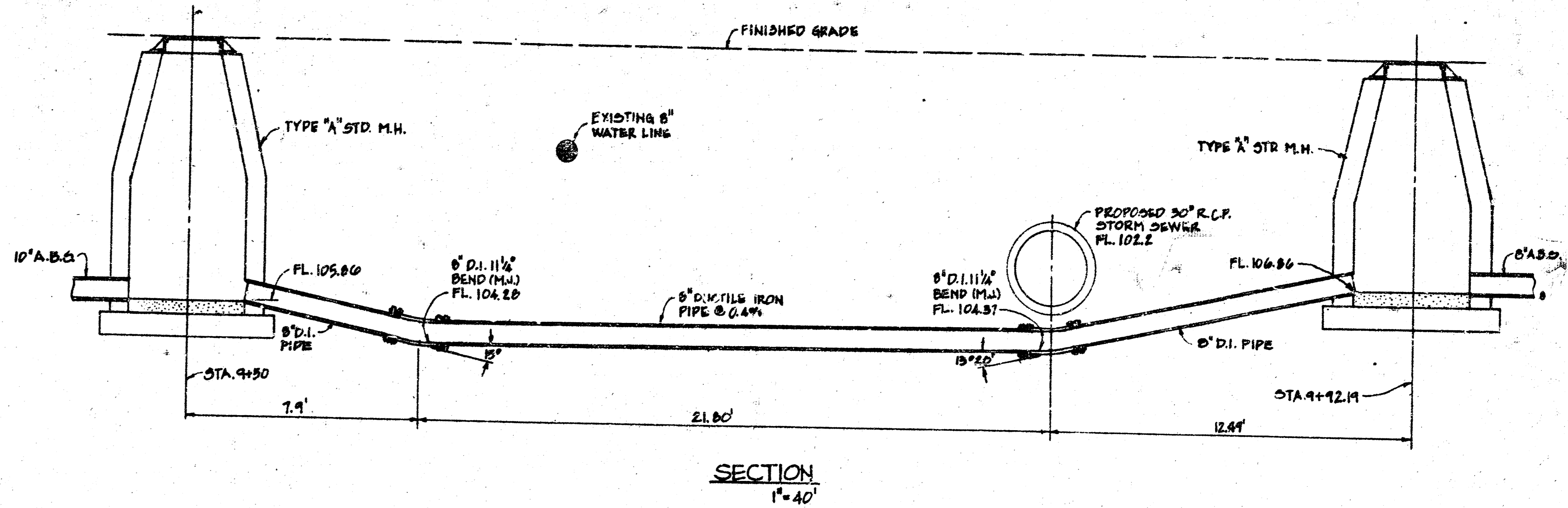
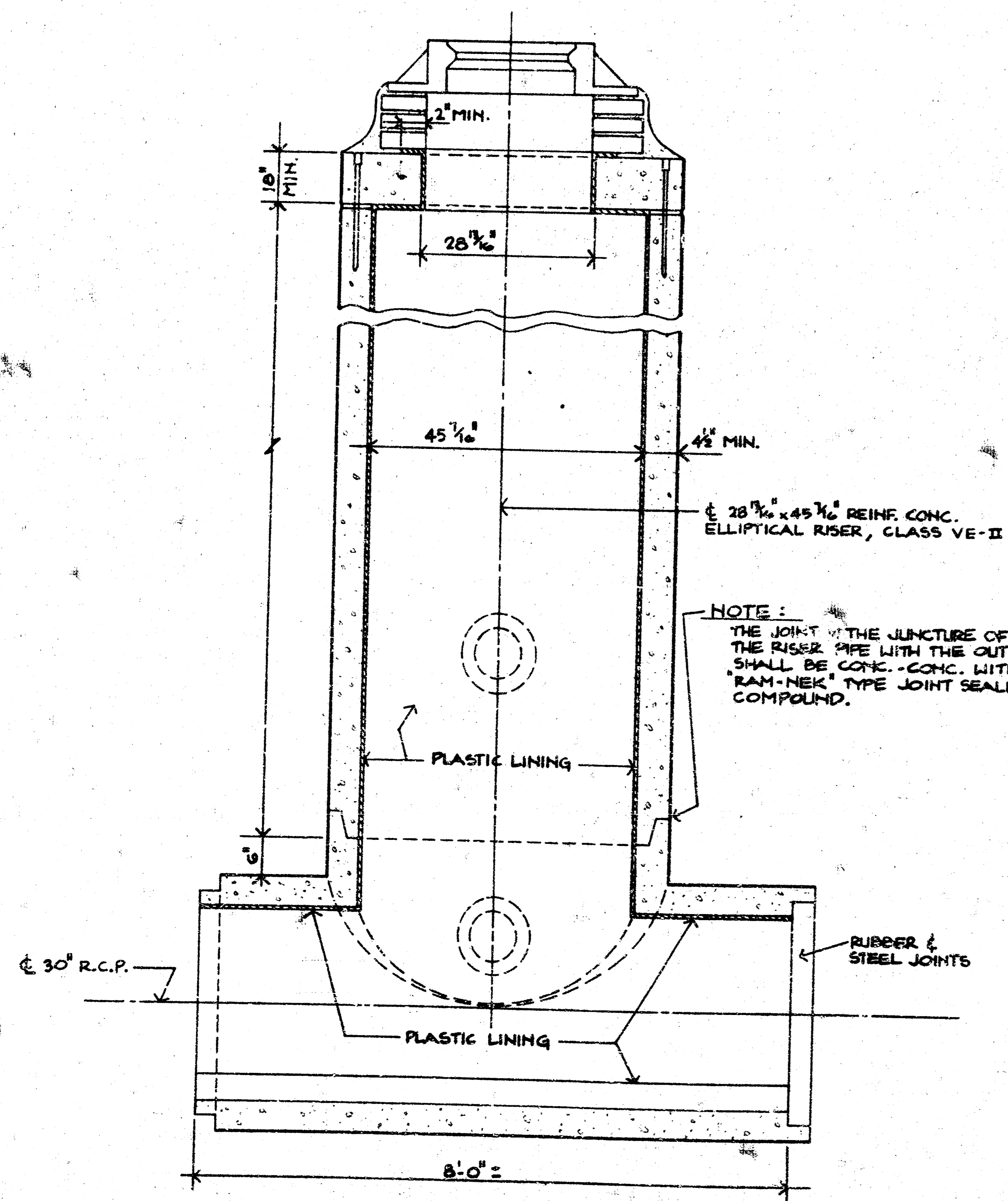


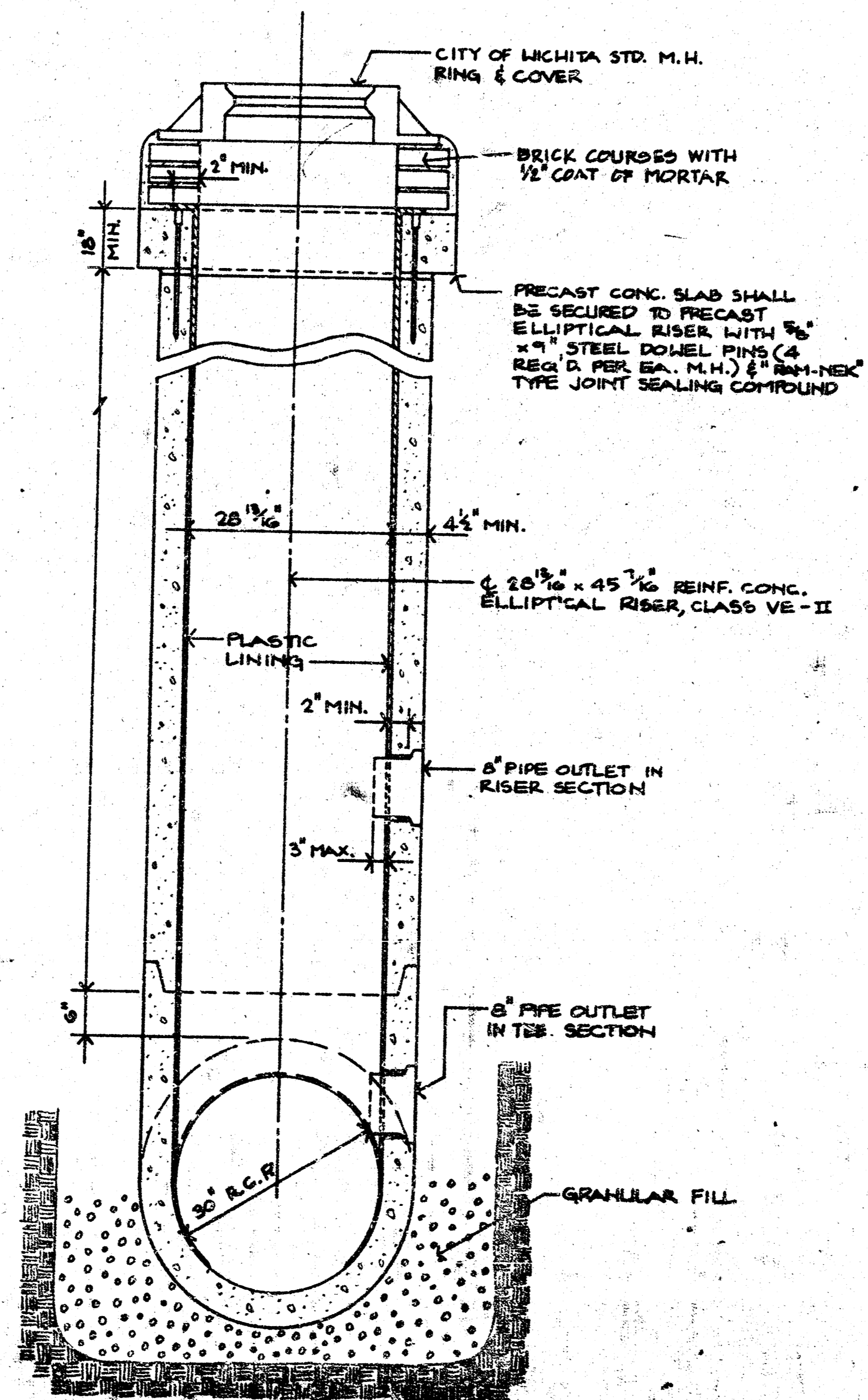
STRUCTURAL TEE M.H. FOR 30" R.C.P.



SIPHON @ STORM SEWER CROSSING



NOTE: THE JOINT AT THE JUNCTURE OF THE RISER PIPE WITH THE OUTLET SHALL BE CONC. CONC. WITH "RAM-NUT" TYPE JOINT SEALING COMPOUND.



TOWNE WEST SQUARE
SANITARY SEWER RELOCATIONS

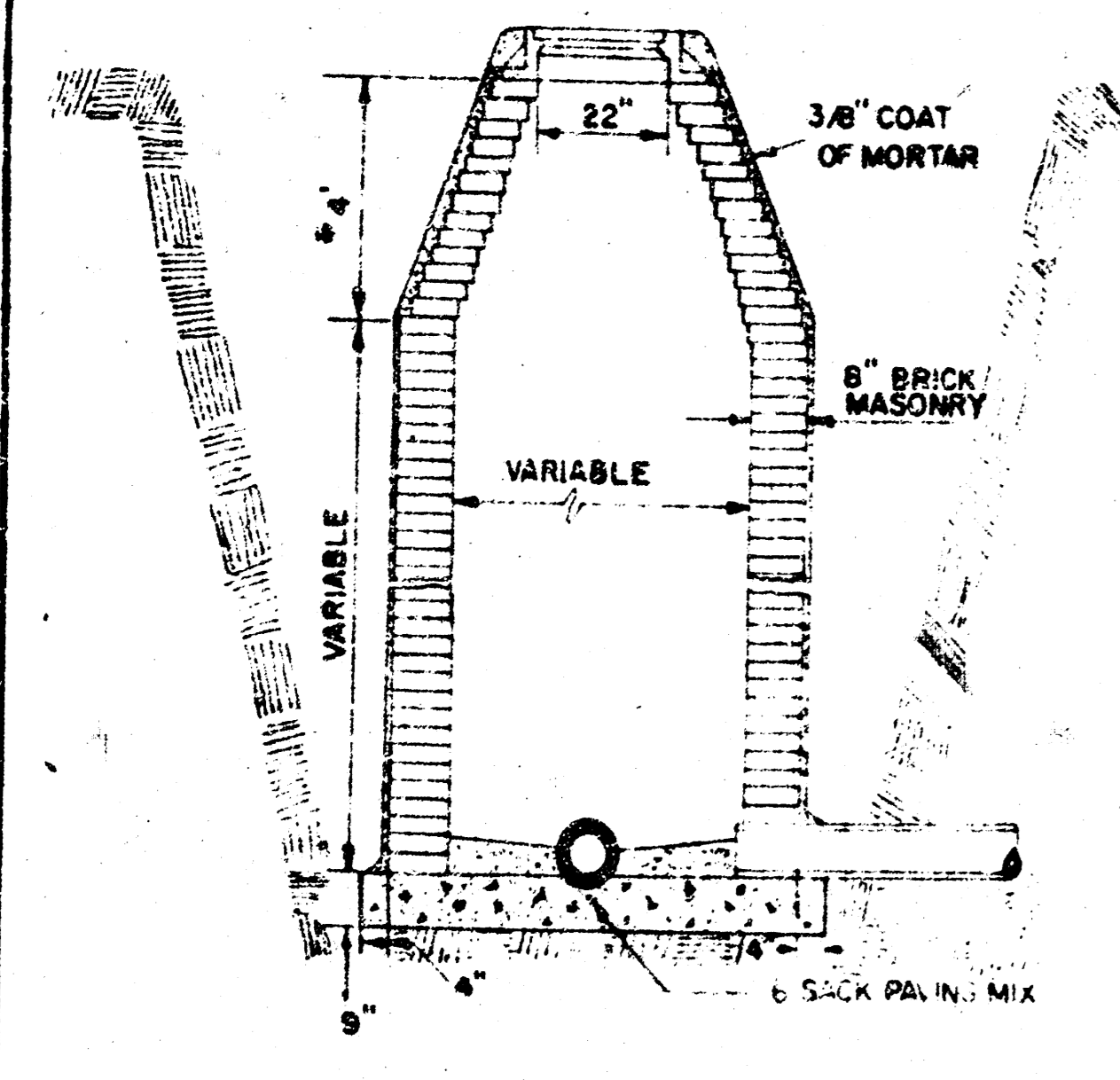
STRUCTURAL TEE MANHOLE
AND 8" SIPHON DETAIL

LAW/KINGDON, P.A.
215 S. MARKET WICHITA, KANSAS 67202
PHONE (616) 268-0484

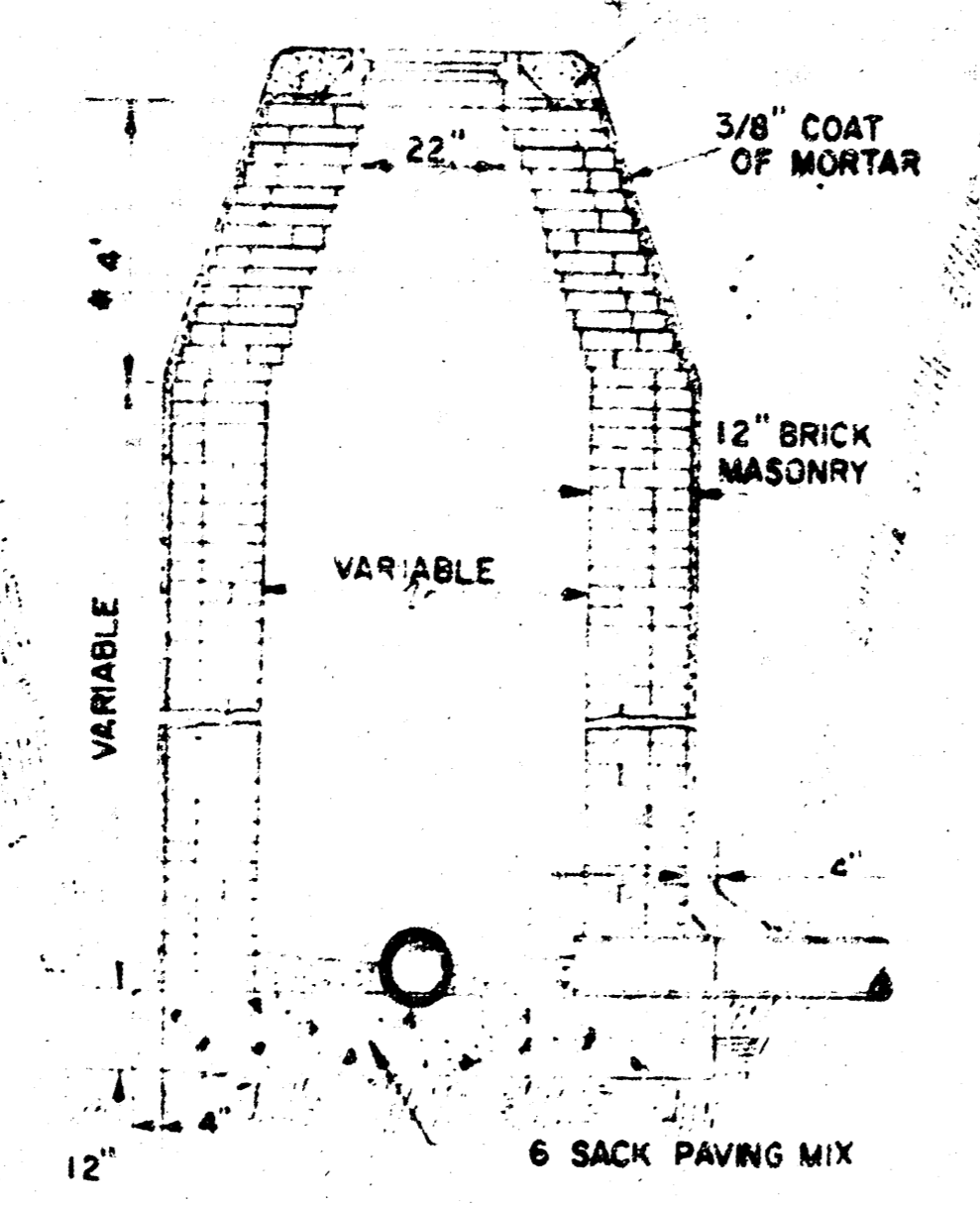
PROJECT
3/20/77
SHEET 7 OF 11
1082W 127075

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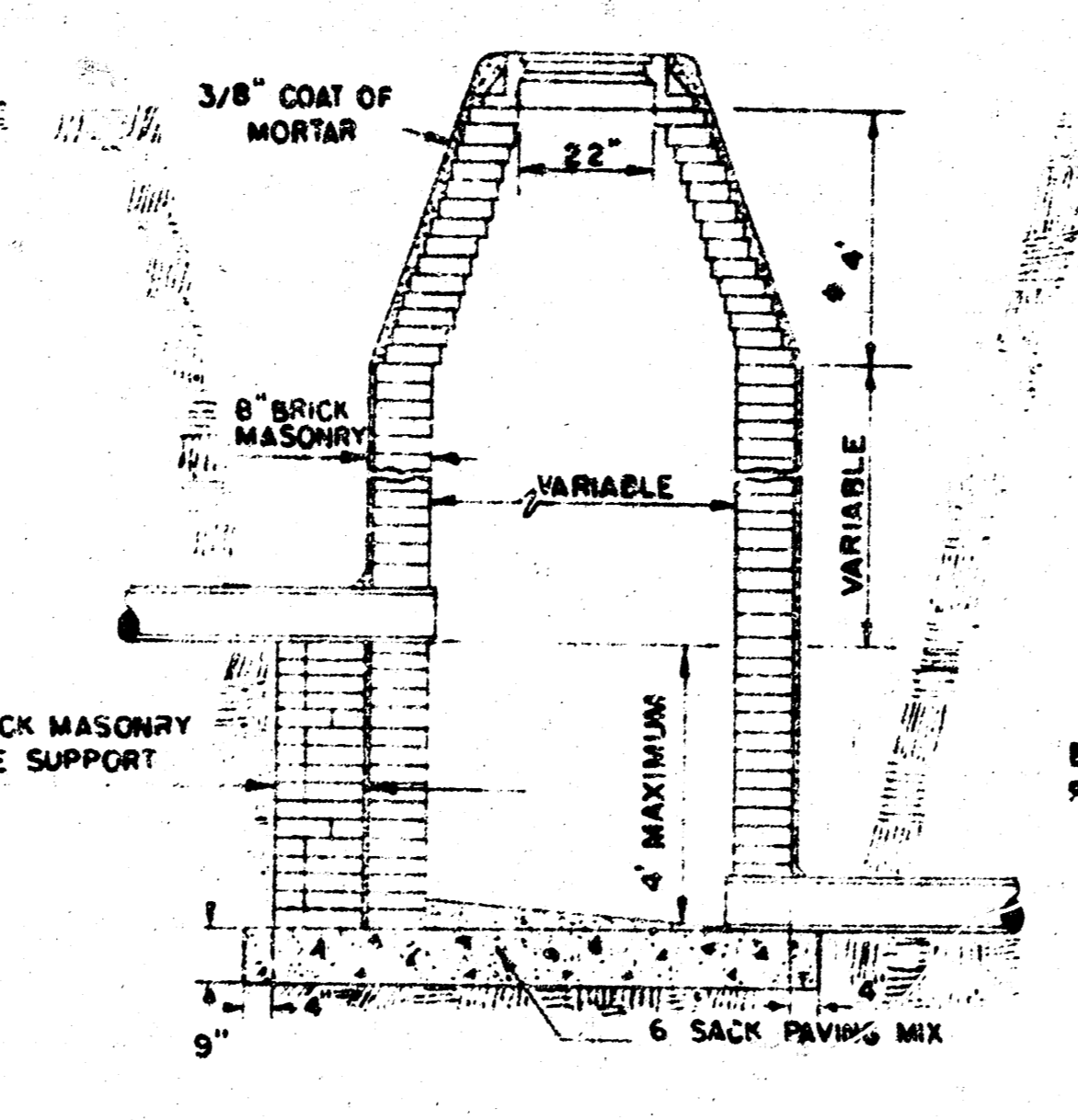
GRAUT TO BE PLACED AROUND MANHOLE RING ONLY WHEN MANHOLE IS CONSTRUCTED IN UNPAVED AREAS. (TYPICAL ALL MANHOLES)



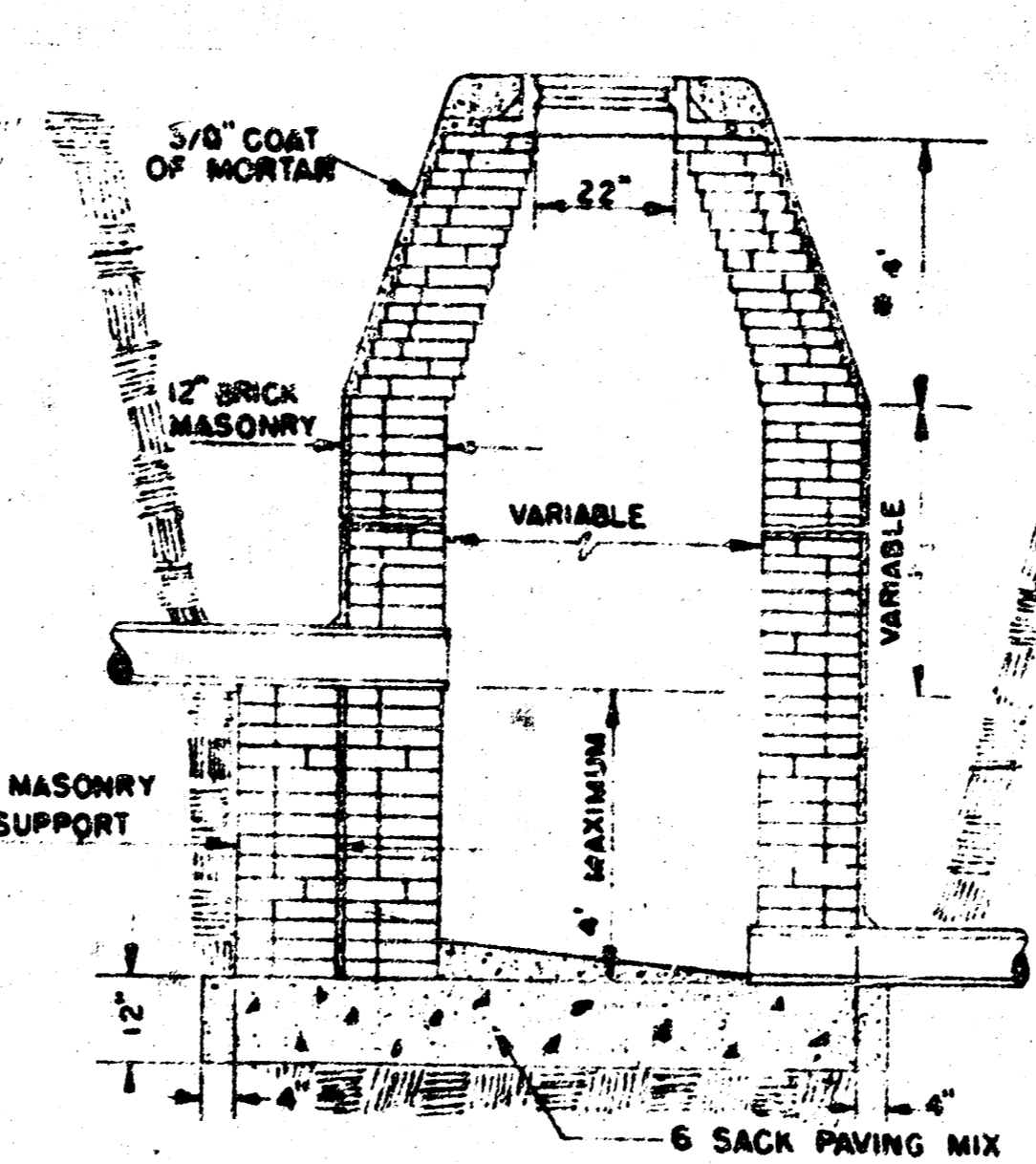
STANDARD MANHOLE TYPE "A"



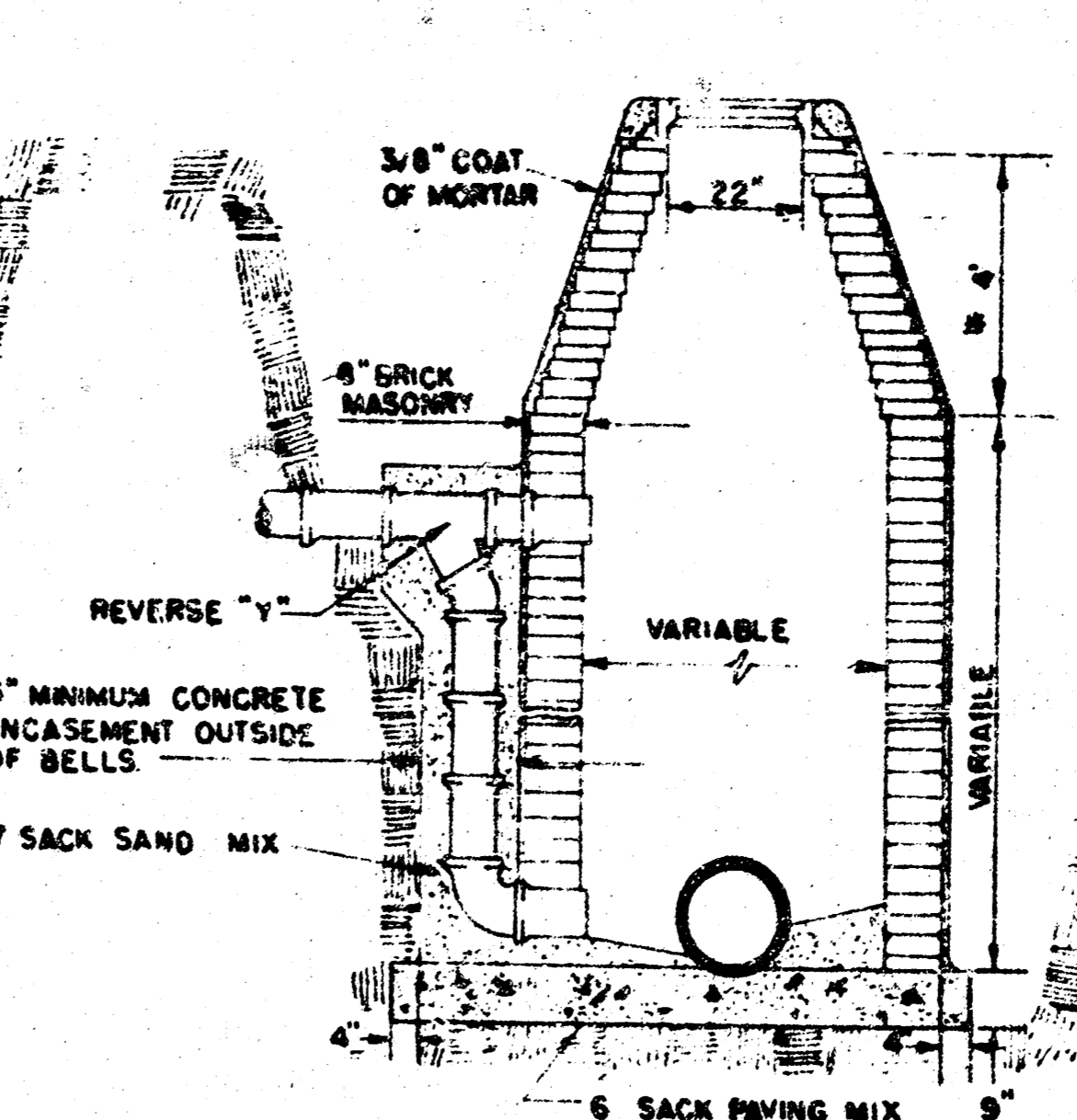
STANDARD MANHOLE TYPE "B"



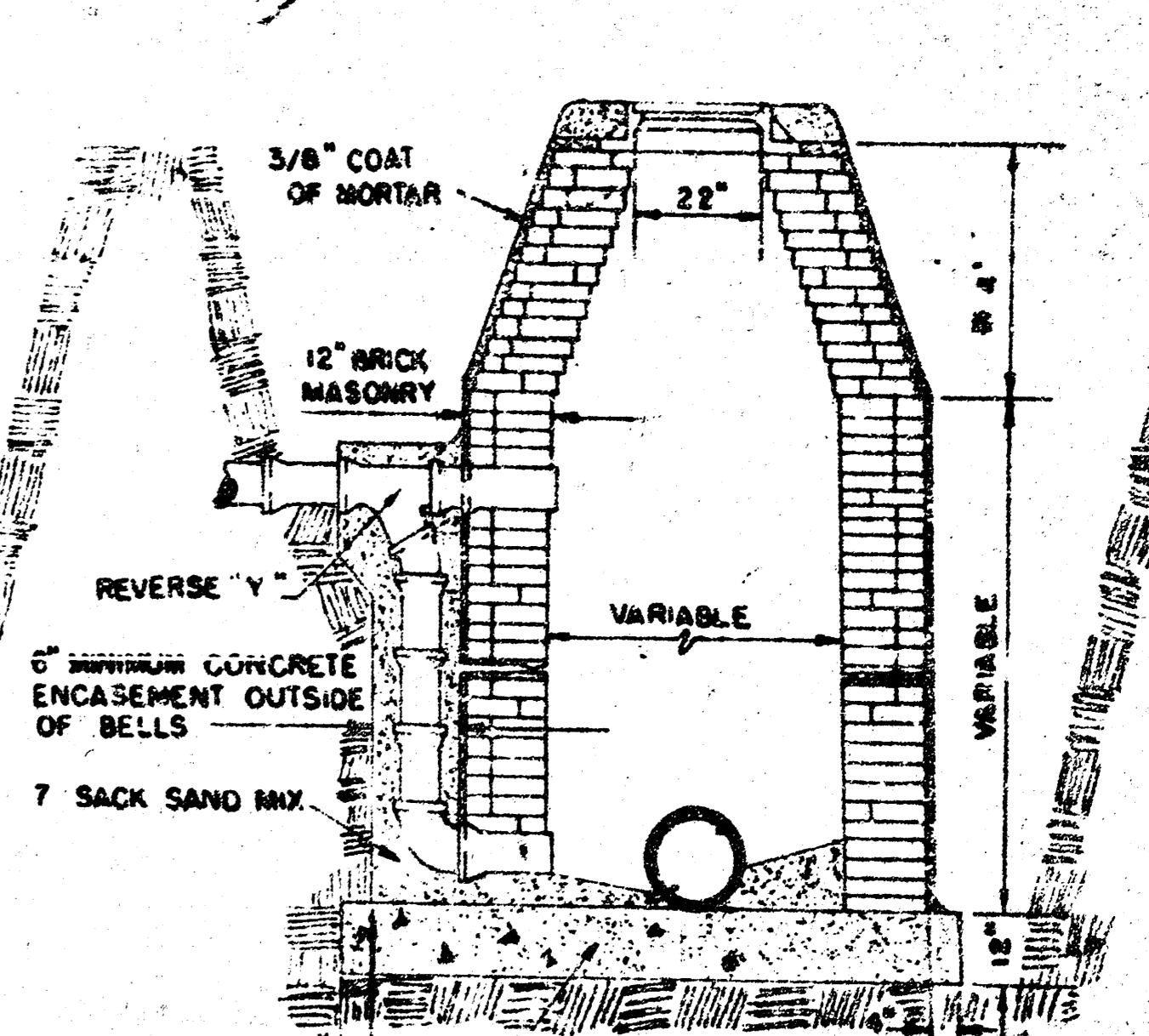
DROP MANHOLE TYPE "A"



DROP MANHOLE TYPE "B"



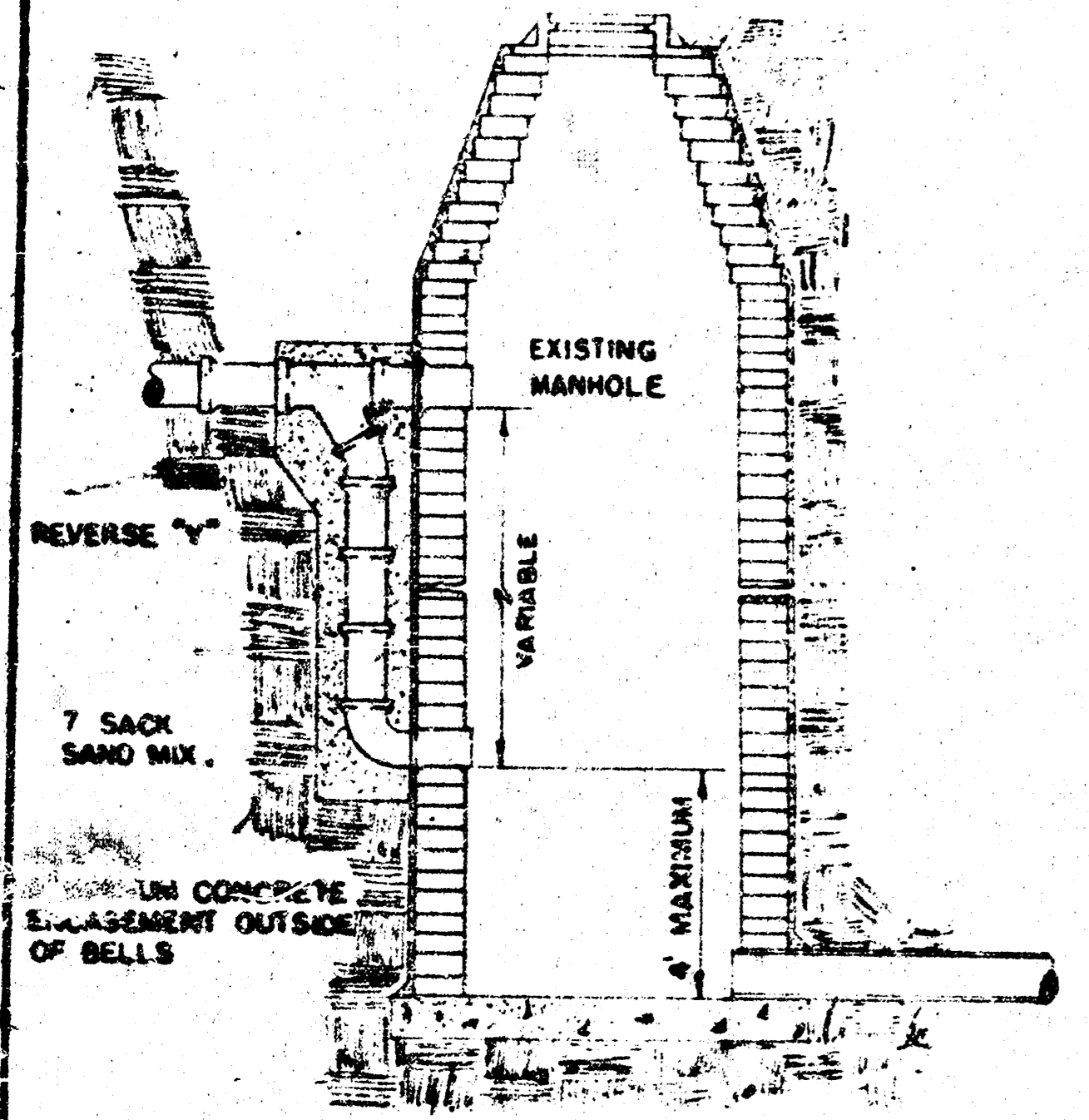
OUTSIDE DROP MANHOLE TYPE "A"



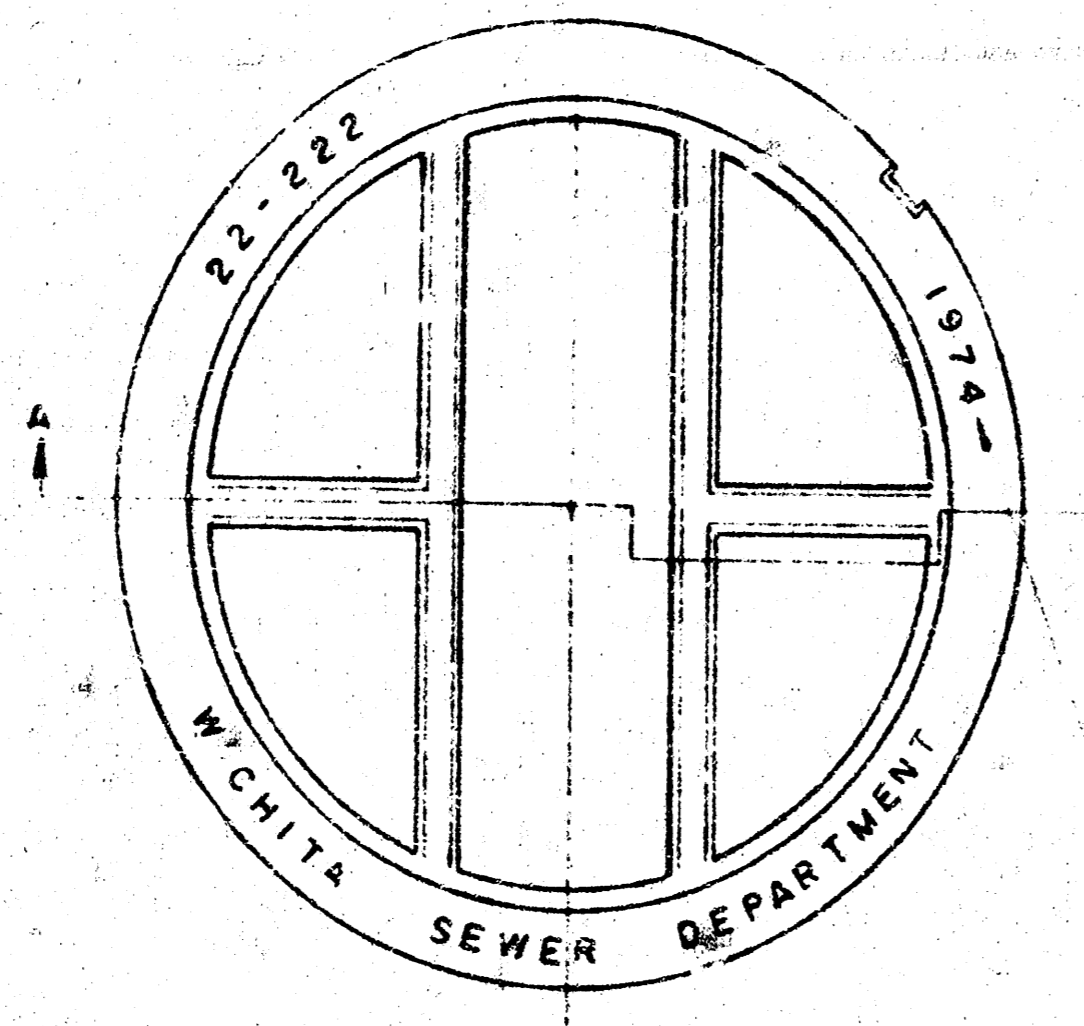
OUTSIDE DROP MANHOLE TYPE "B"

* DRAW = 6" ON 5' DIA. M.H.

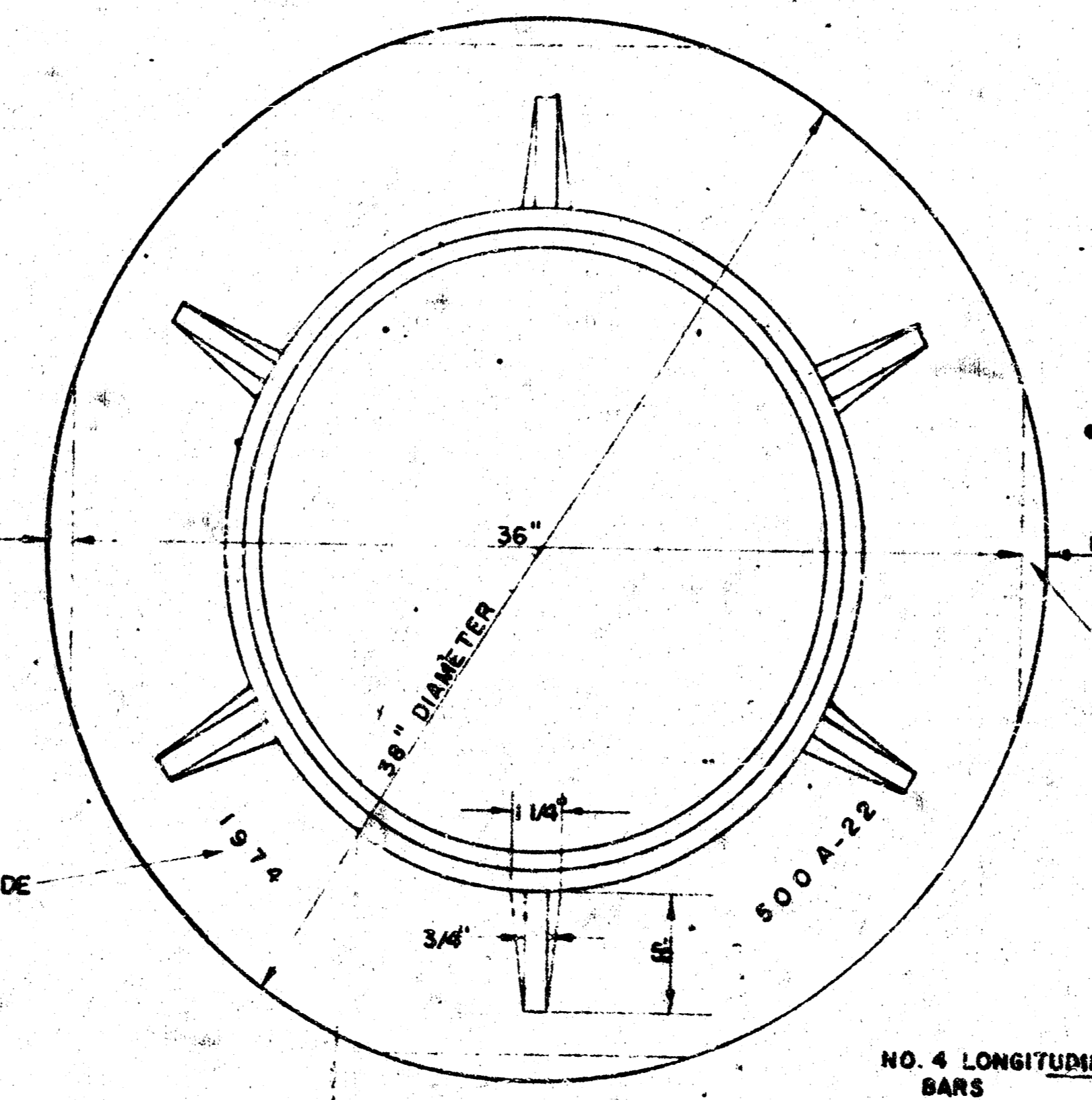
NOTE: REINFORCING STEEL SHALL BE INSTALLED IN THE MANHOLE BASES 6" ABOVE THE BOTTOM. REINFORCING STEEL SHALL CONSIST OF NO. 4 BARS PLACED ON 6" CENTERS IN BOTH DIRECTIONS. THE COST OF REINFORCING STEEL IS TO BE INCLUDED IN THE PRICE BID FOR THE MANHOLE.



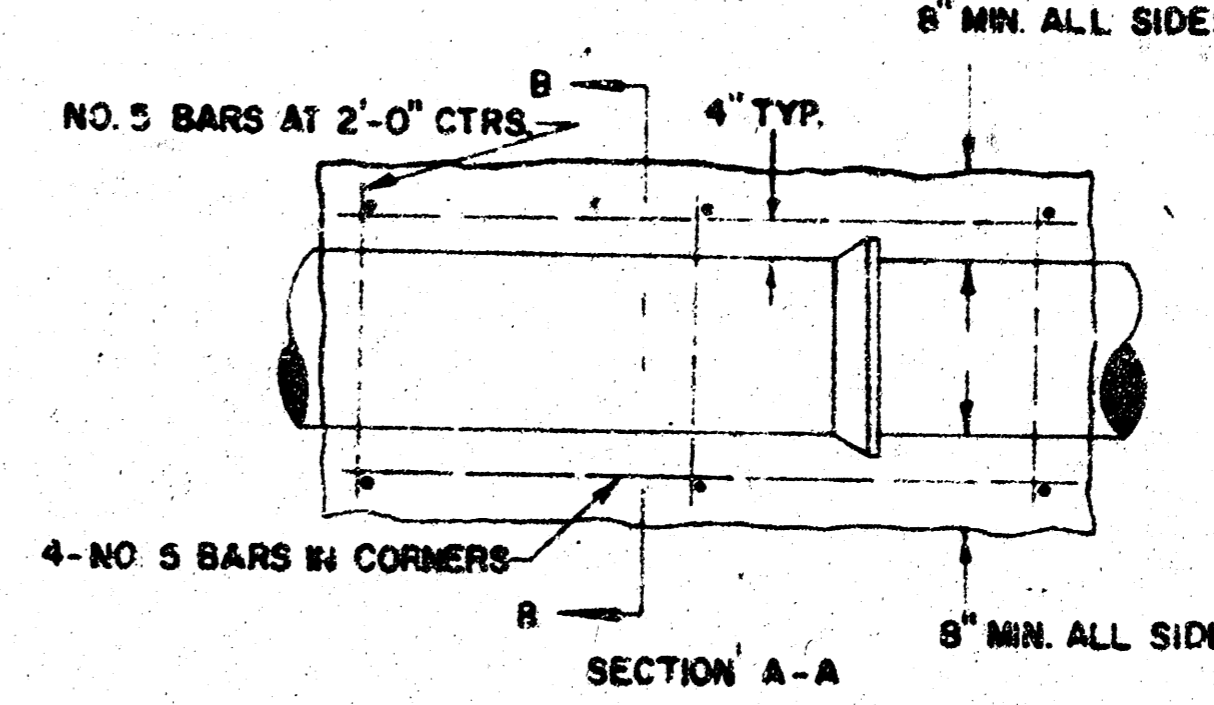
DETAIL OF DROP STACK FOR EXISTING MANHOLES IN GROUND WATER



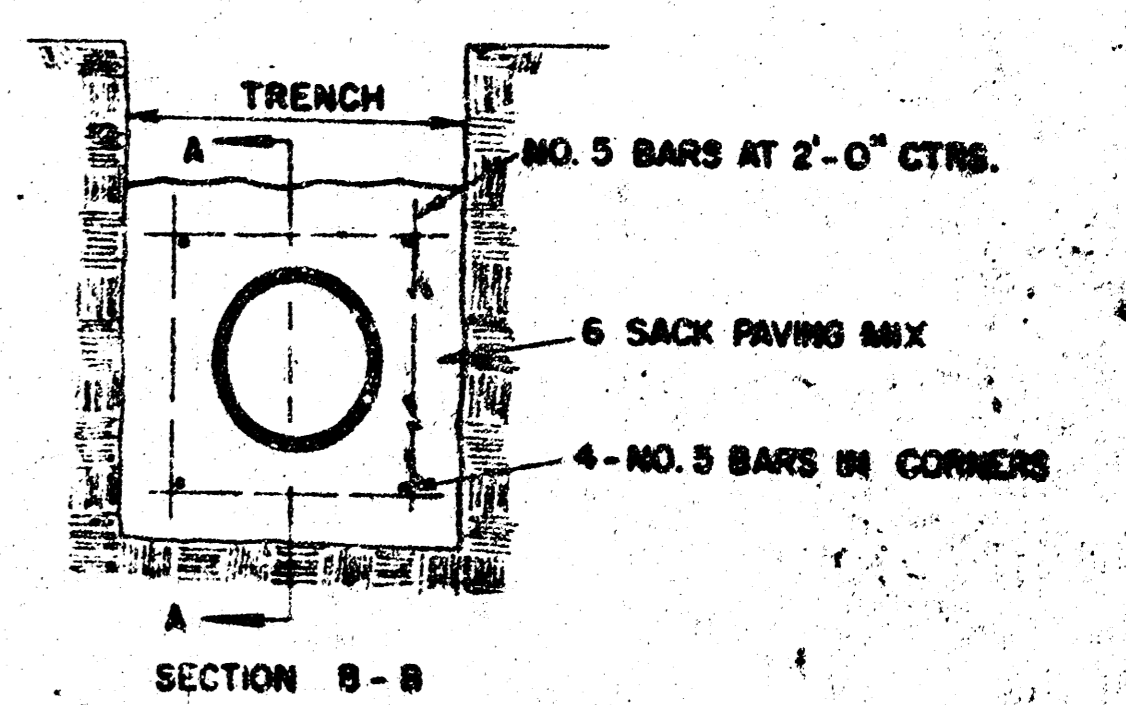
MANHOLE COVER WEIGHT 110 LBS.



MANHOLE RING WEIGHT 325 LBS. RING NO. 500A WEIGHT 800 LBS. RING NO. 500AS

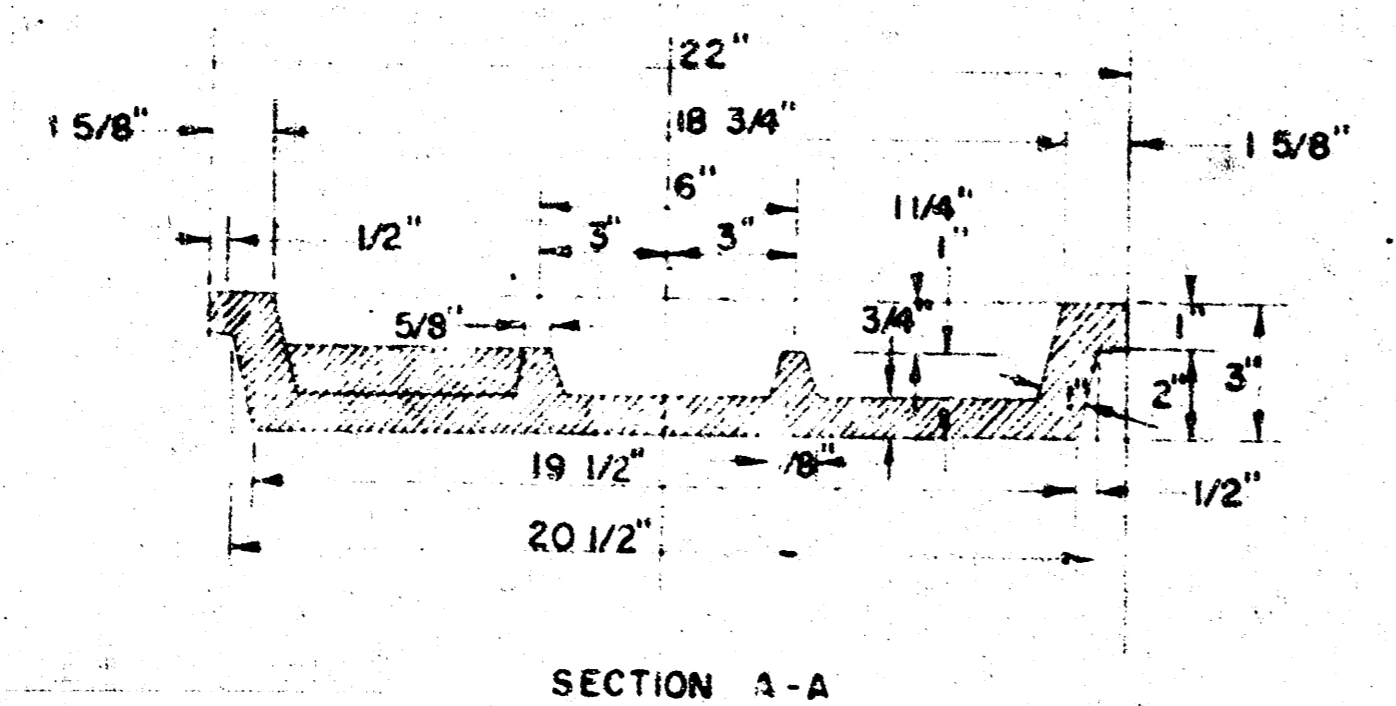


REINFORCED CONCRETE ENCASEMENT

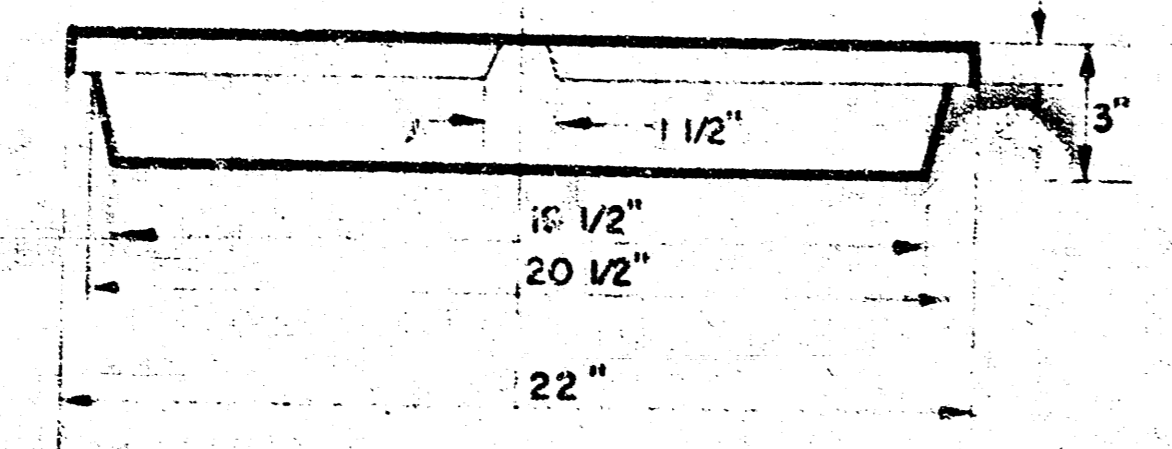


GENERAL NOTES

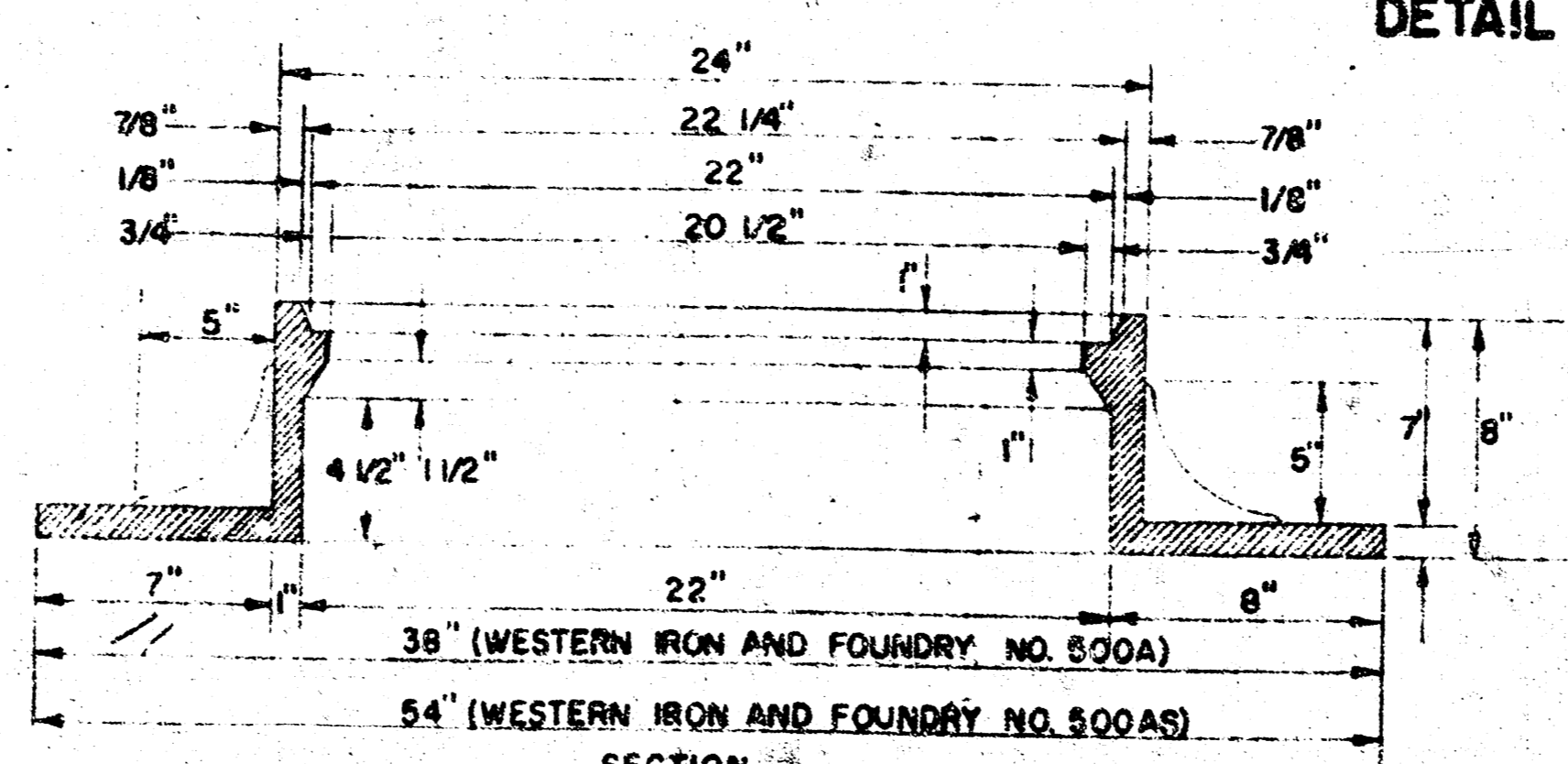
- MORTAR USED IN MASONRY CONSTRUCTION SHALL CONTAIN 8 SACKS OF CEMENT PER CUBIC YARD.
- STANDARD MANHOLES TYPE "A" OR TYPE "B" AND STANDARD DROP MANHOLES TYPE "A" OR TYPE "B" SHALL BE BID AS STANDARD MANHOLES FOR THE TYPE AND DIAMETER INDICATED.
- OUTSIDE DROP MANHOLES SHALL BE BID AS STANDARD OUTSIDE DROP MANHOLES FOR THE TYPE AND DIAMETER INDICATED. ALL MANHOLE DIAMETERS WILL BE 4' UNLESS INDICATED OTHERWISE. MANHOLES WITH PIPE SIZES LARGER THAN 24" SHALL BE 5' DIAMETER.
- THE FLOORS OF ALL MANHOLES SHALL BE SHAPED TO INCREASE HYDRAULIC EFFICIENCY USING 7-SACK SAND MIX CONCRETE.
- PIPES INSTALLED WITHIN THE MANHOLE EXCAVATION SHALL BE CRADLED WITH CONCRETE TO THE LIMITS OF THE MANHOLE EXCAVATION. COST OF CRADLE WITHIN MANHOLE EXCAVATION SHALL BE INCLUDED IN THE PRICE BID FOR THE MANHOLE.



MANHOLE COVER

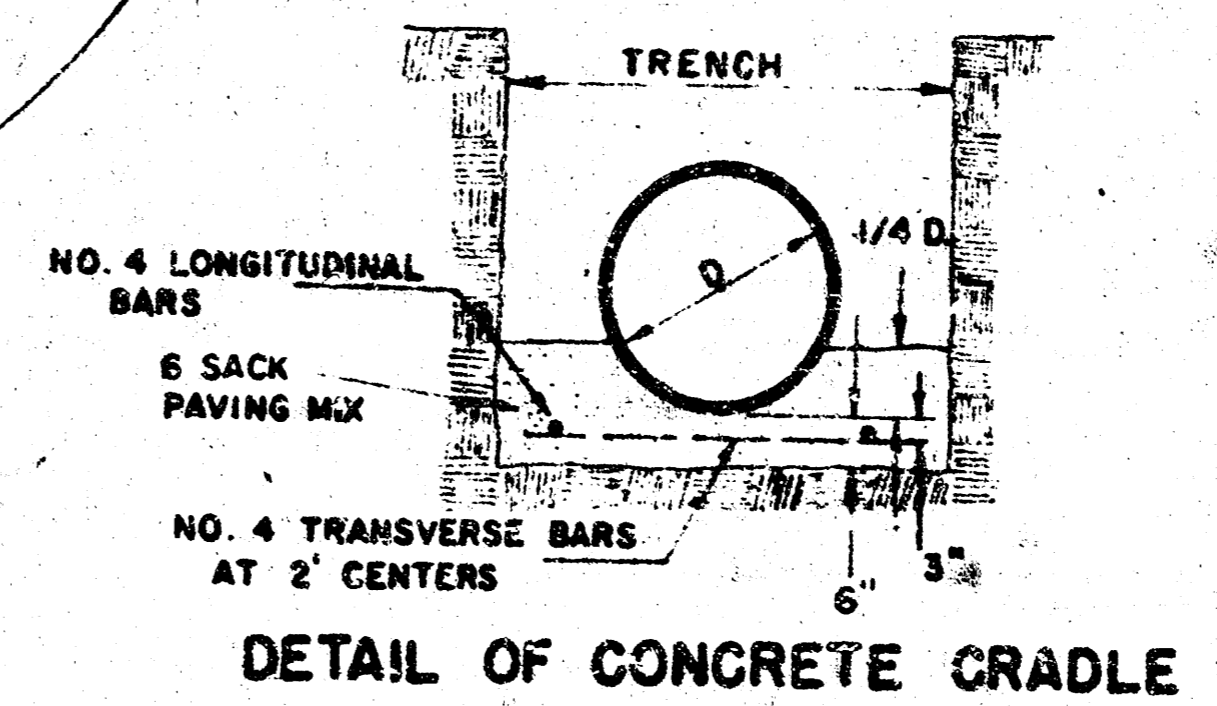


MANHOLE COVER

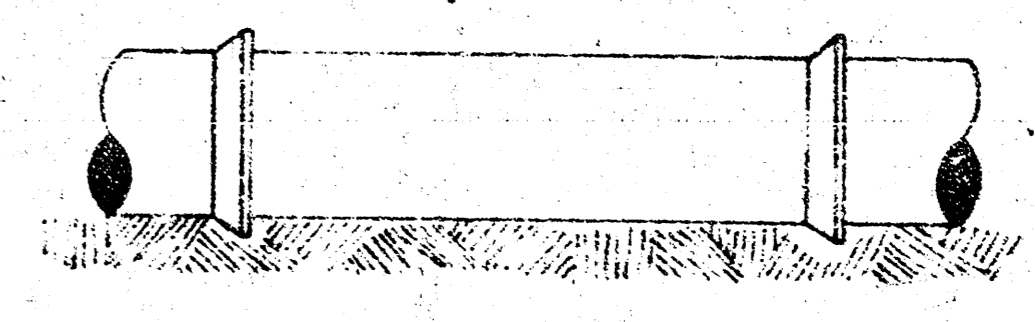


MANHOLE RING

OUTSIDE CIRCUMFERENCE OF COVER AND THE INNER FACE AND SEAT OF RING TO BE MACHINE FIT.



DETAIL OF CONCRETE CRADLE



ORDINARY BEDDING METHOD STORM SEWER PIPE

TOWNE WEST SQUARE
SANITARY SEWER RELOCATIONS

CITY OF WICHITA
STANDARD TYPE A+B MANHOLE DETAILS

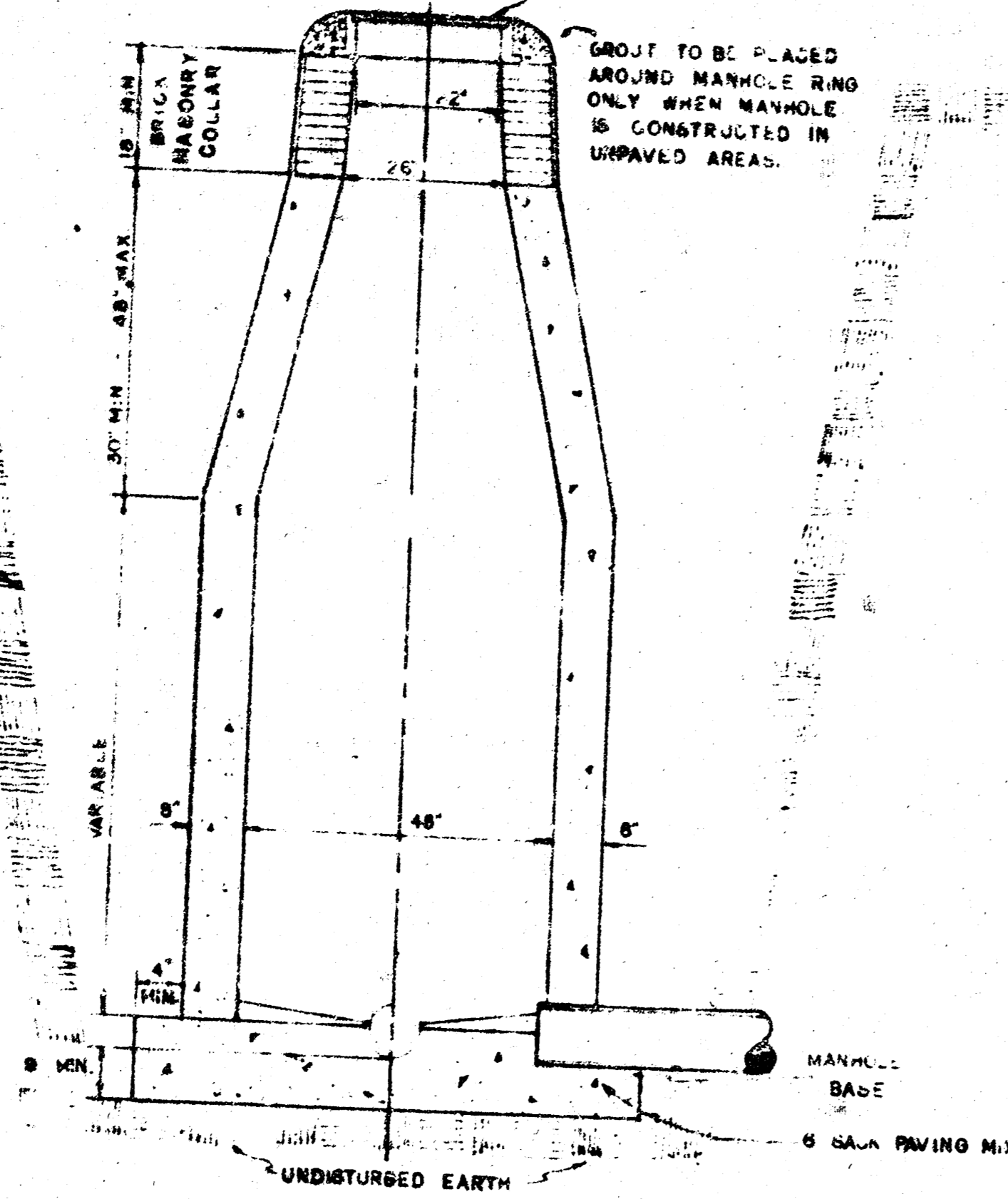
LAW/KINGDON, P.A.
215 S. MARKET WICHITA, KANSAS 67202
PHONE (316) 268-6864

DESIGN CITY STANDARD
DATE 4/22/77
ARCHITECTS & ENGINEERS

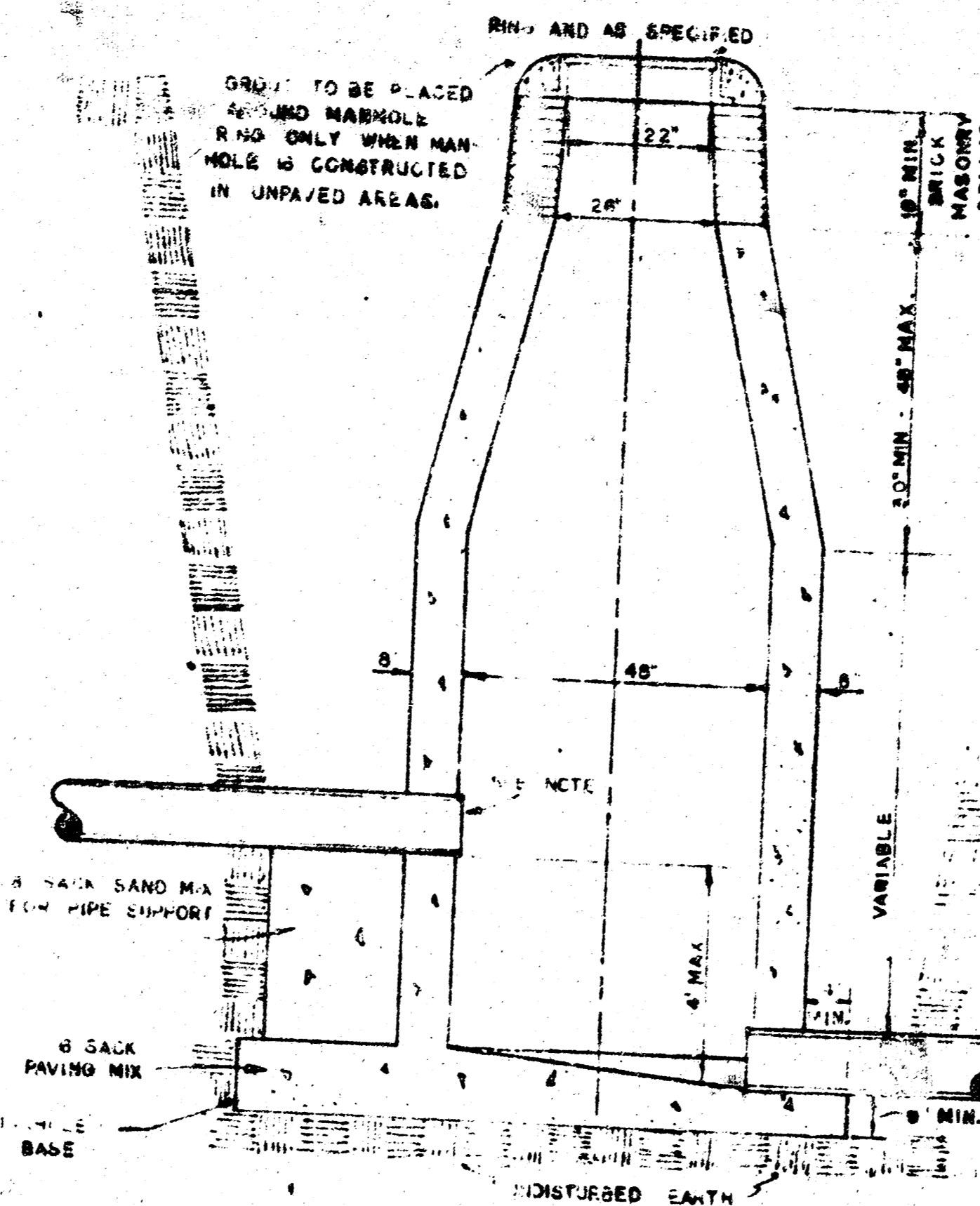
REVISED 4-13-77

DETAILS OF
SEWER APPURTENANCES
ADOPTED AS STANDARD DESIGN
BY
ENGINEERING DIVISION
CITY OF WICHITA, KANSAS
R. W. LINN CITY ENGINEER
1974

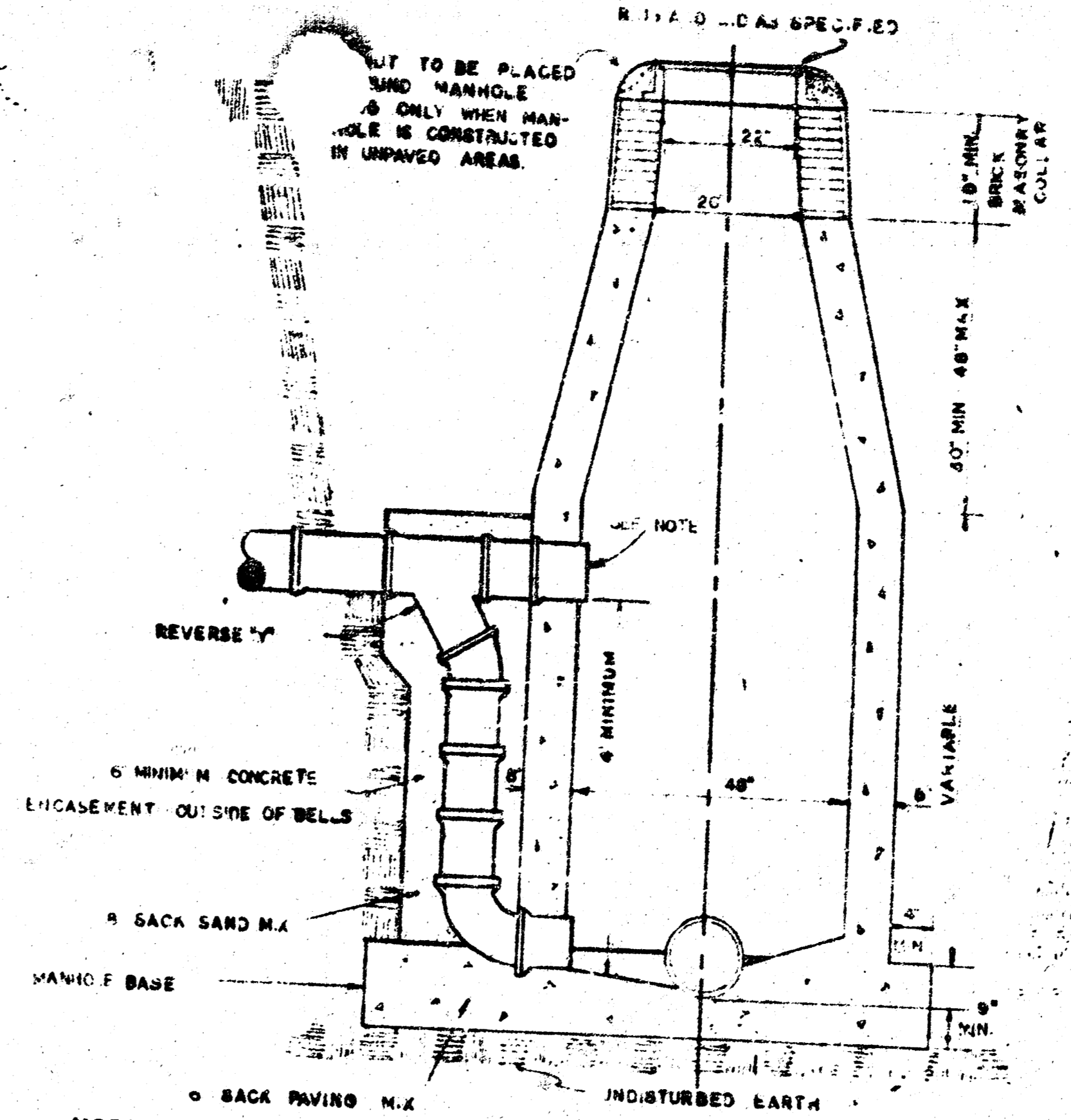
STANDARD MANHOLE, TYPE "C"
RING AND JO AS SPECIFIED



DROP MANHOLE, TYPE "C"
RING AND JO AS SPECIFIED



OUTSIDE DROP MANHOLE, TYPE "C"
RING AND JO AS SPECIFIED



GENERAL NOTES

MORTAR USED IN MASONRY CONSTRUCTION SHALL CONTAIN 8 BAGS OF CEMENT PER CUBIC YARD.

STANDARD MANHOLES TYPE "C" AND STANDARD DROP MANHOLES TYPE "C" SHALL BE BID AS STANDARD MANHOLES FOR THE TYPE AND DIAMETER INDICATED.

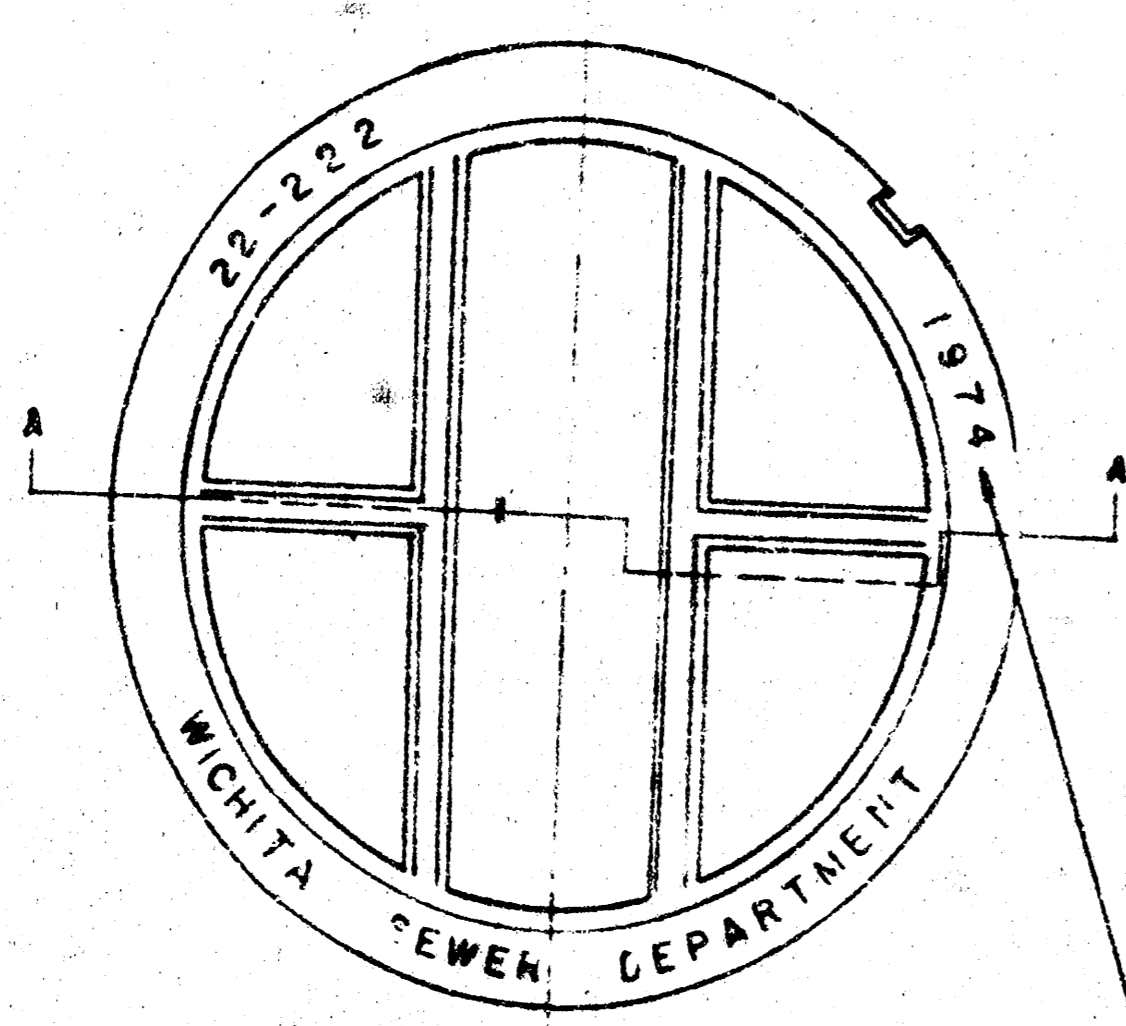
OUTSIDE DROP MANHOLES TYPE "C" SHALL BE BID AS STANDARD OUTSIDE DROP MANHOLES FOR THE TYPE AND DIAMETER INDICATED. ALL MANHOLE DIAMETERS WILL BE 4 FT. UNLESS INDICATED OTHERWISE. MANHOLES WITH PIPE SIZES LARGER THAN 24" SHALL BE 5 FT. DIAMETER.

THE FLOORS OF ALL MANHOLES SHALL BE SHAPED TO INCREASE HYDRAULIC EFFICIENCY USING 8 BAGS SAND MIX CONCRETE.

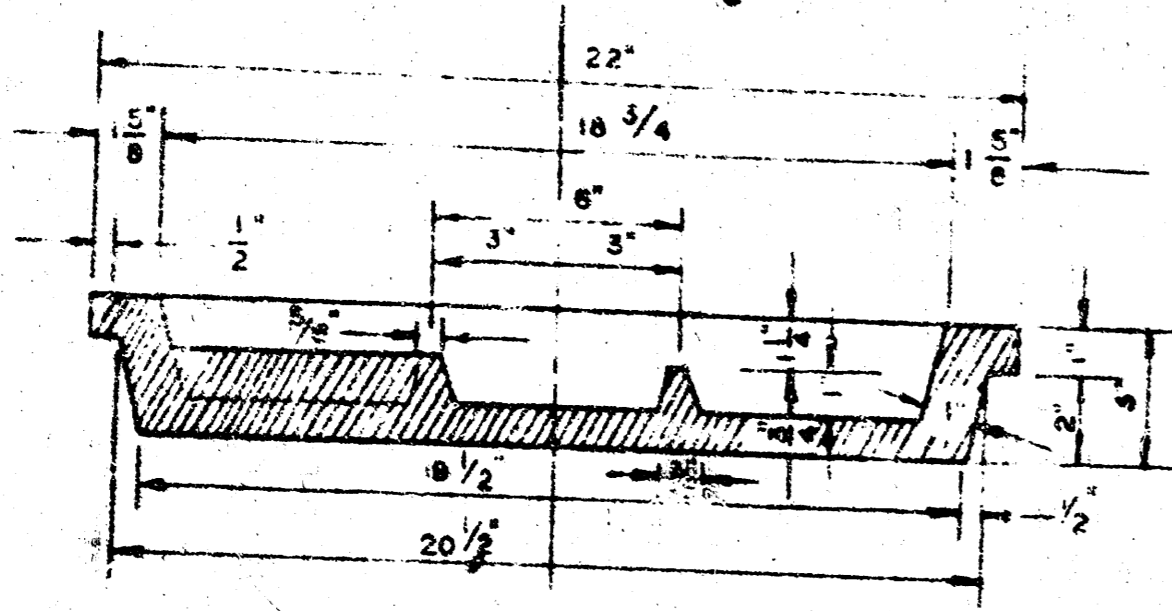
CAST IN PLACE CIRCULAR CONCRETE MANHOLES ARE TO BE CONSTRUCTED ONLY ON SEWERS NOT SUBJECT TO DETERIORATION OF CONCRETE DUE TO FORMATION OF HYDROGEN SULFIDE GAS AND IN LOCATIONS WHERE IT IS OBVIOUS THAT ANY ADJUSTMENT OF THE MANHOLE TOP ELEVATION WHICH MAY BE NECESSARY WILL NOT REQUIRE MODIFICATION OF THE CONCRETE BARREL.

PIPES INSTALLED WITHIN THE MANHOLE EXCAVATION SHALL BE CRADLED WITH CONCRETE TO THE LIMITS OF THE MANHOLE EXCAVATION. COST OF CRADLE WITHIN MANHOLE EXCAVATION SHALL BE INCLUDED IN THE PRICE BID FOR THE MANHOLE.

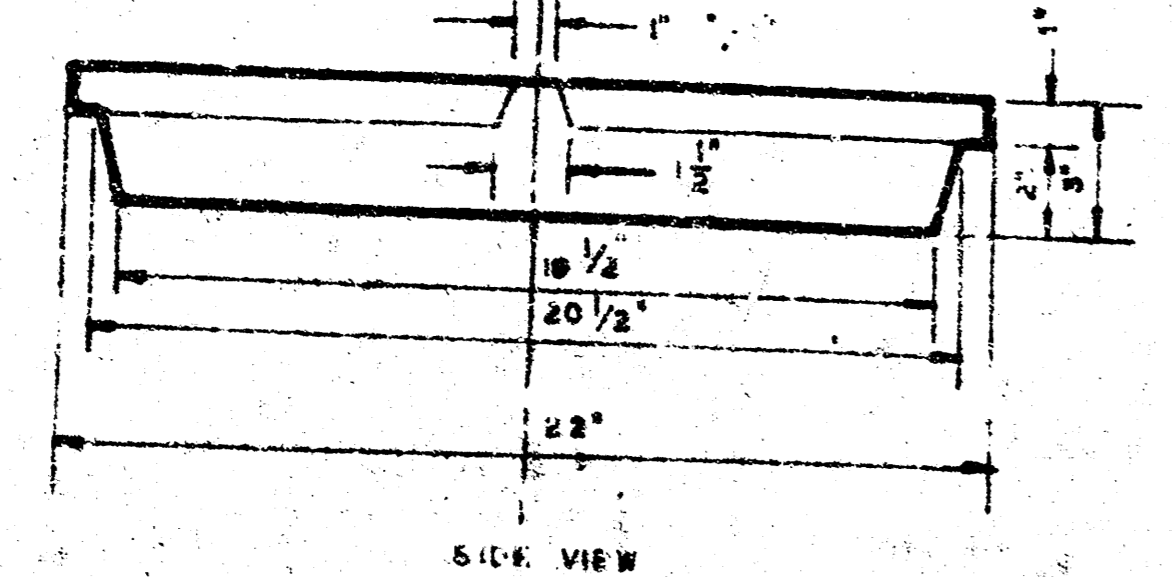
NOTE: REINFORCING STEEL SHALL BE INSTALLED IN THE MANHOLE BASES 6" ABOVE THE BOTTOM. REINFORCING STEEL SHALL CONSIST OF NO. 4 BARS PLACED ON 6" CENTERS IN BOTH DIRECTIONS. THE COST OF REINFORCING STEEL IS TO BE INCLUDED IN THE PRICE BID FOR THE MANHOLE.



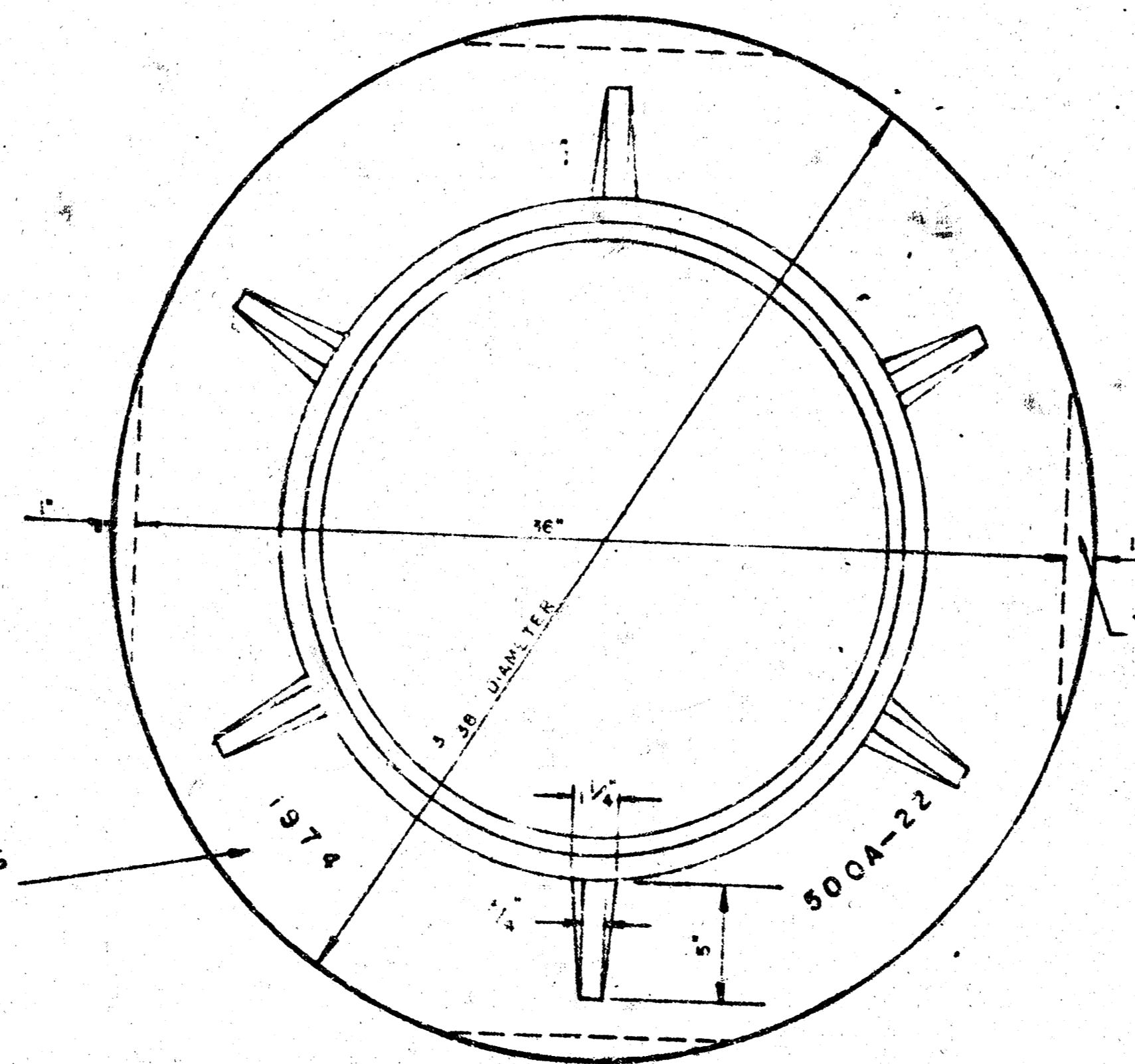
MANHOLE COVER



MANHOLE COVER

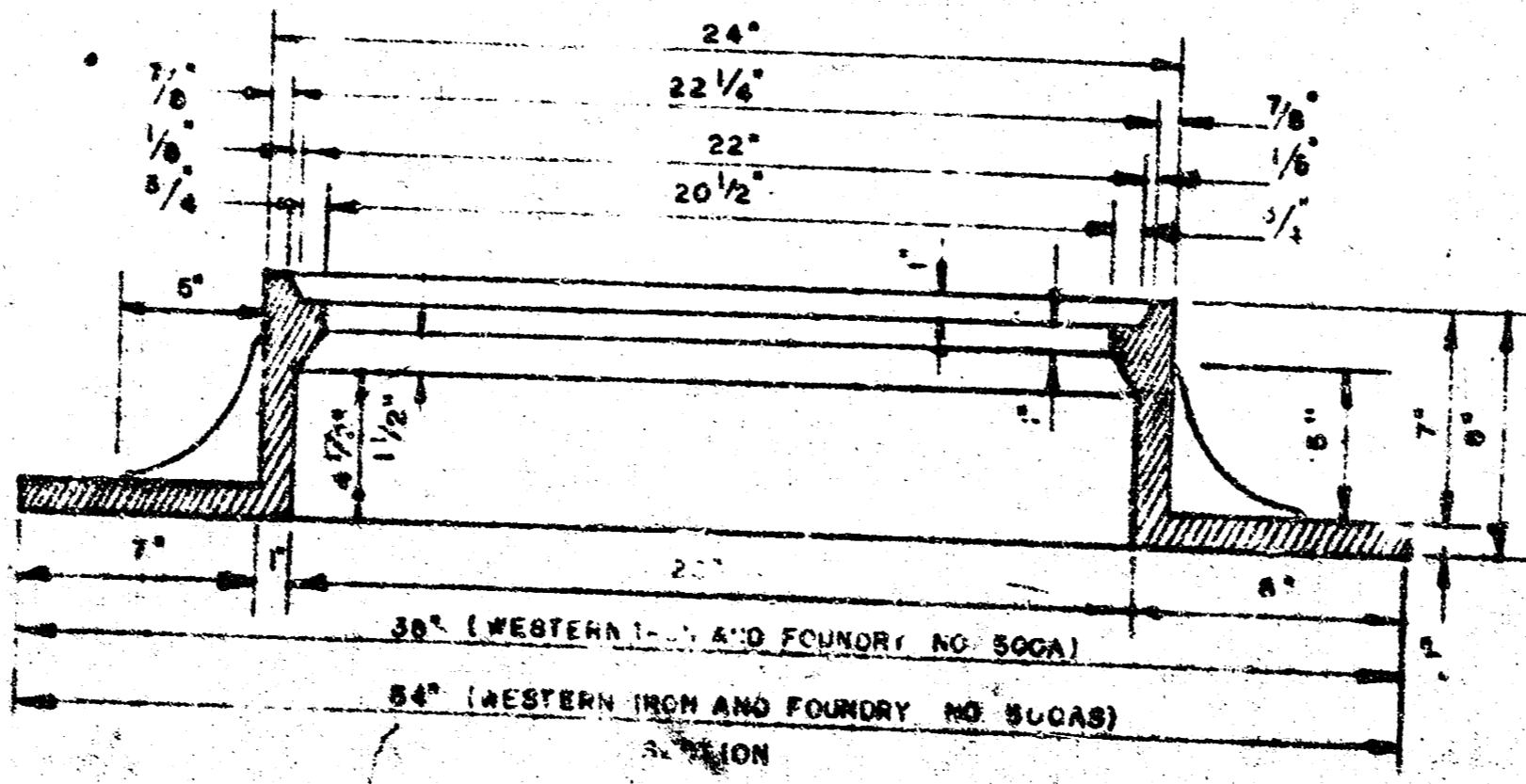


MANHOLE COVER

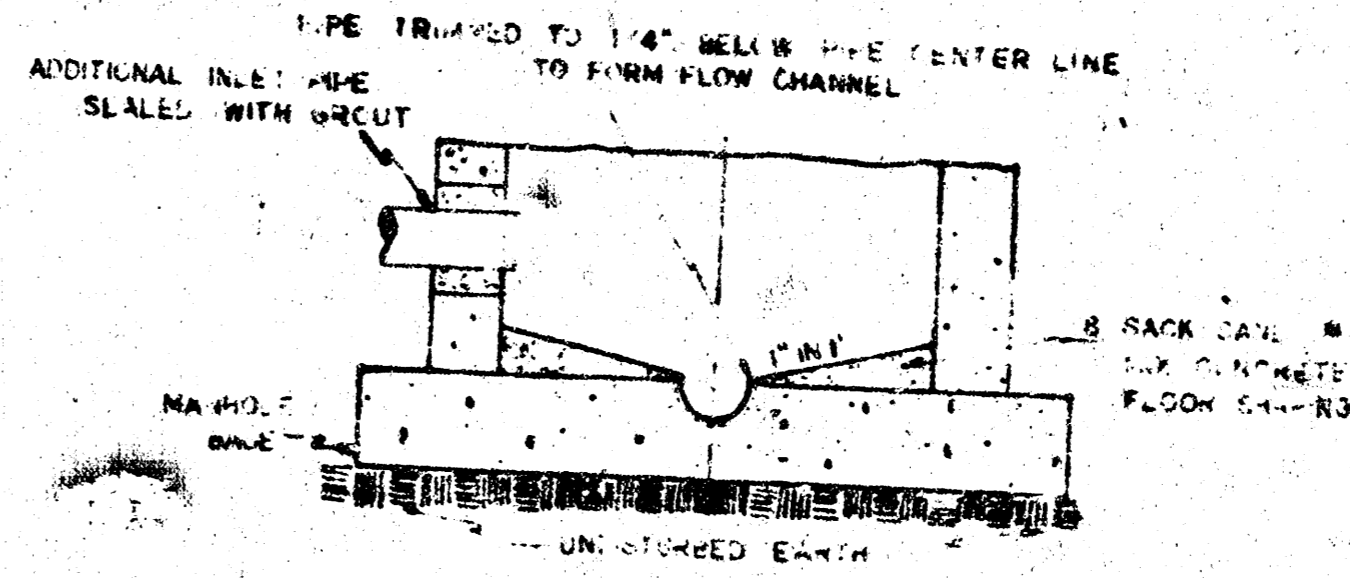


MANHOLE RING

*EIGHT 3.5 LBS. RING NO. 500A
WEIGHT 800 LBS. RING NO. 500AS



MANHOLE RING



SECTIONAL ELEVATION-INVERT

NOTE: OPENING FOR INLET PIPE CUT IN MANHOLE WALL AND PIPE GROUTED IN PLACE WITH NON-SHRINKING GROUT. EXTERIOR OF COMPLETED CONNECTION TO BE SEALED WITH APPROVED COATING.

TOWNE WEST SQUARE
SANITARY SEWER RELOCATIONS

CITY OF WICHITA
STANDARD TYPE "C" MANHOLE DETAIL.

LAW/KINGDON, P.A.
210 S. MARKET WICHITA, KANSAS 67202
PHONE 278-2824

DESIGN CITY STANDARD
DATE 4/18/77

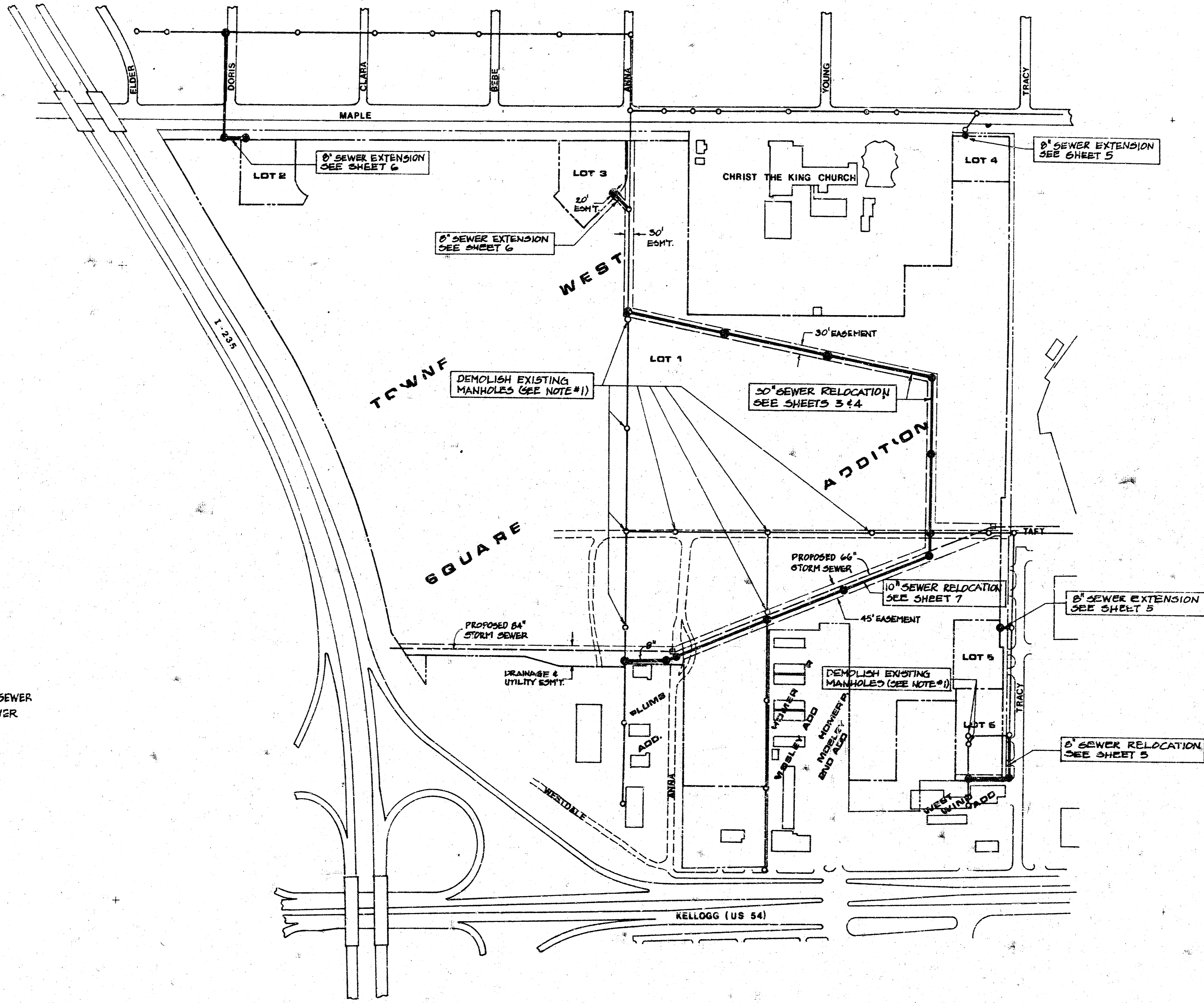
REVISED 4-18-77

DETAILS OF
SEWER APPURTENANCES
ADOPTED AS STANDARD DETAILS

BY
ENGINEERING DIVISION
CITY OF WICHITA, KANSAS

R. W. LINN CITY ENGINEER
1974

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NORTH
1" = 200'

LEGEND

- EXISTING SANITARY SEWER
- NEW SANITARY SEWER

- NOTES**
1. Sanitary Sewer Contractor shall be responsible for all materials and labor necessary to demolish the existing manholes noted on this sheet. Demolition of manholes shall include the removal of the cast iron lids and frames, removal of the upper five (5) feet of the brick stack, plugging the ends of the sewer pipe being abandoned with masonry, and filling the remainder of the manholes with sand. All work shall be done in accordance with City of Wichita requirements.
 2. Existing frames and covers from the demolished manholes will be re-used on new manholes wherever castings are in good condition.
 3. Sanitary Sewer Contractor shall make arrangements with the City of Wichita, Engineering Department, for the city to do all the field engineering and inspection, and shall cover the costs in his bid proposal.
 4. Sanitary Sewer Contractor shall make arrangements with Campbell & Castle Consulting Engineers to locate in the field any and all property corners, easement locations, or other referenced points that may be required for the City of Wichita to complete their field layout.
 5. Sanitary Sewer Contractor shall provide Law/Kingdon, P.A. with a set of as-built prints showing final location and elevation of manhole covers and stubs.
 6. All stubs and openings for future 8" sewer connections shall be installed to permit construction of the future 8" sewers on a 0.4% grade. Temporary plugs shall be installed on all stubs or openings.
 7. All backfill shall be thoroughly compacted to prevent future settlement. All backfill within street right-of-ways shall meet City of Wichita requirements. All backfill within Lots 1 thru 6 inclusive, Towne West Square Add., shall be compacted to a minimum of 85% of Modified Proctor with a minimum moisture content of 3% above optimum. Excavated materials free of organics or other objectionable material may be used for backfill, however certain soils located on the site are not considered suitable for compaction by flooding or jetting. If flooding or jetting is utilized for compaction, an approved, independent testing laboratory shall verify the suitability of the backfill material for flooding and shall have the authority to reject the backfill operation. All costs of the testing laboratory shall be direct to the contractor.
 8. In-place compaction tests shall be performed by an approved, independent testing laboratory on all sewers within the limits of Towne West Square Add. Compaction tests shall be taken at 200-foot intervals along the centerline of the sewer at an elevation equal to 12 inches below the finished grade as shown on the profiles.
 9. Sanitary Sewer Contractor will be required to verify all existing sewer elevations at points of connection. All other utility crossings are shown from the best possible records, however the Sanitary Sewer Contractor shall be responsible to verify their exact location and elevation.
 10. Reinforced concrete pipe for sanitary sewers shall be plastic lined over the upper 300' segment of the pipe. Plastic lining shall be Amer-Plate T-Lock, B.F. Goodrich Lok-Rib Koroseal, or an approved equal. Reinforced concrete pipe to be Class IV. Contractor to backfill to existing ground elevation. Manhole covers to be constructed to the elevation shown. Mark all M.H. cover locations with steel fence posts where below existing ground surface.
 11. Contractor may use P.V.C., Clay, Ductile Iron, or Cast Iron pipe as approved by the City of Wichita in lieu of A.B.S. as shown on the plans.
 12. All 6" and 8" stubs shall extend a minimum of 5' outside of the manhole. Install 6" stubs at 1% grade and 8" stubs at 0.4% grade. Contractor to compact soil under stubs to prevent settlement.

**TOWNE WEST SQUARE
SANITARY SEWER RELOCATIONS**

LOCATION AND DEMOLITION PLAN

LAW/KINGDON, P.A. 315 W. MARKET WICHITA, KANSAS 67202 PHONE (316) 268-8800 ARCHITECTS & ENGINEERS	FRONTIER 11/21/77 SHEET 2 OF 11
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DBRW 707075

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TOWNE WEST SQUARE
SANITARY SEWER RELOCATIONS

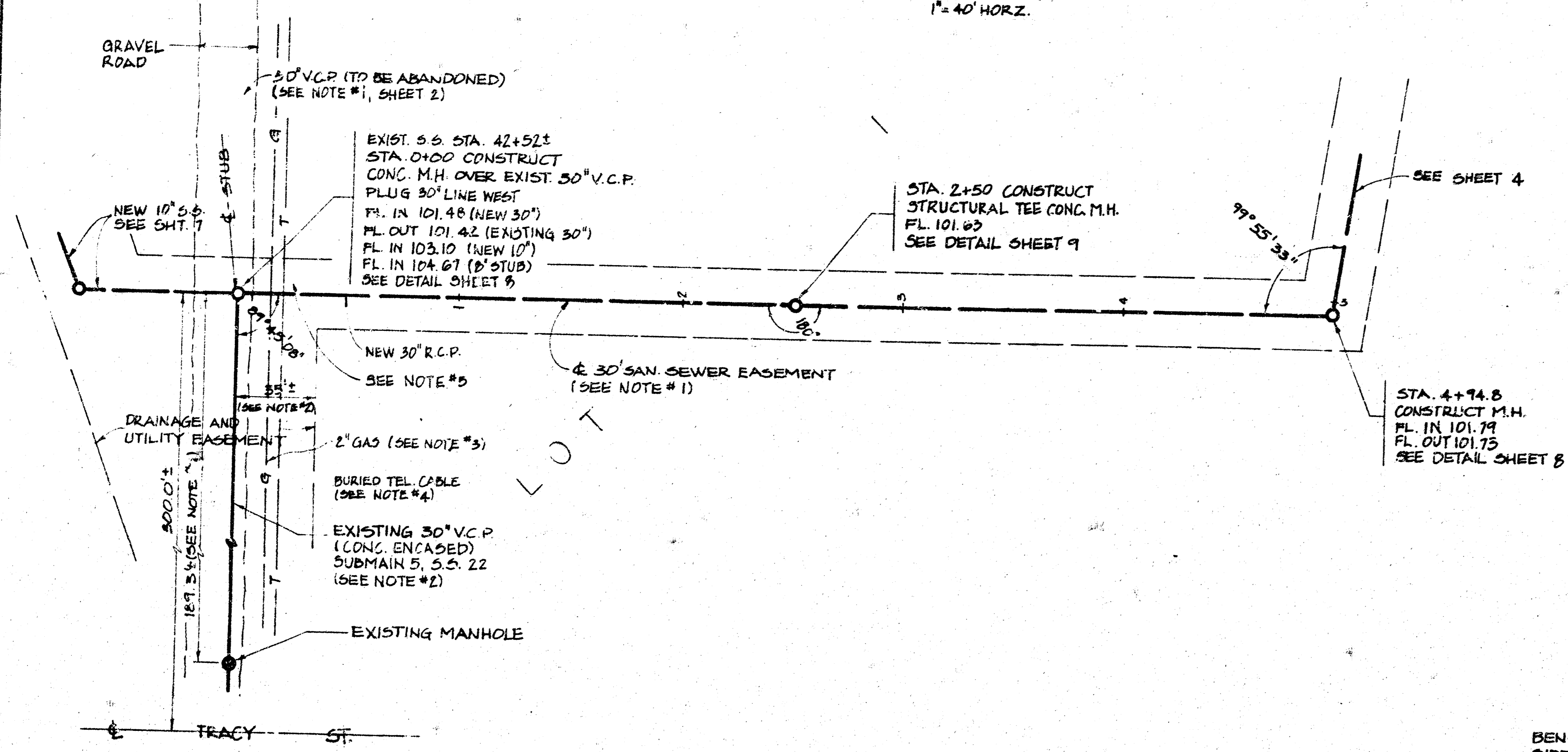
RELOCATION OF SUBMAIN 5,
 SANITARY SEWER No. 22

LAW KINGSDON, P.A. 313 S. MARKET W. CHICAGO, ILL. 60607 PHONE 312/266-8888 ARCHITECTS & ENGINEERS	TGR/ 1/12/77
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SHEET 3 OF 11

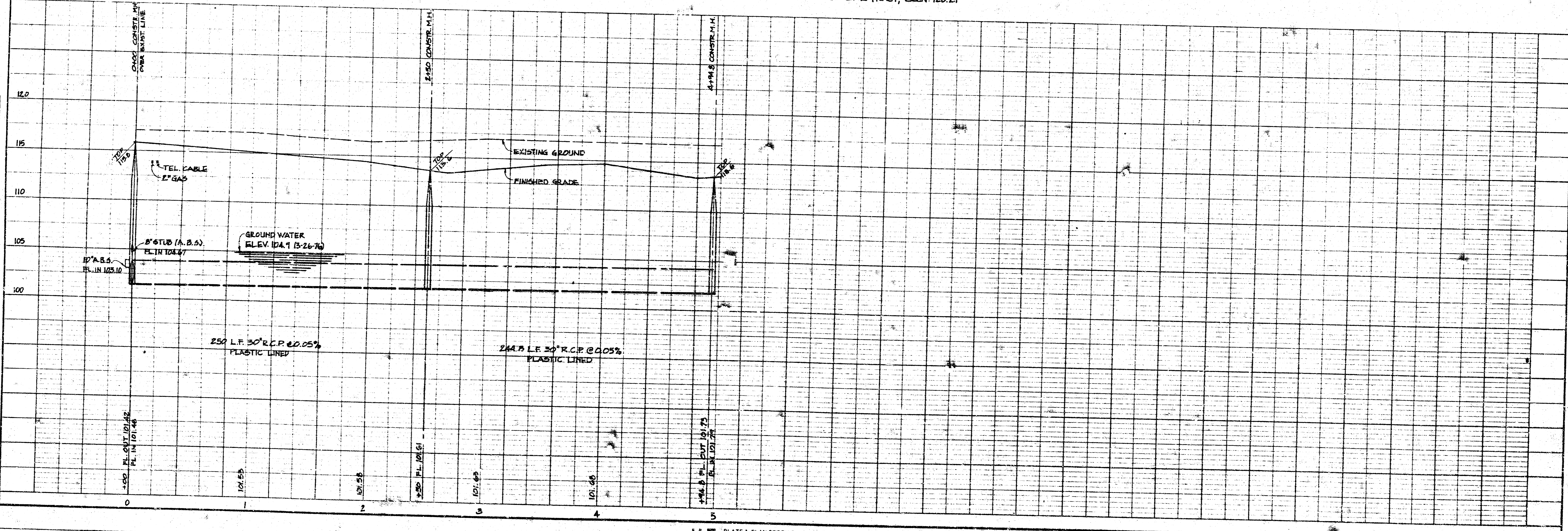
NORTH

PLAN SCALE 1" = 40'
 PROFILE 1" = 5' VERT.
 1" = 40' HORIZ.



- NOTES**
1. REFER TO NOTE #5, SHEET 2, FOR FIELD LOCATION OF EASEMENT.
 2. EXISTING 30" V.C.P. IS NOT PARALLEL TO EASEMENT.
 3. EXISTING 2" GAS LINE TO BE ABANDONED BY GAS CO. COORDINATE WITH ARKLA GAS CO.
 4. EXISTING BURIED TELEPHONE CABLE TO BE ABANDONED BY S.W. BELL. CONTACT S.W. BELL PRIOR TO EXCAVATION.
 5. EXISTING POWER POLE TO BE REMOVED BY K.G. & E. PRIOR TO CONSTRUCTION.

BENCH MARK - CHISELED "I" ON TOP NORTH
 SIDE OF LIGHT POLE BASE, 40' S. & TAFT +
 50' E. & TRACY, ELEV. 120.21



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TOWNE WEST SQUARE
SANITARY SEWER RELOCATIONS
 RELOCATION OF SUBMAIN 5,
 SANITARY SEWER No. 22

LAW/KINGDON, P.A.
 213 S. MARKET WICHITA, KANSAS 67202
 PHONE (316) 268-8888

TCR /
 9/20/77

ARCHITECTS & ENGINEERS SHEET 4 OF 11

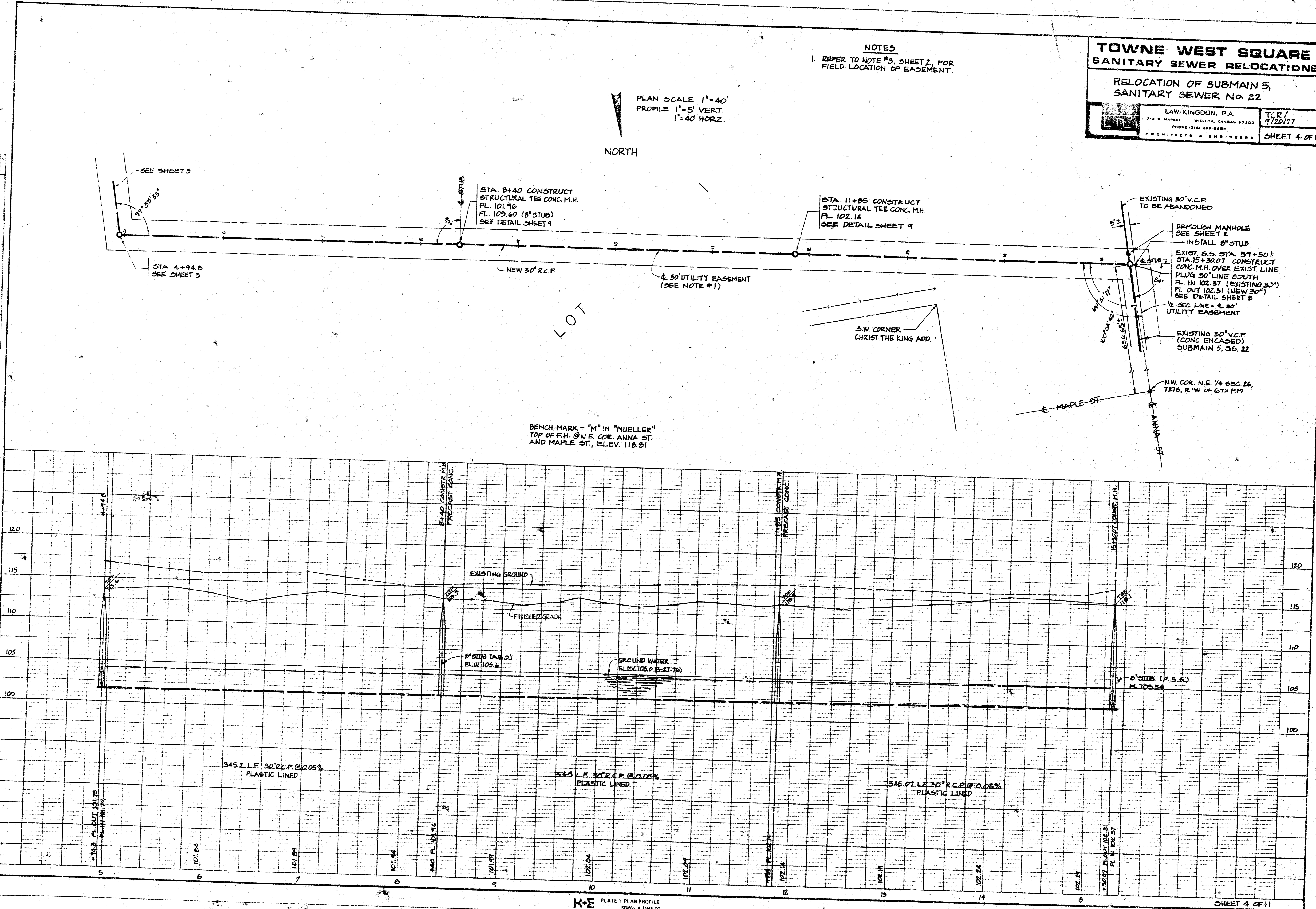
NOTES
 1. REFER TO NOTE #3, SHEET 2, FOR
 FIELD LOCATION OF EASEMENT.

PLAN SCALE 1"=40'
 PROFILE 1"=5' VERT.
 1"=40' HORZ.

NORTH

PLAN
 DATE: _____
 DRAWN BY: _____
 CHECKED BY: _____
 NO. _____

PROFILE
 DATE: _____
 DRAWN BY: _____
 CHECKED BY: _____
 NO. _____



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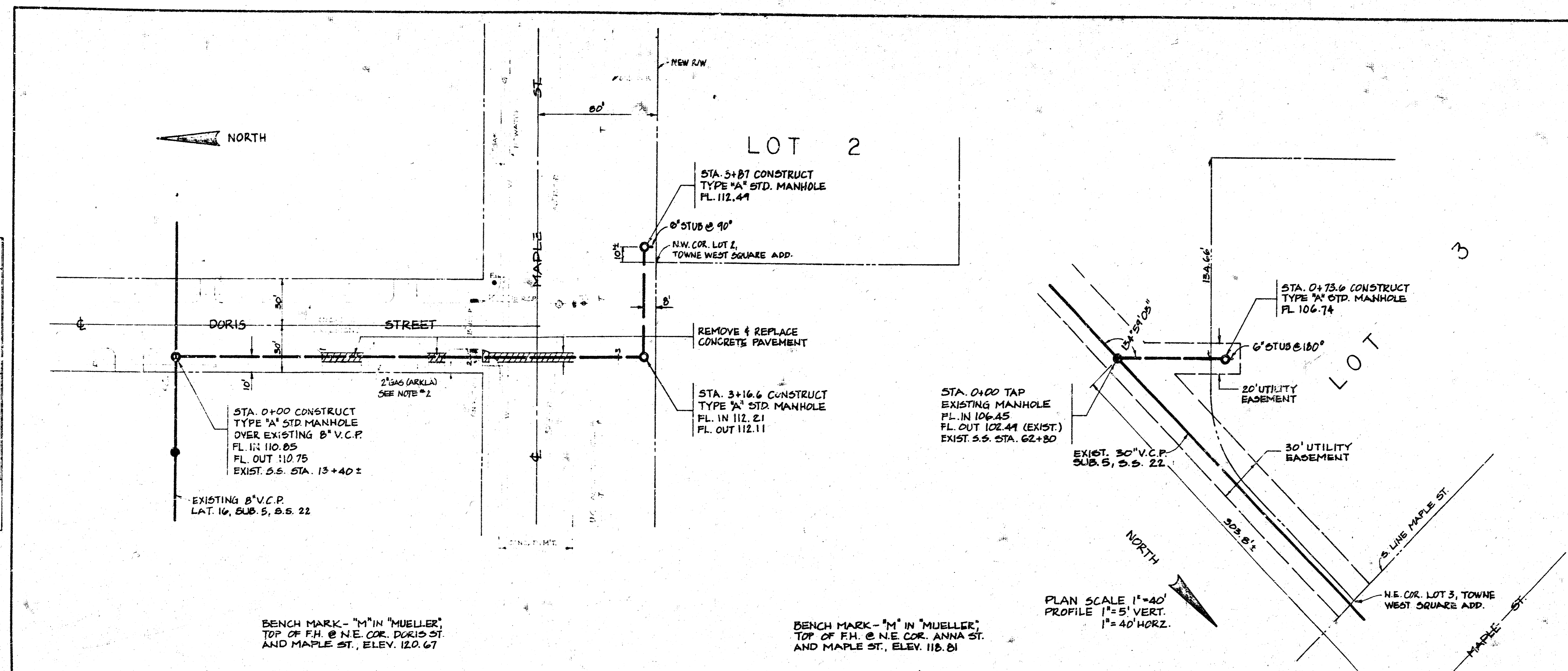
**TOWNE WEST SQUARE
SANITARY SEWER RELOCATIONS**

EXTENSION OF LAT. 16, SUB. 5, S.S. No. 22
AND LATERAL FROM SUB. 5, S.S. No. 22

LAW/KINGDON, P.A.
315 S. MARKET STREET, KANSAS CITY, MO. 64108
PHONE (816) 268-0884
ARCHITECTS & ENGINEERS
TC 4/20/77
SHEET 6 OF 11

NOTES

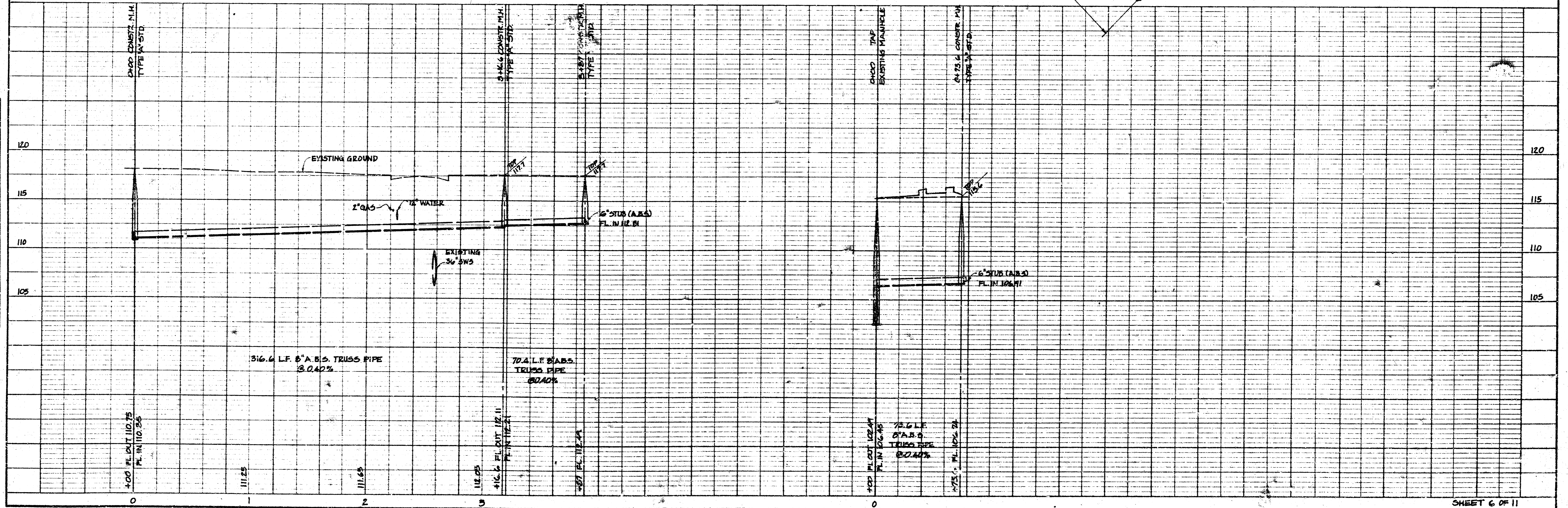
1. CONTRACTOR MAY USE STANDARD TYPE "C" MANHOLES IN LIEU OF TYPE "A" AS SHOWN.
2. CONTRACTOR TO CONTACT ARKLA GAS CO. AND FIELD LOCATE 2" GAS LINE PRIOR TO CONSTRUCTION.



BENCH MARK - "M" IN "MUELLER", TOP OF F.H. @ N.E. COR. DORIS ST. AND MAPLE ST., ELEV. 120.67

BENCH MARK - "M" IN "MUELLER", TOP OF F.H. @ N.E. COR. ANNA ST. AND MAPLE ST., ELEV. 118.81

PLAN SCALE 1"=40'
PROFILE 1"=5' VERT.
1"=40' HORIZ.



PLAN

DATE	
BY	
REVISION	
NO. 1	
NO. 2	
NO. 3	
NO. 4	
NO. 5	
NO. 6	
NO. 7	
NO. 8	
NO. 9	
NO. 10	
NO. 11	
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NO. 40	
NO. 41	
NO. 42	
NO. 43	
NO. 44	
NO. 45	
NO. 46	
NO. 47	
NO. 48	
NO. 49	
NO. 50	

PROFILE

DATE	
BY	
REVISION	
NO. 1	
NO. 2	
NO. 3	
NO. 4	
NO. 5	
NO. 6	
NO. 7	
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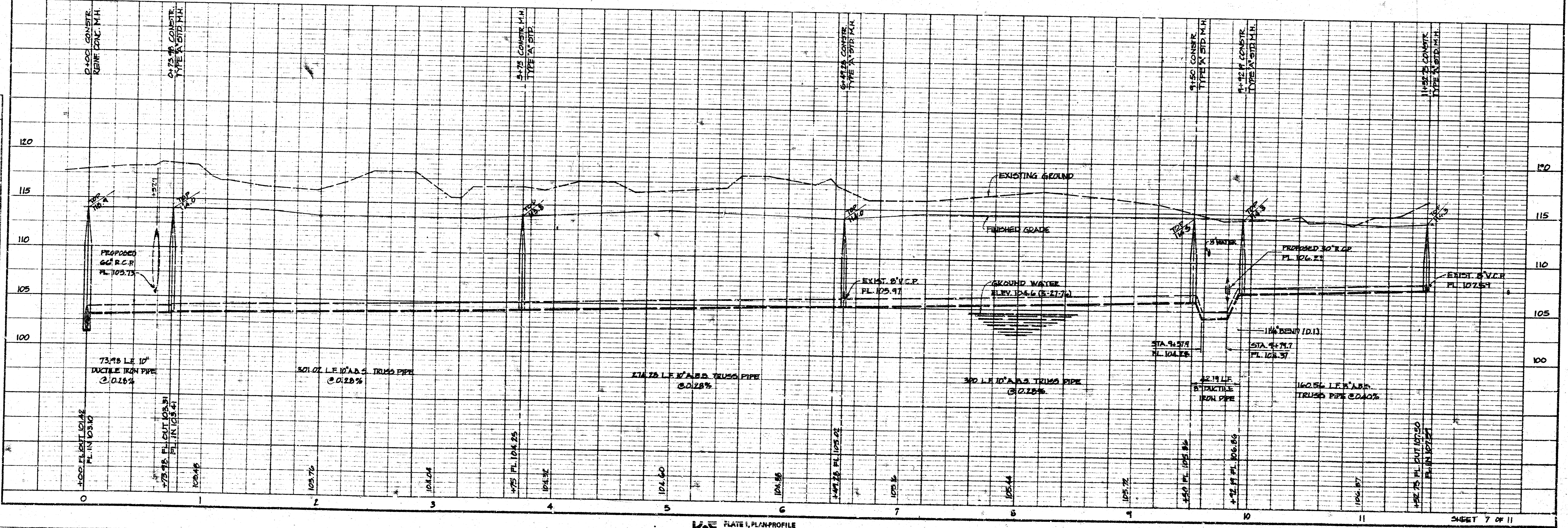
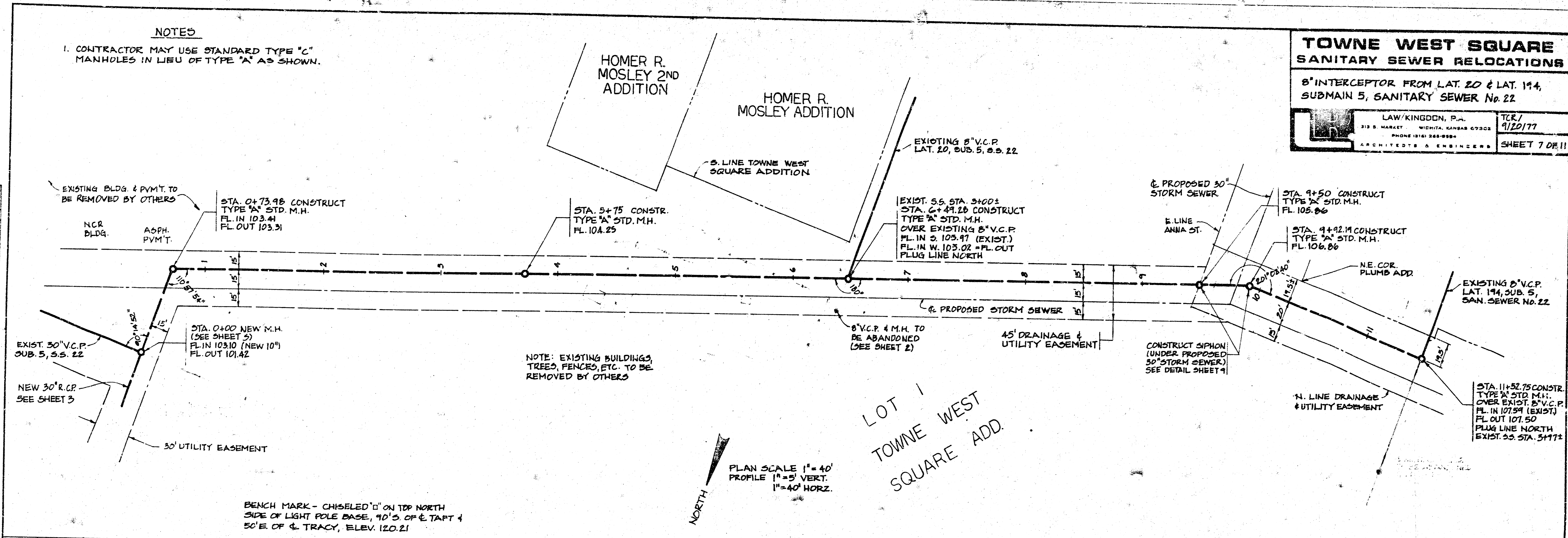
NOTES

1. CONTRACTOR MAY USE STANDARD TYPE "C" MANHOLES IN LIEU OF TYPE "A" AS SHOWN.

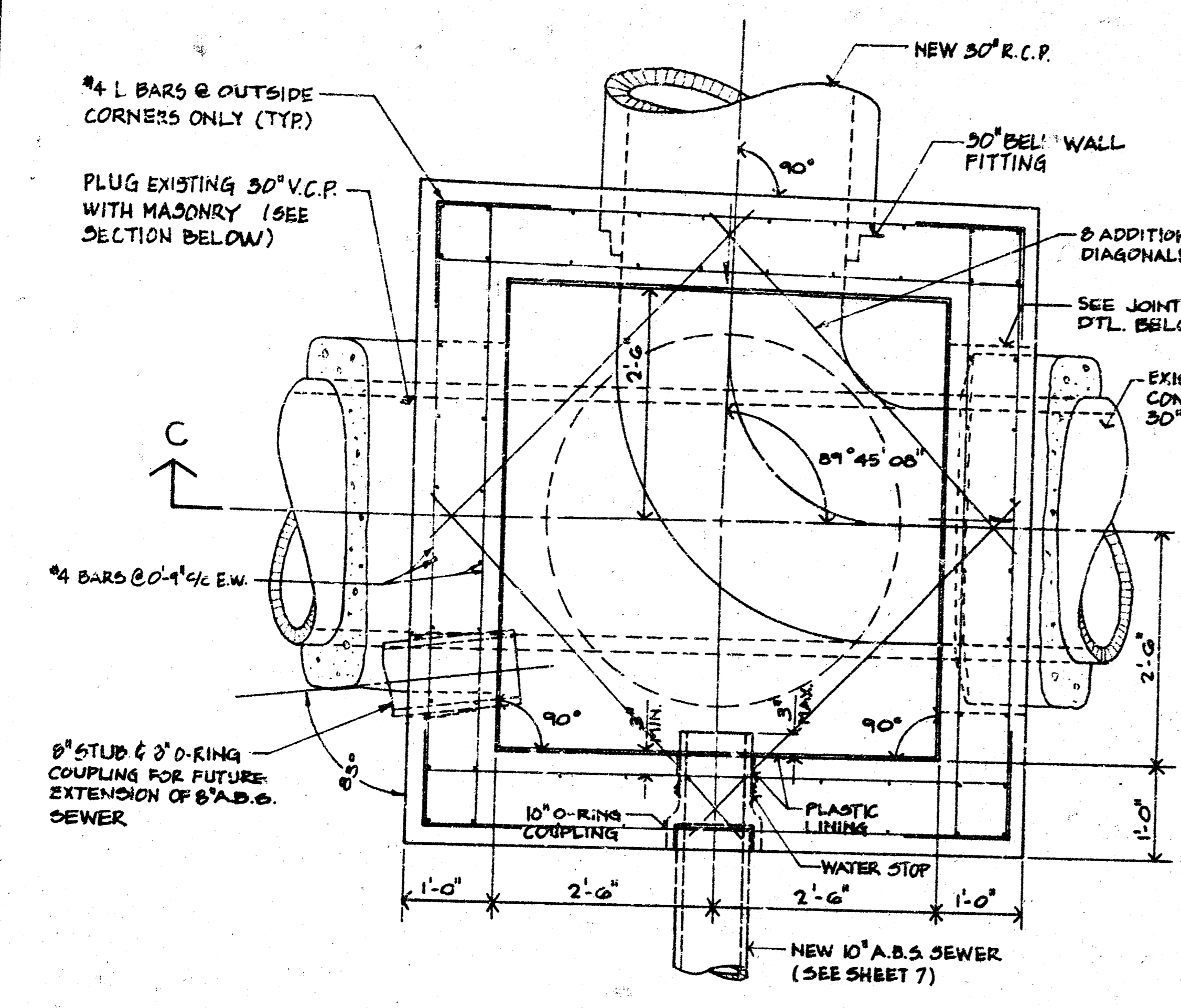
**TOWNE WEST SQUARE
SANITARY SEWER RELOCATIONS**

8" INTERCEPTOR FROM LAT. 20 & LAT. 194,
SUBMAIN 5, SANITARY SEWER No. 22

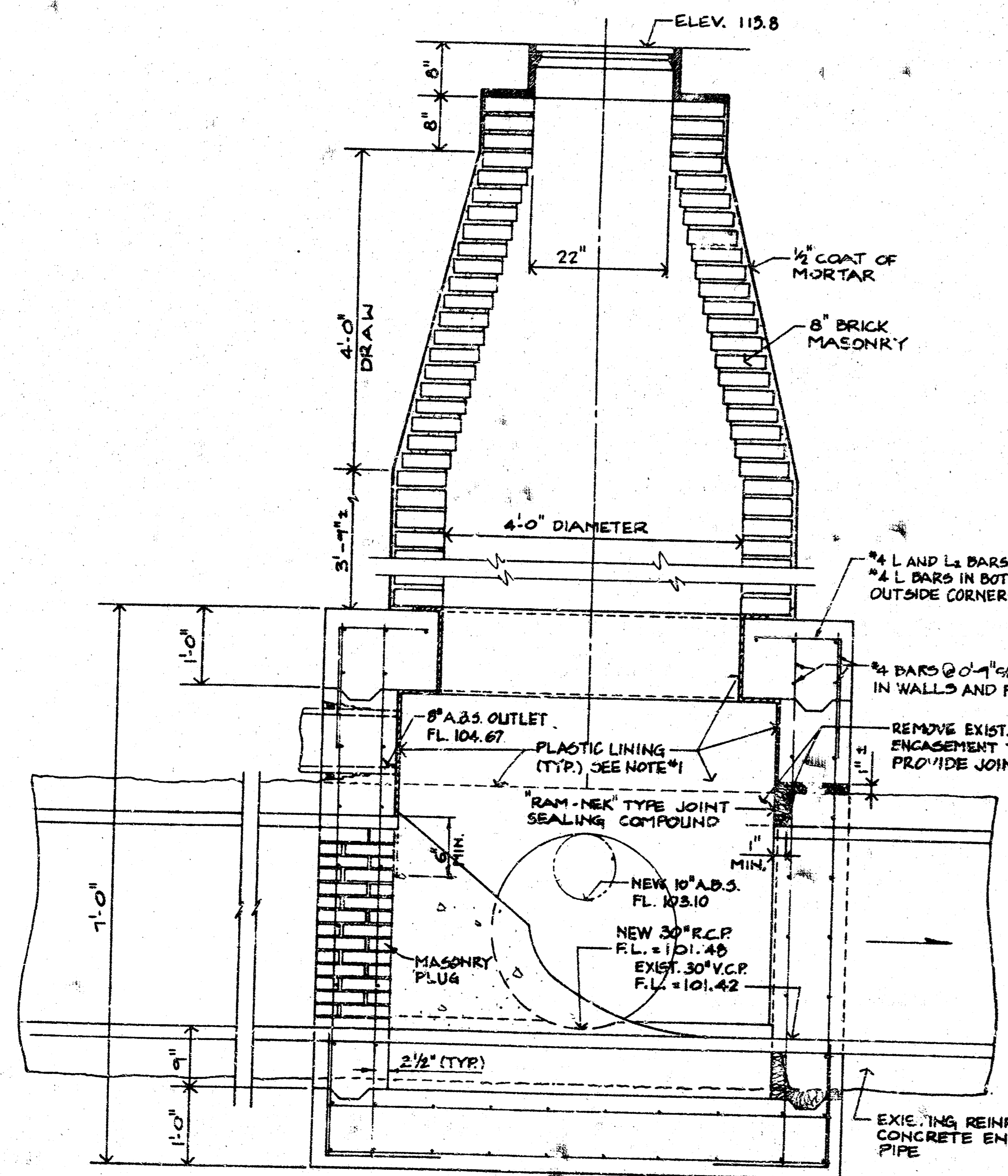
	LAW/KINGDON, P.A. 313 S. MARKET WICHITA, KANSAS 67202 PHONE (316) 268-0884 ARCHITECTS & ENGINEERS	TCR/ 9/20/77
	SHEET 7 OF 11	



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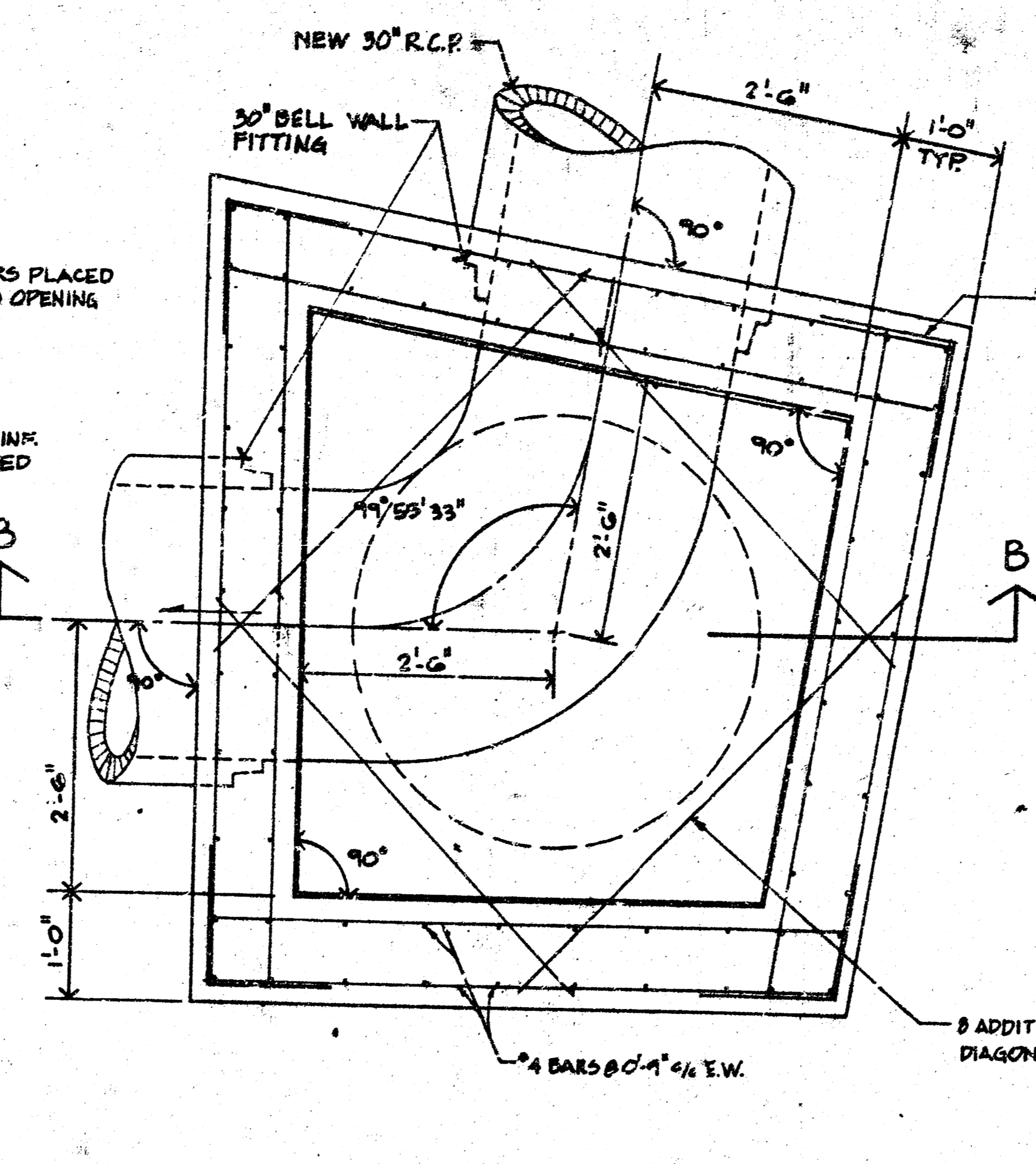


PLAN

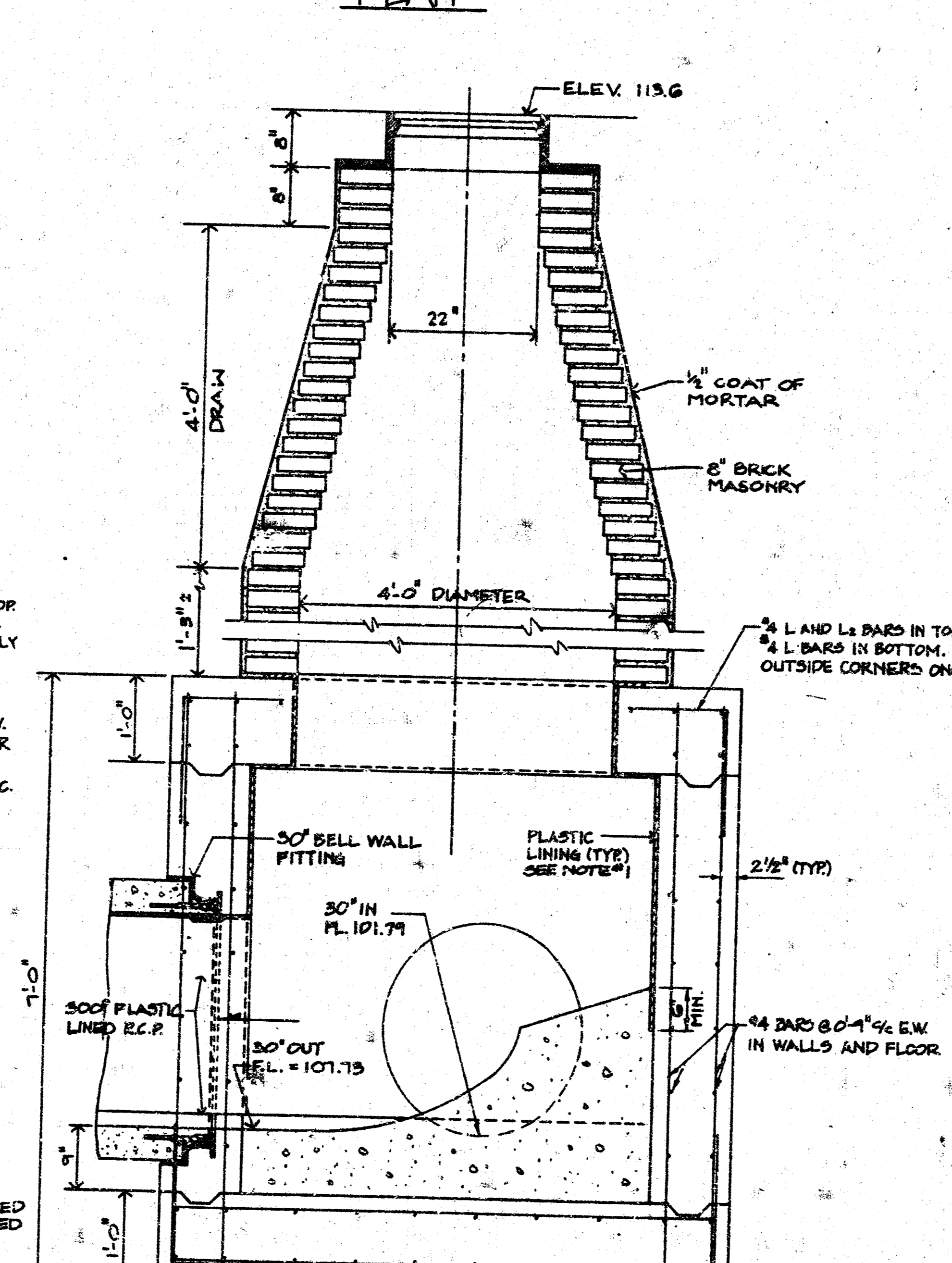


SECTION C-C

REINF. CONC. & BRICK M.H. @ STA. 0+00

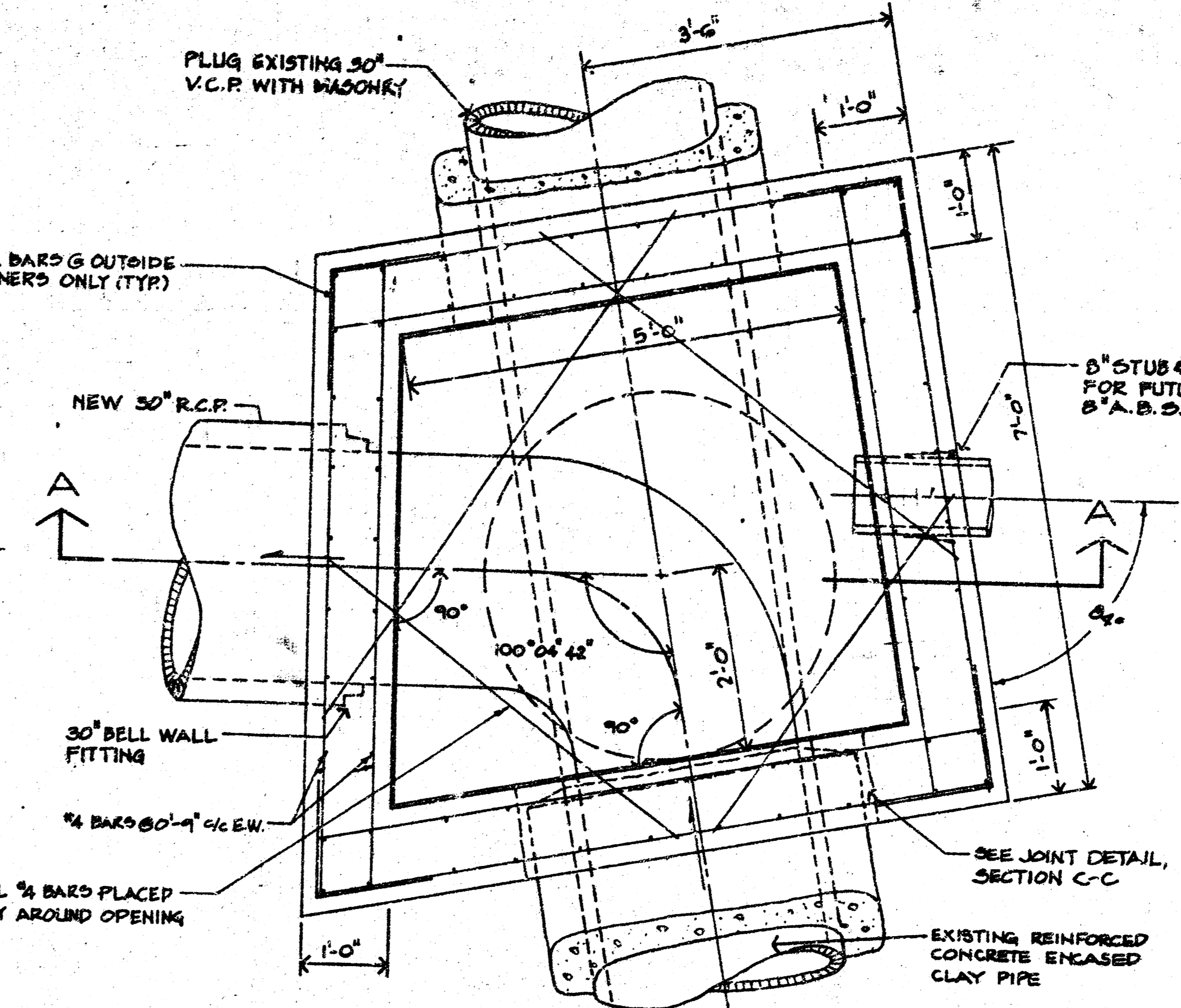


PLAN

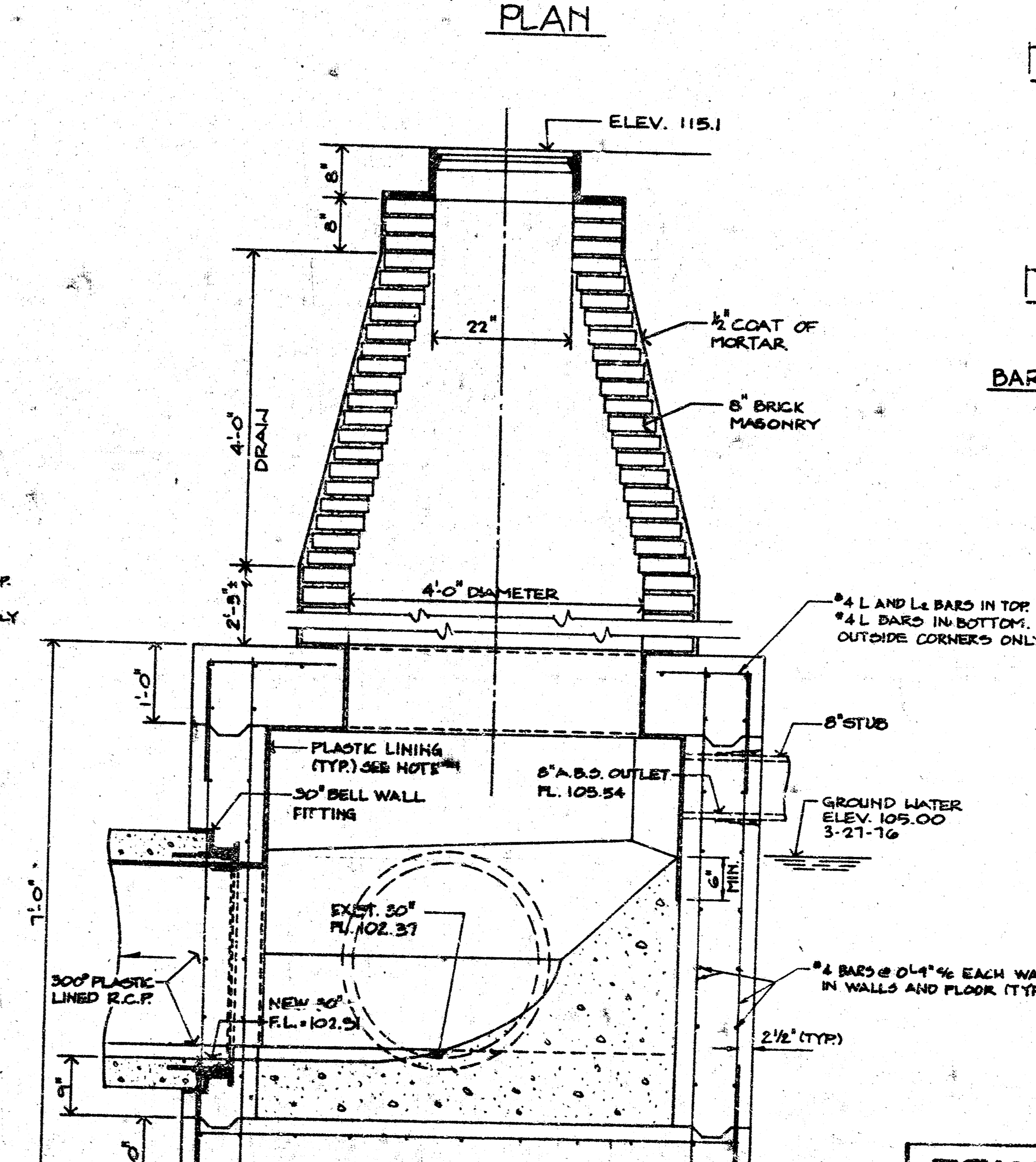


SECTION B-B

REINF. CONC. & BRICK M.H. @ STA. 4+94.8

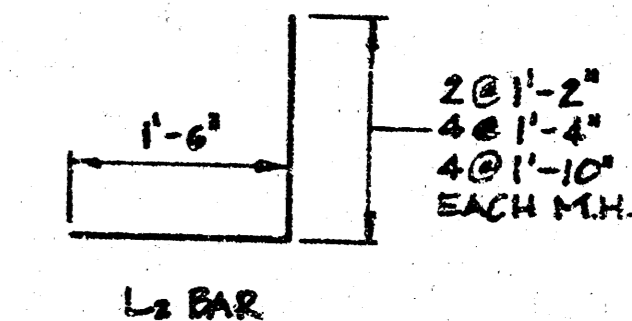
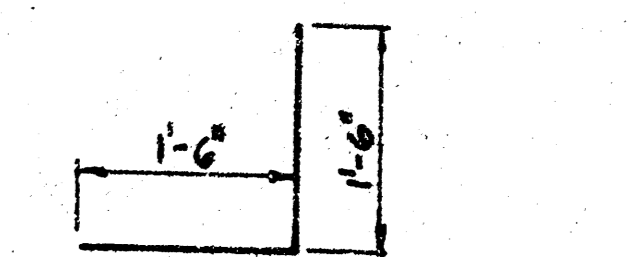


PLAN



SECTION A-A

REINF. CONC. & BRICK M.H. @ STA. 15+30.07



BAR BENDING DIAGRAM

GENERAL NOTES
 1. LINE MANHOLES WITH PLASTIC LINING (AMER-PLATE T-LOCK, B.F. GOODRICH LOK-RIB KORSEAL, OR APPROVED EQUAL).

TOWNE WEST SQUARE
SANITARY SEWER RELOCATIONS
 REINFORCED CONCRETE MANHOLE DETAILS

LAW/KINGDON, P.A.
 210 S. MARKET STREET, PHOENIX, ARIZONA 85004
 PHONE 314-881-8888

TCR / PFS
 9/20/77

ARCHITECTS & ENGINEERS
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