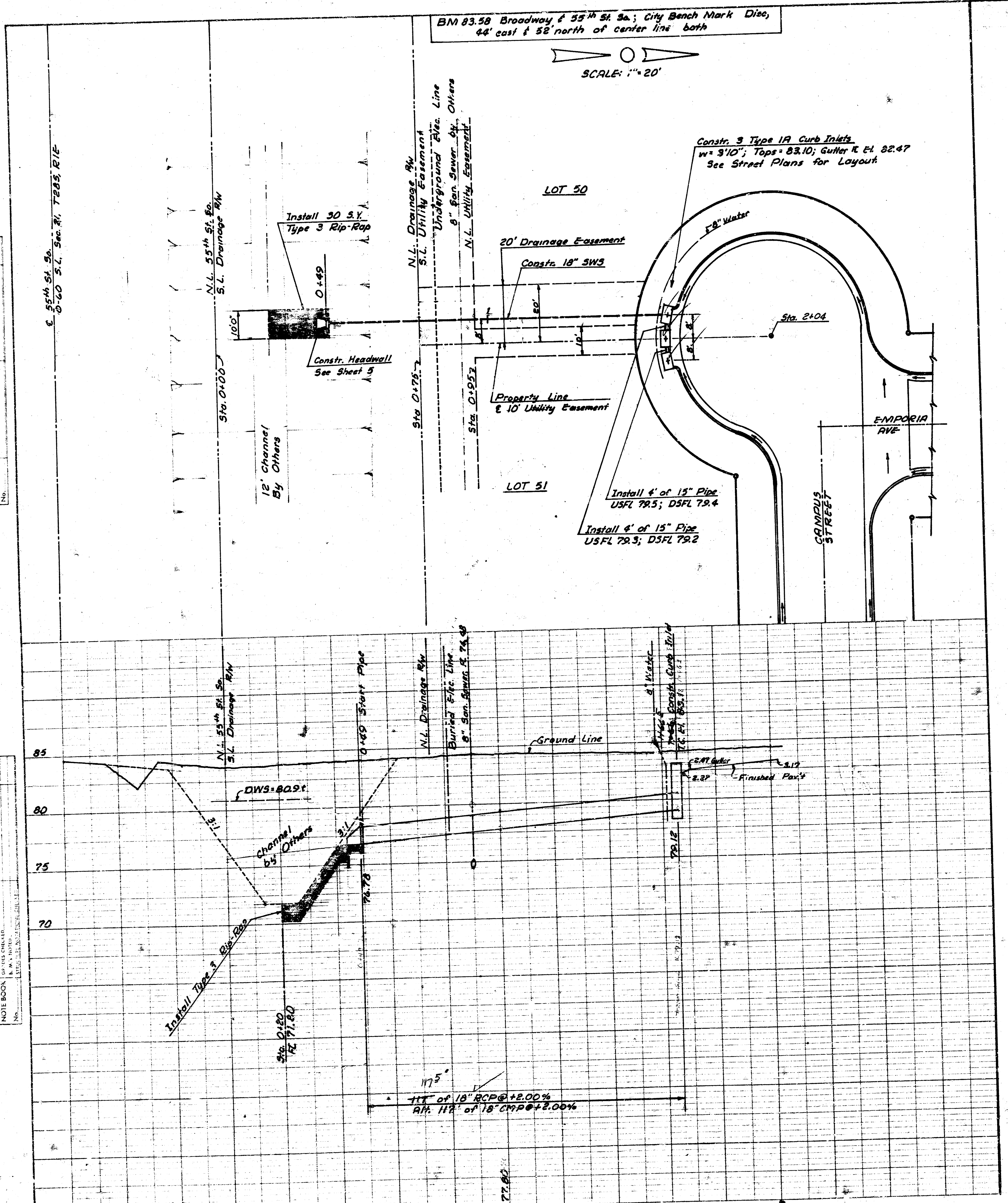


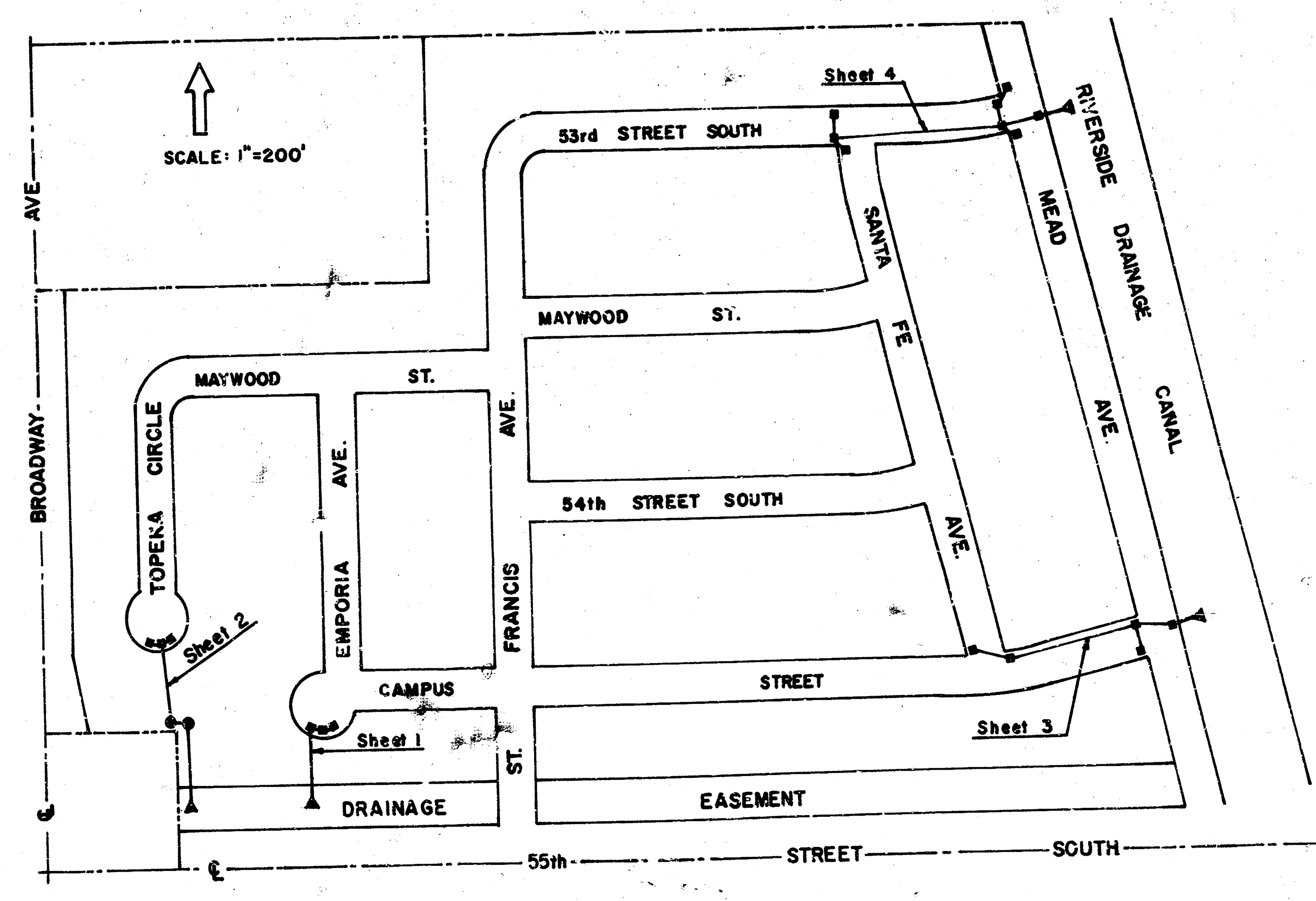
DRAINAGE IN CONNECTION WITH MEAD from NL 55th St. So. to NL Lot I, Block A, Riverside 2nd Addn., SANTA FE from NL Campus to SL 53rd St. So., ST. FRANCIS & 53RD ST. SO. from NL 55th St. So. to WL Mead, MAYWOOD from EL St. Francis to WL Santa Fe, 54TH ST. SO. from EL St. Francis to WL Santa Fe, CAMPUS from EL St. Francis to WL Mead, MAYWOOD & TOPEKA CIRCLE from WL St. Francis to & inc. Cul-de-sac, CAMPUS from WL St. Francis to & inc. Cul-de-sac, EMPORIA from NL Campus to SL Maywood.

CITY OF WICHITA, KANSAS

R.W. LINN, CITY ENGINEER

DATE: NOV 3 1978

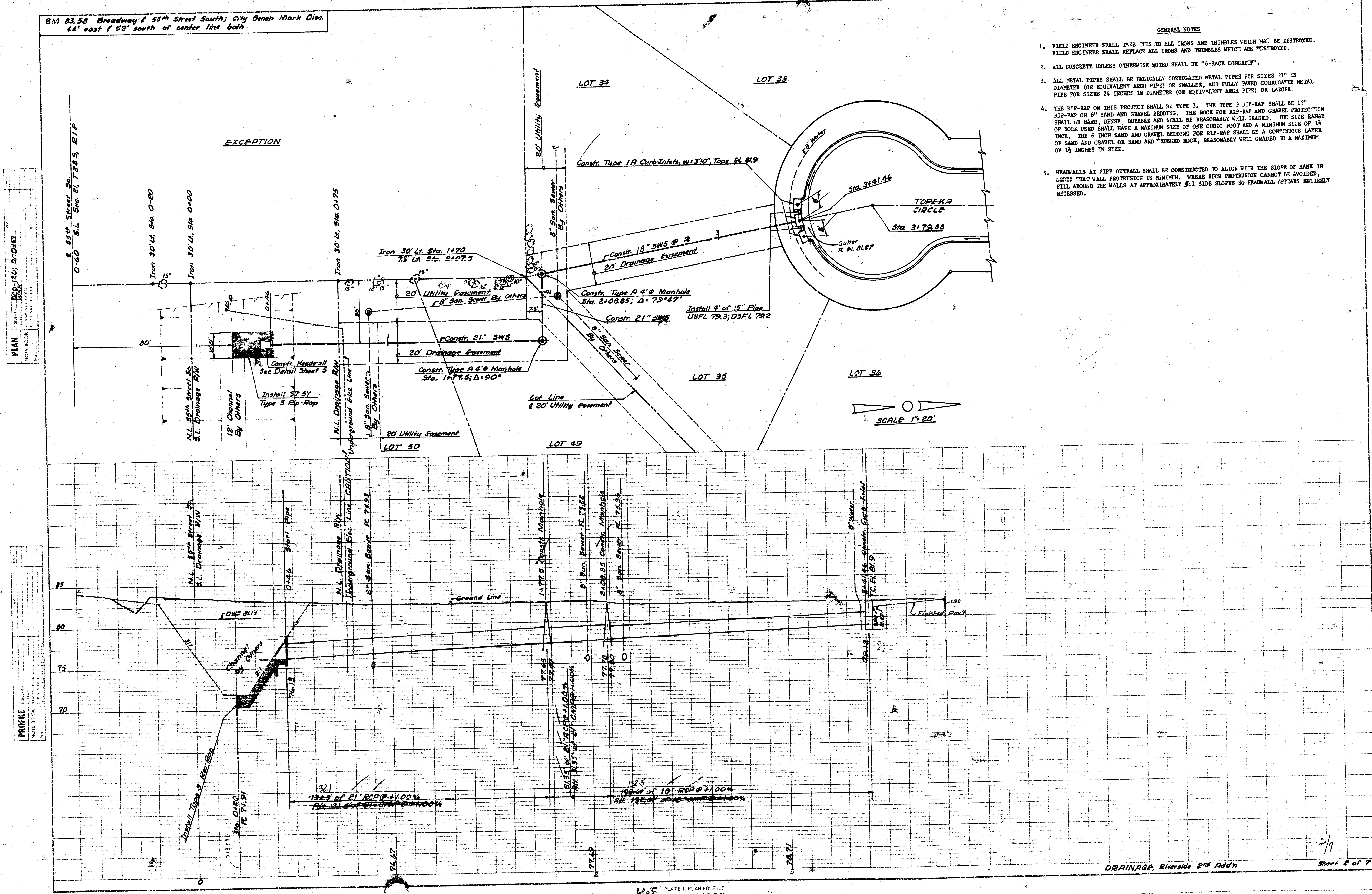
PROJECT NO. 472-76-245-80608-000-000-002



See Sheet 2 for GENERAL NOTES

1/7

K+E PLATE 1, PLAN-PROFILE KEUFFEL & ESSER CO 48 7024 MADE IN U.S.A.



GENERAL NOTES

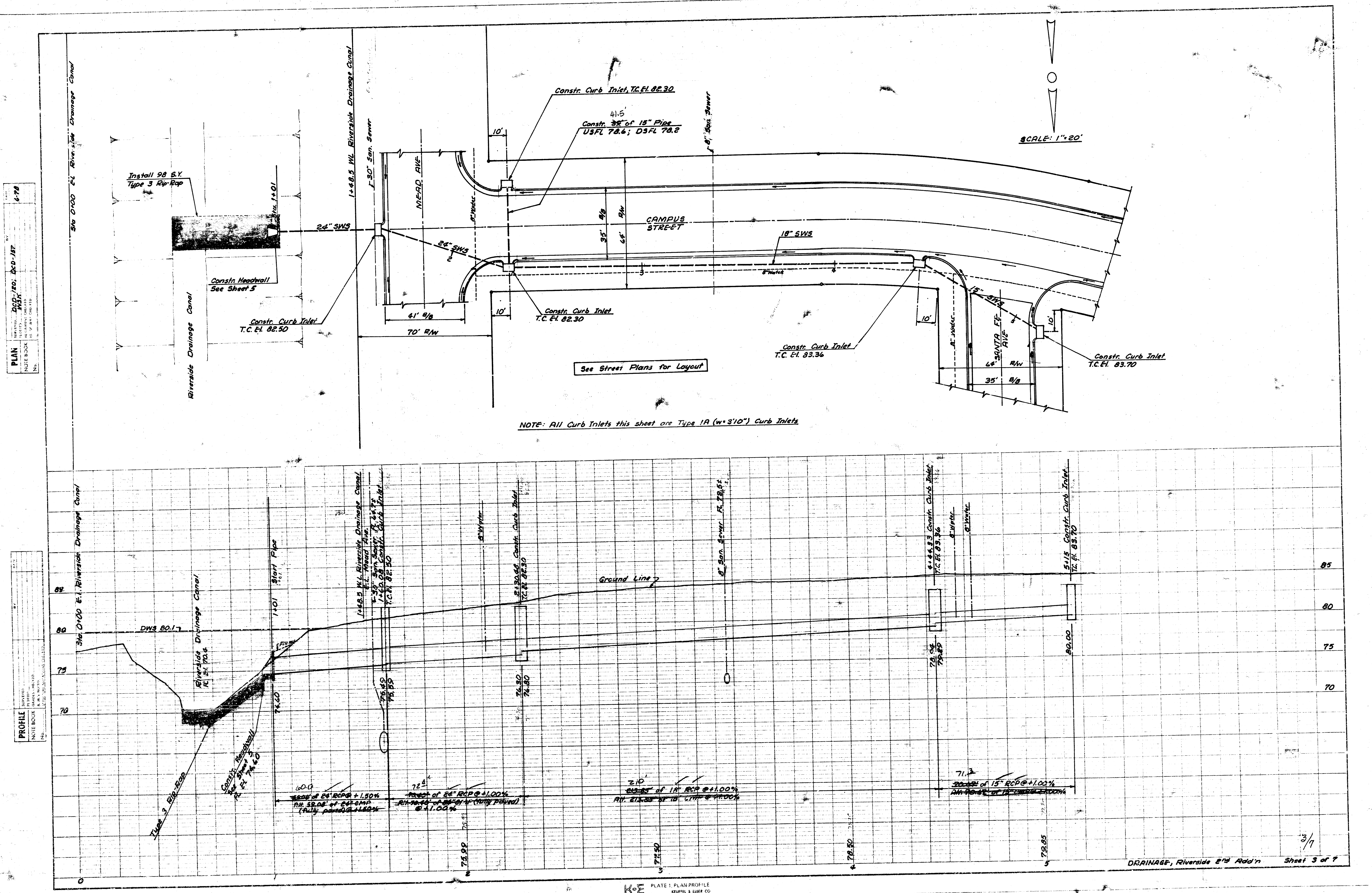
1. FIELD ENGINEER SHALL TAKE TIES TO ALL IRONS AND THIMBLES WHICH MAY BE DESTROYED. FIELD ENGINEER SHALL REPLACE ALL IRONS AND THIMBLES WHICH ARE DESTROYED.

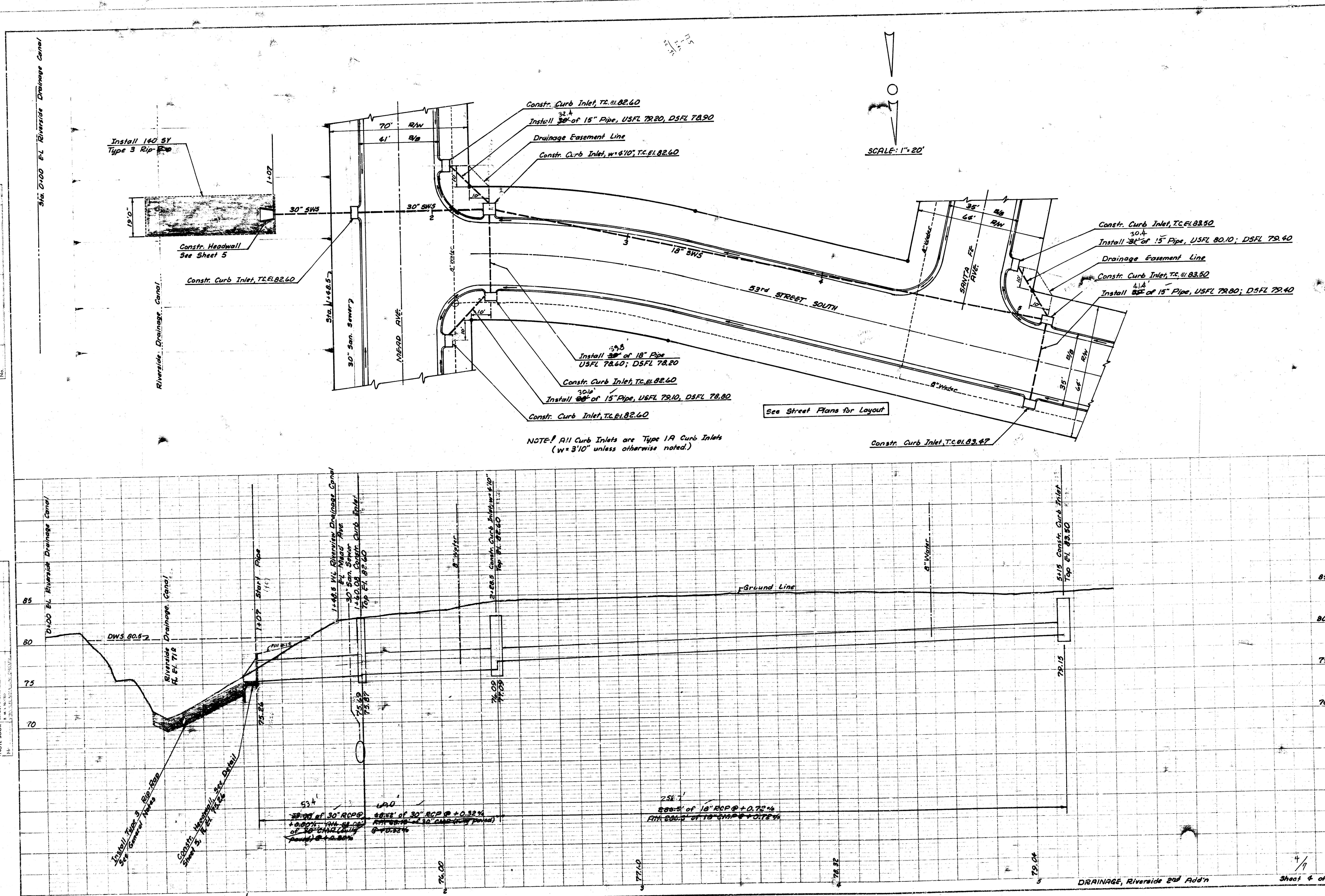
2. ALL CONCRETE UNLESS OTHERWISE NOTED SHALL BE "6-SACK CONCRETE".

3. ALL METAL PIPES SHALL BE HELICALLY CORRUGATED METAL PIPES FOR SIZES 21" IN DIAMETER (OR EQUIVALENT ARCH PIPE) OR SMALLER, AND FULLY PAVED CORRUGATED METAL PIPE FOR SIZES 24 INCHES IN DIAMETER (OR EQUIVALENT ARCH PIPE) OR LARGER.

4. THE RIP-RAP ON THIS PROJECT SHALL BE TYPE 3. THE TYPE 3 RIP-RAP SHALL BE 12" RIP-RAP ON 6" SAND AND GRAVEL BEDDING. THE ROCK FOR RIP-RAP AND GRAVEL PROTECTION SHALL BE HARD, DENSE, DURABLE AND SHALL BE REASONABLY WELL GRADED. THE SIZE RANGE OF ROCK USED SHALL HAVE A MAXIMUM SIZE OF ONE CUBIC FOOT AND A MINIMUM SIZE OF 1½ INCH. THE 6 INCH SAND AND GRAVEL BEDDING FOR RIP-RAP SHALL BE A CONTINUOUS LAYER OF SAND AND GRAVEL OR SAND AND CRUSHED ROCK, REASONABLY WELL GRADED TO A MAXIMUM OF 1½ INCHES IN SIZE.

5. HEADWALLS AT PIPE OUTFALL SHALL BE CONSTRUCTED TO ALIGN WITH THE SLOPE OF BANK IN ORDER THAT WALL PROTRUSION IS MINIMUM. WHERE SUCH PROTRUSION CANNOT BE AVOIDED, FILL AROUND THE WALLS AT APPROXIMATELY 5:1 SIDE SLOPES SO HEADWALL APPEARS ENTIRELY RECESSED.


PLAN
NOTE BOOK
No.
DCD-180; DCD-182
WSK
6-78
Sta 0+00 E.L. Riverside Drainage Canal
Install 98 S.Y. Type 3 Rip-Rap
Sta. 1+01
24" SWS
Constr. Headwall See Sheet 5
Riverside Drainage Canal
Constr. Curb Inlet T.C. El. 82.50
1+48.5 W.L. Riverside Drainage Canal
℄ 30" San. Sewer
MEAD AVE
41' B/B
70' R/W
8" Water
10'
Constr. Curb Inlet, T.C. El. 82.30
Constr. ~~35'~~ 41.5' of 15" Pipe USFL 78.6; DSFL 78.8
℄ 8" San. Sewer
CAMPUS STREET
35' B/B
64' R/W
24" SWS
18" SWS
8" Water
Constr. Curb Inlet T.C. El. 82.30
Constr. Curb Inlet T.C. El. 83.36
15" SWS
SANTA FE AVE
64' R/W
35' B/B
Constr. Curb Inlet T.C. El. 83.70
SCALE: 1" = 20'
See Street Plans for Layout
NOTE: All Curb Inlets this sheet are Type 1A (w=3'10") Curb Inlets
PROFILE
NOTE BOOK
No.
Sta. 0+00 E.L. Riverside Drainage Canal
DWS 80.1
Riverside Drainage Canal Fl. El. 70.4
Type 3 Rip-Rap
Constr. Headwall See Sheet 5 Fl. El. 74.60
1+01 Start Pipe
74.60
1+48.5 W.L. Riverside Drainage Canal
E.L. Mead Ave.
℄ 30" San. Sewer Fl. 66.7±
1+60.08 Constr. Curb Inlet T.C. El. 82.50
76.49
76.59
8" Water
2+30.48 Constr. Curb Inlet T.C. El. 82.30
76.30
76.80
Ground Line
8" San. Sewer Fl. 78.5±
4+44.33 Constr. Curb Inlet T.C. El. 83.36
78.94
79.29
8" Water
8" Water
5+15 Constr. Curb Inlet T.C. El. 83.70
80.00
60.0 ~~58.08'~~ of 24" RCP @ +1.50%
~~Alt. 58.08' of 24" CMP (fully paved) @ +1.50%~~
72.4 ~~70.40'~~ of 24" RCP @ +1.00%
~~Alt. 70.40' of 24" CMP (fully paved)~~ @ +1.00%
210 ~~213.85'~~ of 18" RCP @ +1.00%
~~Alt. 213.85' of 18" CMP @ +1.00%~~
71.3 ~~70.67'~~ of 15" RCP @ +1.00%
~~Alt. 70.67' of 15" CMP @ +1.00%~~
85
80
75
70
0
1
2
3
4
5
75.99
77.50
78.50
79.85
3/7
DRAINAGE, Riverside 2nd Add'n
Sheet 3 of 7

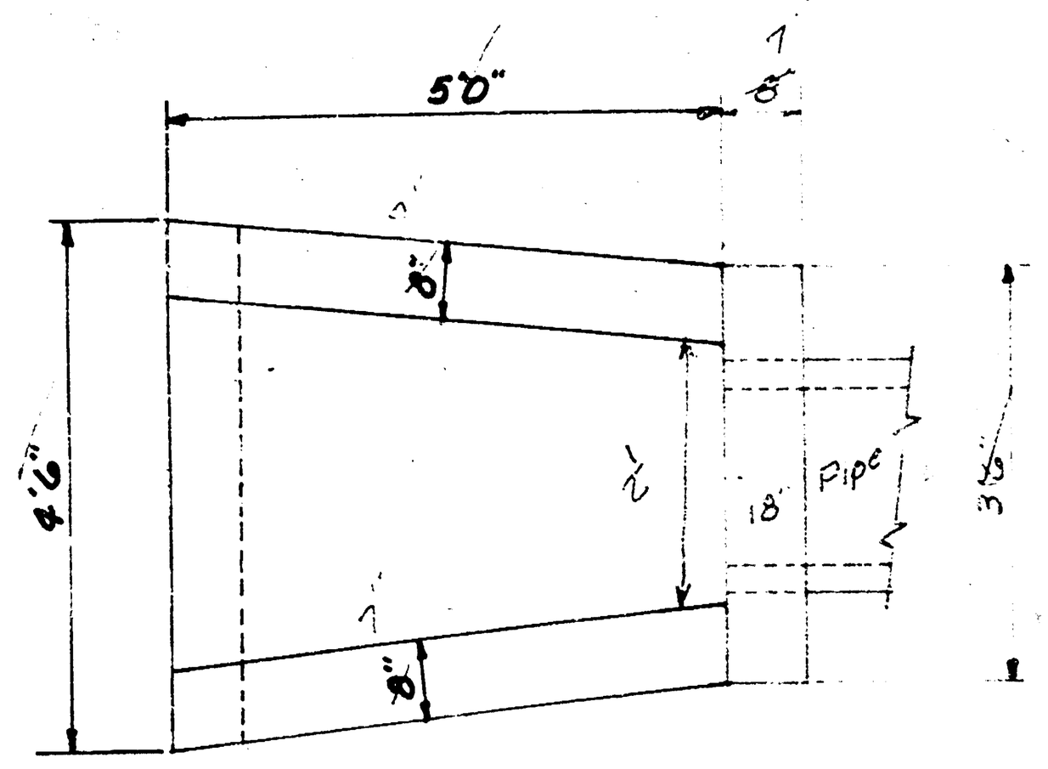


DRAINAGE, Riverside 2nd Add'n

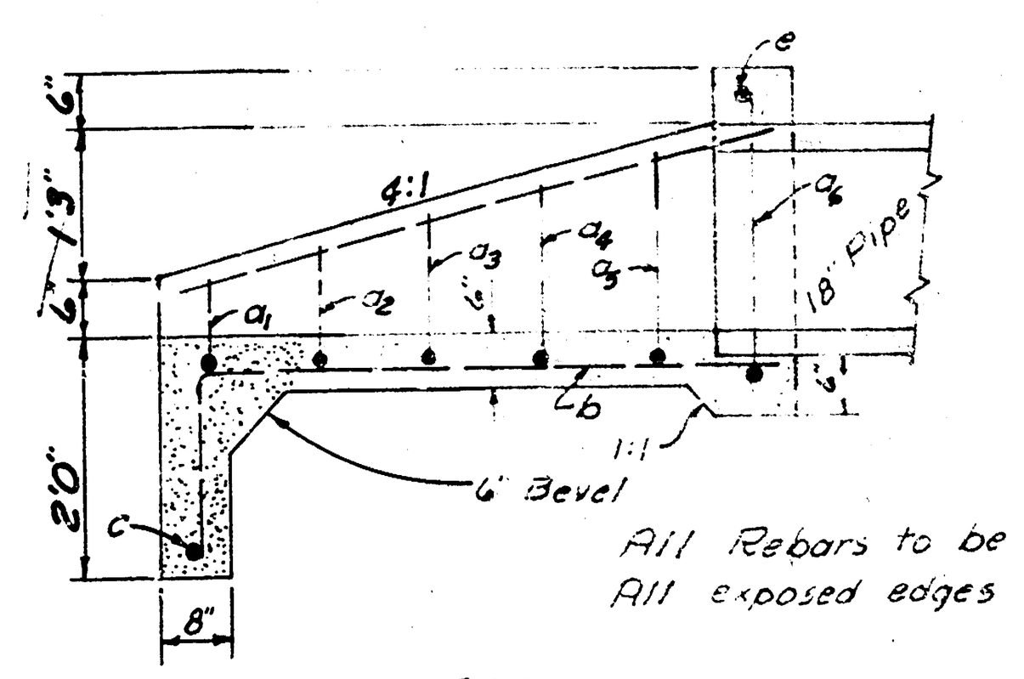
Sheet 4 of 7

K+E PLATE 1, PLAN-PROFILE KEUFFEL & ESSER CO

48 7024 MADE IN U.S.A.

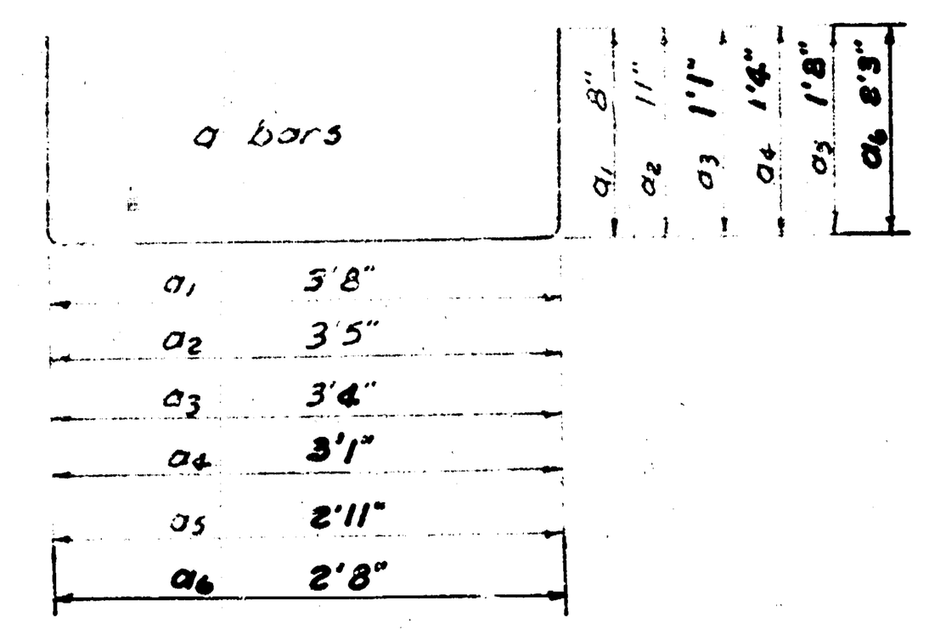


PLAN
Scale: ½"=1'0"



All Rebars to be #4.
All exposed edges to have ½" bevel.

SECTION
Scale: ½"=1'0"



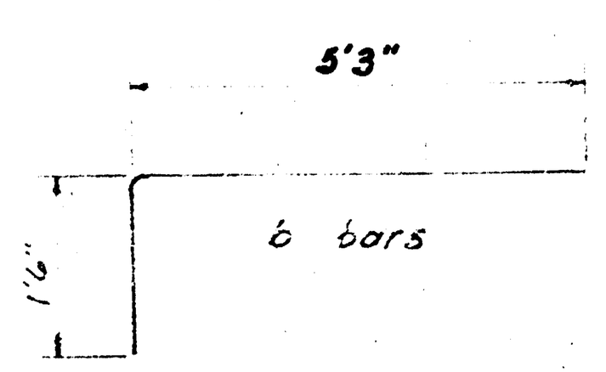
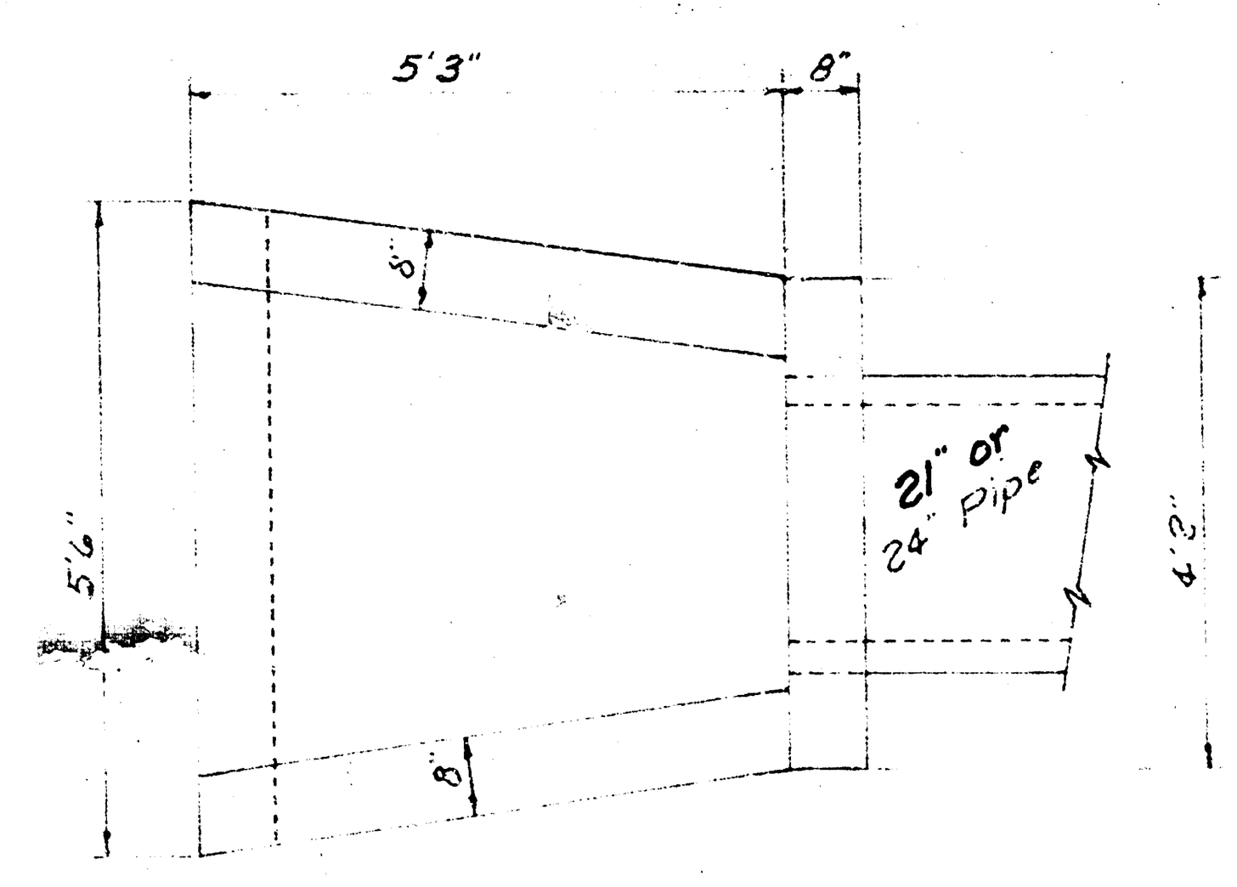


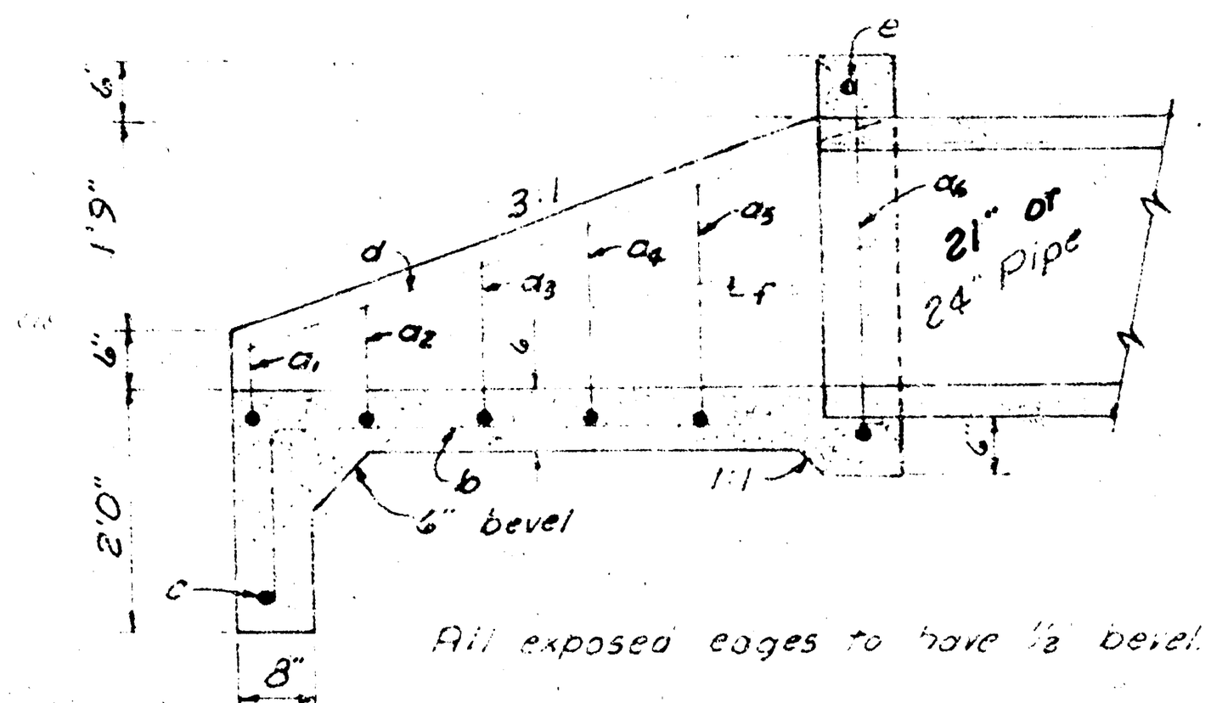
TABLE OF QUANTITIES

BAR	NUMBER	LENGTH	SHAPE	WEIGHT
a1	1	5'0"		3.34
a2	1	5'3"		3.51
a3	1	5'6"		3.67
a4	1	5'9"		3.94
a5	1	6'3"		4.18
a6	1	7'2"		4.79
b	5	6'9"		22.54
c	1	4'0"		2.67
d	2	5'3"		7.01
e	1	3'2"		2.12
Total Rebars, lbs.				53.57
Conc. C.Y.				1.08

HEADWALL FOR 18" PIPE

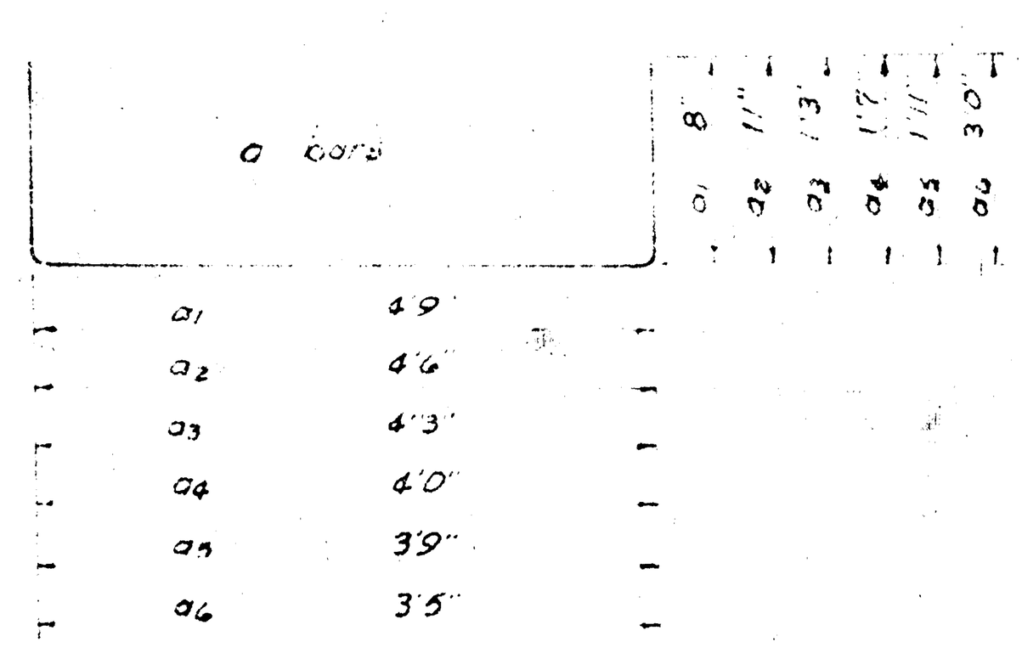


PLAN
Scale: ½"=1'0"



All exposed edges to have ½" bevel.

SECTION
Scale: ½"=1'0"



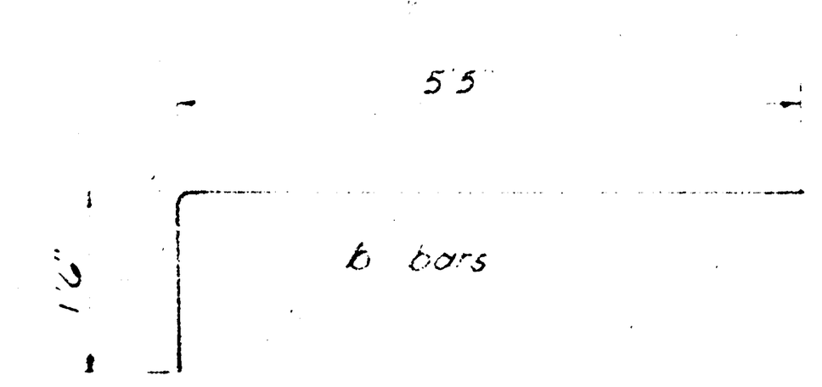
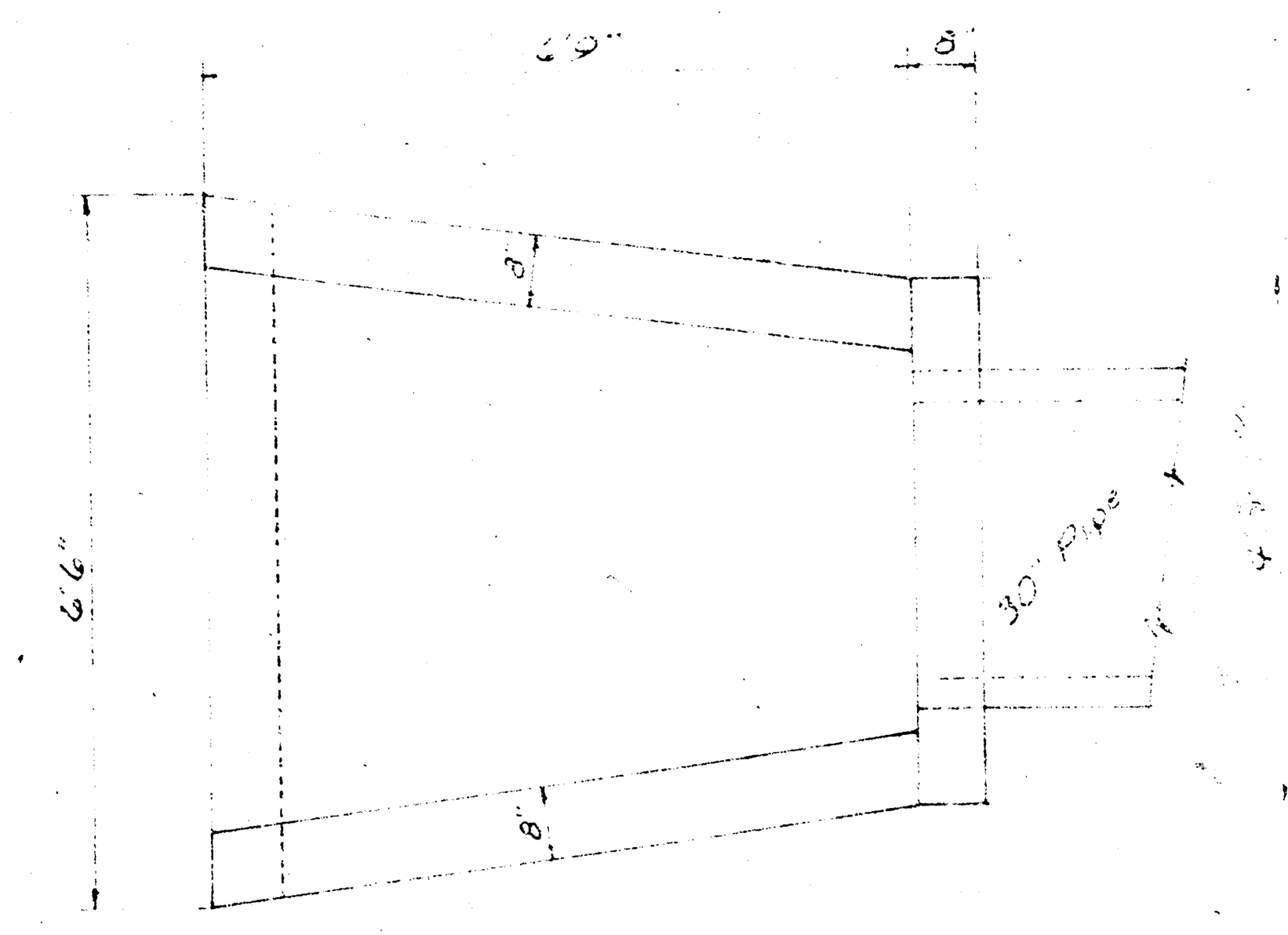


TABLE OF QUANTITIES

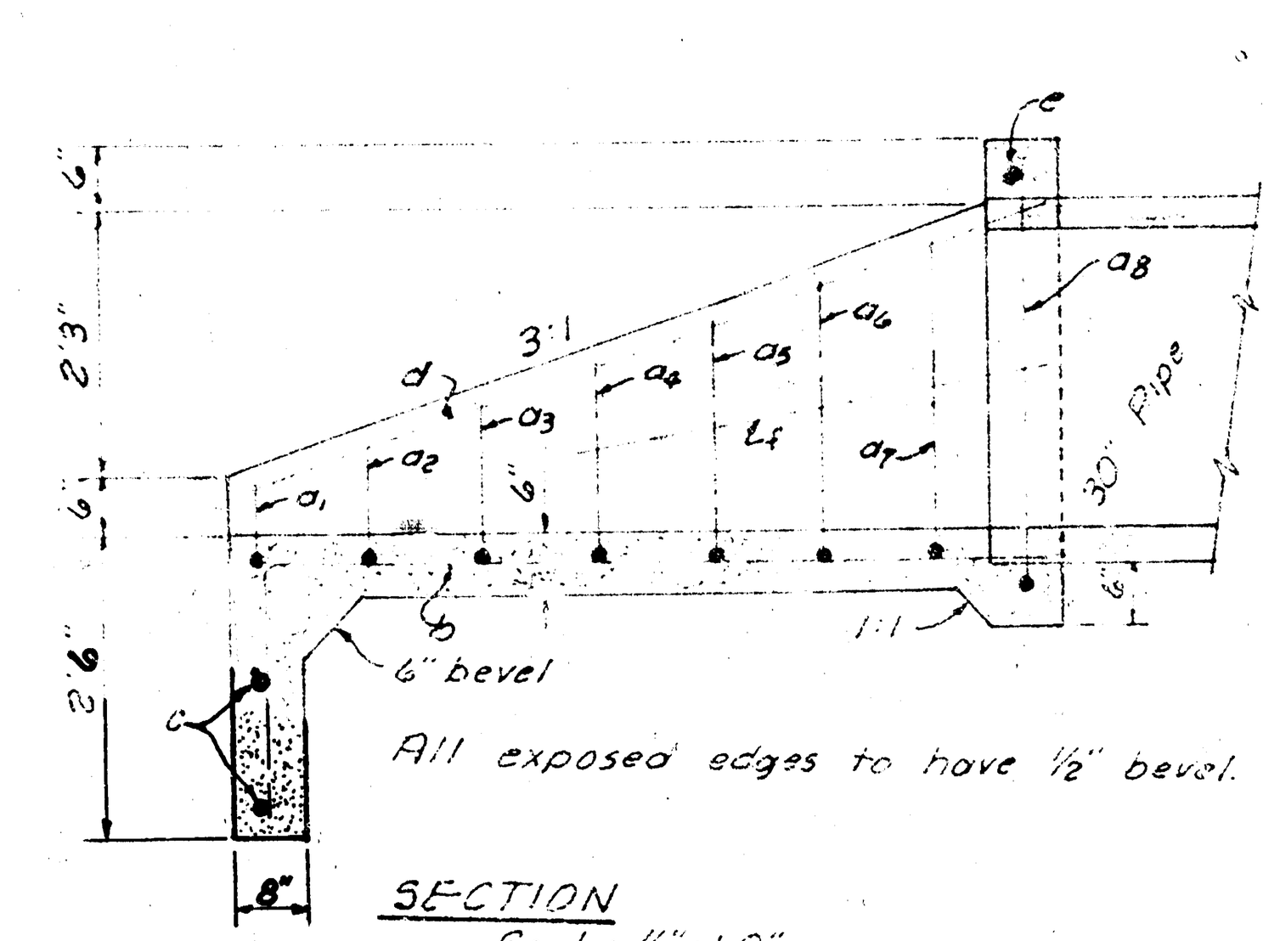
BAR	NUMBER	LENGTH	SHAPE	WEIGHT
a1	1	6'1"		4.06
a2	1	6'4"		4.23
a3	1	6'9"		4.51
a4	1	7'2"		4.79
a5	1	7'7"		5.07
a6	1	9'5"		6.29
b	6	6'11"		27.72
c	1	5'0"		3.37
d	2	5'10"		7.79
e	1	3'10"		2.56
f	2	2'9"		3.67
Total Rebar, lbs.				74.03
Concrete, CY				1.40

All Rebars to be #4

HEADWALL FOR 21" OR 24" PIPE

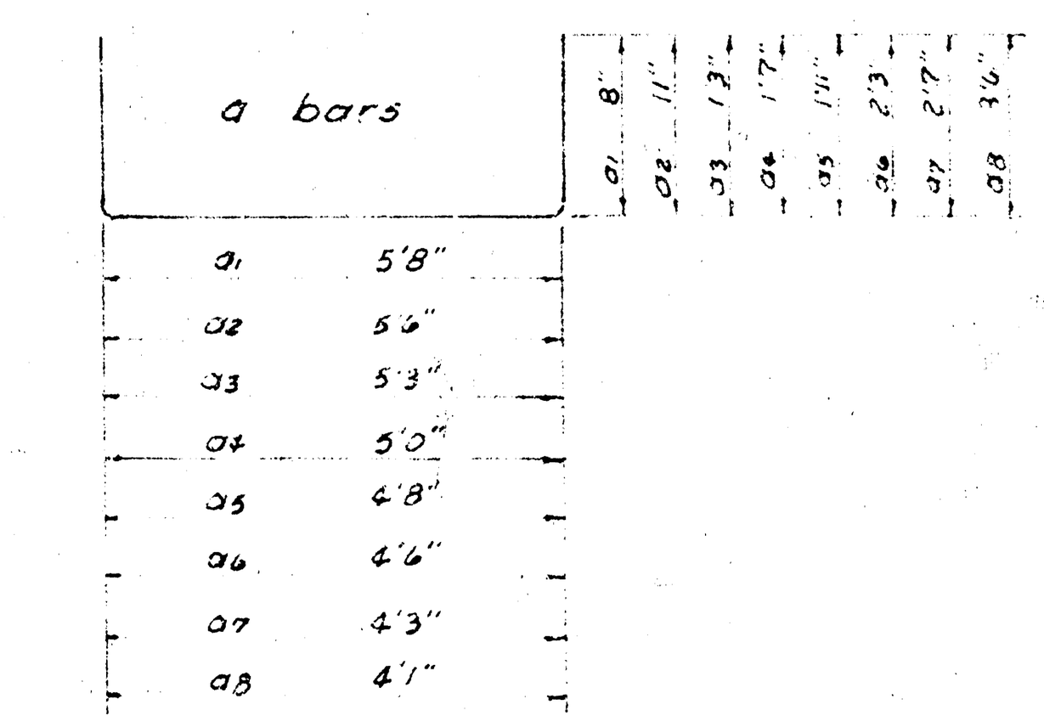


PLAN
Scale: ½"=1'0"



All exposed edges to have ½" bevel.

SECTION
Scale: ½"=1'0"



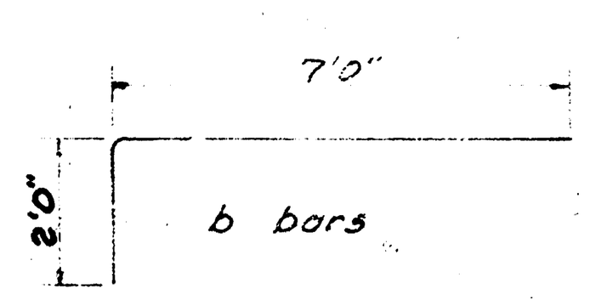


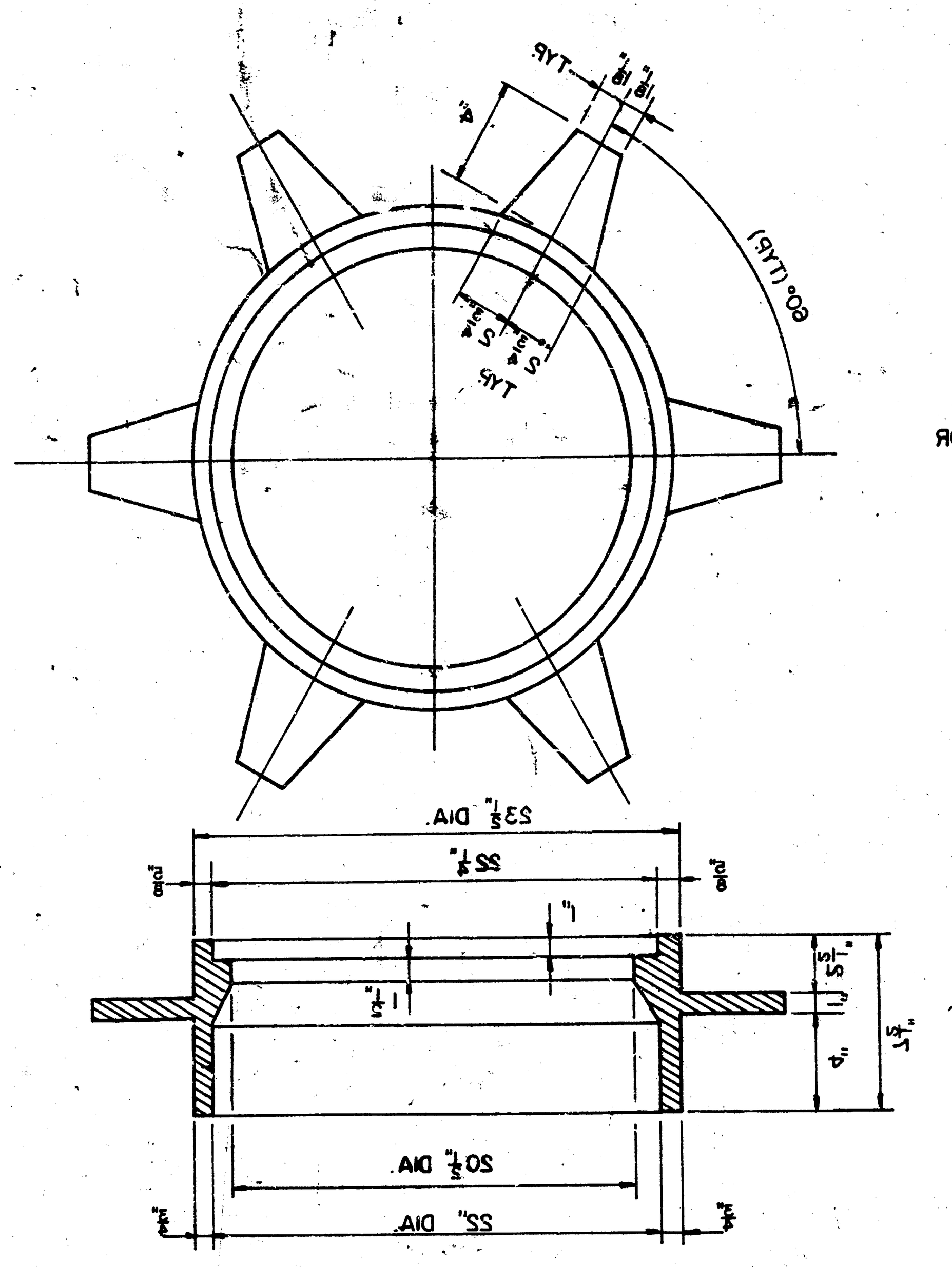
TABLE OF QUANTITIES

BARS	NUMBER	LENGTH	SHAPE	WEIGHT
a1	1	7'0"		4.68
a2	1	7'4"		4.90
a3	1	7'9"		5.18
a4	1	8'2"		5.46
a5	1	8'6"		5.68
a6	1	9'0"		6.01
a7	1	9'5"		6.29
a8	1	11'1"		7.40
b	7	9'0"		37.13
c	2	6'0"		8.02
d	2	7'6"		10.02
e	1	4'5"		2.95
f	2	4'3"		5.68
Total Rebars, lbs				109.40
Concrete, C.Y.				2.09

All Rebars to be #4

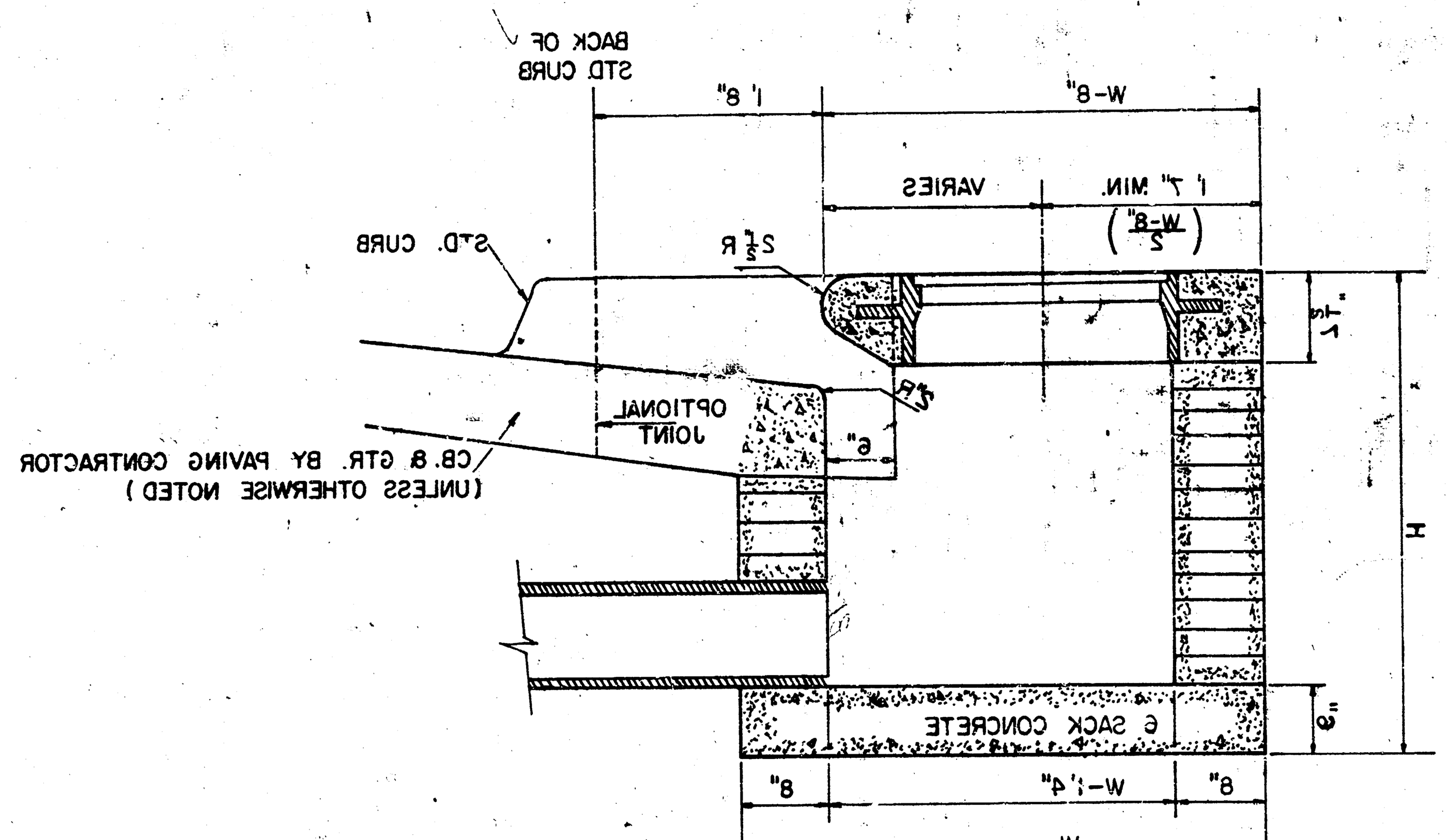
HEADWALL FOR 30" PIPE

HEADWALL DETAILS
DRAINAGE; Riverside 2nd Add'n



MANHOLE RING
SEE SEWER APPURTENANCES DETAIL SHEET FOR MANHOLE COVER.

THIS TYPE INLET TO BE USED WHEN PAVEMENT IS ASPHALT PAVEMENT WITH ASPHALT BASE COURSE AND/OR WHEN PAVEMENTS HAVE ROLL CURB

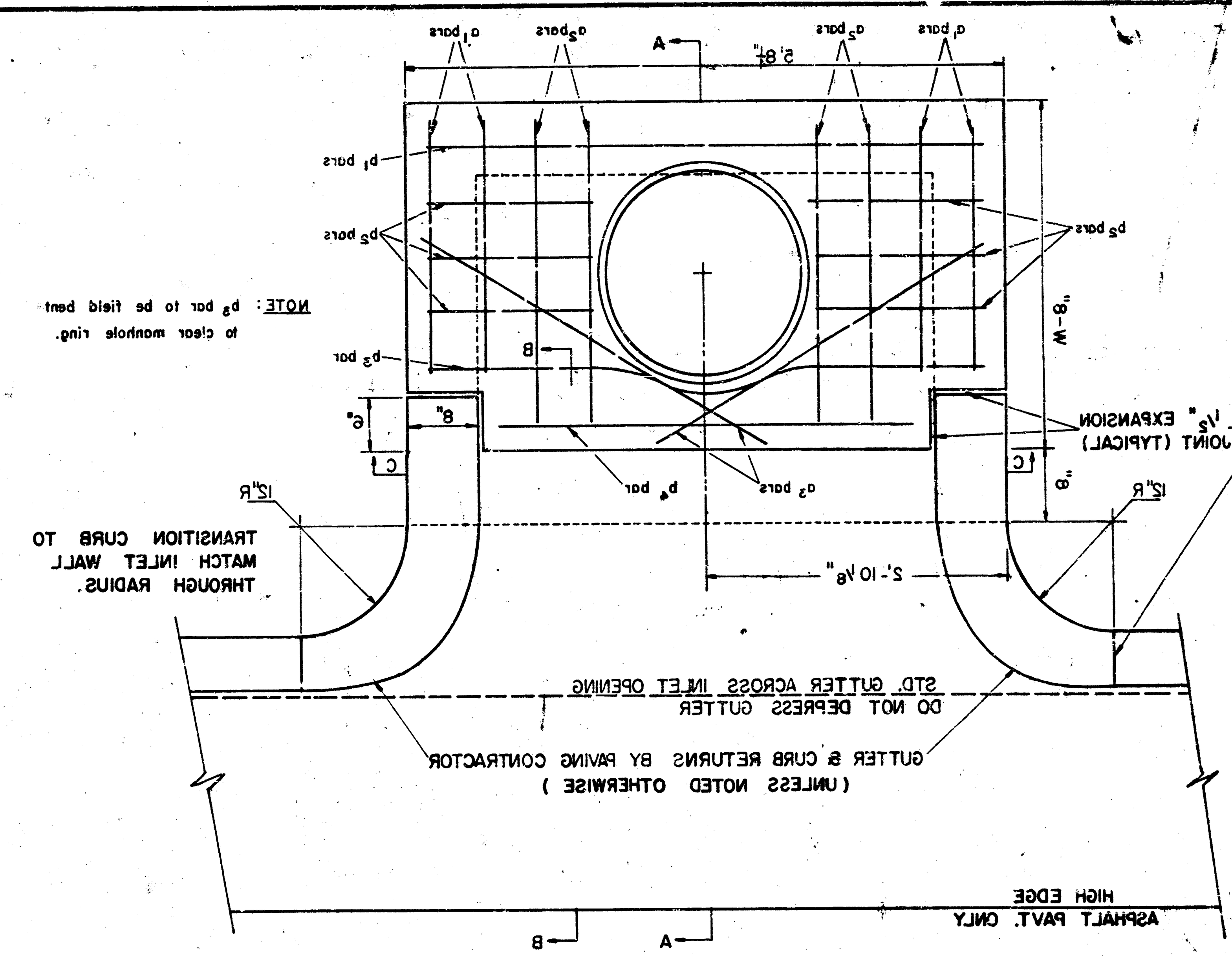


SECTION A-A
(SCALE 1" = 1'0")

STANDARD CURB INLET PRECAST TOPS			
W	PRE-CAST TOP SIZE	PIPE SIZE	CU. YD. CONC.
3'10"	3'2" x 5'8 1/4" x 7 1/2"	24" & SMALLER	0.42 *
4'10"	4'2" x 5'8 1/4" x 7 1/2"	30" & 36"	0.55 *
5'10"	5'2" x 5'8 1/4" x 7 1/2"	42" & 48"	0.68 *
6'10"	6'2" x 5'8 1/4" x 7 1/2"	54" & 60"	0.82 *

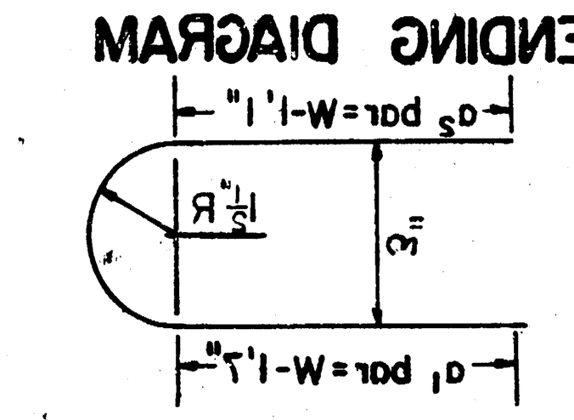
* GROSS VOLUME

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 FOR INLET TOPS AND FLOORS SHALL BE 6-SACK PAVING MIX.



PLAN (SCALE: 1" = 1'0")

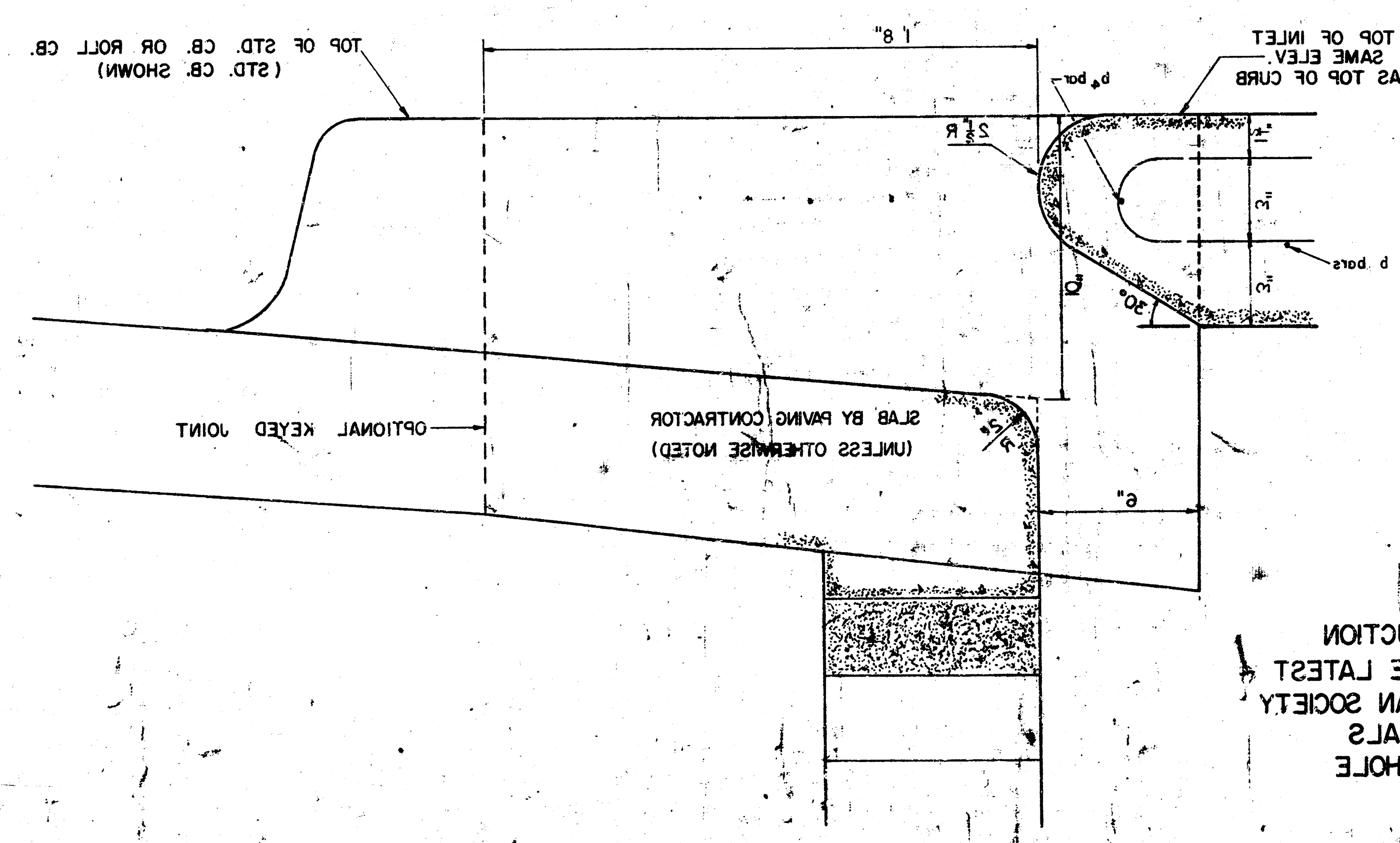
BENDING DIAGRAM



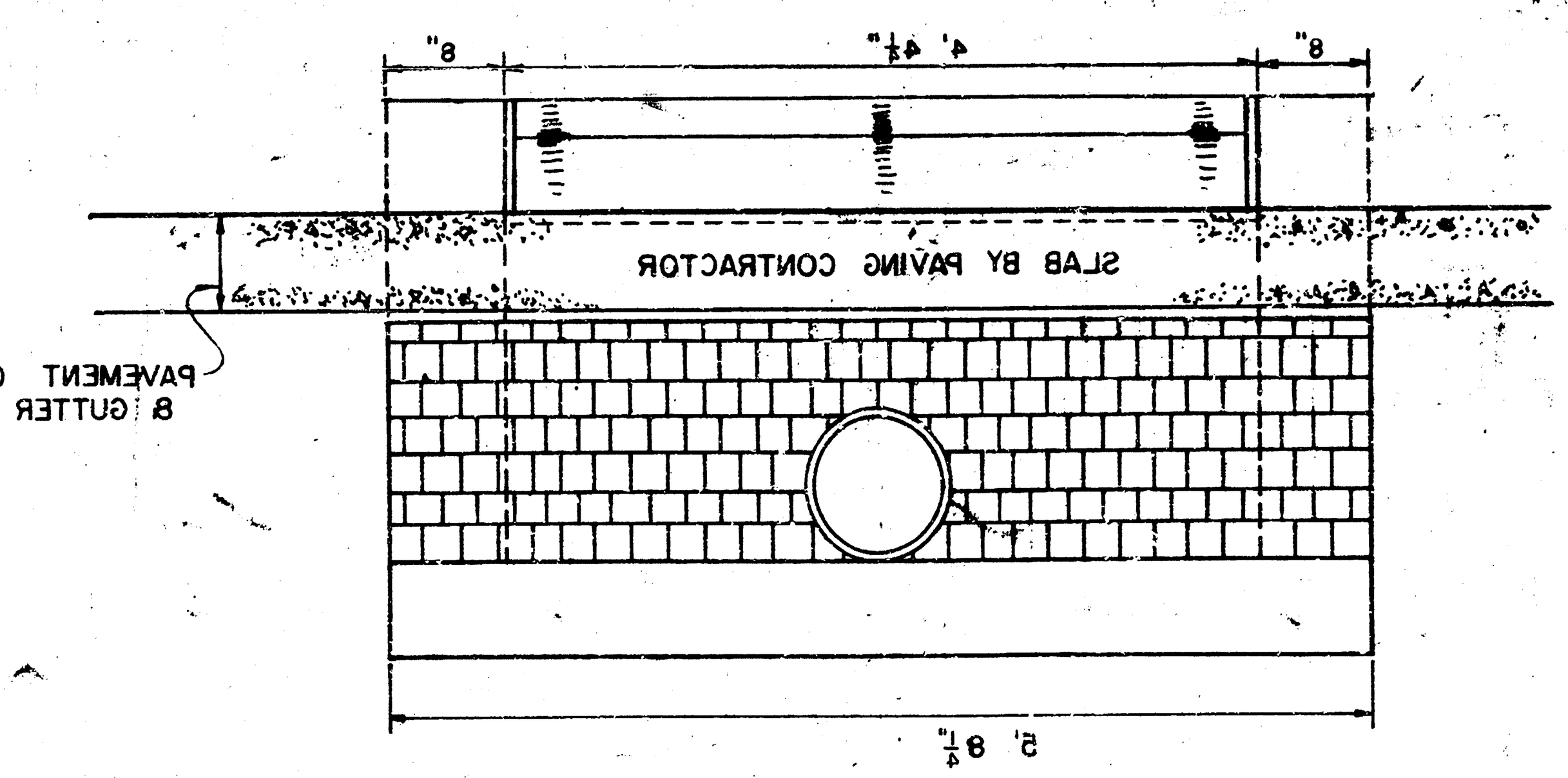
STEEL SCHEDULE

BAR	a_1	a_2	a_3 *	b_1 W=3'10"	b_1 W=4'10"	b_1 W=5'10"	b_1 W=6'10"	b_2	b_3	b_4	Wt. Lbs.
NUMBER	4	4	2	1	3	5	7	6	1	1	
SIZE	#4	#4	#4	#4	#4	#4	#4	#4	#4	#6	
LENGTH W=3'10"	4'9"	5'9"	3'7"	5'5"	—	—	—	1'7"	5'6"	4'0"	53
LENGTH W=4'10"	6'9"	7'9"	4'7"	—	5'5"	—	—	1'7"	5'6"	4'0"	72
LENGTH W=5'10"	8'9"	9'9"	5'7"	—	—	5'5"	—	1'7"	5'6"	4'0"	91
LENGTH W=6'10"	10'9"	11'9"	6'7"	—	—	—	5'5"	1'7"	5'6"	4'0"	110

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



SECTION B-B
(SCALE 3" = 1'0")



SECTION C-C
(SCALE 1" = 1'0")

BRICK FOR INLET CONSTRUCTION SHALL CONFORM WITH THE LATEST REVISION OF THE AMERICAN SOCIETY FOR TESTING AND MATERIALS DESIGNATION C32 FOR MANHOLE BRICK GRADE MS.

DETAIL
STANDARD TYPE IA CURB INLET
(SET BACK LOCATION)

CITY OF WICHITA, KANSAS
R.W. LINN-CITY ENGINEER
FEBRUARY 1975

DRAINAGE Riverside 2nd Add'n Sheet 6 of 7

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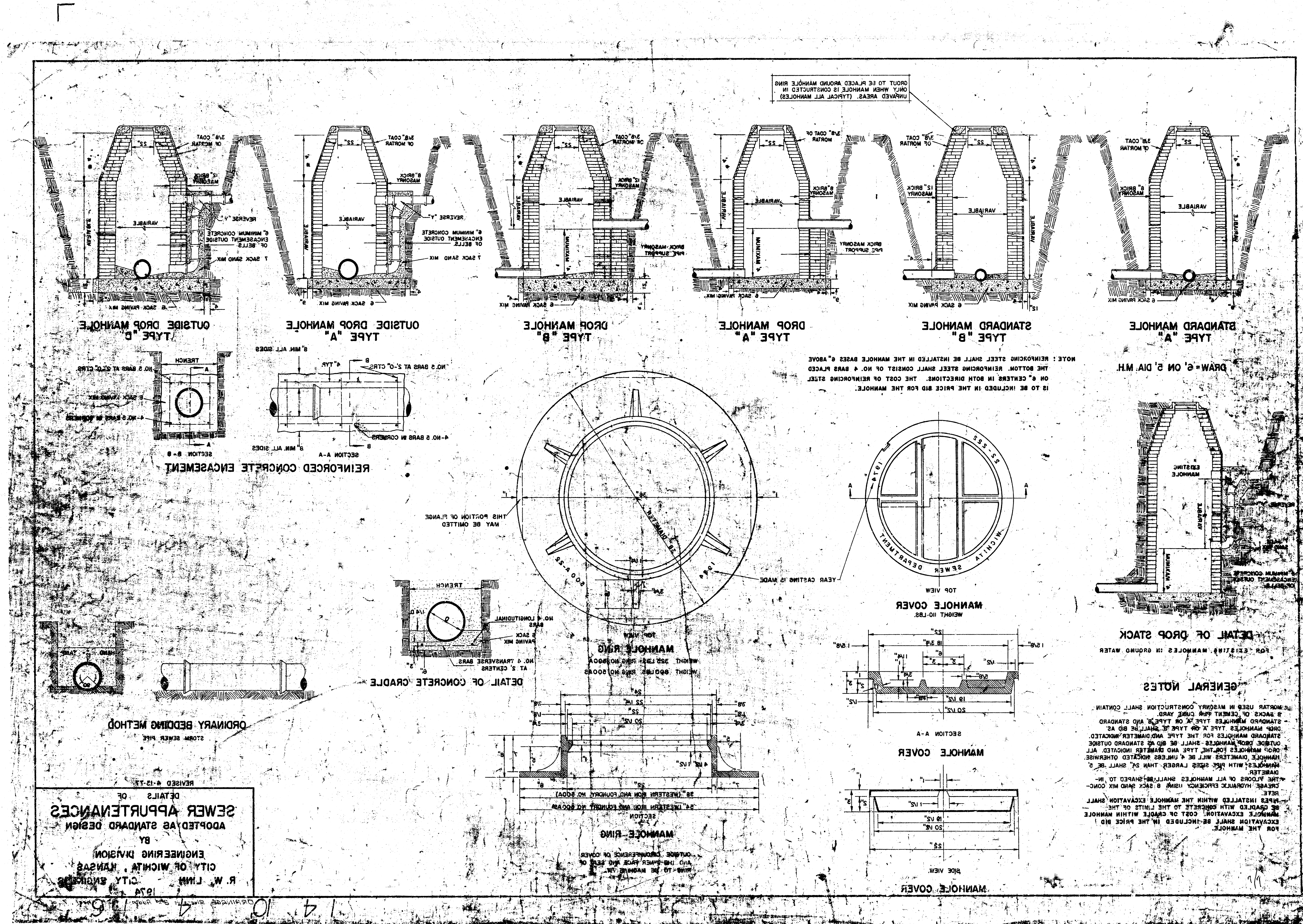
GROUT TO BE PLACED AROUND MANHOLE RING ONLY WHEN MANHOLE IS CONSTRUCTED IN UNPAVED AREAS. (TYPICAL ALL MANHOLES)
3/8" COAT OF MORTAR
22"
12" BRICK MASONRY
8" BRICK MASONRY
6" BRICK MASONRY
VARIABLE
REVERSE "Y"
6" MINIMUM CONCRETE ENCASEMENT OUTSIDE OF BELLS
7 SACK SAND MIX
6 SACK PAVING MIX
BRICK MASONRY PIPE SUPPORT
MAXIMUM 4'
OUTSIDE DROP MANHOLE TYPE "B"
OUTSIDE DROP MANHOLE TYPE "A"
DROP MANHOLE TYPE "B"
DROP MANHOLE TYPE "A"
STANDARD MANHOLE TYPE "B"
STANDARD MANHOLE TYPE "A"
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.
DRAW = 6' ON 5' DIA. M.H.
TRENCH
NO. 5 BARS AT 2'-0" CTRS.
6 SACK PAVING MIX
4-NO. 5 BARS IN CORNERS
SECTION B-B
8" MIN. ALL SIDES
4" TYP.
SECTION A-A
REINFORCED CONCRETE ENCASEMENT
THIS PORTION OF FLANGE MAY BE OMITTED
36" DIAMETER
500 A-22
YEAR CASTING IS MADE
TOP VIEW
MANHOLE RING
WEIGHT 325 LBS. RING NO. 500A
WEIGHT 600 LBS. RING NO. 500AS
NO. 4 LONGITUDINAL BARS
6 SACK PAVING MIX
NO. 4 TRANSVERSE BARS AT 2' CENTERS
DETAIL OF CONCRETE CRADLE
ORDINARY BEDDING METHOD
STORM SEWER PIPE
26"
22 1/4"
22"
20 1/2"
38" (WESTERN IRON AND FOUNDRY NO. 500A)
54" (WESTERN IRON AND FOUNDRY NO. 500AS)
SECTION
MANHOLE RING
OUTSIDE CIRCUMFERENCE OF COVER AND THE INNER FACE AND SEAT OF RING TO BE MACHINED
1974
SEWER DEPARTMENT WICHITA
22-SSS
MANHOLE COVER
WEIGHT 110 LBS.
18 3/4"
19 1/2"
20 1/2"
SECTION A-A
MANHOLE COVER
SIDE VIEW
MANHOLE COVER
EXISTING MANHOLE
DETAIL OF DROP STACK
FOR EXISTING MANHOLES IN GROUND WATER
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 8 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.
REVISED 4-15-77
DETAILS OF
SEWER APPURTENANCES
ADOPTED AS STANDARD DESIGN
BY
ENGINEERING DIVISION
CITY OF WICHITA, KANSAS
R. W. LINN CITY ENGINEER
1974
14 10 4 196