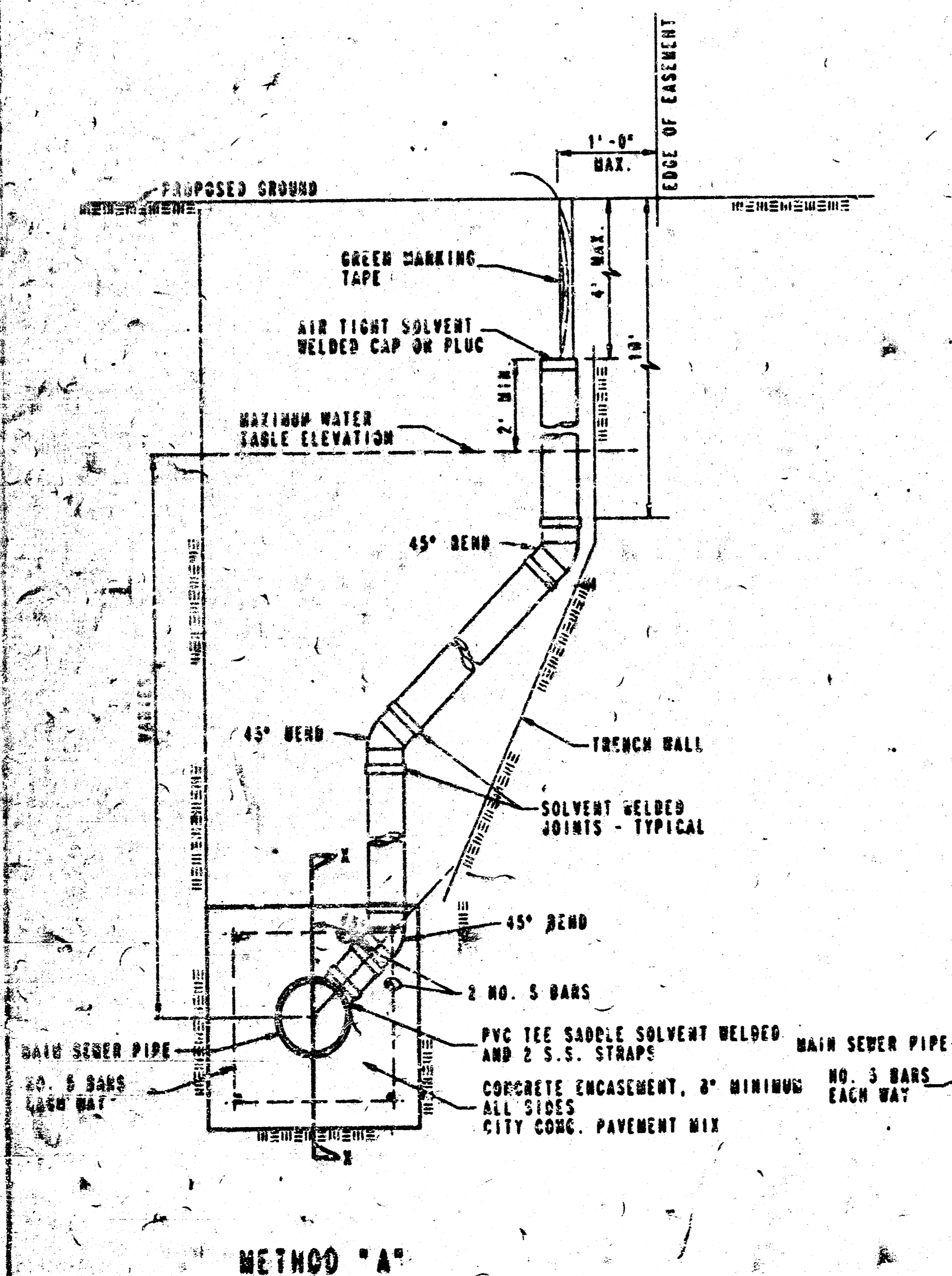
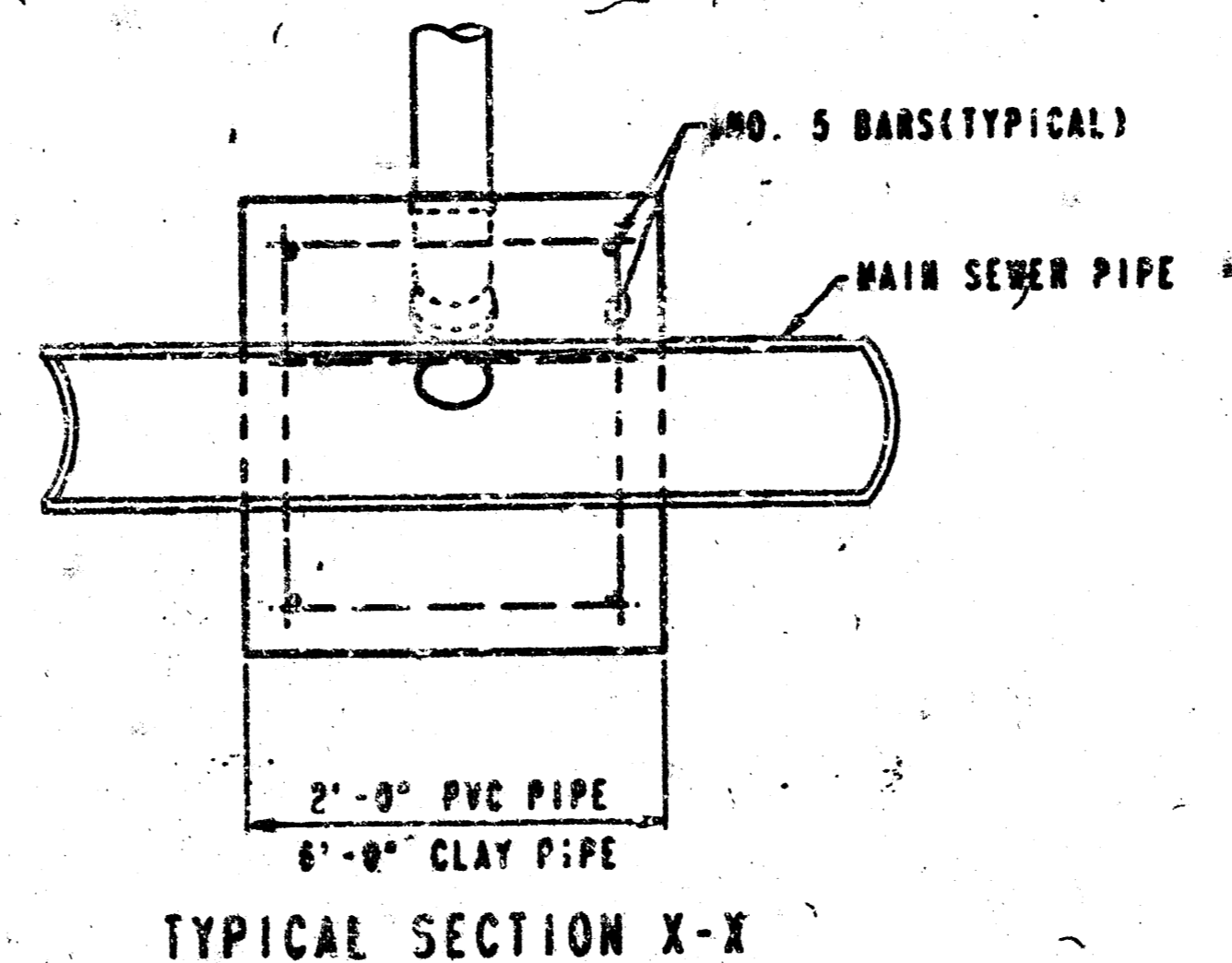
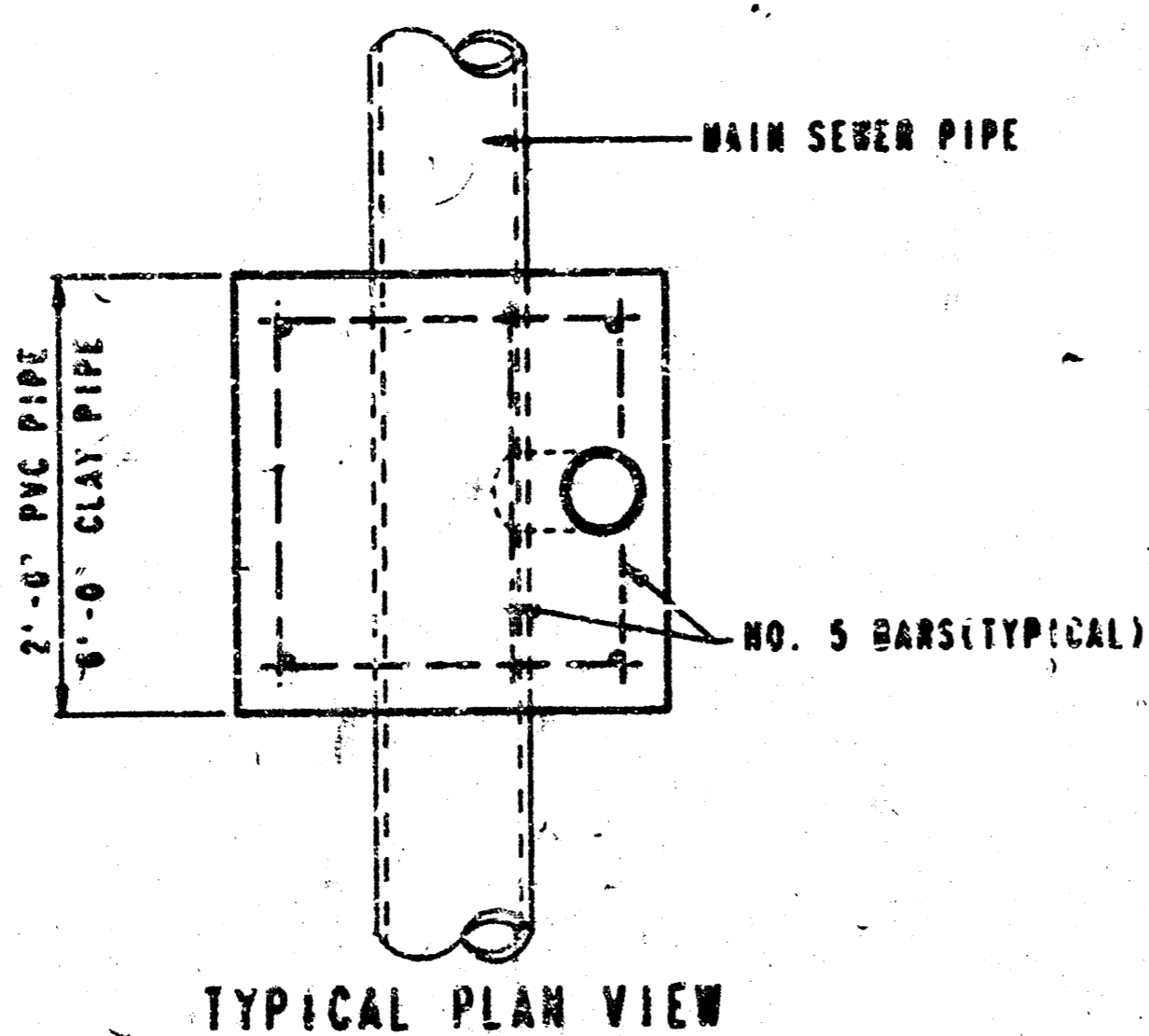
VERTICAL RISER DETAILS

ADOPTED AS STANDARD DESIGN

BY

CITY OF NICHITA, KANSAS

OCTOBER 1992



NOTE: RISER PIPE REQUIREMENTS AT MANHOLE STUBS SHALL BE SIMILAR TO THOSE SHOWN ABOVE.

GENERAL NOTES

1. **RISERS.** Risers shall be installed to each all sizes of manhole where the sanitary sewer main is below the street level. Risers shall also be installed where the sanitary sewer main is below the proposed ground surface. Risers shall be installed where the sanitary sewer main is below the proposed ground surface because of field conditions. All risers shall be approved by the Construction Engineer. The location of the risers shall be approved by the Construction Engineer.
2. **PIPE STUBS.** Pipe stubs shall be installed in manholes where connection is determined by the Construction Engineer. The vertical distance between the finished floor of the manhole and the top of the stub of the sanitary sewer main shall not exceed 2 feet. Risers shall be installed in manholes where the sanitary sewer main is below the street level. Risers shall be installed in manholes where the sanitary sewer main is below the proposed ground surface because of field conditions. All risers shall be approved by the Construction Engineer.
3. **SIZING.** Pipe stubs and risers shall be sized according to the plans and riser table where risers are indicated. Risers shall be sized for commercial or industrial properties and 4" or 6" for residential properties, based on lot size and population density. Sizing of risers and stubs shall be approved by the Construction Engineer prior to installation.
4. **RISER OR STUB MATERIAL.** Risers and stubs shall be made of 2" or 3" PVC pipe or Schedule 40 Pipe. Manhole risers shall be made of the latest revision of A.S.T.M. All pipe joints shall be solvent welded.
5. **REINFORCED CONCRETE ENCASUREMENT.** Riser connections to pipe sanitary sewers shall be reinforced concrete encasement. The reinforced concrete encasement shall extend three feet from the riser or stub at the first sanitary sewer pipe joint. The concrete encasement shall be reinforced with No. 5 bars. The concrete encasement shall be reinforced using reinforcing steel to meet appropriate spacing. The concrete shall conform to the Standard Specifications for concrete pavement.
6. **NEOSING.** Neosing around the sanitary sewer riser shall be completed in accordance with the specifications of the Construction Engineer. Neosing shall be completed to the top of the sanitary sewer riser pipe. Neosing shall be completed in accordance with the specifications of the Construction Engineer. Neosing shall be completed in accordance with the specifications of the Construction Engineer.
7. **SUPPORT OF RISERS.** Sanitary sewer riser pipe shall be supported during backfill. The riser pipe shall be held in a vertical position of all lines until the backfill and compaction has been completed. Construction shall be completed and backfilling the riser pipe shall be approved by the Construction Engineer.
8. **PLUGGING.** The ends of the riser pipe and manhole shall be plugged using an airtight solvent welded cap or plug. The cap or plug fittings shall be approved by the Construction Engineer prior to installation. Caps or plugs shall be provided in airtight seal will not be accepted.
9. **TOP OF THE RISER PIPE.** The top elevation of the riser pipe shall be based on the ground surface. The top elevation of the riser pipe shall be based on the ground surface. The top elevation of the riser pipe shall be based on the ground surface. The top elevation of the riser pipe shall be based on the ground surface.
10. **MARKING.** Locations of the ends of the sanitary sewer pipe shall be marked by 1/2" green colored plastic pipe to the end of the riser. The top shall be marked by 1/2" green colored plastic pipe to the end of the riser. The top shall be marked by 1/2" green colored plastic pipe to the end of the riser. The top shall be marked by 1/2" green colored plastic pipe to the end of the riser.
11. **LOCATION MEASURES.** The project inspector shall record and document the location of all risers constructed by the contractor. The location shall be recorded and documented by the contractor. The location shall be recorded and documented by the contractor. The location shall be recorded and documented by the contractor.
12. **RISER LOCATION.** The riser shall be located per the plans. If not shown on the plans, the riser shall be located by the contractor. The riser shall be located by the contractor. The riser shall be located by the contractor. The riser shall be located by the contractor.
13. **PAYMENT.** "Sanitary sewer risers" shall be paid for by the contractor. The contractor shall be paid for the risers. The contractor shall be paid for the risers. The contractor shall be paid for the risers. The contractor shall be paid for the risers.

Lot. 68, Main St., N.I.S.
C.O.W. Proj. No. 46A 88600