

SANITARY SEWER LAT. 321, SOUTHWEST INTERCEPTOR

TO SERVE A PART OF

WHEATLAND ADDITION TO SEDGWICK COUNTY, KANSAS

CITY OF WICHITA, KANSAS
M.E. LINDEBAK CITY ENGINEER

CITY PROJECT NO. 468-76-245-82291-000-000-001

INDEX NO. 743336

December 1997

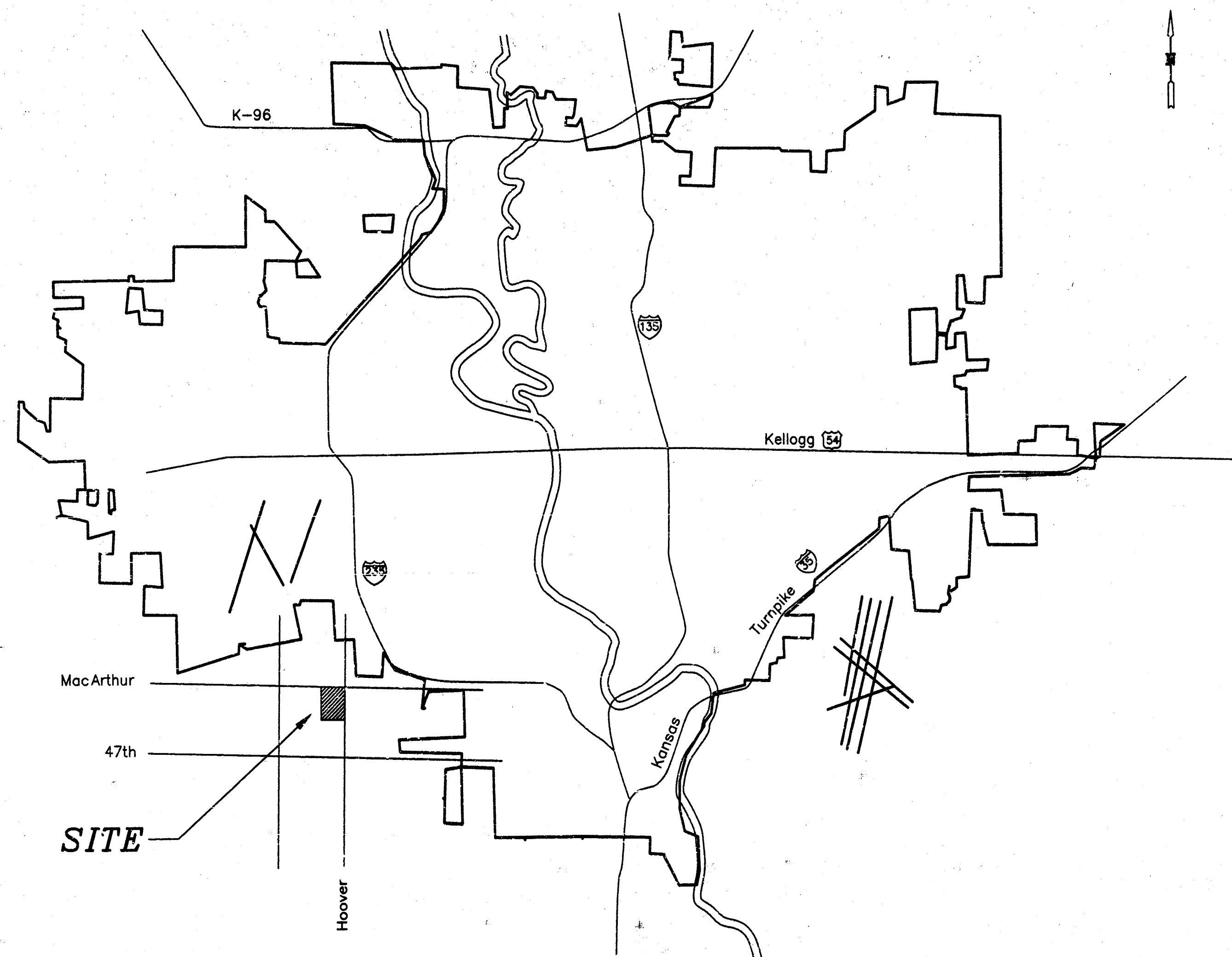
NOTES

1. THE CONTRACTOR WILL BE REQUIRED TO PROVIDE ADVANCE NOTICE OF TWENTY-FOUR (24) HOURS TO UTILITY COMPANIES PRIOR TO STARTING ANY EXCAVATION AS FOLLOWS:

KANSAS ONE-CALL	687-2470
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THE CONTRACTOR MUST NOTIFY THE FOLLOWING IN CASE OF EMERGENCY:

CABLEVISION	262-4270 OR 263-2061
KANSAS GAS & ELECTRIC (GAS)	263-7511
KANSAS GAS & ELECTRIC (ELECTRIC)	264-1141
ARKLA GAS COMPANY	942-8350 OR 263-8161
SOUTHWESTERN BELL TELEPHONE	1-571-2611
CITY OF WICHITA WATER DEPT.	268-4908
CITY OF WICHITA SEWER MAINTENANCE	268-4071
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROPERTY IRONS. THE CONTRACTOR WILL BE REQUIRED TO REESTABLISH ANY PROPERTY IRONS WHICH ARE DAMAGED OR DESTROYED BY HIS CONSTRUCTION OPERATIONS. SUCH IRONS SHALL BE REESTABLISHED BY A LICENSED LAND SURVEYOR IN ACCORDANCE WITH STATE LAWS.
3. UNLESS OTHERWISE SPECIFIED ON THE PLANS, MANHOLES MAY BE TYPE "P", "C" OR "D". MANHOLES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS AND THE STANDARD DETAIL DRAWINGS.
4. TRAFFIC WILL NOT BE AFFECTED IN THIS AREA OF CONSTRUCTION.
5. CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE AWAY FROM ALL MANHOLE COVERS.
6. CONTRACTOR SHALL GRADE THE SANITARY SEWER ALIGNMENT TO THE PROFILE AND ELEVATION SHOWN ON THE EASEMENT GRADING PLAN. ALL DISTURBED AREAS TO BE RESEEDDED USING TEMPORARY RYE GRASS AT A RATE OF 4 LBS. PER 1000 SQ. FT. WITHIN 14 DAYS UPON PROJECT COMPLETION. CONTRACTOR SHALL PREPARE GROUND AS PER CITY SPECIFICATIONS. ALL COSTS FOR GRADING AND SEEDING SHALL BE PAID AS EASEMENT GRADING.
7. CONTRACTOR TO EXPOSE EXISTING STUBS AT EXISTING MANHOLES TO CONFIRM THEIR ALIGNMENTS AND ELEVATIONS. IF NECESSARY THE CONTRACTOR SHALL ADJUST STUB. COST TO BE SUBSIDIARY TO OTHER ITEMS.



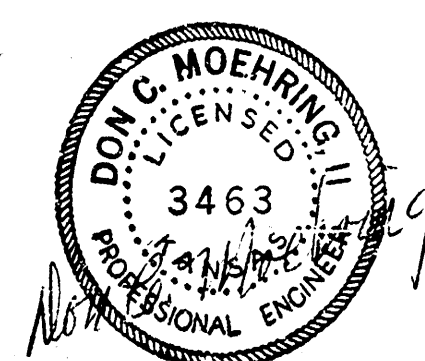
IMPROVEMENT DISTRICT DESCRIPTION

LOTS 4 THROUGH 11 INCLUSIVE, BLOCK C
LOTS 19 THROUGH 27 INCLUSIVE, BLOCK E
LOTS 8 THROUGH 13 INCLUSIVE, BLOCK G
LOTS 14 THROUGH 20 INCLUSIVE, BLOCK H
IN WHEATLAND ADDITION

INDEX

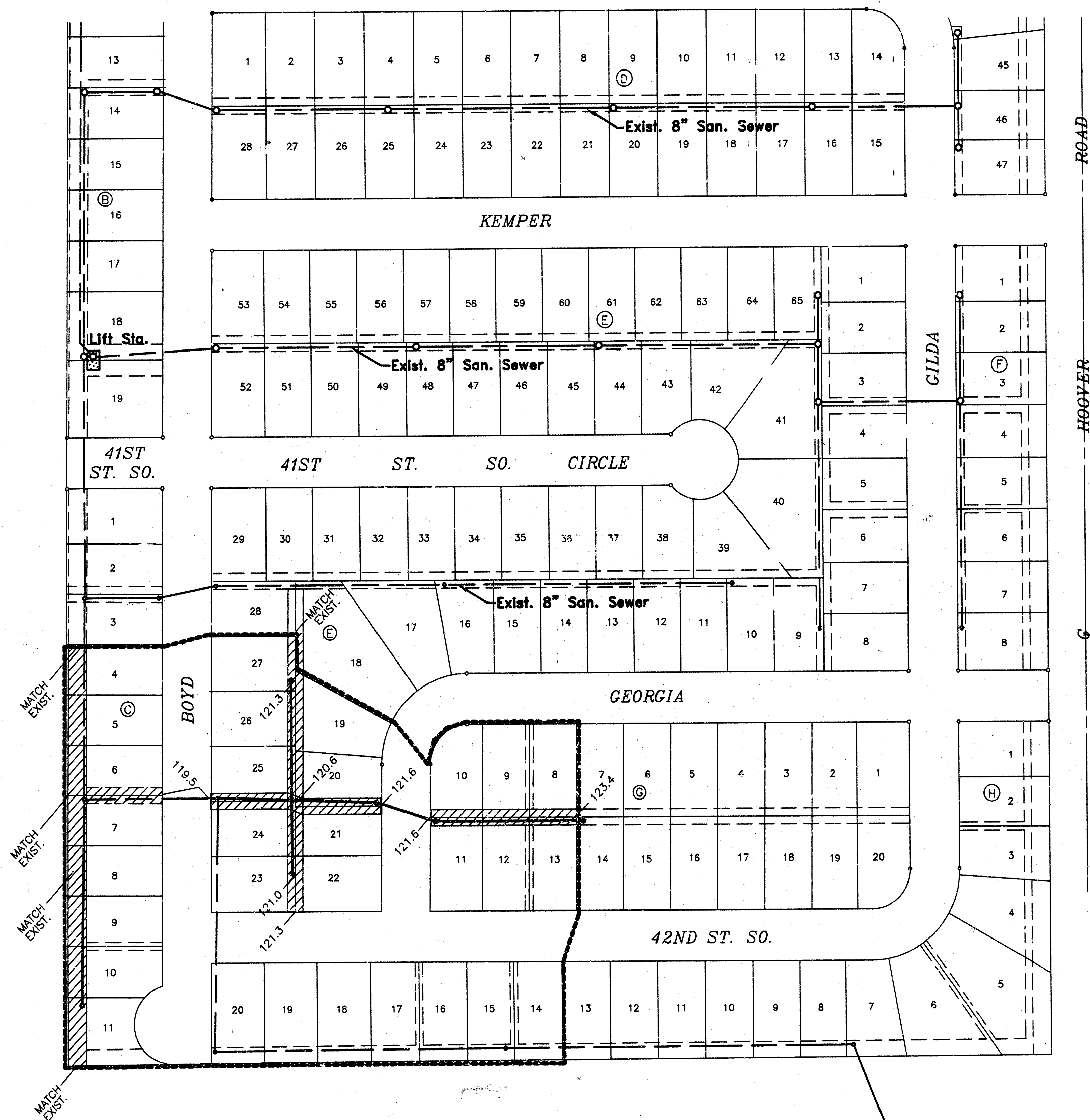
1. Cover Sheet
2. Key Map / Easement Grading Plan
3. Recorded Plat Wheatland Addition
- 4-5. Standard Manhole Details
6. Plan & Profile - Lines 1 & 2
7. Plan & Profile - Lines 2A & 2B

Booked
Per Plan
P-20
7/30/98
RDL



MOEHRING & ASSOCIATES
CONSULTING ENGINEERS
WICHITA

File name: C:\S013\WORK\WHISKY.DWG



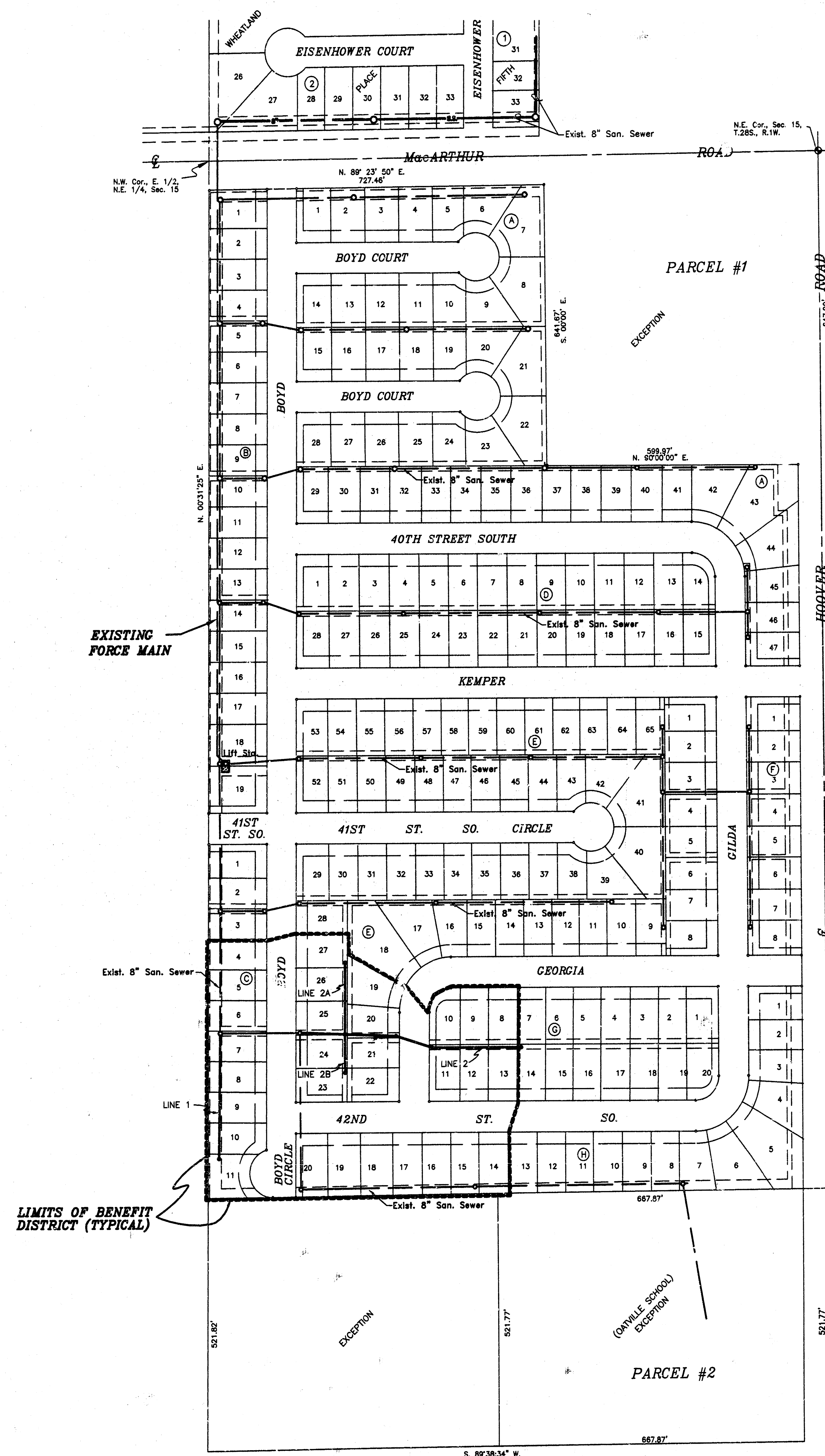
EASEMENT GRADING PLAN

1" = 100'

EARTHWORK QUANTITIES

C = 196 C.Y.

F = 101 C.Y.



WHEATLAND ADDITION SEDGWICK COUNTY, KANSAS

1" = 150'

BENCHMARKS

1. CHISELED SQUARE ON EAST EDGE OF LIFT STATION PAD, LOT 18, BLK. B, WHEATLAND ADDITION. ELEV. = 121.49 CITY DATUM.
2. TOP OF IRON IN THIMBLE AT C.L. HOOPER & McARTHUR. ELEV. = 122.45 CITY DATUM

KEY MAP / GRADING PLAN

MOEHRING & ASSOCIATES
CONSULTING ENGINEERS - SURVEYORS
433 S. HYDRAULIC WICHITA, KS.
(316) 263-8291

PROJECT NO. 468 82291

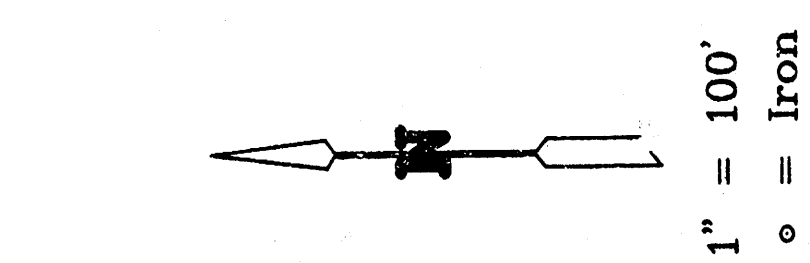
DATE: DECEMBER 1997

SHEET 2 OF 7

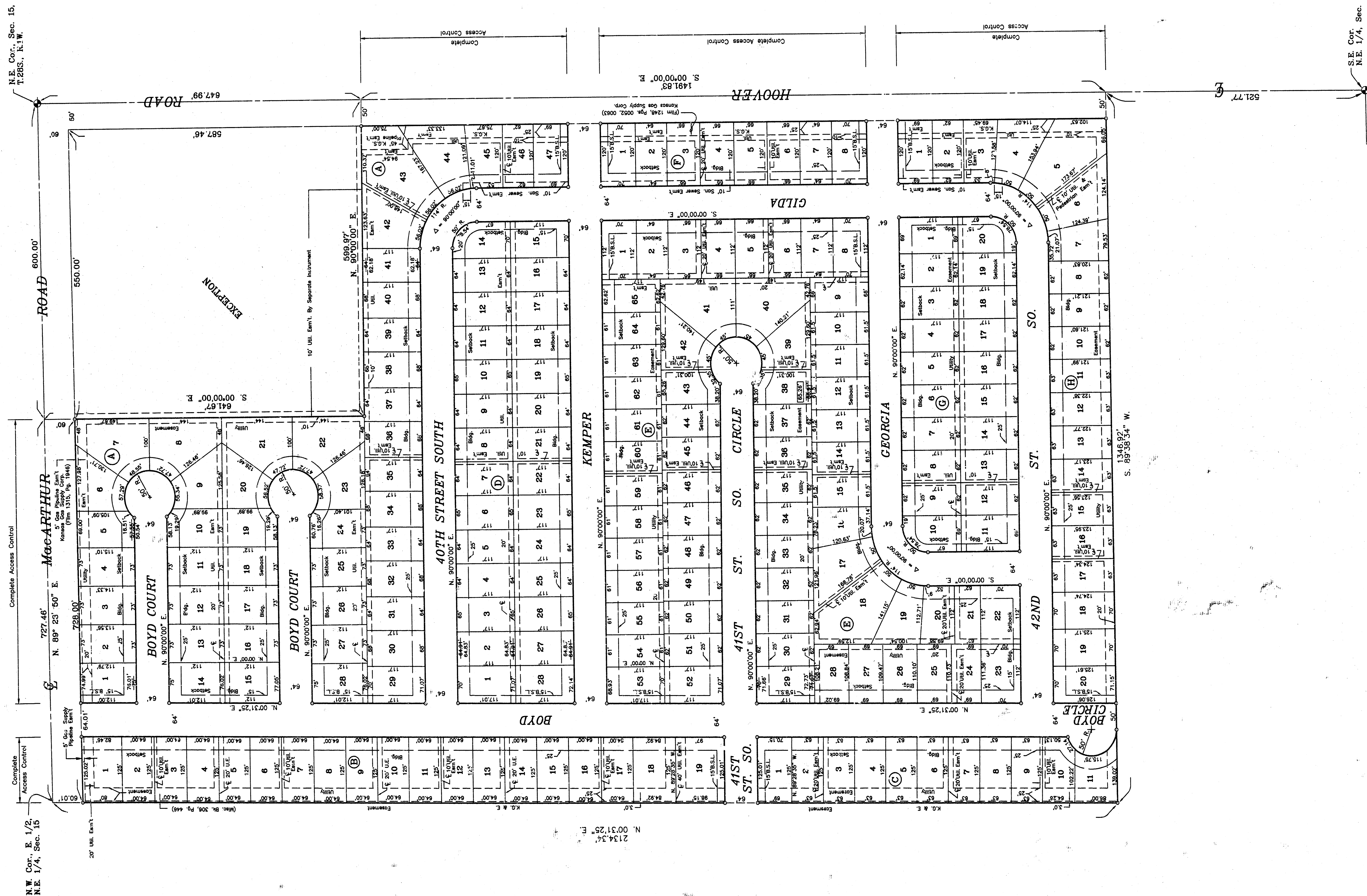
WHEATLAND ADDITION
SEDGWICK COUNTY, KANSAS

N.W. Cor., E. 1/2,
N.E. 1/4, Sec. 15

N.E. Cor., Sec. 15,
T.28S., R.1W.

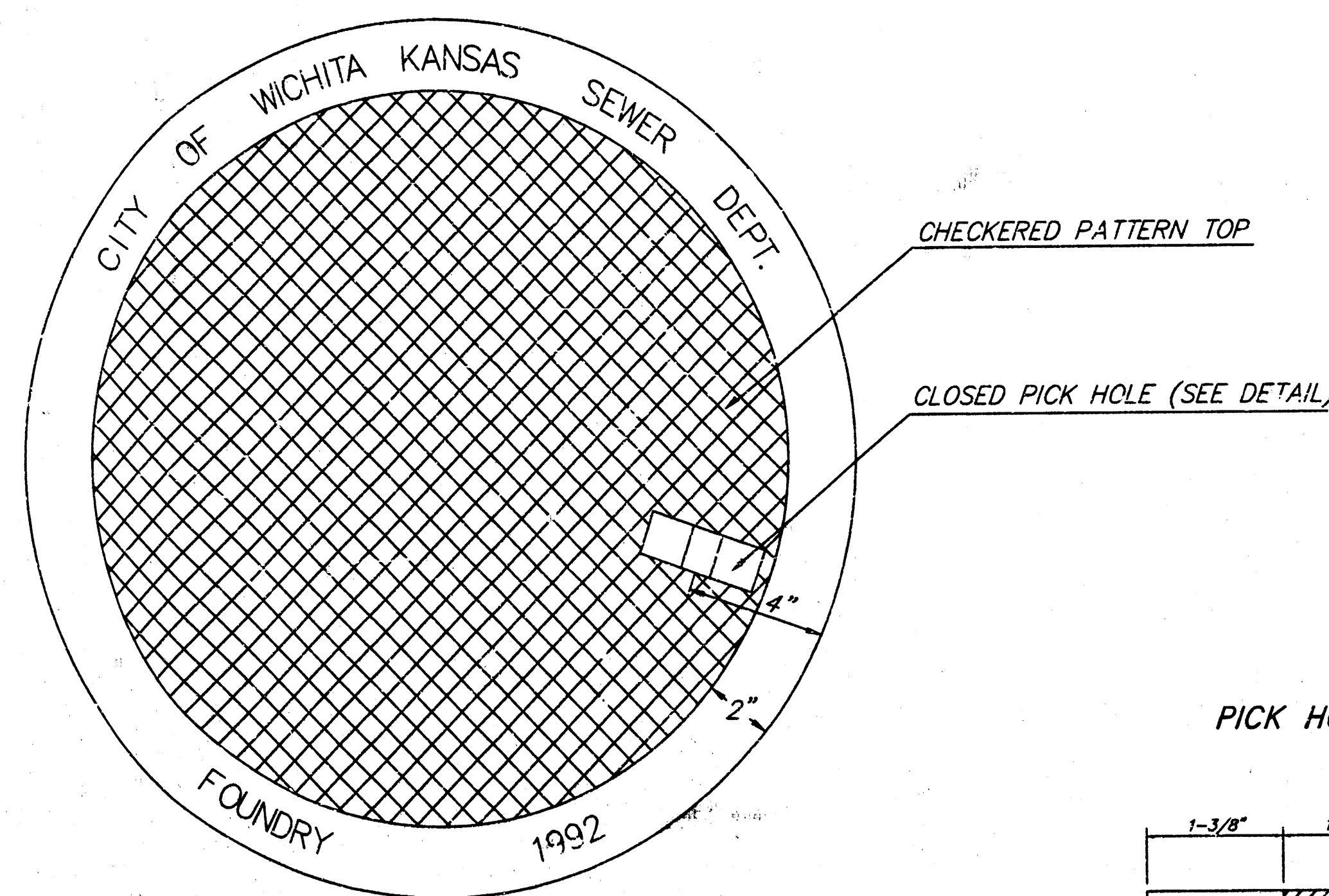


NOTE: DIMENSION CHANGES AS PER AFFIDAVIT

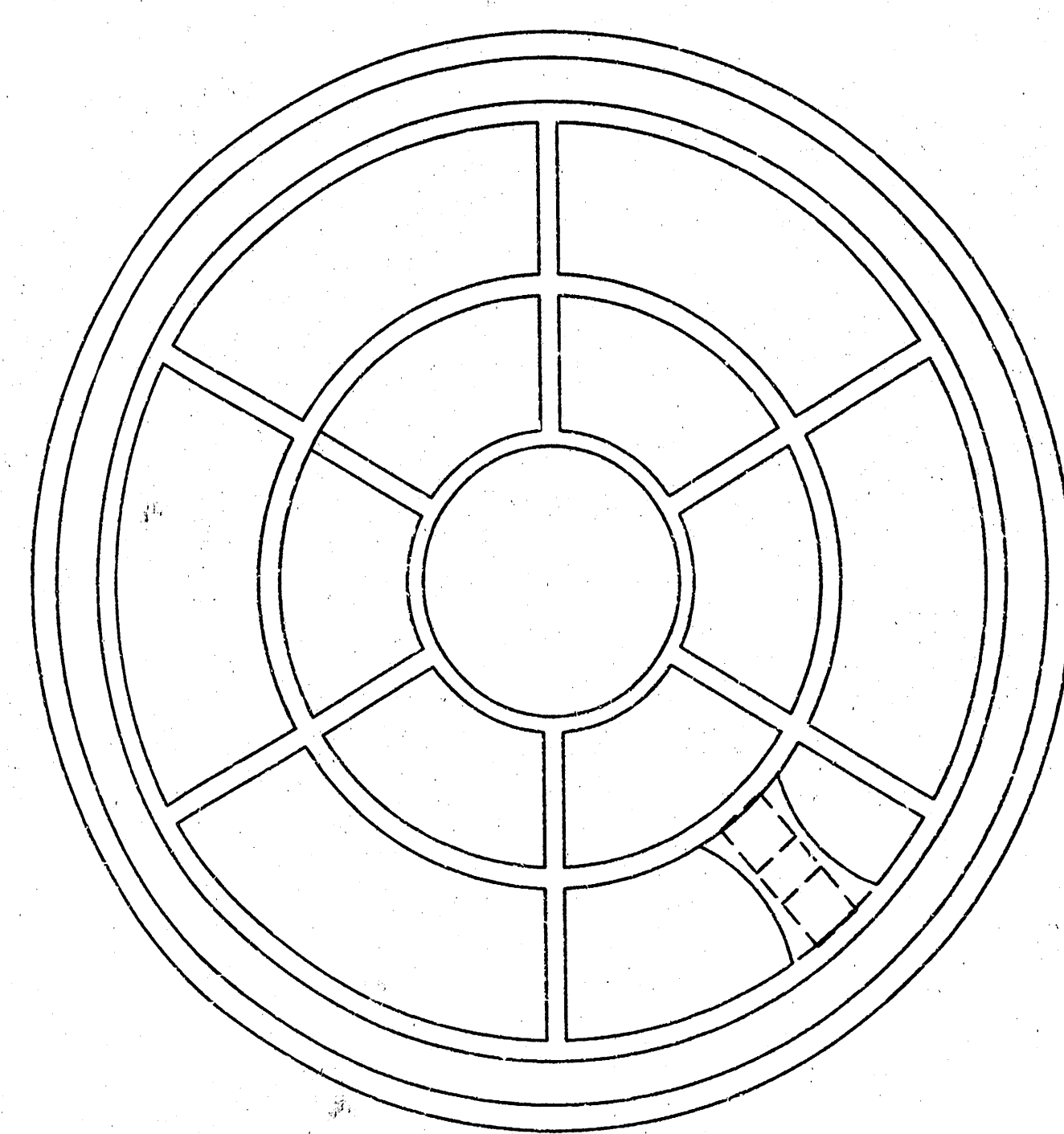


S.E. Cor.
N.E. 1/4, Sec. 15

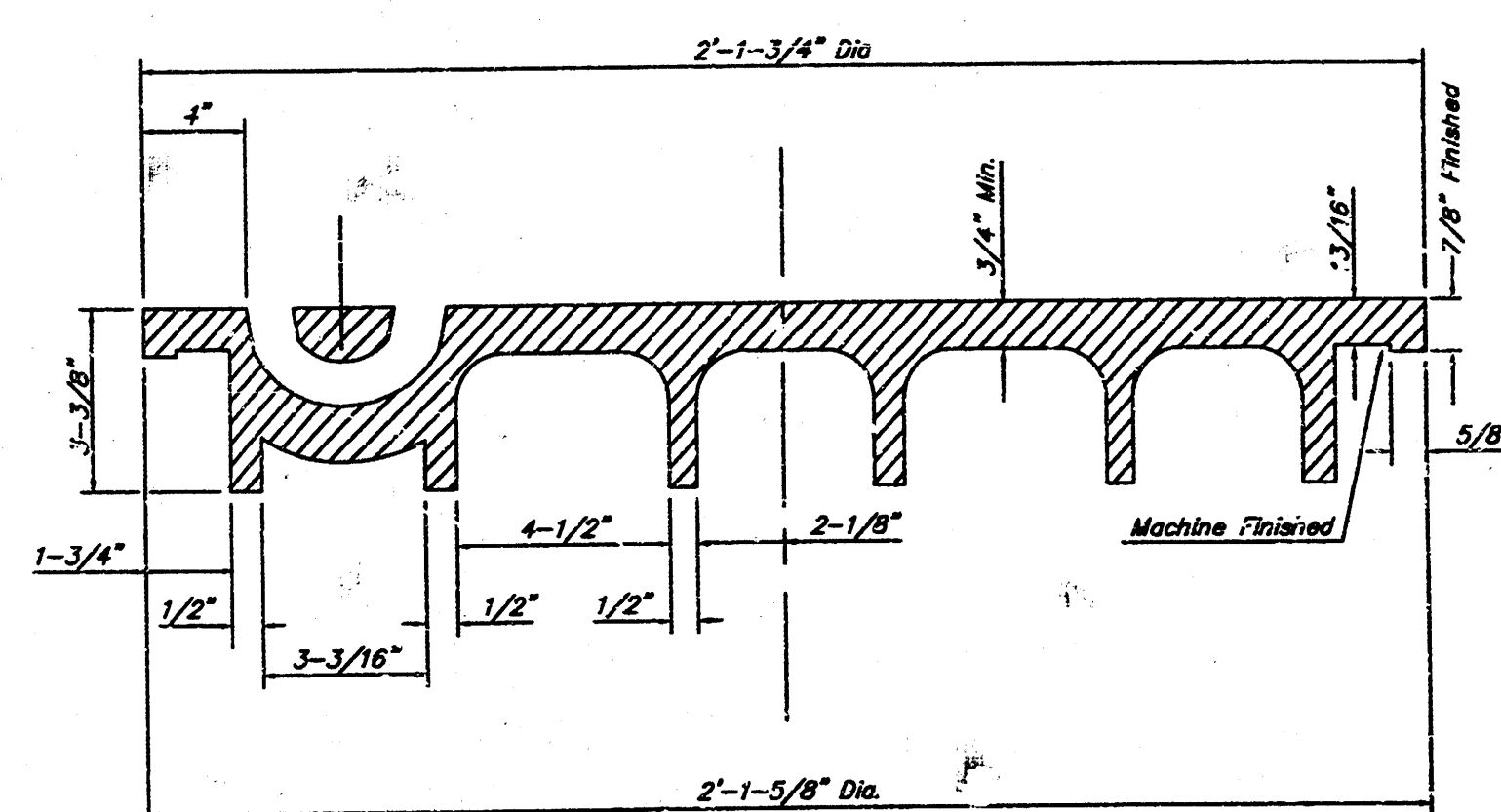
MANHOLE COVER
Weight = 180 Lbs.



TOP VIEW

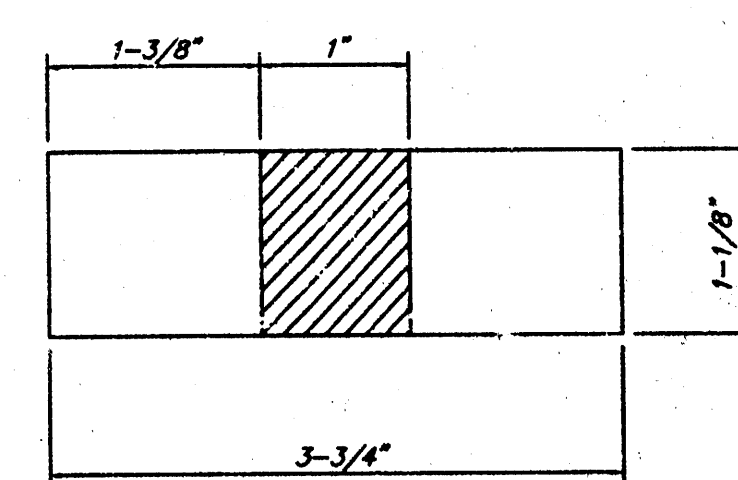


BOTTOM VIEW

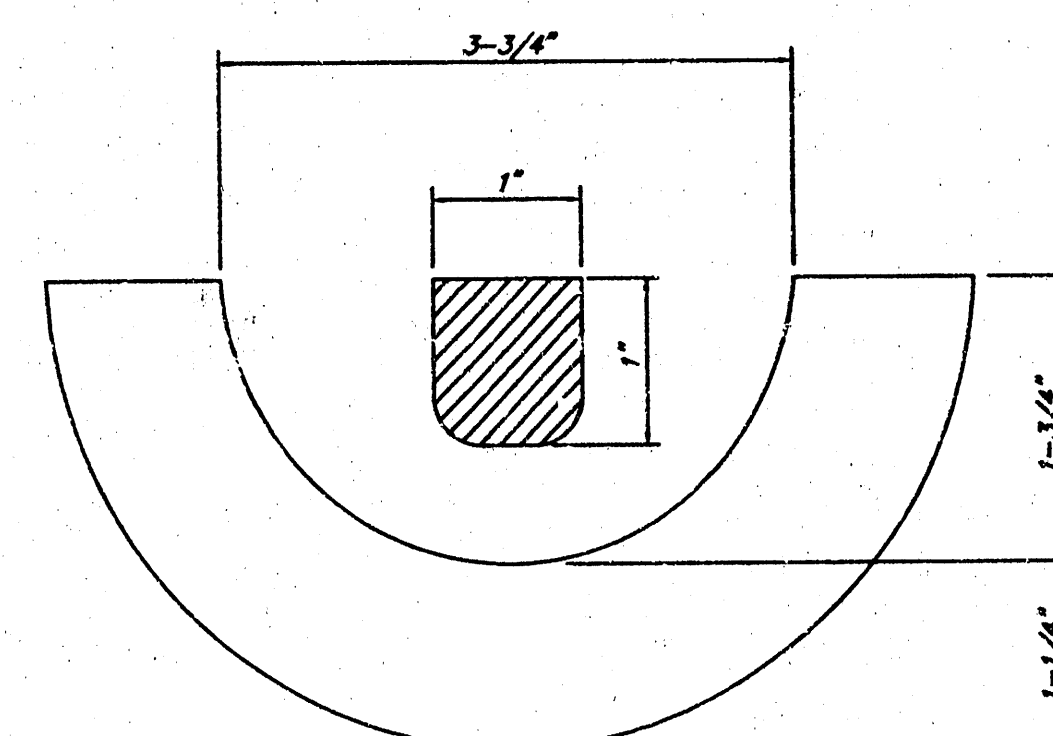


SECTION VIEW

PICK HOLE DETAIL



TOP VIEW

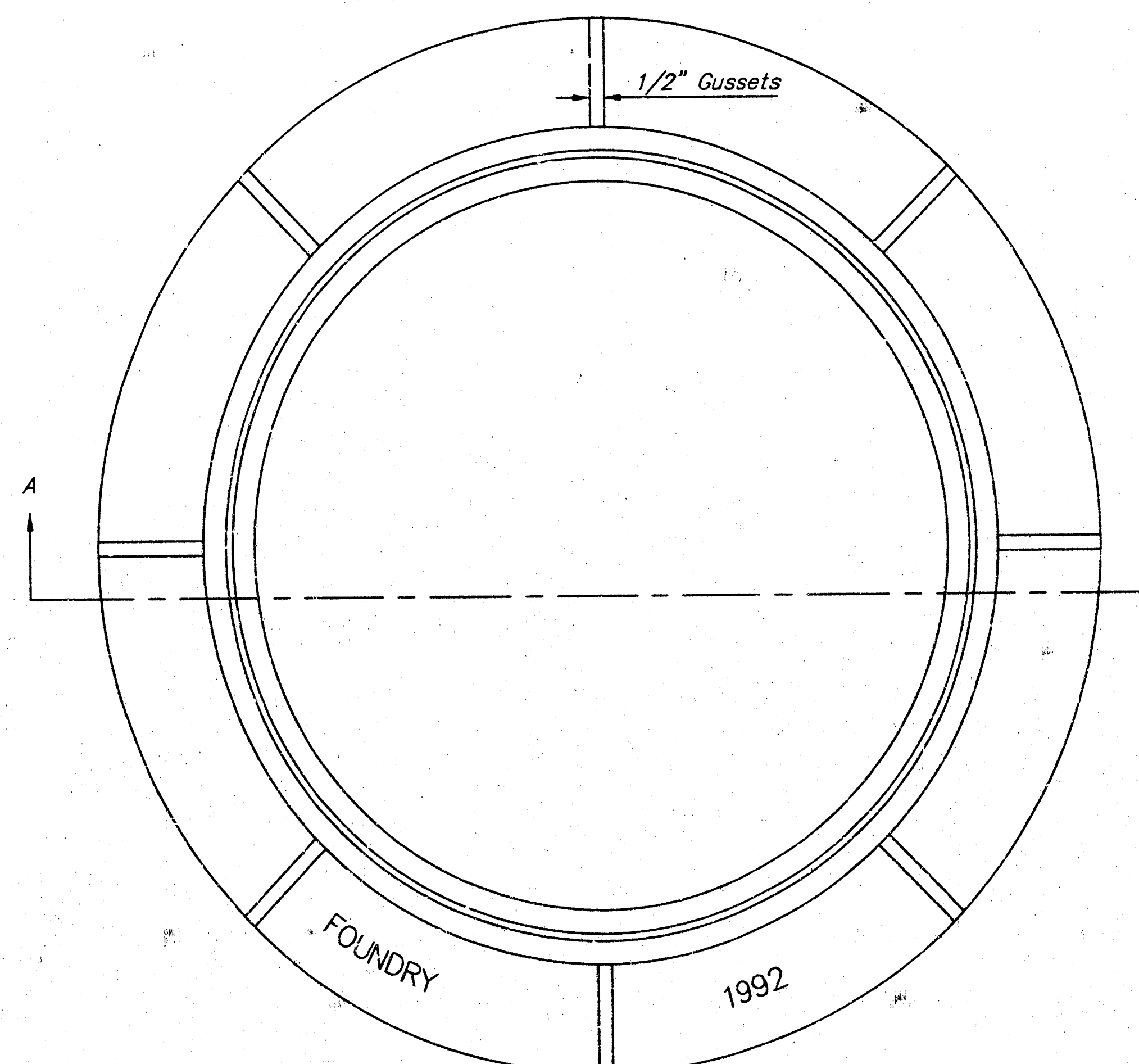


SECTION VIEW

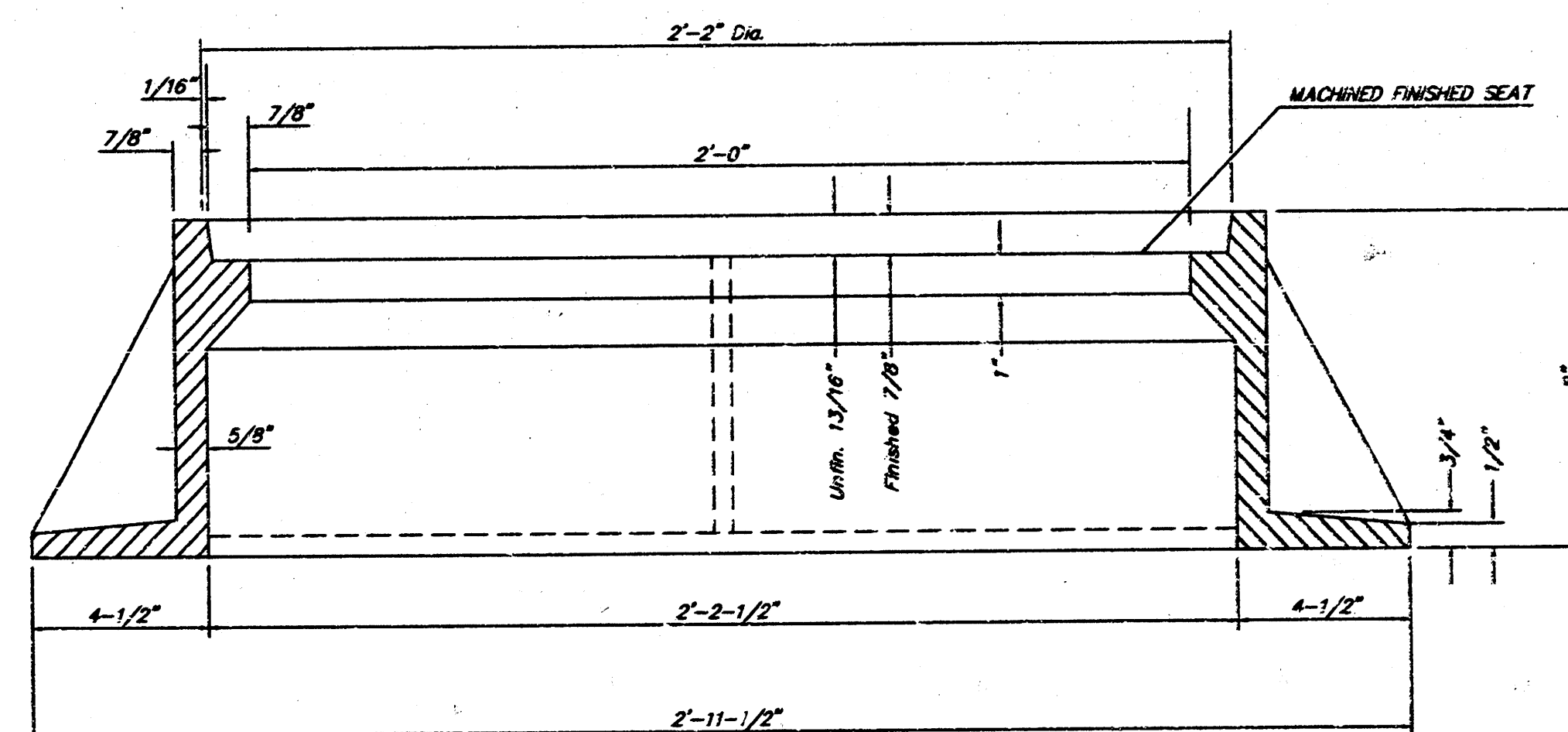
MANHOLE FRAME AND COVER DETAIL

ADOPTED AS STANDARD DESIGN BY
CITY OF WICHITA, KANSAS

MANHOLE FRAME
Weight = 240 Lbs.



TOP VIEW



SECTION A-A

GENERAL NOTES

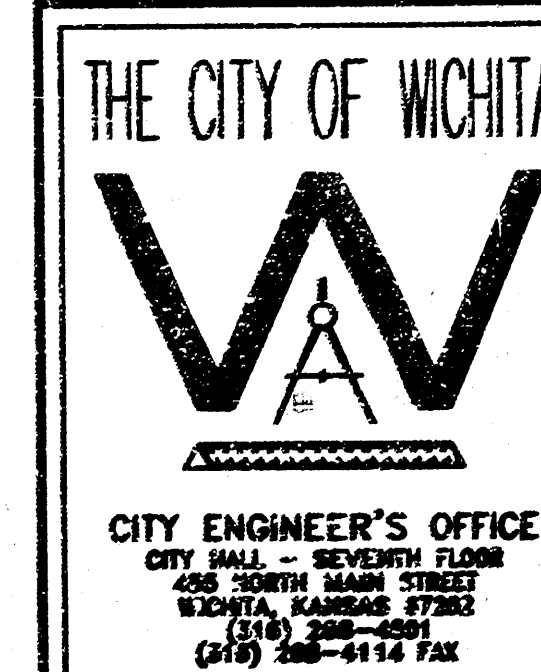
MANHOLE CASTINGS SHALL BE MANUFACTURED USING GOOD QUALITY GRAY IRON CONFORMING TO CLASS 30 OF A.S.T.M. DESIGNATION A-48. DIMENSIONS AND WEIGHTS SHOWN ON THE DETAILED DRAWINGS SHALL BE CONSIDERED AS MINIMUM REQUIREMENTS AND ANY DEVIATIONS FROM THE DIMENSIONS SHOWN MUST BE SPECIFICALLY APPROVED. THE FINISHED 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 AS 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 INCH 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.



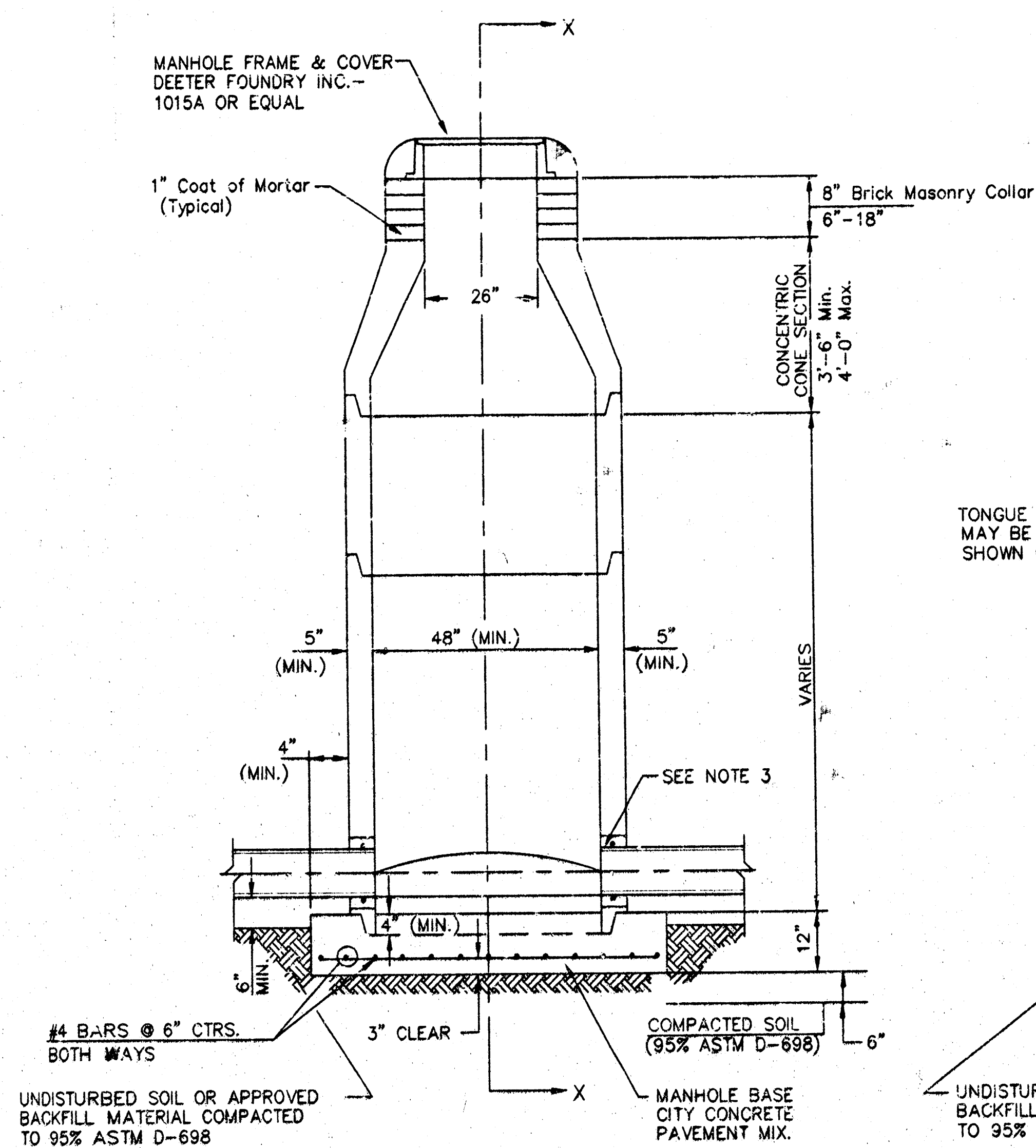
MANHOLE FRAME AND COVER

M. E. LINDBAK P.E. - CITY ENGINEER

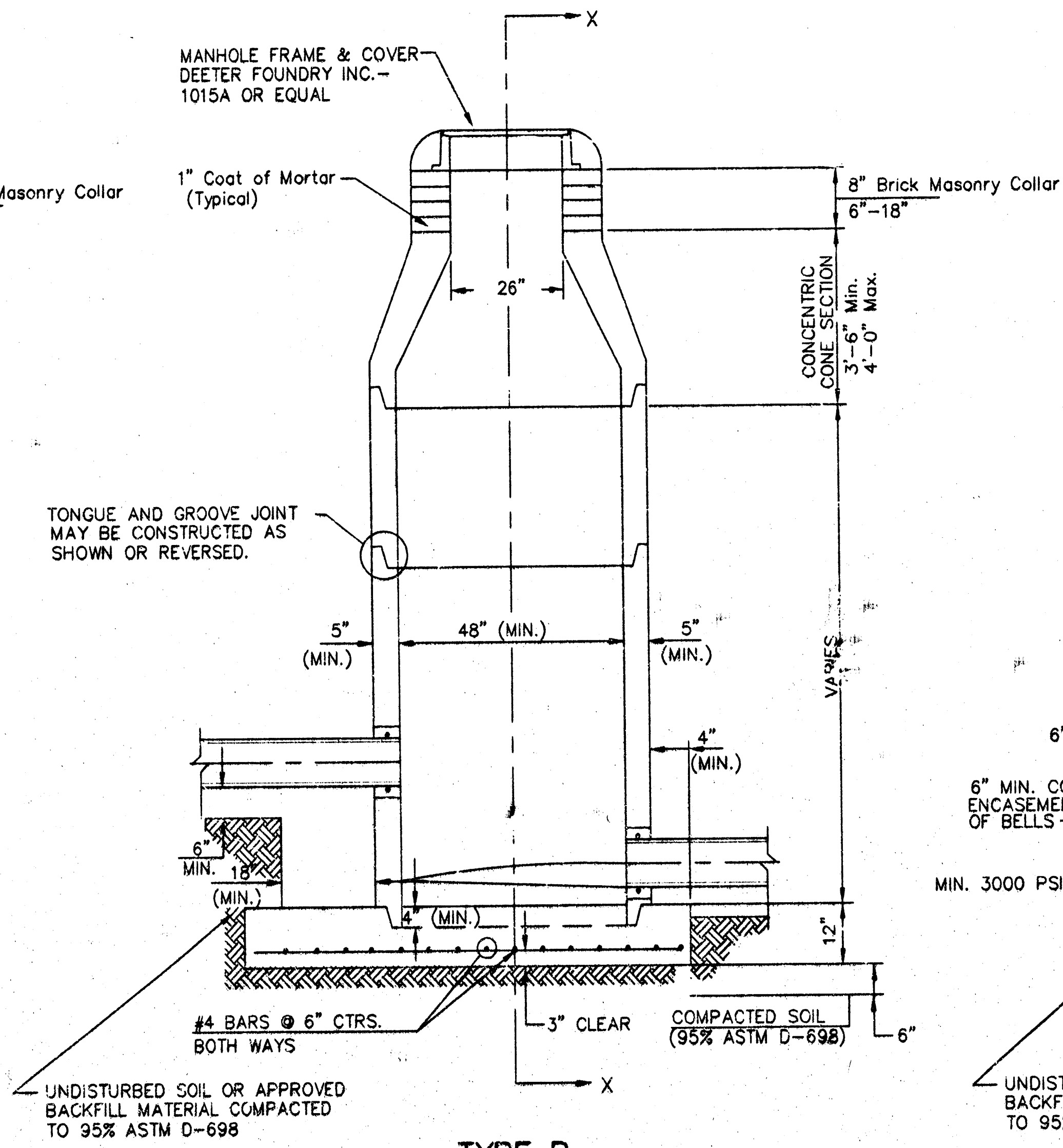
PROJECT NUMBER 82291 INDEX CODE 743344

DATE MAR 96 SHEET 4 OF 7

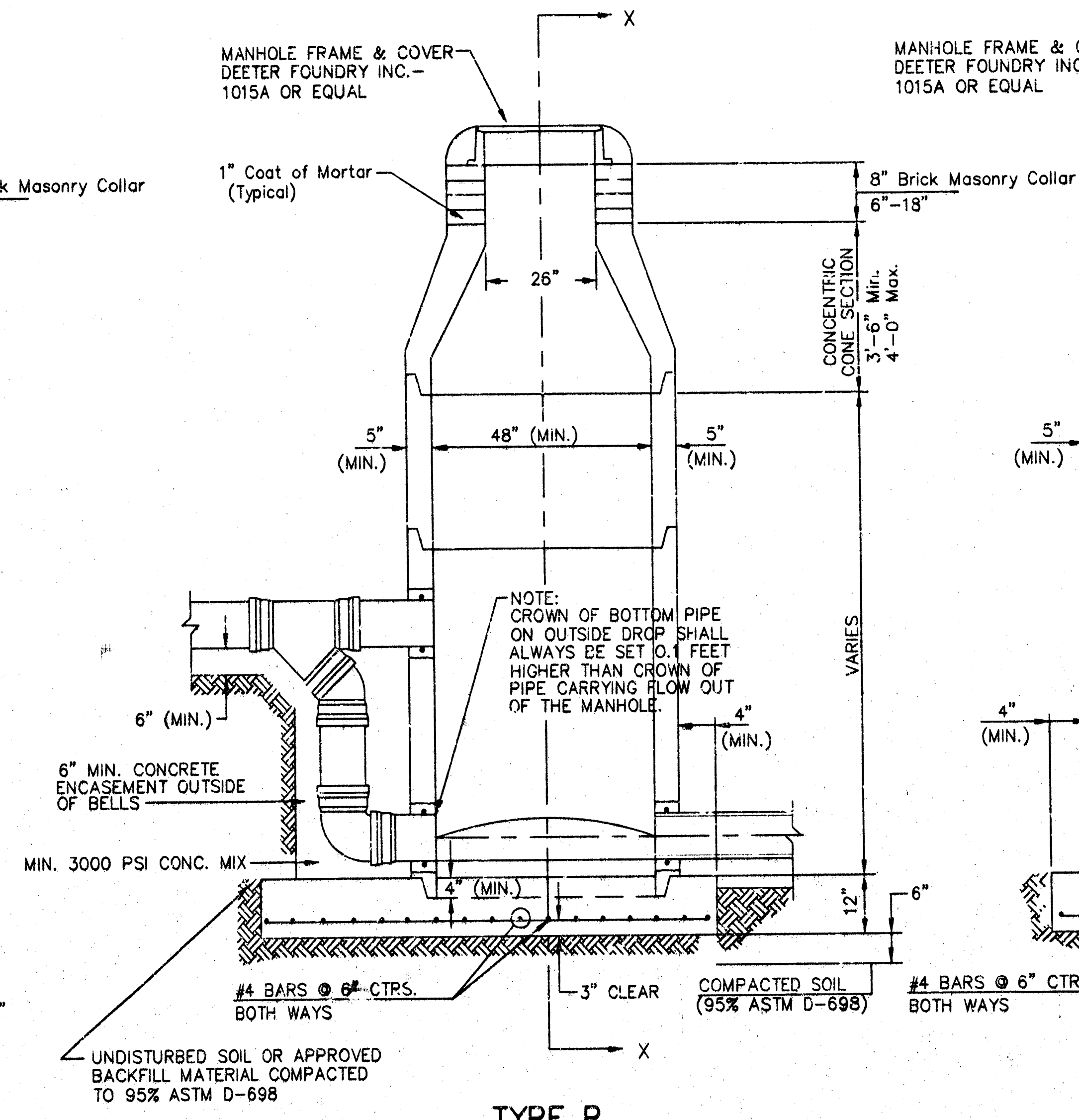
SEWER APPURTENANCES DETAILS



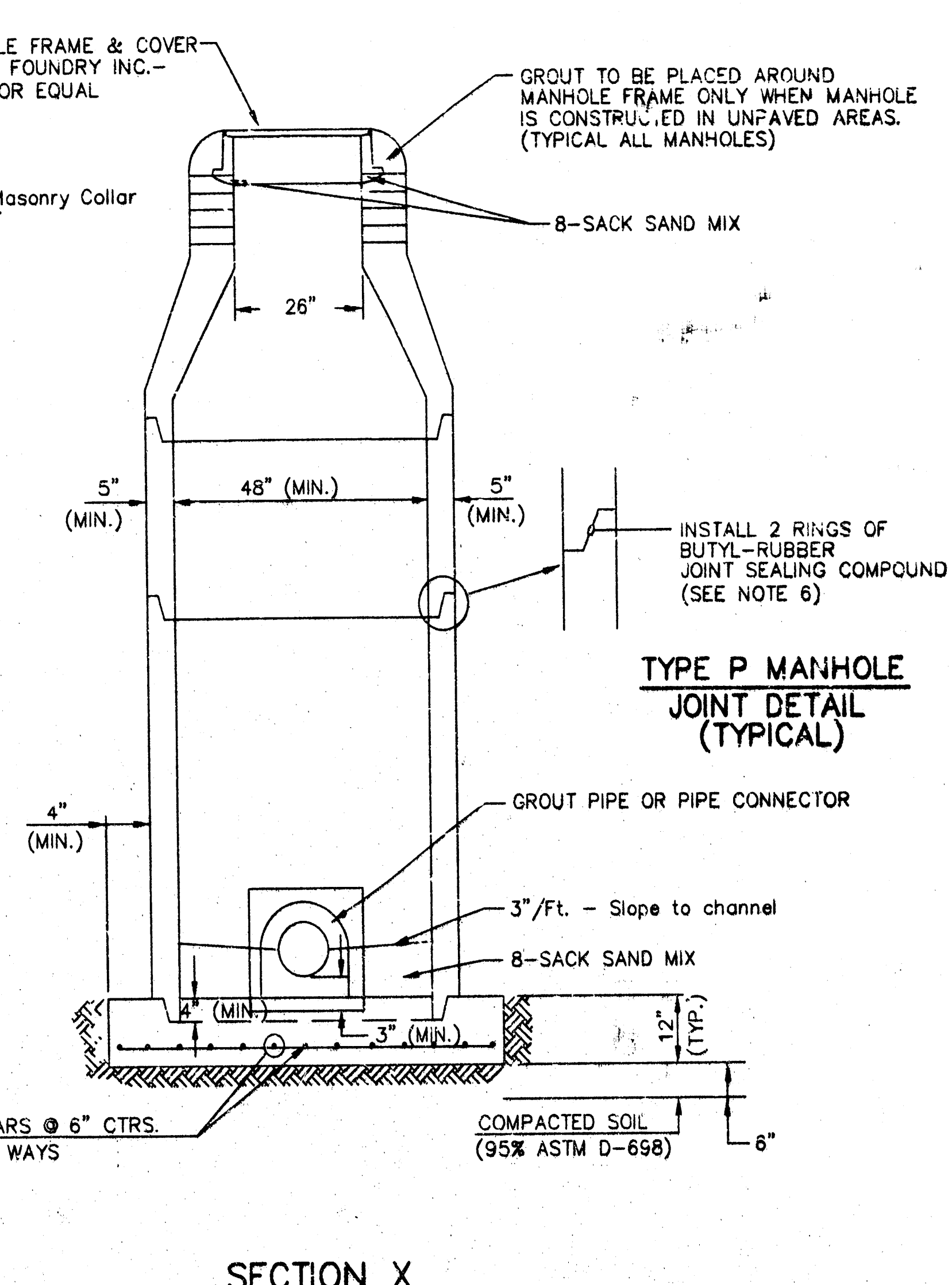
TYPE P
STANDARD MANHOLE



TYPE P
INSIDE DROP MANHOLE



TYPE P
OUTSIDE DROP MANHOLE



SECTION X
(TYPICAL)

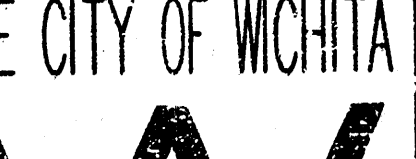
GENERAL NOTES

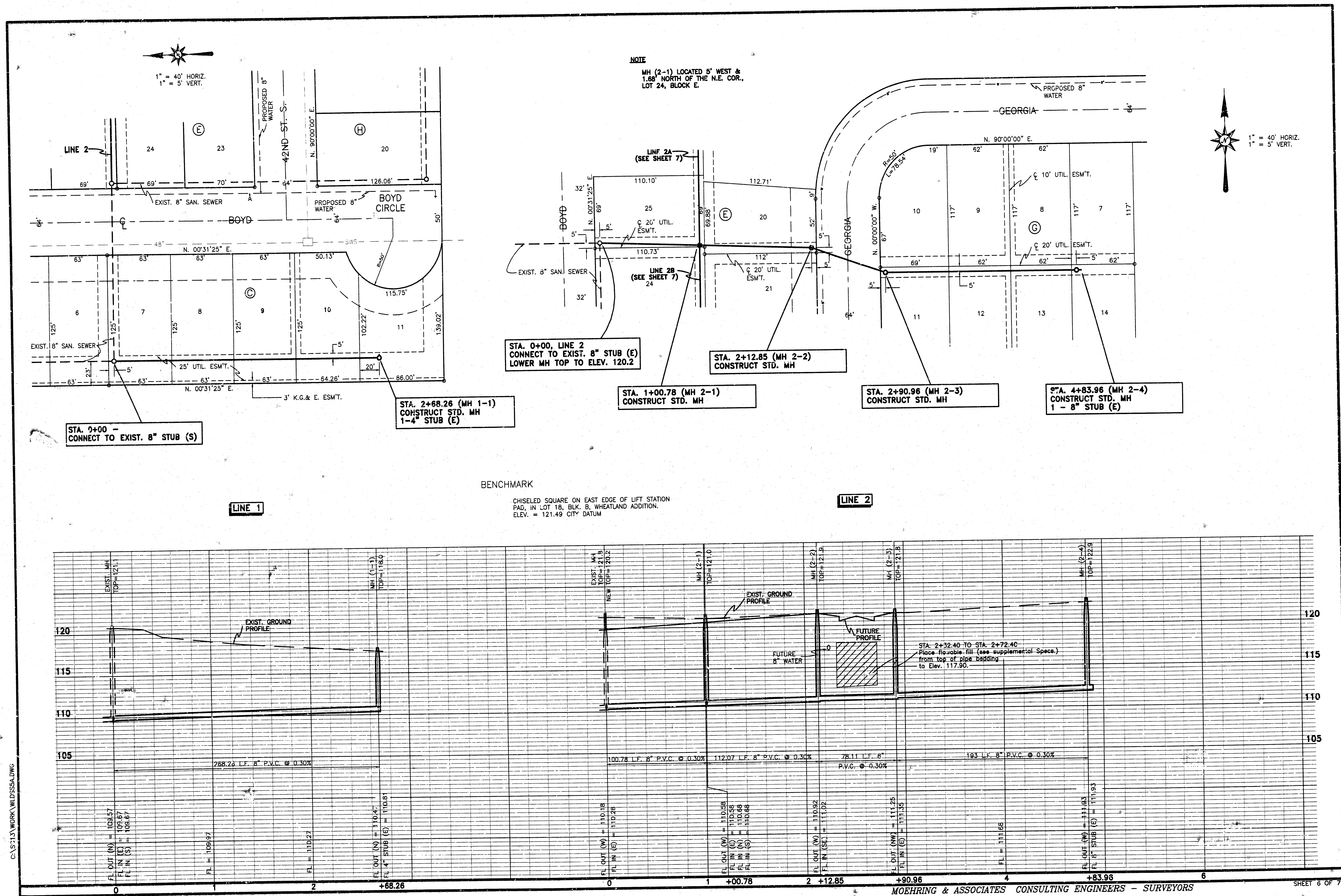
PRECAST MANHOLE NOTES

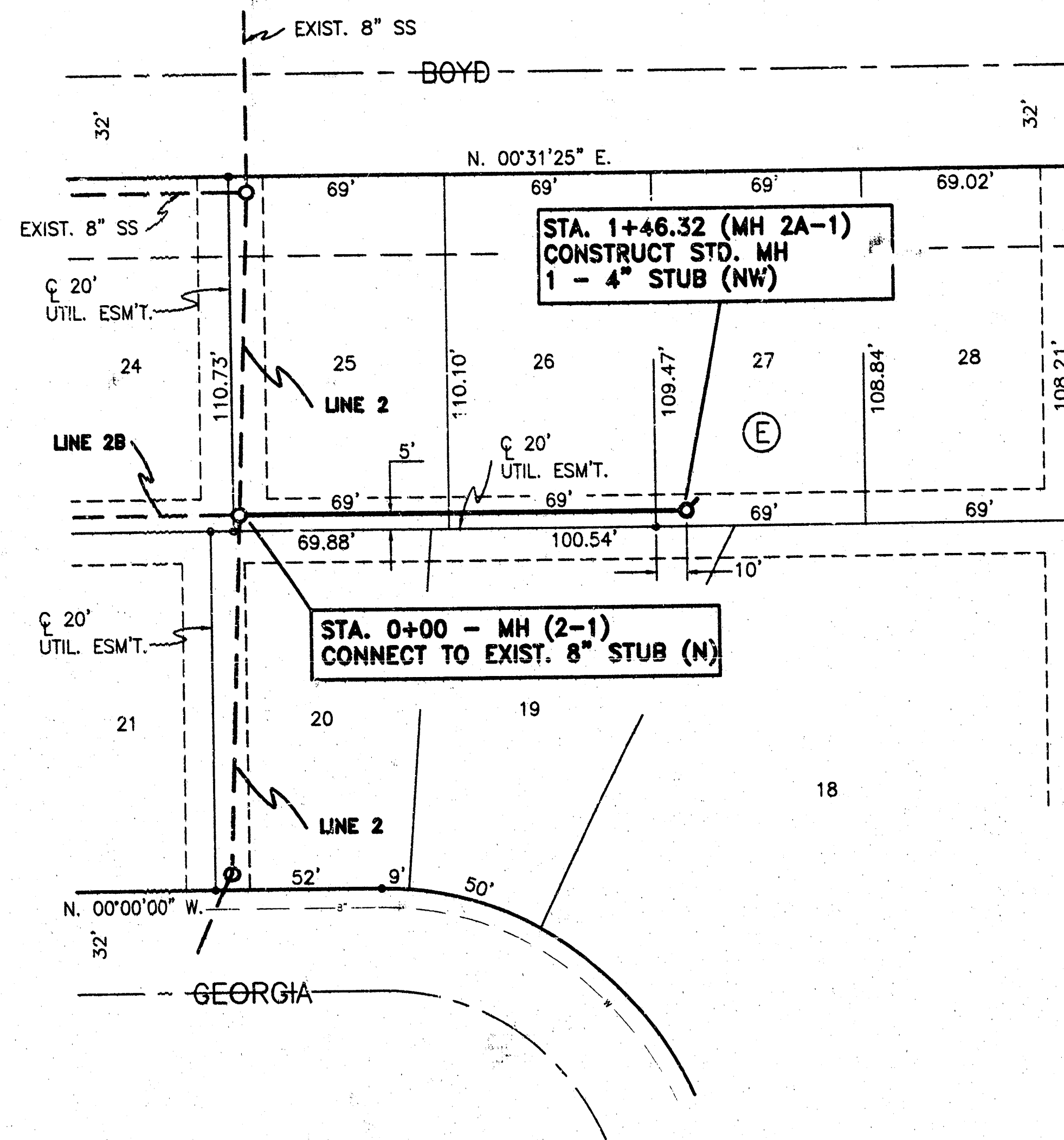
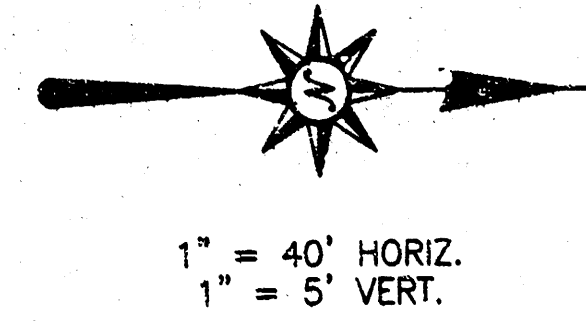
1. ALL PRECAST CONCRETE MANHOLEL SECTIONS SHALL CONFORM TO THE LATEST REVISIONS OF A.S.T.M. C478 AS MODIFIED BY THE SPECIFICATIONS.
2. NON-SHRINK GROUT SHALL BE NON-METALLIC TYPE.
3. APPROVED FLEXIBLE WATERSTOP GASKETS SHALL BE INSTALLED TO JOINTS OF SEWER TO MANHOLE WALL WHEN A.B.S. COMPOSITE PIPE OR 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 MINIMUM 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 TMEC SPECIES 66 H-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 BAGS 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 RIED AROUND THE MANHOLE RINGS 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 5" SMALLER THAN THE EXTERIOR DIAMETER. ALL MANHOLES SHALL BE COMPLETED CONCRETE 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. THE COSTS FOR FURNISHING AND INSTALLING THE 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 GROUT SHALL BE USED NOT TO Y.C. AND A.D. JOINTS. COSTS FOR 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 BUTYRUS GROUT. THE EXTERIOR OF THE JOINTS SHALL 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 INCLUDED AT THE UNIT PRICE FOR THE OUTSIDE DROP STACK CONSTRUCTED ON EXISTING MANHOLE.
13. THE FLOORS OF ALL MANHOLES SHALL BE SHAPED WITH FLOW CHANNELS SUCH THAT THE MANHOLE 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 JOINTS. THE OUTLETS AND THE OUTFLOOD TO THE DRAINAGE AREAS SHALL BE 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 PERCENT TOWARD THE OUTLET PIPE. OUTSIDE OF 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 BE SHOWN AROUND THE BOTTOM HALF OF THE PIPE WHICH FORMS THE FLOW CHANNEL.
14. PIPES INSTALLED WITHIN THE EXCAVATION MADE FOR THE MANHOLE SHALL BE INSTALLED WITH OVERLAP OF 3' FOR 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. THE JOINT WITHIN MANHOLE EXCAVATION OR TO CLAY PIPE JOINTS ADJACENT TO MANHOLE SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE MANHOLE.

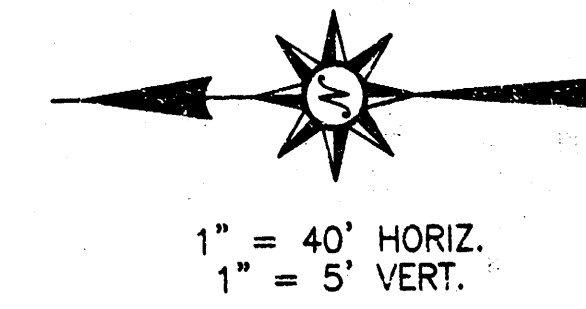
15. MANHOLE COVER CASTINGS AND MANHOLE FRAME CASTINGS SHALL CONFORM TO THE REQUIREMENTS AS INDICATED IN THE STANDARD SPECIFICATIONS AND AS SHOWN IN THE STANDARD DETAIL DRAWING.
16. THE VERTICAL DROP IN INSIDE DROP MANHOLES SHALL NOT EXCEED 2' FOR INFLOWING PIPES SIZED 12" OR SMALLER AND 2' FOR INFLOWING 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. STANDARD INSIDE 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 CROWN. 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 INSIDE OF THE COLLAR. THE USE OF PRE-CAST CONCRETE SPACERS FOR MANHOLE TOP ADJUSTMENT IS ALSO ALLOWED.

THE CITY OF WICHITA  CITY ENGINEER'S OFFICE CITY HALL - SEVENTH FLOOR 401 NORTH MAIN STREET WICHITA, KANSAS 67202 (314) 268-4000 (313) 268-4114 FAX	STANDARD TYPE 'P' MANHOLES	
	M. E. LINDEBAK P.E. - CITY ENGINEER	
	PROJECT NUMBER # 52291	ORDER CODE 43344
	DATE MAR 96	SHEET 5 OF 7



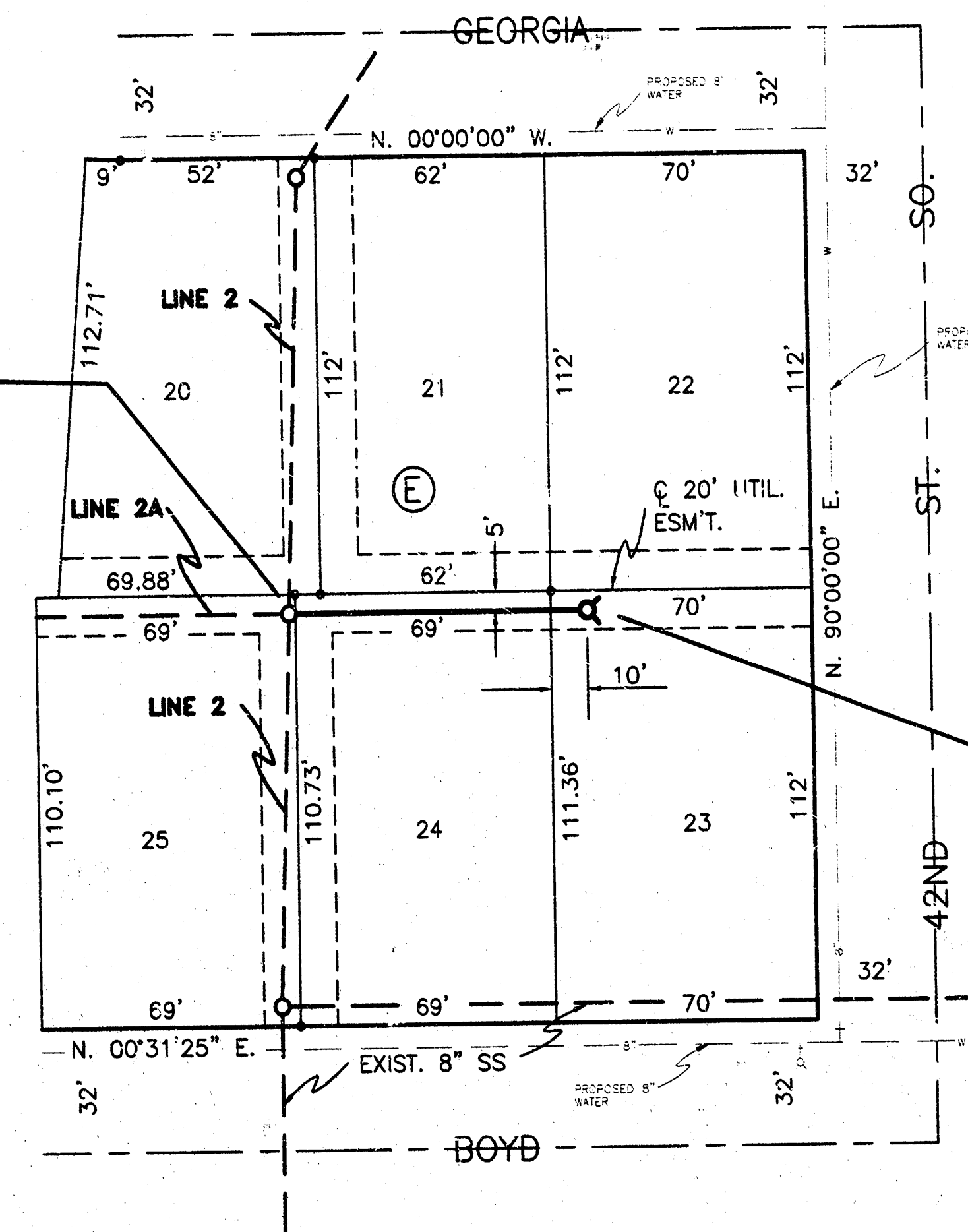


NOTE
MH (2-1) LOCATED 5' WEST
& 1.68' NORTH OF THE
N.E. COR., LOT 24, BLK. E.



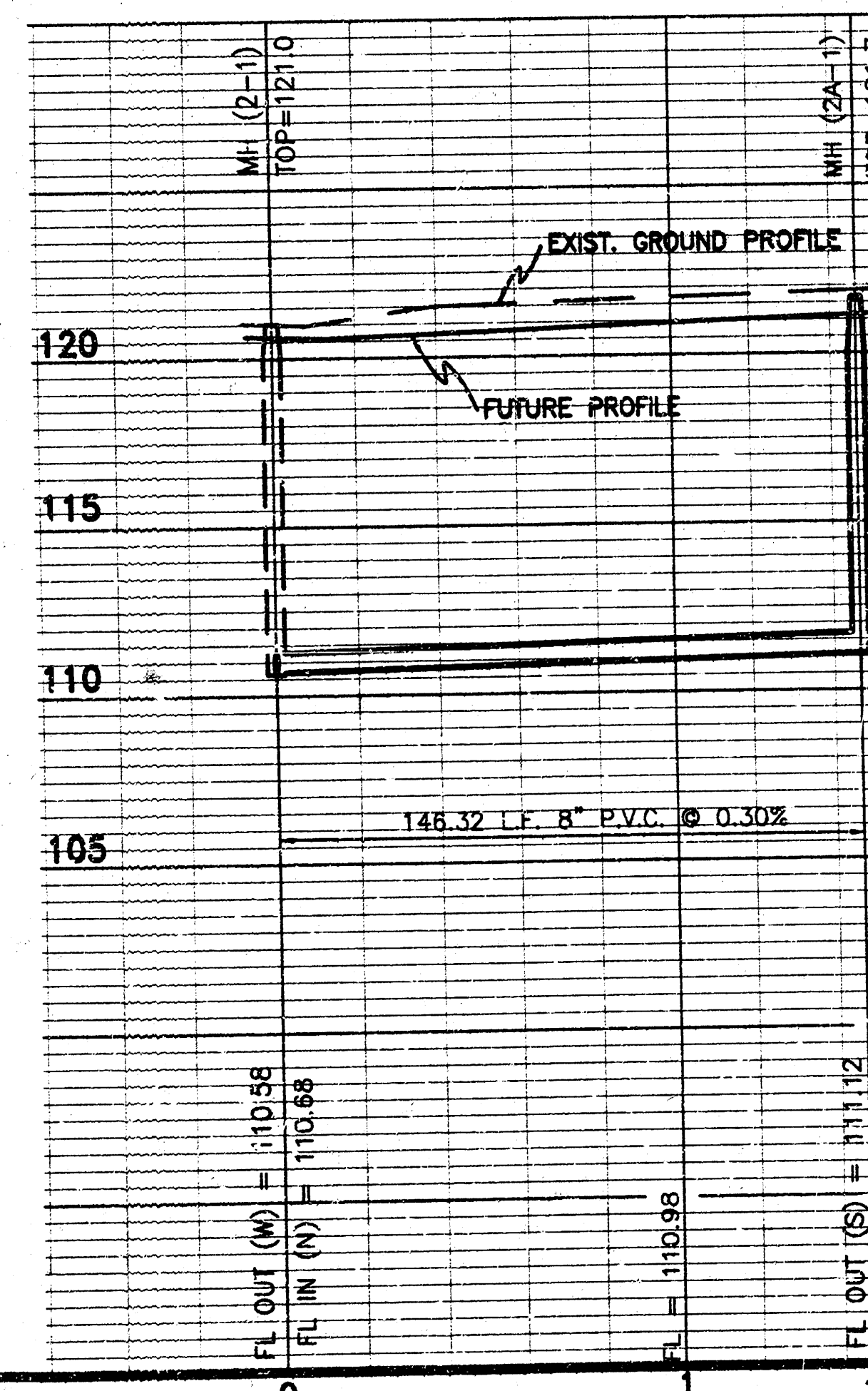
STA. 0+00 - MH (2-1)
CONNECT TO EXIST. 8" STUB (S)

NOTE
MH (2-1) LOCATED 5' WEST
& 1.68' NORTH OF THE
N.E. COR., LOT 24, BLK. E.

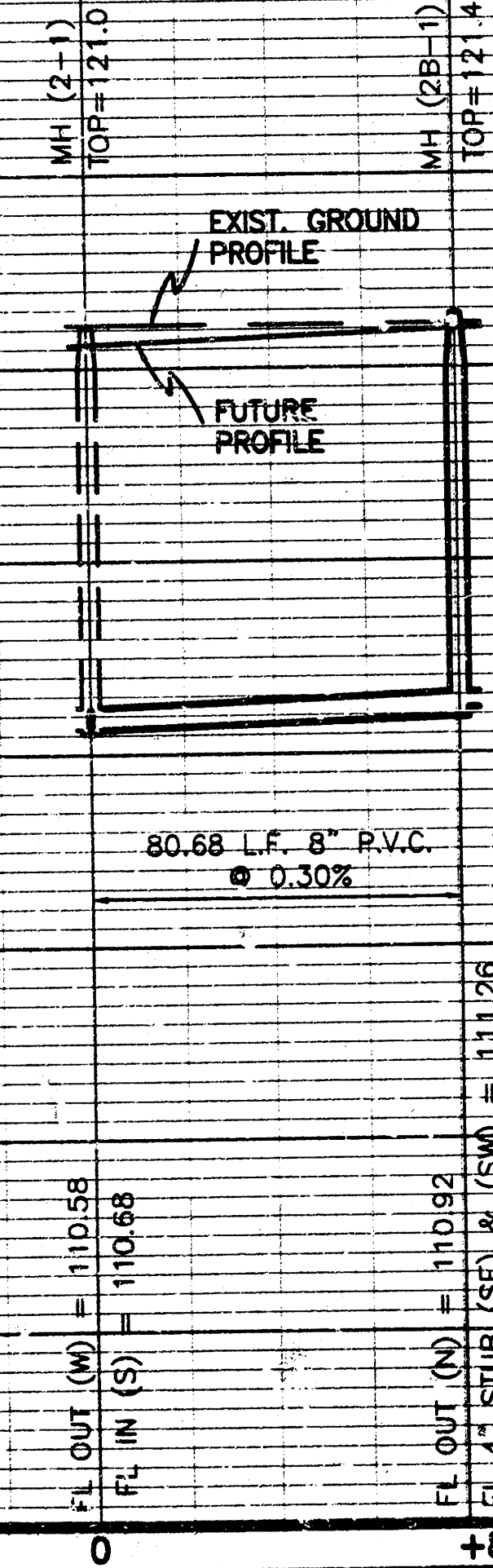


STA. 0+80.68 (MH 2B-1)
CONSTRUCT STD. MH
1 - 4" STUB (SE)
1 - 4" STUB (SW)

LINE 2A



LINE 2B



10-09-04-03