# STORM WATER SEWER NO. 284

## COTTONWOOD GROVE

## PROJECT NO.

## 468·76·245·81447·000·000·001

CITY OF WICHITA, KANSAS

MICHAEL E. LINDEBAK, CITY ENGINEER

MAY , 1985

### GENERAL NOTES

1. THE TOPS OF INLETS AND MANHOLE AS NOTED ON THE PLANS MAY VARY SO AS TO MEET PROPOSED TOP OF CURB ELEVATIONS OR PAVEMENT ELEVATIONS. THE FIELD ENGINEER SHALL LOCATE INLETS AND MANHOLES WITH REFERENCE TO PROPOSED PAVING PLANS OF THE PERTINENT STREETS.
2. ALL CONCRETE SHALL BE STANDARD PAVING MIX UNLESS OTHERWISE NOTED.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PRESERVING PROPERTY IRONS. THE CONTRACTOR SHALL 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.
5. TREES TO BE REMOVED ARE MARKED X . ALL TREES WHICH IN THE OPINION OF THE FIELD ENGINEER CAN BE SAVED, SHALL BE SAVED.
6. CONTRACTOR SHALL NOTIFY THE UTILITY COMPANIES OF CONSTRUCTION SCHEDULING.
7. EXISTING UTILITIES AND THEIR LOCATIONS, AS SHOWN ON THE PLANS, REPRESENT THE BEST INFORMATION OBTAINABLE FOR DESIGN. LOCATION INFORMATION HAS BEEN OBTAINED FROM THE VARIOUS UTILITY COMPANIES AND IS EITHER FROM COMPANY RECORD DRAWINGS OR COMPANY PROVIDED FIELD LOCATIONS. THE PLAN LOCATIONS SHOWN ARE NOT GUARANTEED. ADDITIONAL EXISTING UTILITIES MAY ALSO BE ENCOUNTERED.

NOTE: NOTIFY THE FOLLOWING COMPANIES PRIOR TO ANY EXCAVATION:

| | |
|---|---|
| ARKLA GAS COMPANY | 942-8350 |
| BELL TELEPHONE COMPANY | 268-2256 |
| CABLEVISION | 269-3340 |
| GAS SERVICE COMPANY | 263-7511 |
| KANSAS GAS & ELECTRIC | 261-6375 |
| KANSAS ONE-CALL | 1-800-344-7233 |

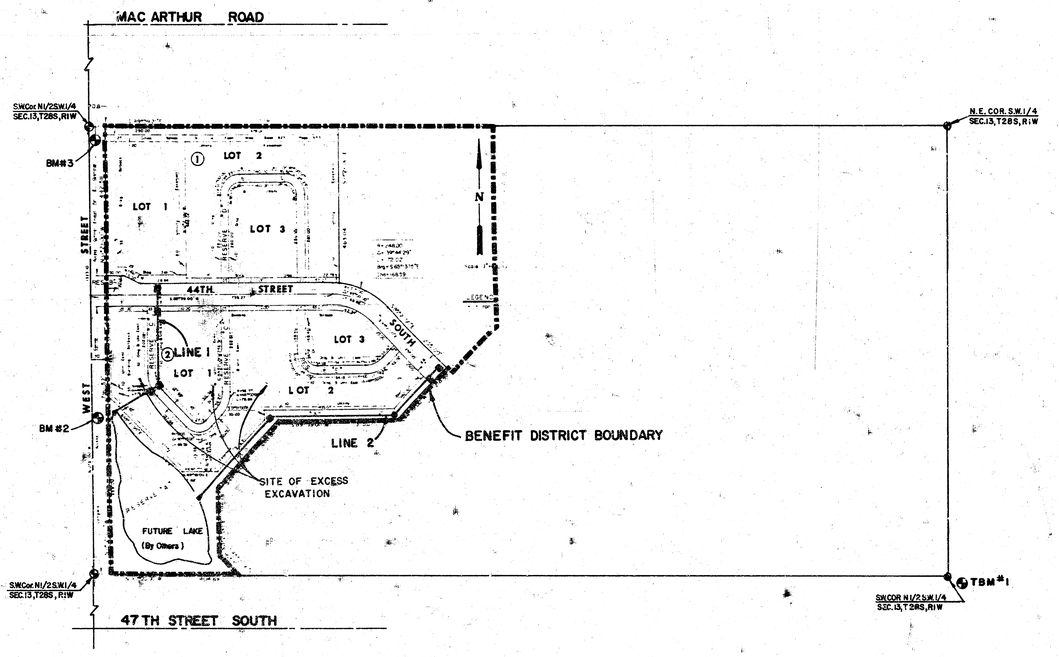
8. DESIREABLE EXCAVATION (TOP SOIL AND FREE FROM VEGETATION) SHALL BE DUMPED ON LOT 1 AND 2, BLOCK 2, COTTONWOOD GROVE. SPREADING OF EXCESS MATERIAL SHALL BE SUBSIDIARY TO THIS PROJECT.
9. STORM WATER SEWER PROJECT TO BE BUILT BEFORE WATER LINE IN 44TH STREET IS BUILT.
10. THE LAKE IN RESERVE "A" IS BEING CONSTRUCTED BY OTHERS. THE CONTRACTOR FOR THIS STORM WATER SEWER PROJECT WILL NOT BE RESPONSIBLE TO INSTALL THE RIP RAP OR DO DITCH REGRADING IF THE LAKE IS IN PLACE AT THE TIME OF THIS PROJECT.

### BENCHMARKS

T.B.M. #1 — S.RIM OF EXISTING MANHOLE 5.4' NORTH 9.5' East of S.E. CORNER N ½ S.E. ¼ SECTION 13-28-1W. ELEV. = 93.15 (CITY DATUM)

B.M. #2 — "□" CUT ON CENTERLINE OF E. HUB GUARD, OF RCB + 500' N of S.W. CORNER COTTONWOOD GROVE. ELEV. = 94.19 (CITY DATUM)

B.M. #3 — R.R. SPIKE IN E. FACE OF POWER POLE 40' S. AND E. OF W ¼ CORNER SECTION 13-28-1W. ELEV. = 94.14 (CITY DATUM)




### INDEX


| SHEET NO | DESCRIPTION |
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| 2 | LINE 1 |
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| 7 | DROP INLET DETAILS |
| 8 | TYPE "S" SHALLOW MANHOLE |
| 9 | FINAL PLAT |


As Built Plan
10/16/85
GREENE

KENNETH R. BENGTSON LICENSED 7238 KANSAS PROFESSIONAL ENGINEER

COTTONWOOD GROVE
STORM SEWER PLANS

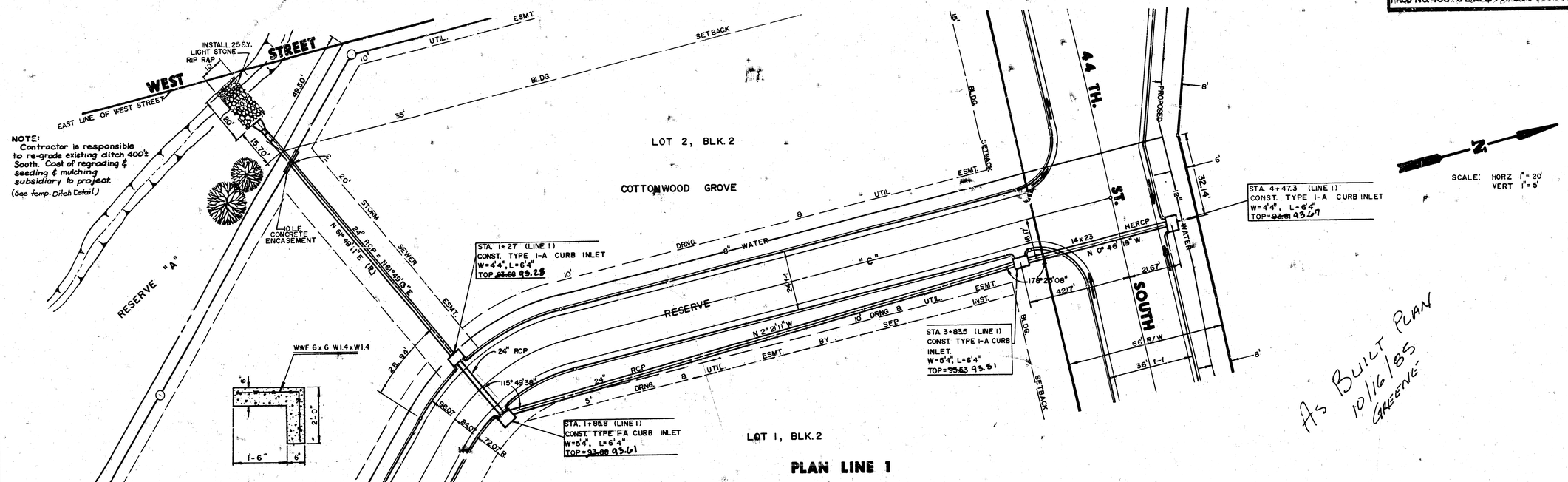
Design | Drawn by | Checked by | Date | Job no.


MID-KANSAS ENGINEERING CONSULTANTS PA
3500 NORTH ROCK ROAD
BUILDING #600
WICHITA, KANSAS 67226
682-6561


Sheet 1 of 9


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COTTONWOOD GROVE
SWS NO. 284
PROJ NO. 468-76-245-6147-000-000-001

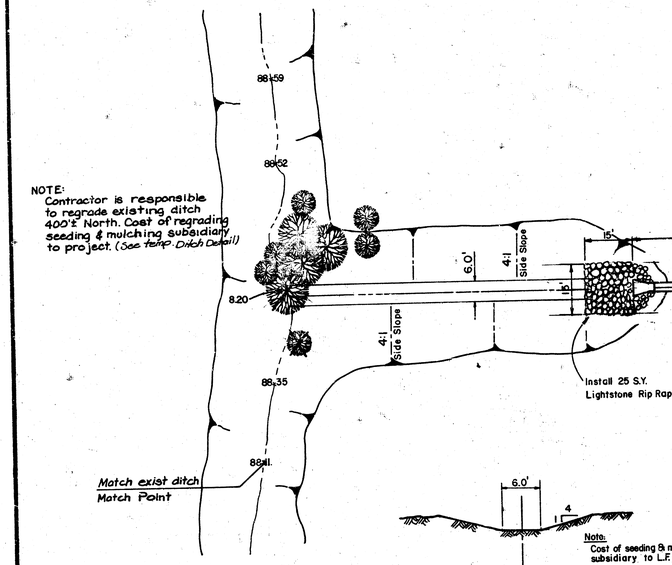



2/9

M.K.E.C.

COTTONWOOD GROVE
SWS F.Q 284
PROJ NO. 468-76-245 81447-000-000-001

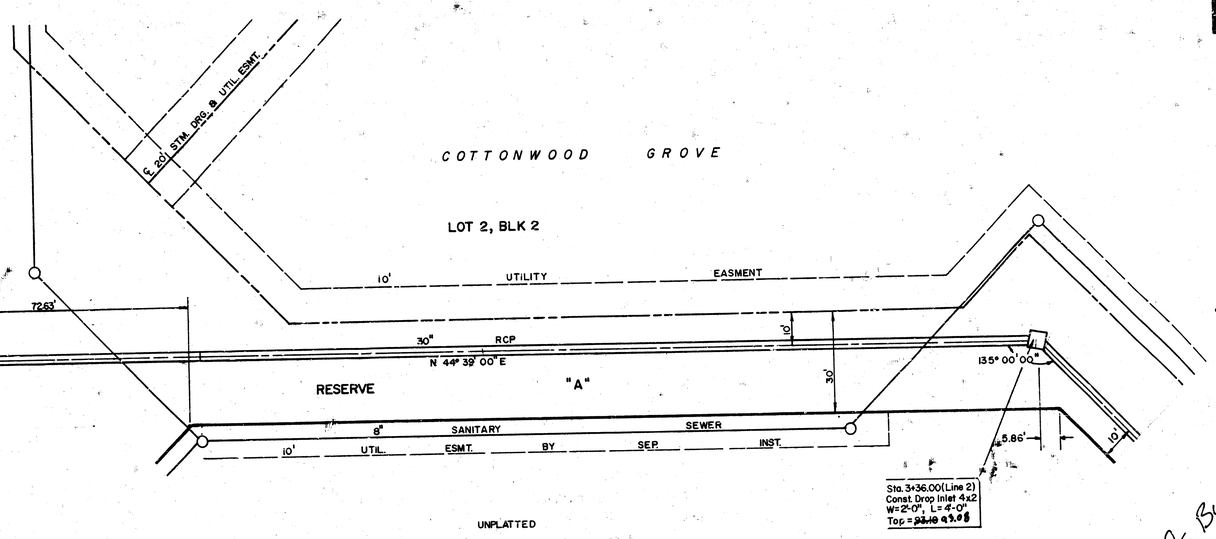
NOTE:
Contractor is responsible to regrade existing ditch 400'± North. Cost of regrading seeding & mulching subsidiary to project. (See temp. Ditch Detail)

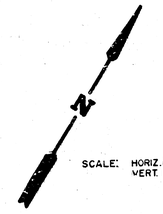






TEMP. DITCH DETAIL



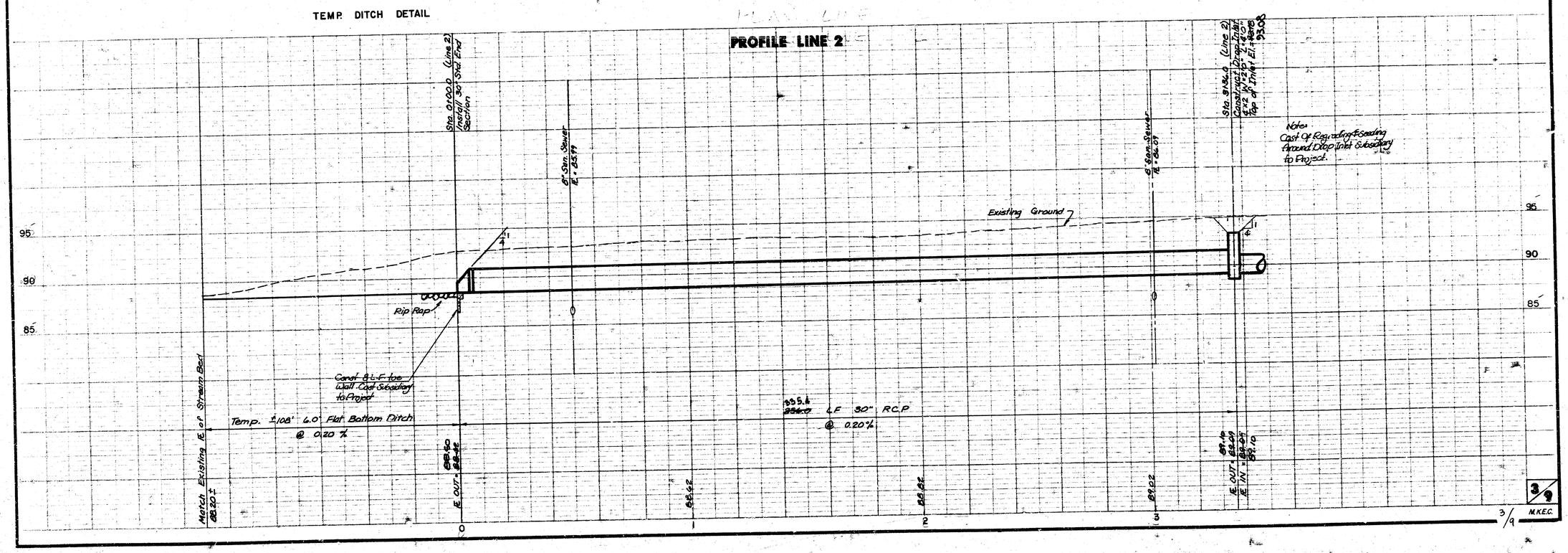




SCALE: HORIZ. 1" = 20'
VERT 1" = 5'

As Built Plan
10/16/85
GREENE

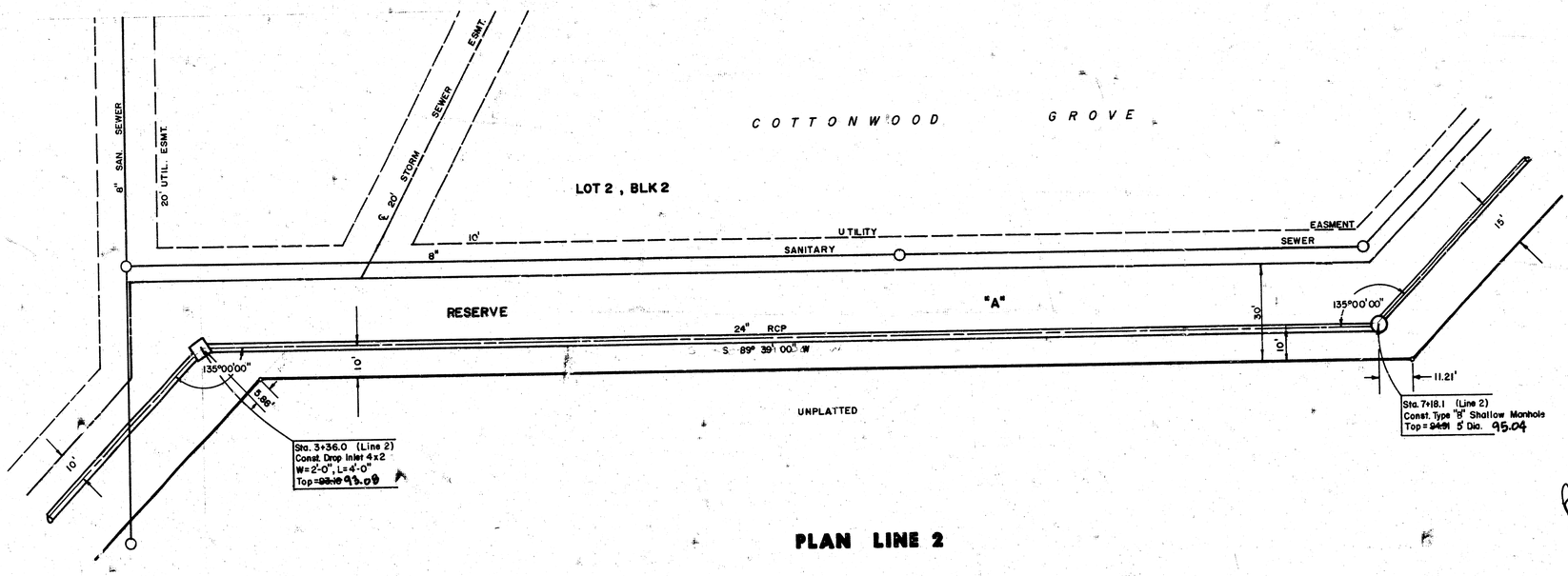
PLAN LINE 2

PROFILE LINE 2




3/9
M.K.E.C.

COTTONWOOD GROVE
SWS NO. 284
PROJ NO. 468-75-245 81447-000-000-001



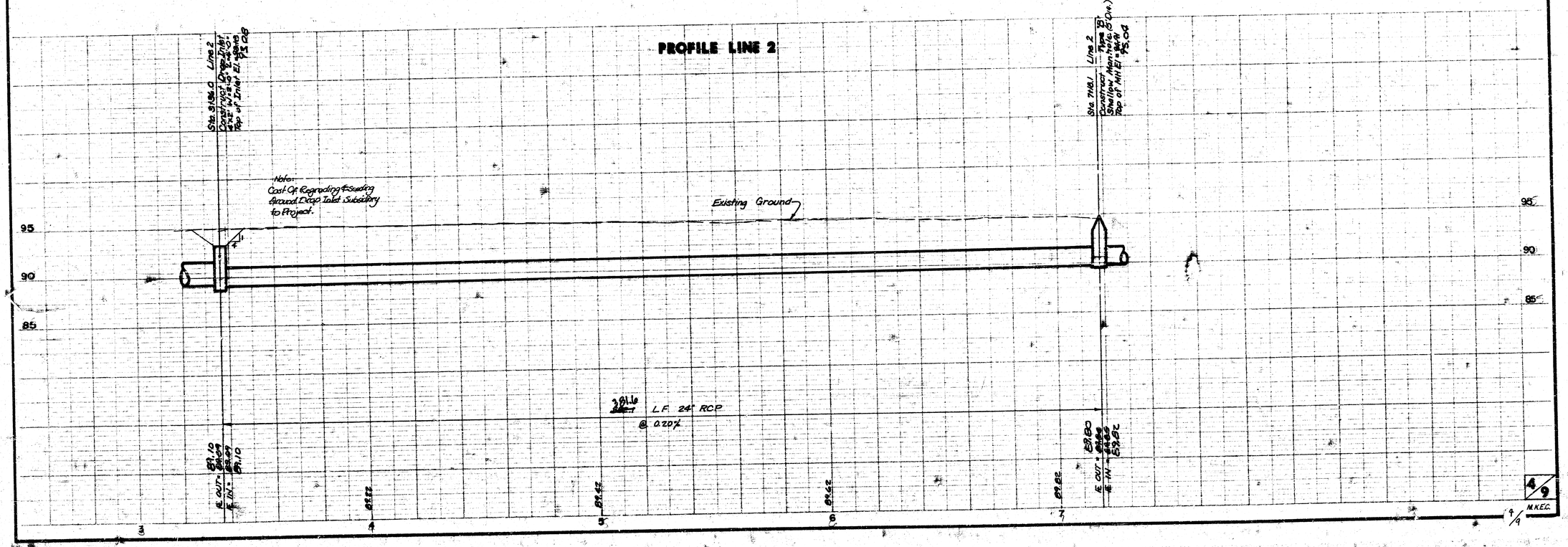

N

SCALE: HORZ 1"= 20'
VERT 1"= 5'

As Built Plan
10/16/85
Greenville

## PLAN LINE 2

## PROFILE LINE 2



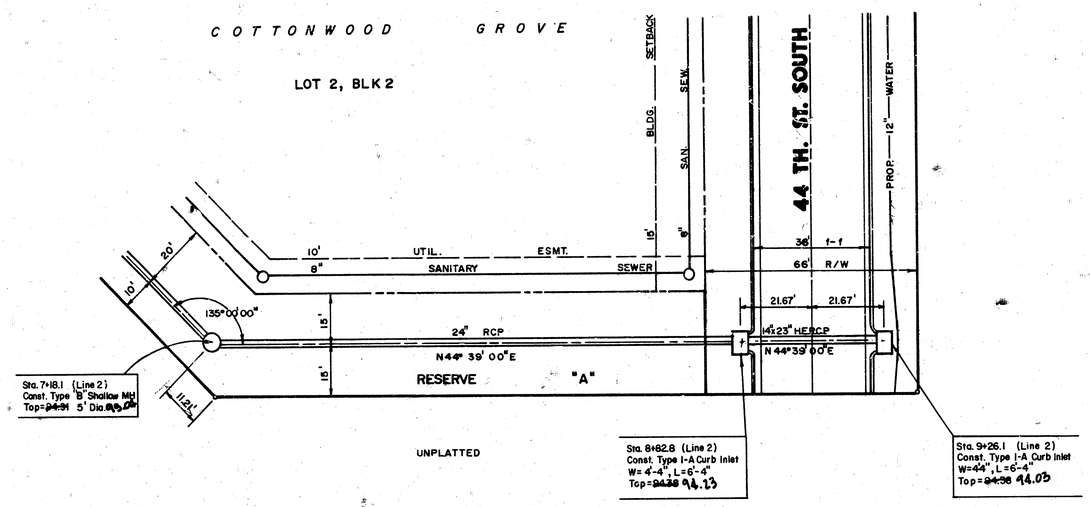

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M.K.E.C.

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COTTONWOOD GROVE
SWS NO. 284
PROJ NO. 468-76-245-81447-000-000-001

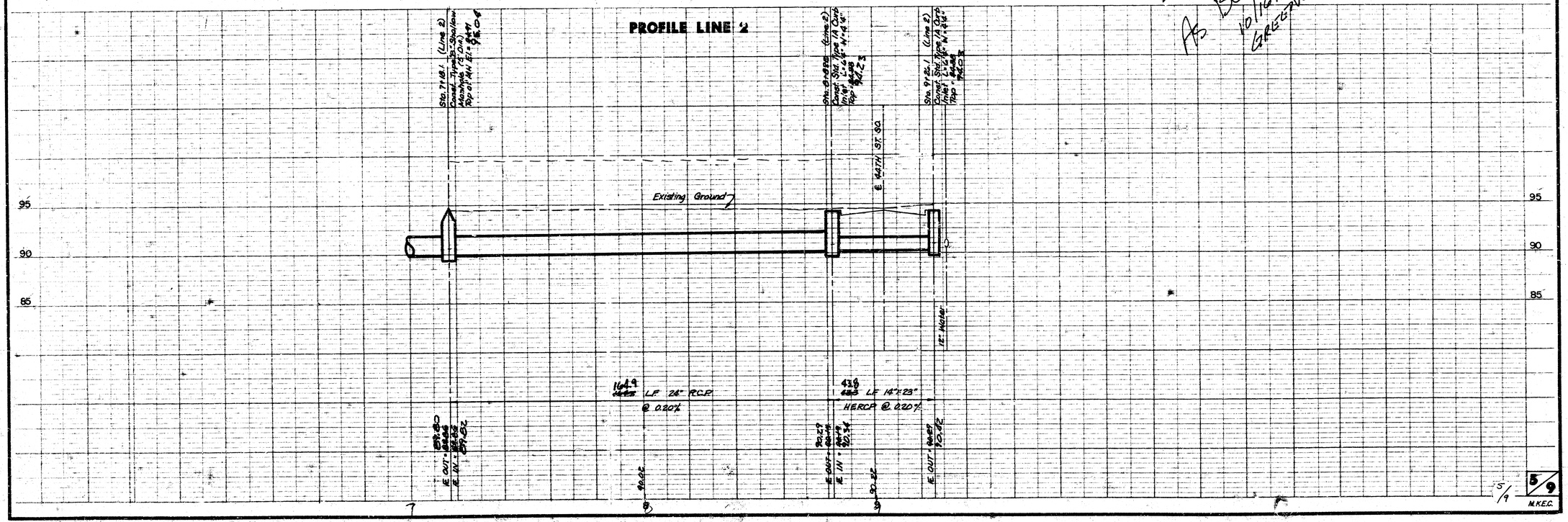
SCALE: HORZ 1" = 20'
VERT 1" = 5'



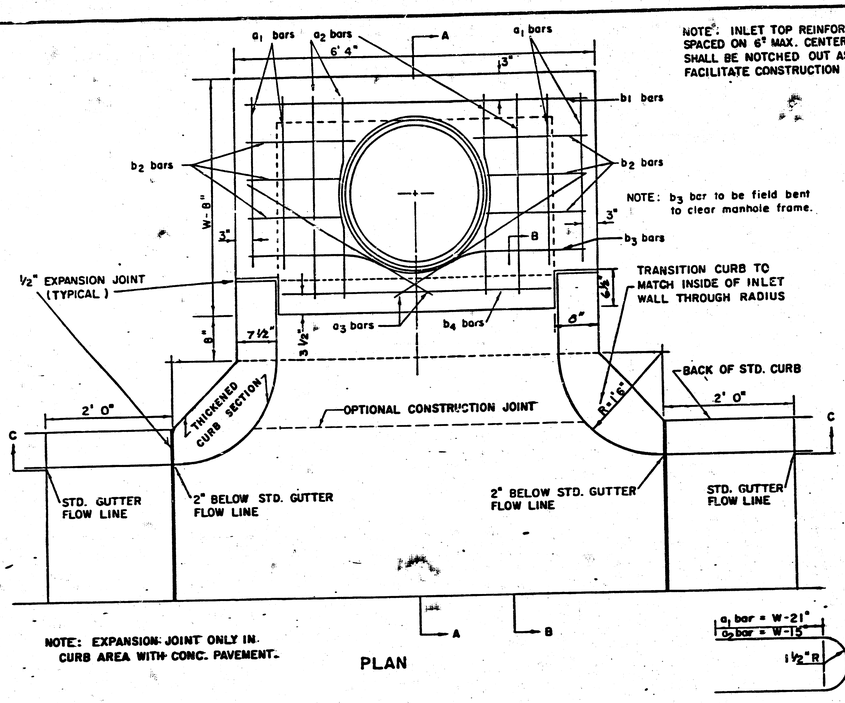

**PLAN LINE 2**

As Built Plan
10/16/85
GREENVILLE

**PROFILE LINE 2**




5/9
M.K.E.C.

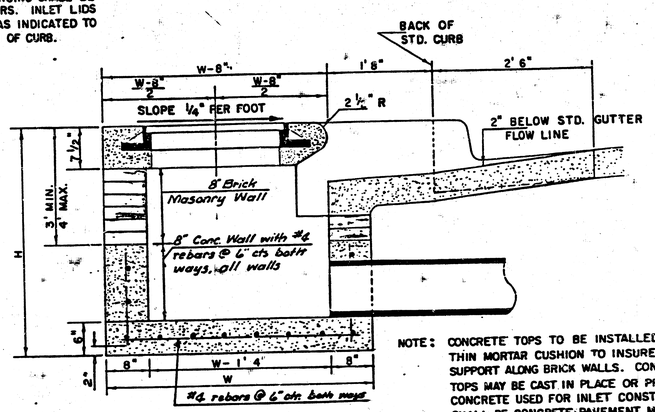



NOTE: EXPANSION JOINT ONLY IN CURB AREA WITH CONC. PAVEMENT.

PLAN

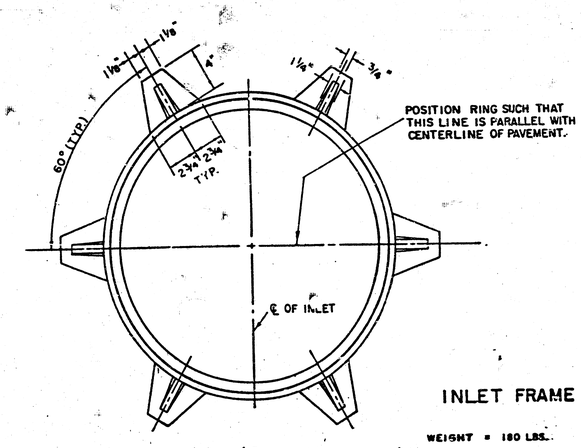
NOTE: INLET TOP REINFORCING SHALL BE SPACED ON 6" MAX. CENTERS. INLET LIDS SHALL BE NOTCHED OUT AS INDICATED TO FACILITATE CONSTRUCTION OF CURB.

NOTE: $b_3$ bar to be field bent to clear manhole frame.



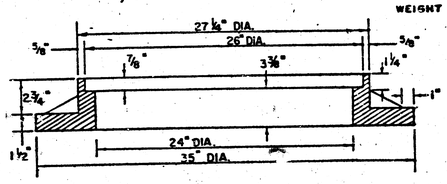

SECTION A-A

NOTE: CONCRETE TOPS TO BE INSTALLED ON THIN MORTAR CUSHION TO INSURE FULL SUPPORT ALONG BRICK WALLS. CONCRETE TOPS MAY BE CAST IN PLACE OR PRECAST. CONCRETE USED FOR INLET CONSTRUCTION SHALL BE CONCRETE PAVEMENT MIX.




INLET FRAME

WEIGHT = 180 LBS.




SEE CITY OF WICHITA STANDARD MANHOLE FRAME AND COVER DETAIL SHEET FOR COVER DETAILS TO BE USED WITH INLET FRAME.

NOTE: CONTRACTOR SHALL HAVE THE OPTION OF CONSTRUCTING 8" BRICK MASONRY WALLS BETWEEN THE CONCRETE INLET BASE AND TOP ON THIS INLET WHEN W = 4'4" AND H = 6'6" OR LESS.

ADDITIONAL CURB AND GUTTER CONSTRUCTION NECESSARY TO CONNECT SET-BACK INLET TO PAVEMENT WILL BE PAID FOR AT THE UNIT PRICE BID FOR EACH INLET HOOKUP.

INLET INVERT SHALL BE SHAPED WITH 6 SACK SAND MIX 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.



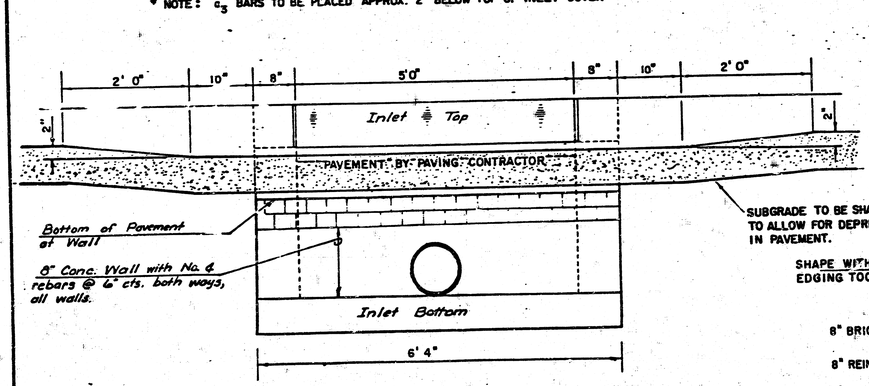

BENDING DIAGRAM

STEEL SCHEDULE

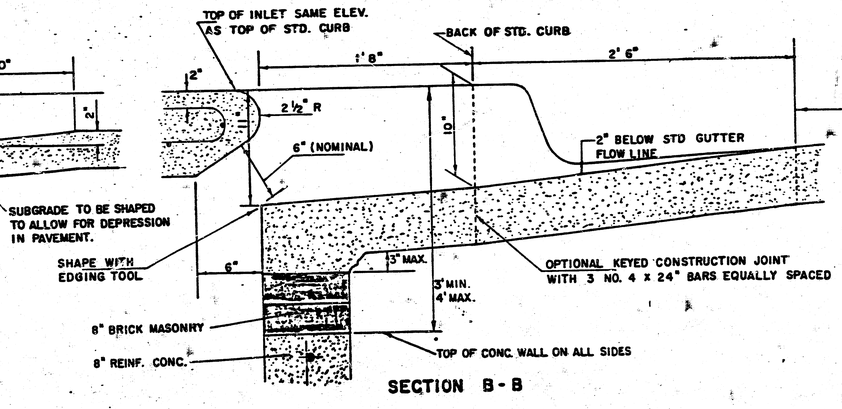
| BAR | $a_1$ | $a_2$ | $a_3$* | $b_1$ W=4'4" | W=5'4" | W=6'4" | W=7'4" | W=8'4" | $b_2$ | $b_3$ | $b_4$ | WT. LBS. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NUMBER | 4 | 4 | 2 | 1 | 3 | 5 | 7 | 9 | 6 | 1 | 1 | |
| SIZE | #4 | #4 | #4 | #4 | #4 | #4 | #4 | #4 | #4 | #4 | #6 | |
| LENGTH W=4'4" | 5'7" | 6'7" | 4'0" | 6' 1" | – | – | – | – | 1' 9" | 6'2" | 4'8" | 60± |
| LENGTH W=5'4" | 7'7" | 8'7" | 5'0" | – | 6' 1" | – | – | – | 1' 9" | 6'2" | 4'8" | 81 ± |
| LENGTH W=6'4" | 9'7" | 10'7" | 6'0" | – | – | 6' 1" | – | – | 1' 9" | 6'2" | 4'8" | 101± |
| LENGTH W=7'4" | 11'7" | 12'7" | 7'0" | – | – | – | 6' 1" | – | 1' 9" | 6'2" | 4'8" | 121± |
| LENGTH W=8'4" | 13'7" | 14'7" | 8'0" | – | – | – | – | 6' 1" | 1' 9" | 6'2" | 4'8" | 141± |

* NOTE: $a_3$ BARS TO BE PLACED APPROX. 2" BELOW TOP OF INLET COVER

| STANDARD CURB INLET PRECAST TOPS | | | |
|---|---|---|---|
| W | PRE-CAST TOP SIZE | PIPE SIZE | CU. YD. CONC. |
| 4' 4" | 5'8"x 6'4" x7 1/2" | 21" & SMALLER | 0.38 ± |
| 5' 4" | 6'8"x 6'4" x7 1/2" | 24" & 30" | 0.51 ± |
| 6' 4" | 7'8"x 6'4" x7 1/2" | 36" & 42" | 0.64 ± |
| 7' 4" | 8'8"x 6'4" x7 1/2" | 48" & 54" | 0.77 ± |
| 8' 4" | 9'8"x 6'4" x7 1/2" | 60" & 66" | 0.90 ± |




SECTION C-C




SECTION B-B

# DETAIL STANDARD TYPE IA CURB INLET

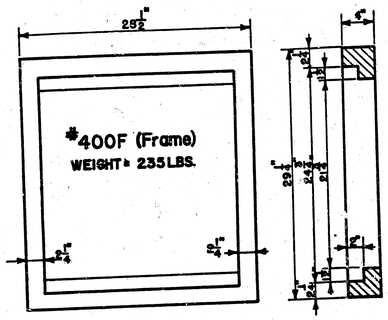
CITY OF WICHITA, KANSAS

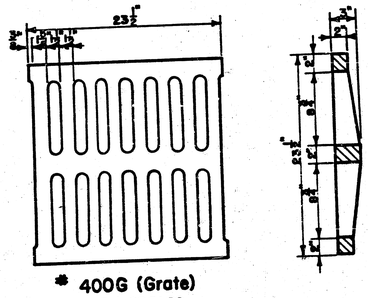
INLET OPENING = 6" x 5' 0"

JUNE 1984

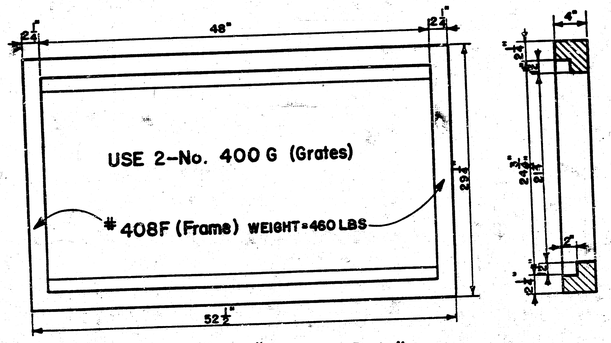
6/9

NOTE: Grates shall be imprinted on the top surface with "CITY OF WICHITA" using letters at least 1" in height. Other marking methods may be used only if approved by the engineer.

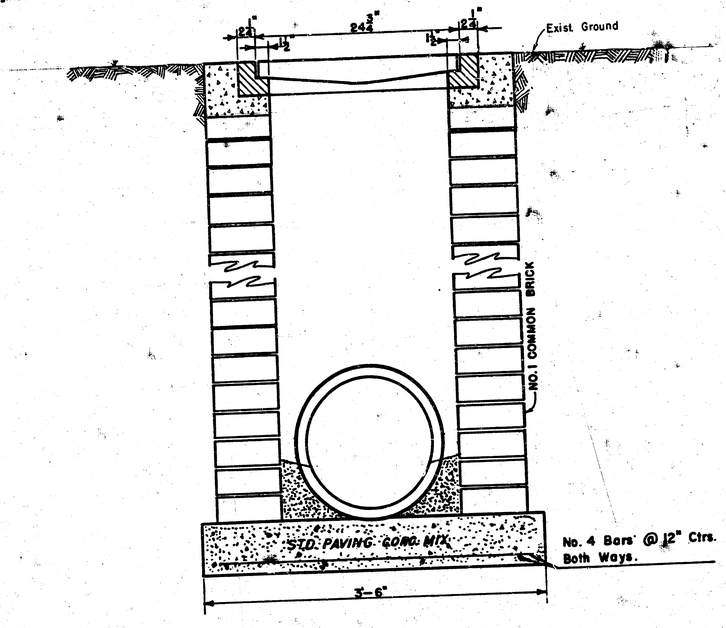


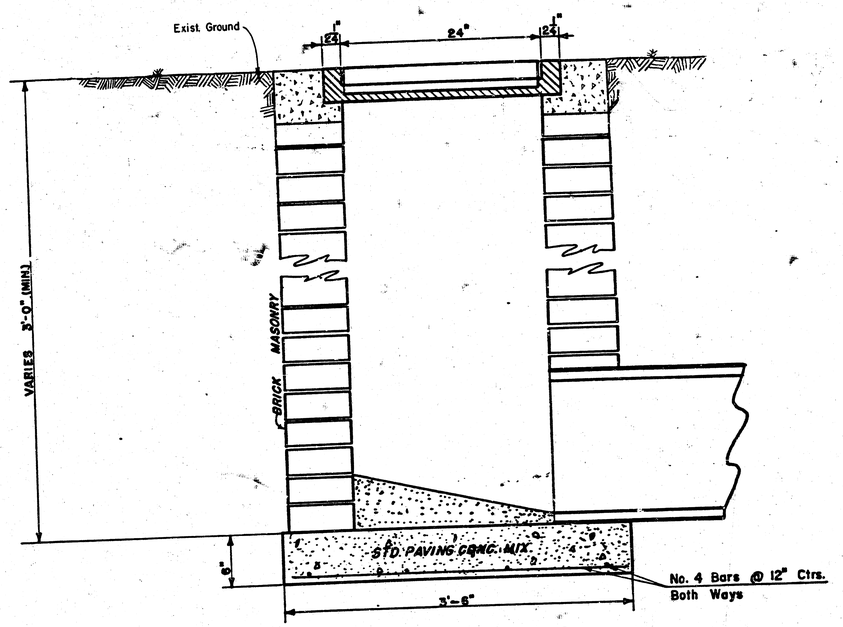



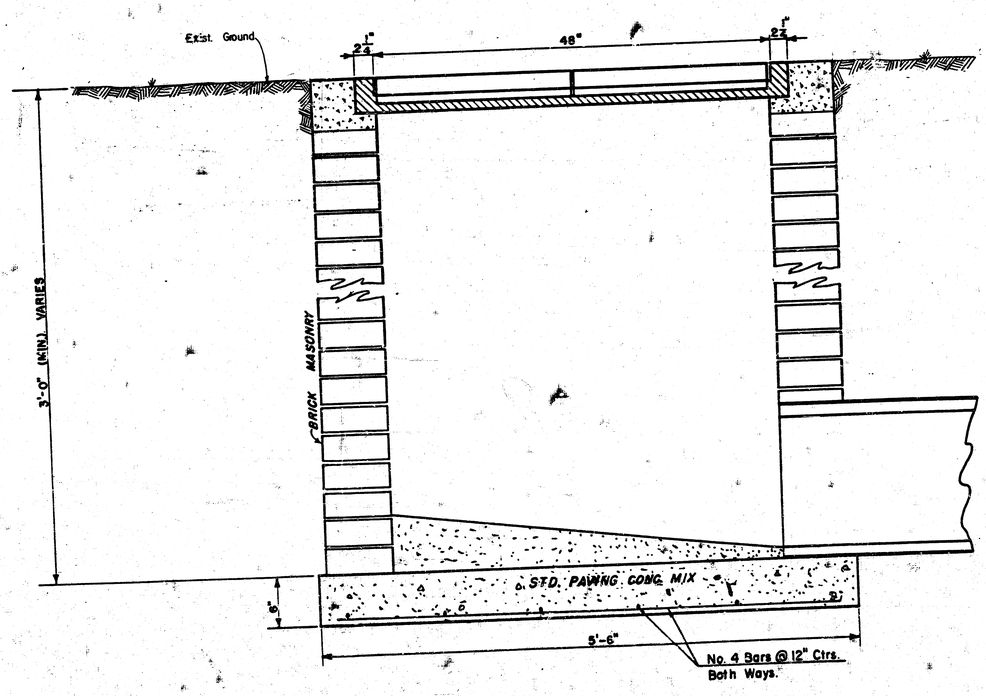

24"x24" Frame & Grate Detail




Double 24"x24" Frame Detail



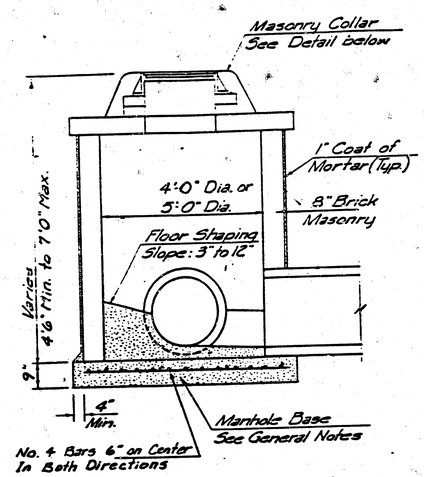



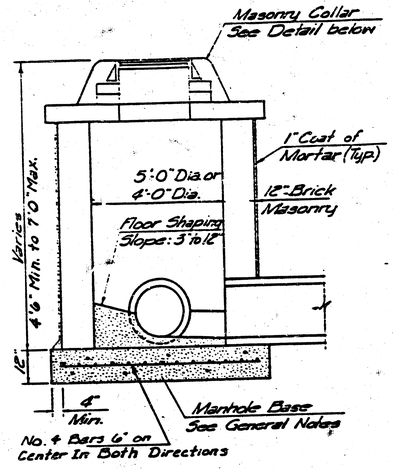

# DROP INLET DETAILS

M.E. Lindebak, City Engineer
City of Wichita, Kansas
Project
Project No.
Date:
Scale: 1-1/2" = 1'-0"

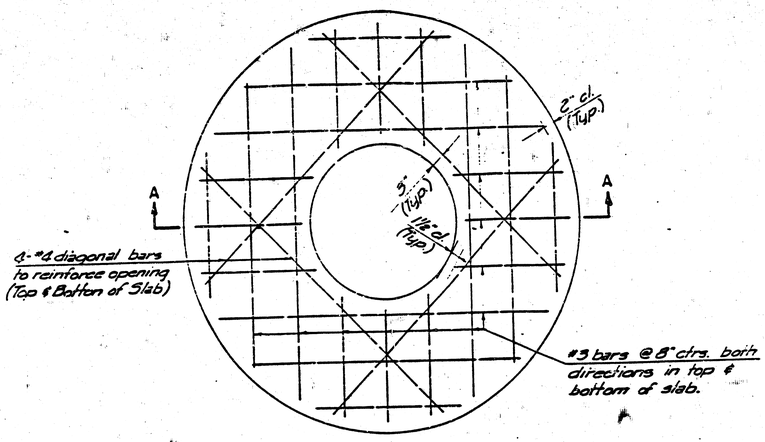
7/9 | 7/9



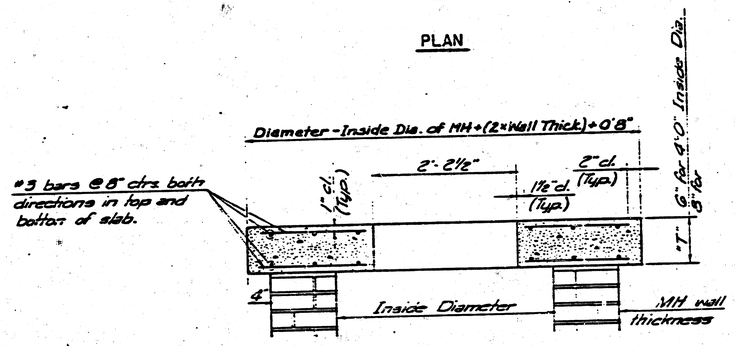

SHALLOW TYPE "A" MANHOLE




SHALLOW TYPE "B" MANHOLE

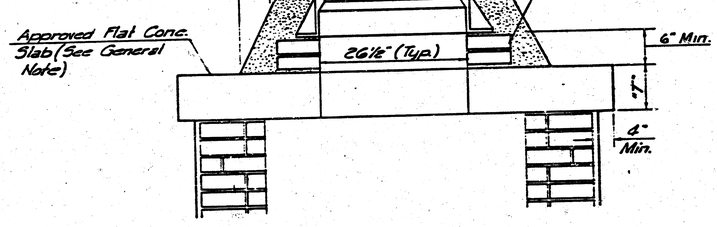



PLAN

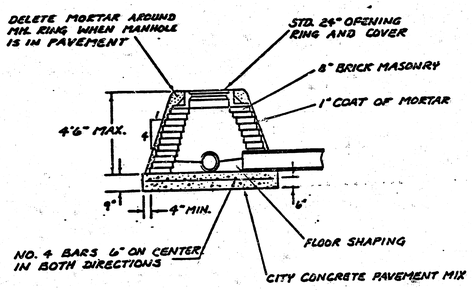



SECTION A-A

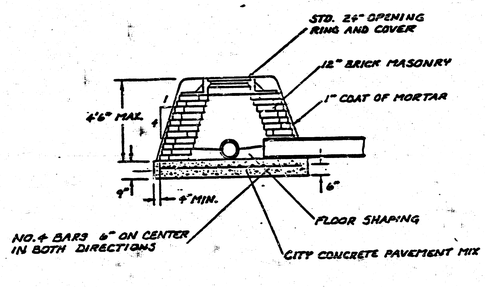
FLAT CONCRETE SLAB DETAILS




MASONRY COLLAR DETAIL




SPECIAL SHALLOW TYPE 'A' MANHOLE




SPECIAL SHALLOW TYPE 'B' MANHOLE

GENERAL NOTES

1. 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 CEMENT 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. TYPE "A" SHALLOW MANHOLES CAN BE USED ON SEWERS WHEN THE MANHOLE IS NOT LOCATED WITHIN PUBLIC STREET PAVEMENT. 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.

2. 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 6" 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.

3. 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 INFLOWING PIPES AND THE OUTFLOWING PIPE AS SHOWN BY THE DRAWINGS. 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 MEET 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.

4. PIPE 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.

5. 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 DRAWINGS.

6. THE CROWNS OF INFLOWING PIPES SHALL NEVER BE SET LOWER THAN THE CROWN OF THE OUTFLOWING PIPE.

7. STANDARD SHALLOW MANHOLES TYPE "A" AND "B" SHALL BE PAID FOR AT THE UNIT PRICE BID PER EACH FOR THE TYPE AND DIAMETER INDICATED. STANDARD SPECIAL SHALLOW MANHOLES TYPE "A" AND "B" SHALL BE PAID FOR AT THE UNIT PRICE BID PER EACH FOR THE TYPE INDICATED. ALL STANDARD SHALLOW MANHOLE DIAMETERS WILL BE 4' UNLESS INDICATED OTHERWISE.

CITY OF WICHITA, KANSAS
STANDARD SHALLOW MANHOLES
TYPE 'A' AND TYPE 'B'

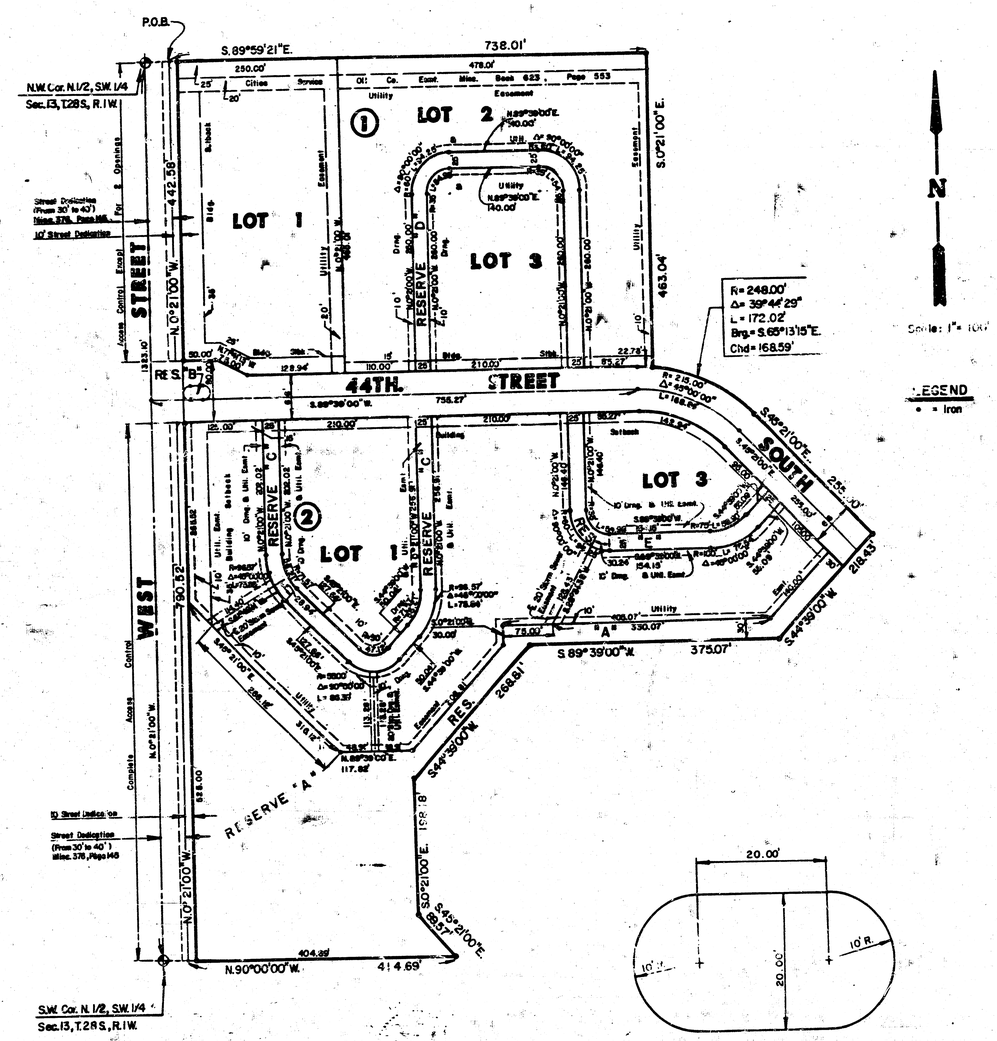
8/9 | 8/9

| Designed by | | Checked by | |
|---|---|---|---|
| Drawn by | | Date | Job No. |

FINAL PLAT OF

# COTTONWOOD GROVE

## AN ADDITION TO WICHITA, SEDGWICK COUNTY, KANSAS


P.O.B.
N.W. Cor. N.1/2, SW. 1/4
Sec.13, T28S, R.1W.
S.89°59'21"E.
738.01'
250.00'
478.01'
442.56'
N.0°21'00"W.
463.04'
S.0°21'00"E.
LOT 1
LOT 2
LOT 3
STREET
44TH.
WEST
SOUTH
RESERVE "A"
RESERVE "B"
RESERVE "C"
RESERVE "D"
RESERVE "E"
RES.
S.89°39'00"W.
375.07'
S.44°39'00"W.
218.43'
266.81'
S.45°21'00"E.
89.57'
S.0°21'00"E.
158.18'
N.90°00'00"W.
414.69'
404.39'
990.52'
858.00'
N.0°21'00"W.
S.W. Cor. N.1/2, SW.1/4
Sec.13, T.28S, R.1W.
Street Dedication (From 30' to 40') Misc. 378, Page 148
10' Street Dedication
Access Control Complete
Cities Service
Utility Easement
Oil Co. Easement Misc. Book 623, Page 553
R=248.00'
Δ=39°44'29"
L=172.02'
Brg.=S.65°13'15"E.
Chd=168.59'
R=215.00'
Δ=90°00'00"
L=168.59'
R=200.00'
Δ=90°00'00"
L=157.08'
R=200.00'
Δ=49°20'00"
L=172.26'
R=200.00'
Δ=40°39'00"
L=141.89'
R=200.00'
Δ=50°00'00"
L=174.53'
R=200.00'
Δ=50°00'00"
L=174.53'
R=200.00'
Δ=90°00'00"
L=314.16'
R=200.00'
Δ=90°00'00"
L=314.16'
R=200.00'
Δ=90°00'00"
L=314.16