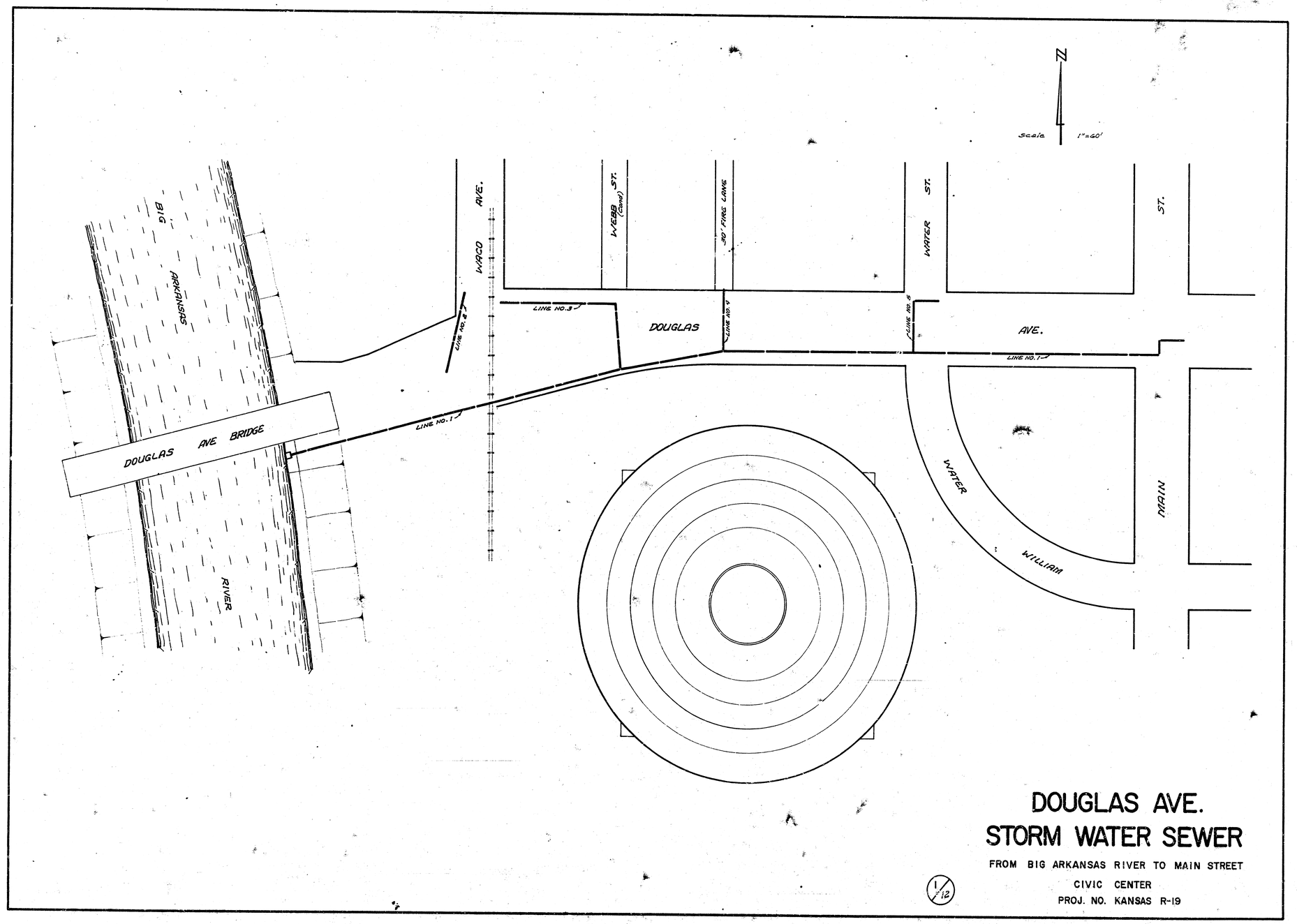


DOUGLAS AVE.
STORM WATER SEWER

FROM BIG ARKANSAS RIVER TO MAIN STREET

CIVIC CENTER

PROJ. NO. KANSAS R-19

1/12

Note: To Field Engineer. Take ties to all irons & thimbles in const. of S.W.S.

NOTE: SEE SHEET NO. 7 FOR GENERAL NOTES

NOTE: SEE SHEET NO. 5 FOR LINE NO. 2

RIVER

ARKANSAS

DOUGLAS AVE. BRIDGE

WACO AVE.

WICHITA AVE.

DOUGLAS AVE.

Remove Plug 12"w.

54"w.

54"w. S.W.S.

12"w.

Note: 12" water line to be abandoned

16"w.

8"G

12"w.

16"w.

40"w/l 93.95

75'

STA. 0+53 CONST. REINF. CONC. OUTFALL STRUCTURE SEE DETAIL SHEET NO. 7

CITY OF WICHITA CIVIC CENTER PROPERTY

STA. 3+00 CONST. REINF. CONC. H.W. SEE DETAIL SHEET NO. 8

STA. 3+59.8 BEGIN 108" TUNNEL LINER SEE DETAIL THIS SHT.

13"w/l 100.00

18"-15" R.C.P.

15" In 108.10

60" R.C.P. In 94.55

T.C. 113.00

STA. 3+95.8 END 108" TUNNEL LINER

CITY OF WICHITA CIVIC CENTER PROPERTY

℄ Bridge Extended

℄ Street R/W

Plan Scale 1"=20'
Profile Scale 1"=20' Hor.
1"=9' Vert.

CAUTION
UNDERGROUND UTILITIES
Please check with K G & E or Southwestern Bell Telephone Co. for Location

1. B.M.-115.925 U.S.G.S. Disc. top Sq. Handrail, 2'W. of ℄ End of rail Bridge Bridge & Douglas.
2. B.M.-112.67 "X" cut on conc. parking S.W. Side of Standard oil sign, N.E. Cor. Waco & Douglas
3. B.M.-113.94 S.E. Cor. Bronze Plaque (Time Capsule). N. Side Douglas 2 sts. W. of Ctr. of Garage Bldg.
4. B.M.-114.66 "X" cut on N.W. Cor. Pad: Island Ctr. Douglas @ E.L. Water.
5. B.M.-115.18 "X" cut top S.W. Cor. Island E.L. Main & Ctr. Douglas

Note: Mechanically compact backfill from Sta. 0+45 to 1+35

Nat. Ground

Sta. 0+53

Rein. Conc. Headwall & Endwall

Sta. 3+00

Rein. Conc. H.W.

Set top H.W. @ 113.29

Sta. 3+59.8

Sta. 3+95.8

R.R. Rails (Conc.)

8" Rip-Rap

15" In 108.26

LINE NO. 1

Design High Water Elev. 105.20

Prep. Pool Elev. 96.40

Finish. Flo. at River

Broken Conc. Rip-Rap

247' LIN FT. 60" R.C.P. @ 0.16% GRADE

150' LIN FT. 60" R.C.P. @ 0.16% GRADE

36 LIN. FT. 108" TUNNEL LINER SEE DETAIL THIS SHEET

Note: Cost of Rip-Rap in place to be included in bid price of Reinf. Conc. Outfall Structure.

110

100

90

0 1 2 3 4 5

Top W. Rail Elev. 112.63

Undisturbed Earth

4" dia. grout pipes shall be provided in liner plates @ a min. spacing of 3' centers on top ℄ of tunnel

Pressure grout using a cement-sand grout of one part to six parts

Turnbuckle

108" dia. 3 Sec. Section modulus .0336 IN in³/in. Black Armco Sectional liner plates

Conc. R. rad invert

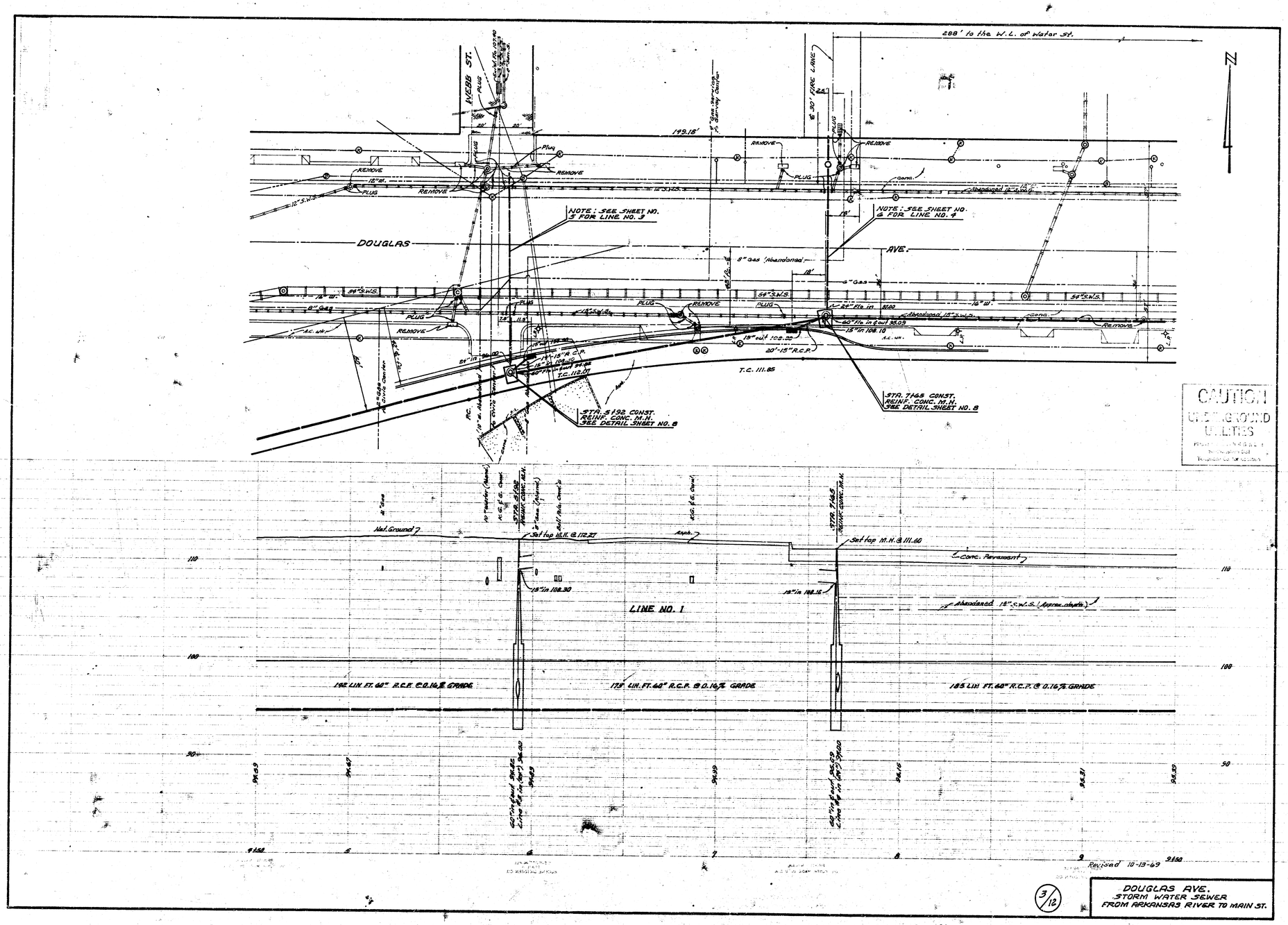
6" min.

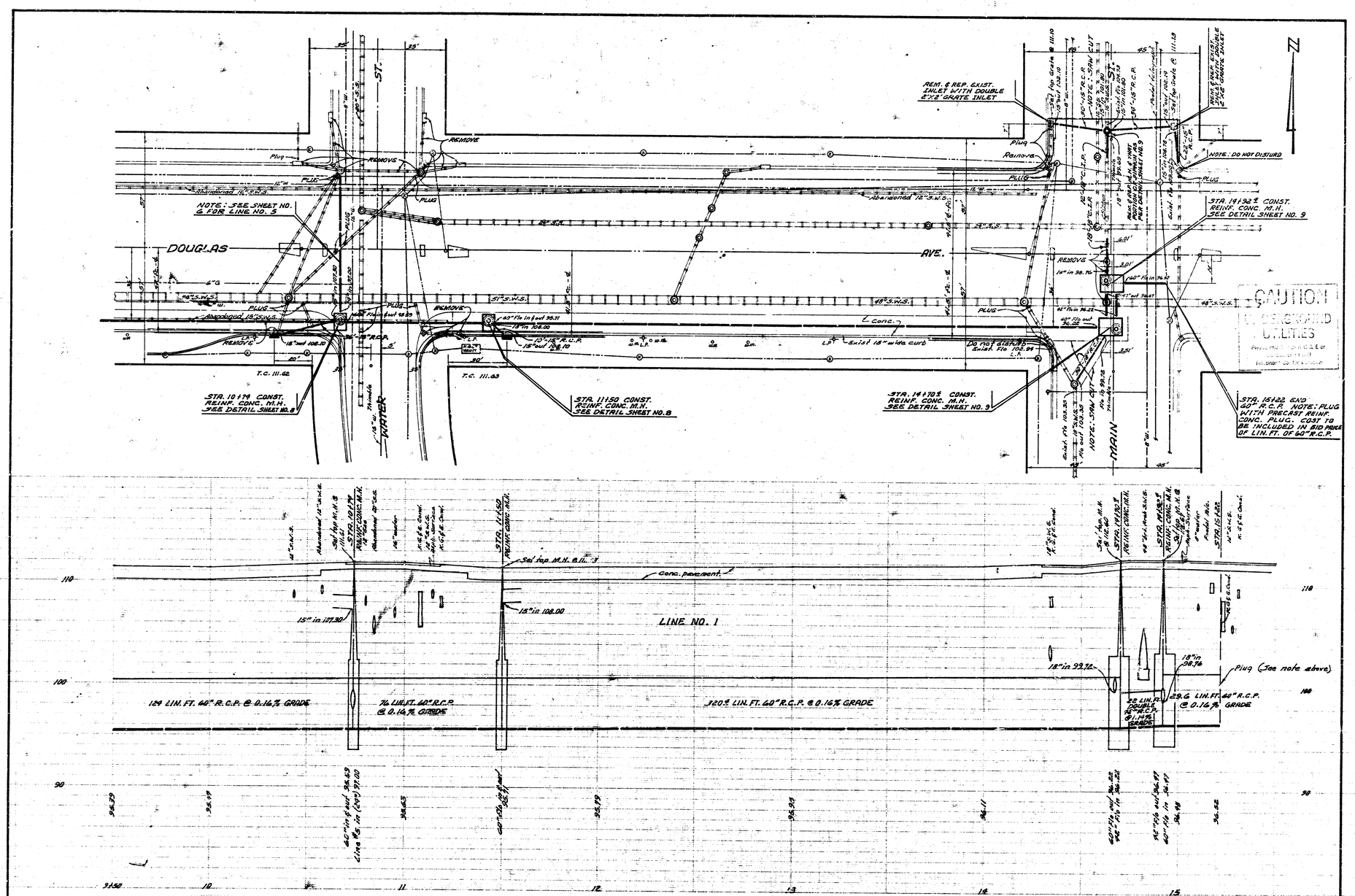
TUNNEL LINER DETAIL FOR 60" R.C.P. STA. 3+59.8 TO 3+95.8

No Scale

2/12

DOUGLAS AVE.
STORM WATER SEWER
FROM ARKANSAS RIVER TO MAIN ST.


INCOB ST.
DOUGLAS AVE.
288' to the W.L. of Water St.
N
199.15'
8" Gas 'Abandoned'
NOTE: SEE SHEET NO. 3 FOR LINE NO. 3
NOTE: SEE SHEET NO. 4 FOR LINE NO. 4
STA. 5+92 CONST. REINF. CONC. M.H. SEE DETAIL SHEET NO. 8
STA. 7+48 CONST. REINF. CONC. M.H. SEE DETAIL SHEET NO. 8
T.C. 111.85
T.C. 112.01
REMOVE
PLUG
Plug
Abandoned 15" S.W.S. (Approx. elevation)
Conc. Pavement
Nat. Ground
Set top M.H. @ 112.27
Set top M.H. @ 111.60
15"in 108.30
15"in 108.16
LINE NO. 1
192 LIN. FT. 60" R.C.P. @ 0.16% GRADE
179 LIN. FT. 60" R.C.P. @ 0.16% GRADE
185 LIN. FT. 60" R.C.P. @ 0.16% GRADE
CAUTION
UNDERGROUND UTILITIES
Revised 10-13-69
DOUGLAS AVE.
STORM WATER SEWER
FROM ARKANSAS RIVER TO MAIN ST.
3/12



9/12

DOUGLAS AVE.
STORM WATER SEWER
FROM ARKANSAS RIVER TO MAIN ST.

N

BROADVIEW HOTEL

STA. 0188 CONST. STD. M. H., TYPE "A"

Note: Locate underground utilities before const. to determine location of M.H.

18"-18" R.C.P.

Do not disturb conc. wk.

Exist. F/o 109.19

F/o out 109.19

F/o in 109.03

STA. 0100 CONST. NON. STD. M.H., TYPE "A" OVER EXIST. 54" BRK. M.H.

WACO AVE.

DOUGLAS AVE.

Note: See Sheet #2 for Removal & Pipe Plugs

STA. 0100 LINE NO. 3
STA. 5192 LINE NO. 1

F/o in & out 94.82

F/o in 96.00

K.G. & C. Cond.

& Bridge extended

Gas

Brk. Arch 5'x3'.

DOUGLAS AVE.

K.G. & C. Cond.

12" water

12" S.W.S.

18" in & out 108.12

8" Tele. Cond.

Conc.

18" cond. 108.82

Conc. Dr.

18" waste ch.

K.G. & C. Cond.

138.27' P.

Note: See Sheet #2 & 3 for Removal & Pipe Plugs

NOTE: CONNECT EX. 37.8" R.C.P. TO NEW INLET. ALL WORK & MATERIAL TO MAKE THIS CONNECTION SHALL BE A NON SEP. ITEM & SHALL BE INCLUDED IN PRICE BID OF LIN. FT. OF 15" R.C.P.

STA. 1105 CONST. STD. M.H., TYPE "A"

STA. 1123 CONST. STD. 2'X6' INLET

Note: 4" San. Sewer lead to remain in service

Note: Reconstruct inlet. Use exist. double 8'x2' frame & grate.

STA. 2131 CONST. STD. 2'X5' INLET.

WACO AVE.

40'

12"S.W.S.

STA. 0100 MAN. STANDARD M.H. 16" S.W.S.

18" water & 8" Tele. cond.

18"S.W.S.

K.G. & C. Cond.

STA. 0100 STD. M.H. TYPE "A"

Sal top M.H. @ 112.70

pavement

walk

Sal top M.H. @ 111.98

LINE NO. 2

15" in 108.30

15" in 103.03

88 LIN. FT. 15" R.C.P. @ 1.00 % GRADE

1'-min.

Exist. 54" F/o 100.03

15" in 101.90

F/o 102.38

STA. 0100

K.G. & C. Cond.

10" S.W.S.

12" water

12" Brk. Arch 5'x3'

STA. 1105 MAN. STD. M.H. TYPE "A"

STA. 1123 STD. 2'X6' INLET

K.G. & C. Cond.

STA. 2131 STD. 2'X5' INLET

Sal top M.H. @ 111.55

LINE NO. 3

15" in 104.94

134 LIN. FT. 15" @ 1.00 % GRADE

105 LIN. FT. 24" R.C.P. @ 2.00 % GRADE

15" in Exist 104.18

15" F/o out 104.80

NOTE: Contractor to verify elev. of 15" R.C.P. at Sta. 2+18.

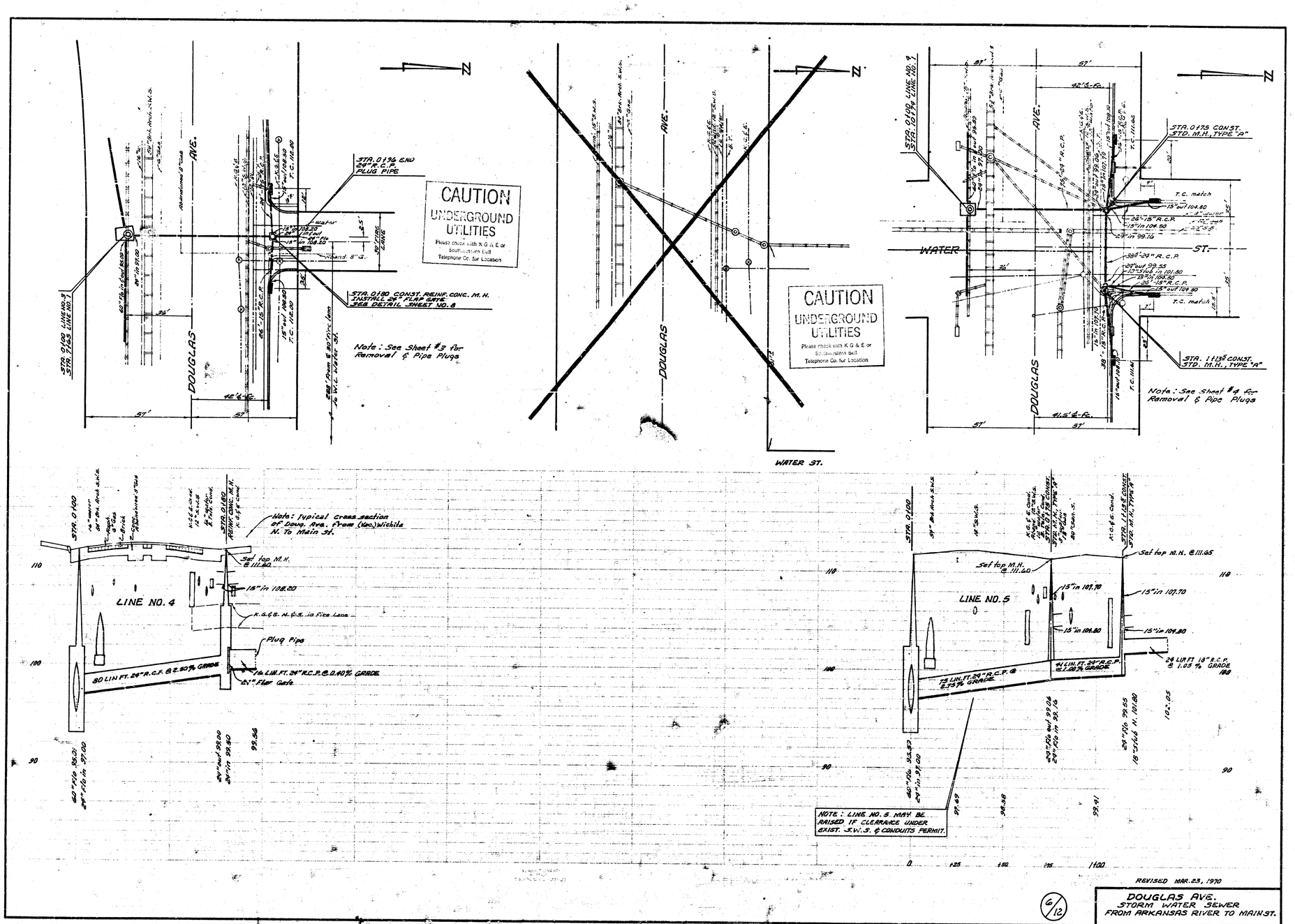
3" Gas

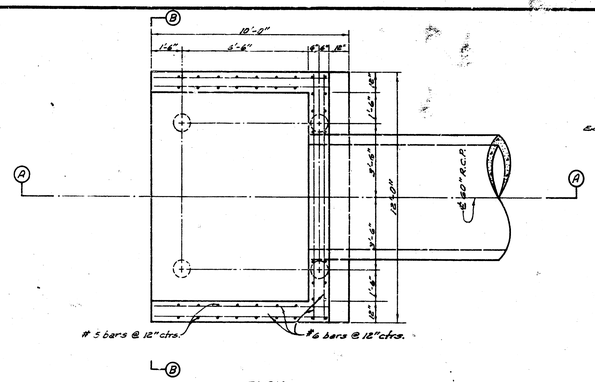
STA. 2131 STD. 2'X5' INLET

Revised 10-13-69

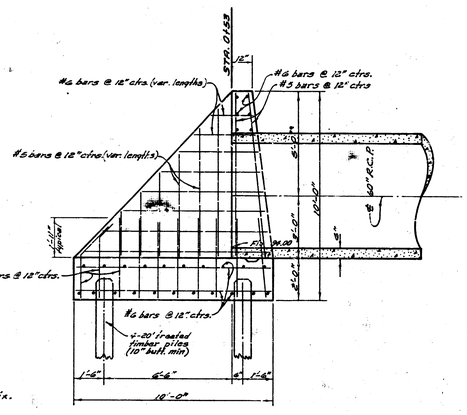
5/12

DOUGLAS AVE.
STORM WATER SEWER
FROM ARKANSAS RIVER TO MAIN ST.


DOUGLAS AVE.
STA. 0+00 LINE NO. 1
STA. 0136 END 24" R.C.P. PLUG PIPE
STA. 0180 CONST. REINF. CONC. M.H. INSTALL 24" FLAP GATE SEE DETAIL SHEET NO. 8
Note: See Sheet #3 for Removal & Pipe Plugs
CAUTION UNDERGROUND UTILITIES Please check with K.G.& E. or Southwestern Bell Telephone Co. for Location
WATER ST.
STA. 0+00 LINE NO. 2
STA. 0175 CONST. STD. M.H., TYPE "A"
STA. 1+13.5 CONST. STD. M.H., TYPE "A"
Note: See Sheet #4 for Removal & Pipe Plugs
LINE NO. 4
Note: Typical cross section of Doug. Ave. from (Nec.) Wichita N. To Main St.
Set top M.H. @ 111.80
18" in 108.20
Plug Pipe
80 LIN. FT. 24" R.C.F. @ 2.50% GRADE
16 LIN. FT. 24" R.C.P. @ 0.60% GRADE
21" Flap Gate
LINE NO. 5
Set top M.H. @ 111.80
15" in 107.70
15" in 104.80
15" in 104.80
24 LIN. FT. 24" R.C.F. @ 2.75% GRADE
41 LIN. FT. 24" R.C.P. @ 1.00% GRADE
26 LIN. FT. 18" R.C.P. @ 1.05 % GRADE
NOTE: LINE NO. 5 MAY BE RAISED IF CLEARANCE UNDER EXIST. S.W.S. & CONDUITS PERMIT.
0 125 150 175 1100
REVISED MAR. 23, 1970
6/12
DOUGLAS AVE.
STORM WATER SEWER
FROM ARKANSAS RIVER TO MAIN ST.

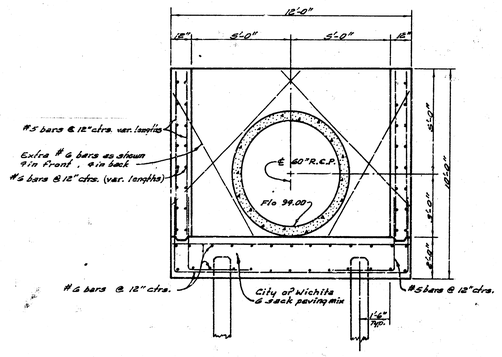


PLAN



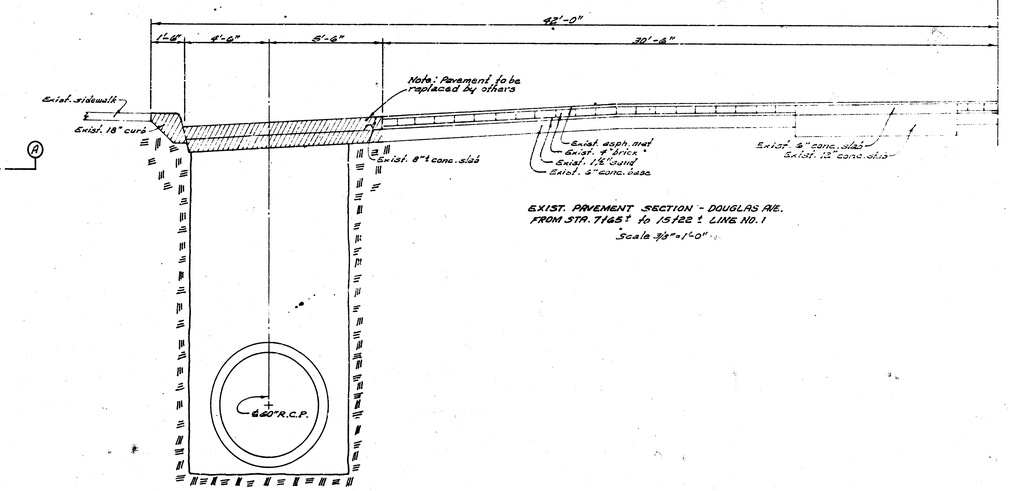
BILL OF MATERIALS
16 cu. yds. 6 sack pave. mix.
1,580 lbs. reinf. steel
4 - 20' treated timber piles (10" butt min.)

SECTION AA



SECTION BB

REINF. CONC. OUTFALL STRUCTURE STA. 0+53
Scale 3/4" = 1'-0"



EXIST. PAVEMENT SECTION - DOUGLAS AVE.
FROM STA. 7+65 ± to 15+22 ± LINE NO. 1
Scale 3/8" = 1'-0"

CUT SECTION
FROM STA. 7+65 to 14+70 ± LIN. NO. 1

GENERAL NOTES :

#1 All sand backfill is to be flushed & vibrated

#2 Bid price of inlets & manholes removed is to include the cost of plugging pipe, removing castings & lids & removing necessary amount of brick to allow for pavement or sewer construction

#3 All castings, grates & lids removed to be delivered to City of Wichita material yard.

#4 Abandoned sewer pipes, cut by the storm water sewer construction, are to be plugged with concrete & masonry. These plugs shall be bid as "Pipe Plugs".

#5 Contractor to patch ditch cuts with 2" asphaltic conc., where necessary, to maintain traffic prior to paving.

#6 Contractor to co-ordinate work so traffic can be maintained on ½ street @ all times.

#7 Compacted backfill from Sta. 0+45 to 1+35 Line No. 1, shall be a non bid item & shall be included in bid price of 60" R.C.P.

#8 Conc. encasement between Sta. 14+70 ± & 14+72 ± shall be included in bid price of Lin. ft. of 92" R.C.P.

#9 Reinf. conc. encasement @ Sta. 0+00 Line No. 2 on exist. 54" brick arch S.W.S. shall be included in bid price of Non Standard M.H., Type "A".

#10 Contractor to remove minimum amount of walk, drive & pavement to allow for sewer construction.

#11 The 60" R.C.P. between the outfall structure @ Sta. 0+53 & the manhole @ Sta. 14+70 ± is to have rubber gasket joints, Interpace Specification SP-29, or approved equal.

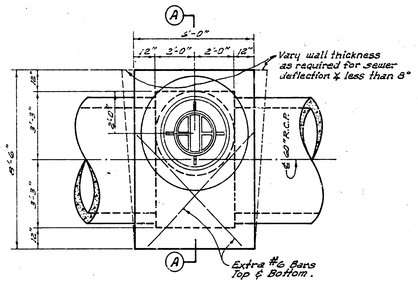
#12 The bid price for lin. ft. of tunnel liner is to include placing of liner, pressure grouting, paved invert & all necessary tools & equipment to complete liner in place, except the cost of 60" R.C.P.

#13 Broken concrete, asphalt, brick, rubble & excavated material will be disposed of on the east bank of the Big Arkansas River in the vicinity of Harry Street. The Contractor shall contact the Flood Control Division for directions on the disposal of material.

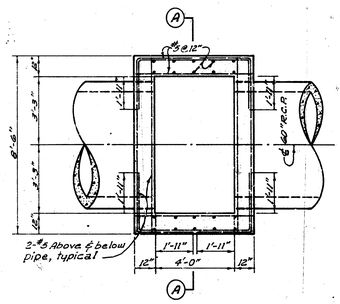
#14 Asphalt walk removed will be paid as sq. ft. of walk & drive removed.

7/12

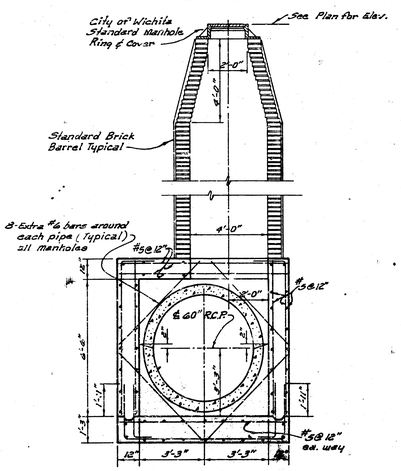
DOUGLAS AVE.
STORM WATER SEWER
FROM ARKANSAS RIVER TO MAIN ST.



PLAN



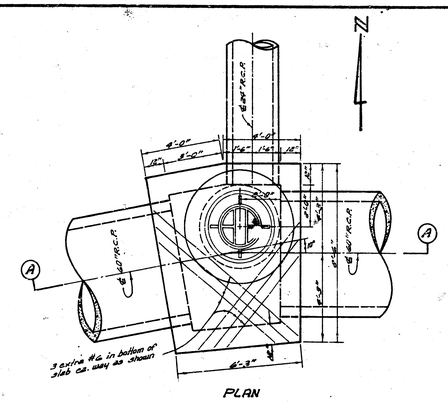
SECTION



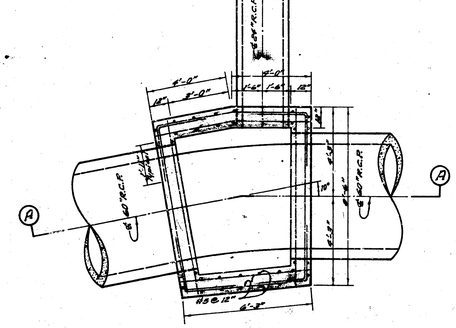
SECTION A A

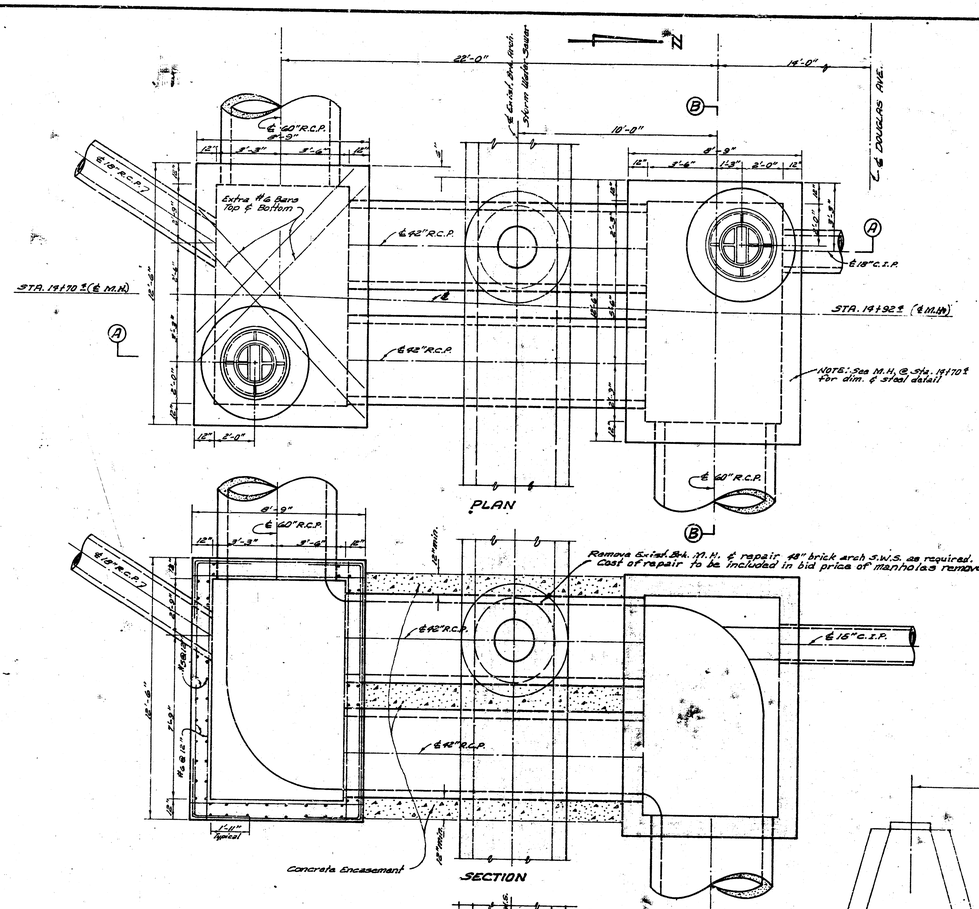
REINF. CONC. M.H. FOR STA. 3100, 3198, 10174 & 11450 LN. NO. 1

Scale ⅜"=1'-0"



PLAN


Ø24" R.C.P.
4'-0"
8'-0"
12"
1'-6"
1'-6"
12"
Ø60" R.C.P.
Ø60" R.C.P.
Ø60" R.C.P.
A
A
4'-0"
4'-0"
4'-0"

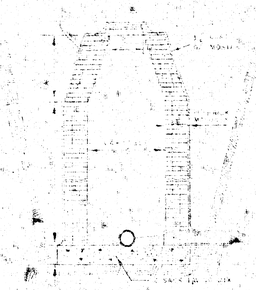


9/12

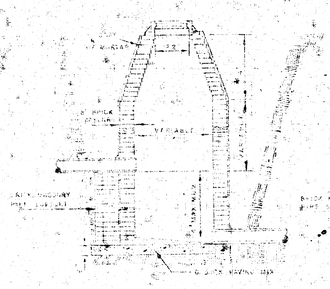
DOUGLAS AVE.
STORM WATER SEWER
FROM ARKANSAS RIVER TO MAIN ST.



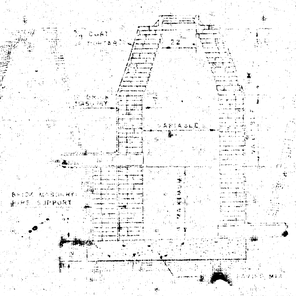
STANDARD MANHOLE
TYPE "A"



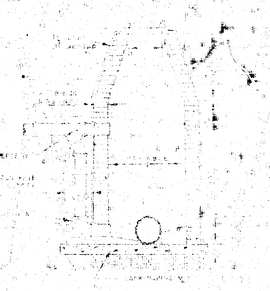
STANDARD MANHOLE
TYPE "B"



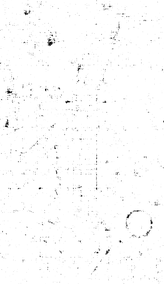
DROP MANHOLE
TYPE "A"



DROP MANHOLE
TYPE "B"

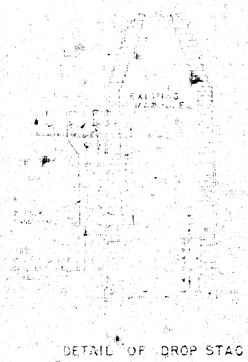


OUTSIDE DROP MANHOLE
TYPE "A"

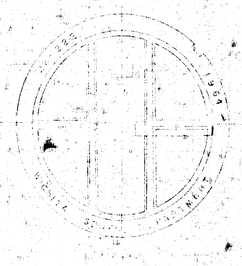


OUTSIDE DROP MANHOLE
TYPE "B"

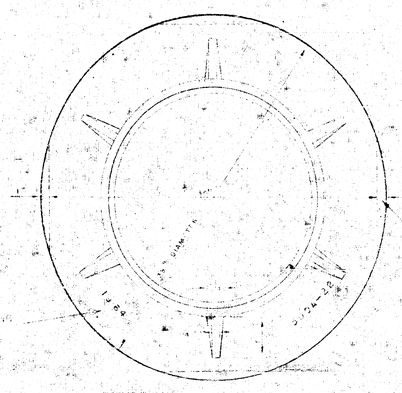
* DRAWN ON 5' DIA. M.H.



DETAIL OF DROP STACK



MANHOLE COVER



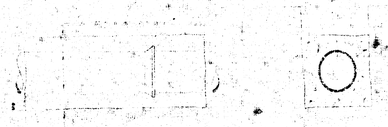
TOP VIEW

MANHOLE RING



SECTION A-A

REINFORCED CONCRETE ENCASEMENT
FOR STREETS



CONCRETE ENCASEMENT
FOR ALLEYS

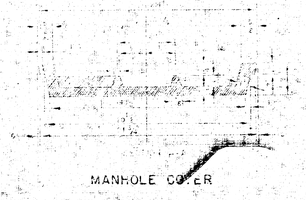


DETAIL OF CONCRETE CRADLE

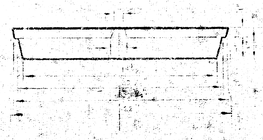


ORDINARY BEDDING METHOD

MANHOLES

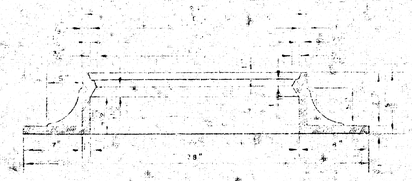


MANHOLE COVER



BOTTOM VIEW

MANHOLE COVER



DETAIL

MANHOLE RING

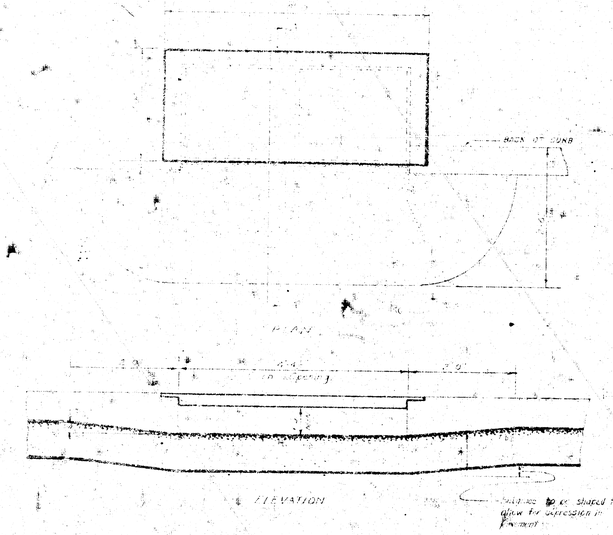
A TOTAL OF DIFFERENCE OF COVER AND THE UPPER FACE AND SEAT OF RING TO BE MACHINE FIT.

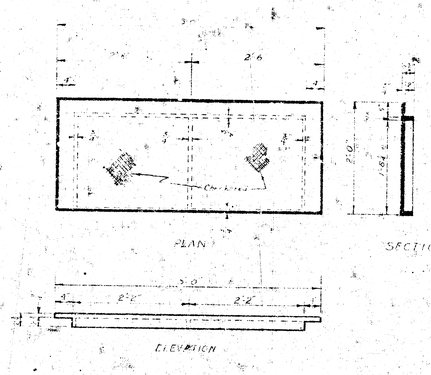


ORDINARY BEDDING METHOD
FOR REINFORCED CONCRETE PIPE

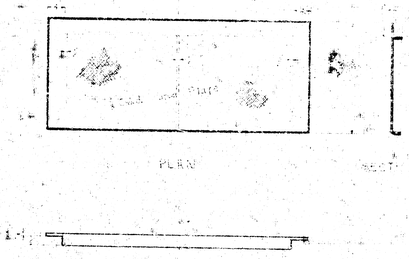
DETAILS OF
SEWER APPURTENANCES
ADOPTED AS STANDARD DESIGN
BY
ENGINEERING DIVISION
CITY OF WICHITA, KANSAS
B. E. SMITH CITY ENGINEER
1964

10/12

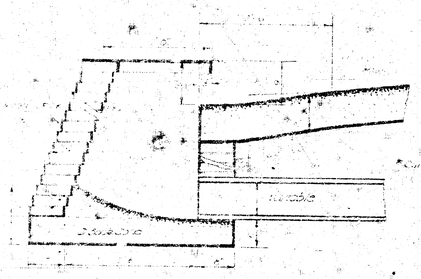




CITY OF WICHITA
CAST IRON INLET COVER
WEIGHT OF CASTING = 325#
SCALE: 1" = 1'-0"



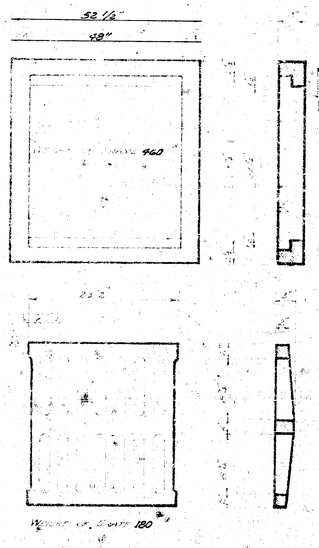
CITY OF WICHITA
STEEL INLET COVER
WEIGHT = 215#
SCALE: 1" = 1'-0"



DETAIL
STANDARD 2' x 5' INLET.
CITY OF WICHITA, KANSAS

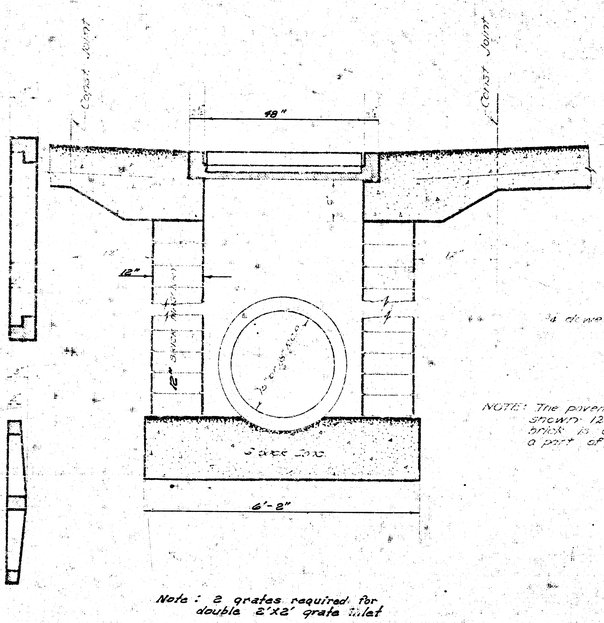
B.E. SMITH CITY ENGINEER
SEPT., 1965

11/12



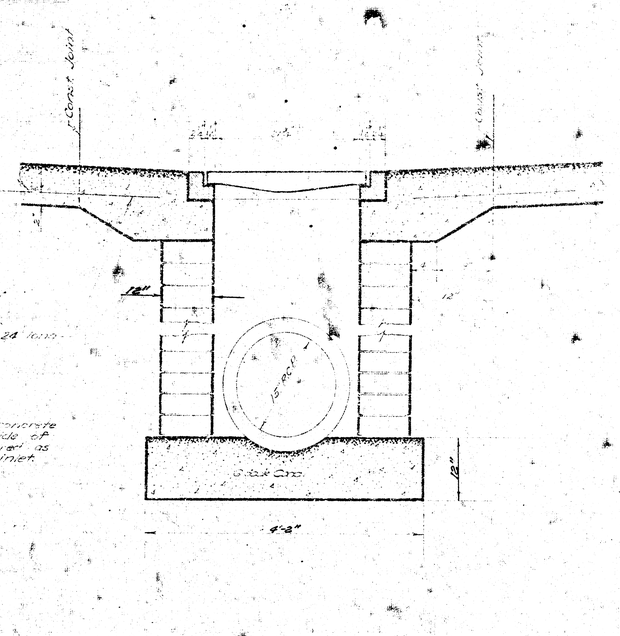
FRAME & GRATE DETAILS

No Scale



Note : 2 grates required for double 2'x2' grate inlet

ELEVATION



ELEVATION

DROP INLET DETAILS

No Scale

DROP INLET DETAILS
CITY OF WICHITA KANSAS
B.E. SMITH CITY ENGINEER

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