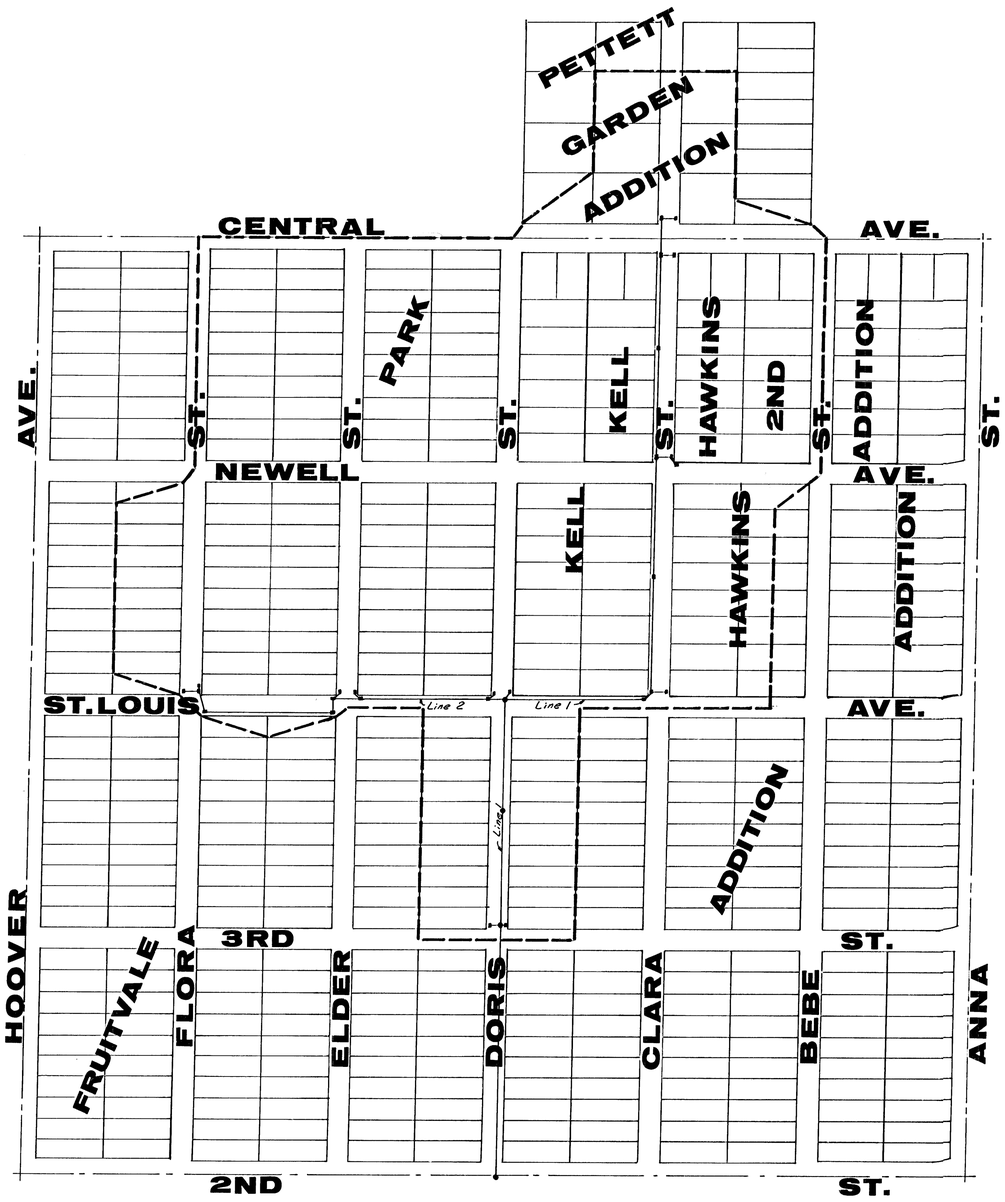
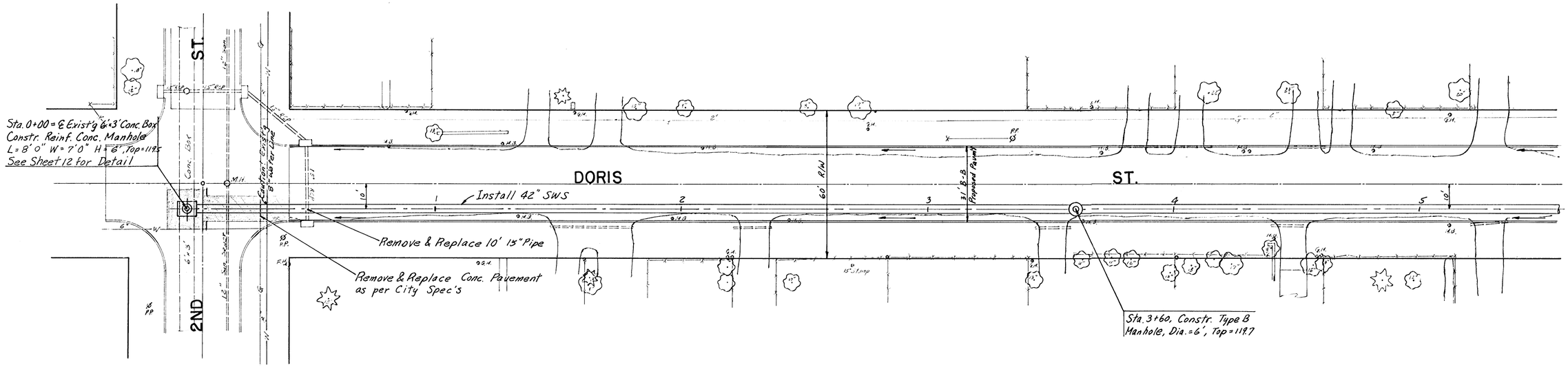
ORCHARD PARK DRAINAGE IMPROVEMENTS



Sheet	Content
1	Cover Sheet
2-8	Line 1
9-10	Line 2
11	Type IA Inlet
12	Reinf. Conc. Manhole
13	Type B Manhole

R.W. BRUGGEMAN, DIRECTOR OF ENGINEERING DEPARTMENT/
CITY ENGINEER
CITY OF WICHITA, KANSAS
PROJECT NO. 818 76 245 50208 430 000 000

DATE: _____



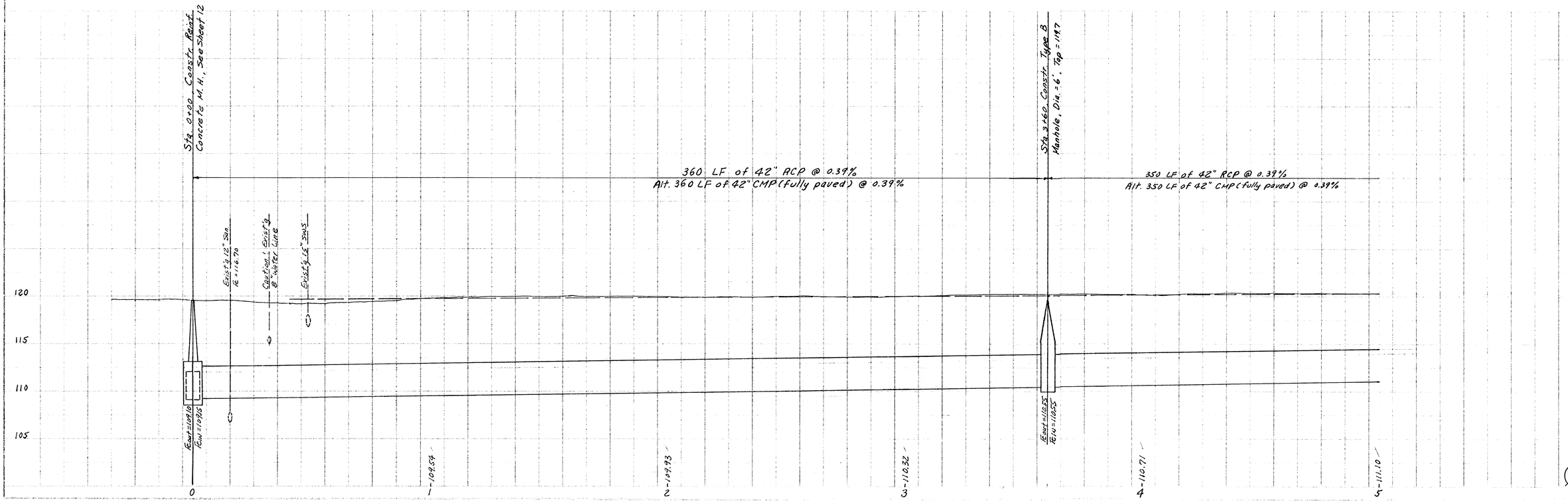


PLATE 1, PLAN PROFILE
KEUFFEL & ESSER CO.
AB 7008 PRINTED IN U.S.A.

2/13

Sta. 7+09.5, Constr. Type 1A
Curb Inlet, W=4'2", Top=120.5
Install 25 LF of 15" RCP or CMP
USFL=114.50, DSFL=114.25

Sta. 7+09.5, Constr. Reinf.
Concrete Manhole, Top=120.0
L=7'0", W=4'6", H=6'
See Sheet 12 for Detail

DORIS ST.

3RD ST.

Install 42" SWS

Proposed Pavmt

60' R/W

Sta. 7+09.5, Constr. Type 1A
Curb Inlet, W=4'2", Top=120.5
Install 5 LF of 15" RCP or CMP
USFL=114.30, DSFL=114.25

Sta. 10+30, Constr. Type B
Manhole, Dia.=6', Top=120.8

B.M. 121.16 R.R. Spike SE face Street Light Pole
NW Cor. 3rd & Doris

N

Scale: 1"=20'

Sta. 7+09.5, Constr. Reinf. Concrete M.H., See Sheet 12

See Sheet 2

321 LF of 42" RCP @ 0.35%
Alt. 321 LF of 42" CMP (fully paved) @ 0.35%

Sta. 10+30, Constr. Type B
Manhole, Dia.=6', Top=120.8

120
115
110

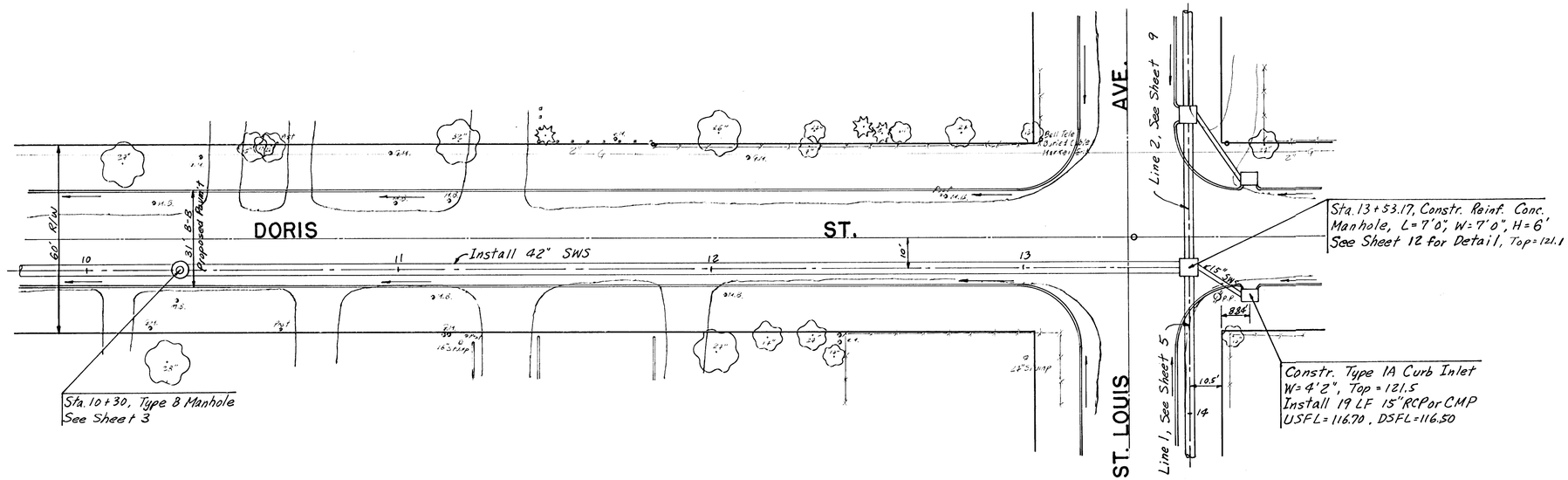
5 - 111.10
6 - 111.49
7 - 111.88
8 - 112.23
9 - 112.58
10 - 112.93

IE out = 111.19
IE in(W) = 111.19
IE in(E) = 114.35
IE in(N) = 114.35

IE out = 113.03
IE in = 113.28

3/13

PLATE 1, PLAN-PROFILE
KELLER & GUSSP CO.
48 7008 MADE IN U.S.A.



B.M. 122.86 R.R. Spike W. face Street Light Pole
N.E. Cor. St. Louis & Doris

Scale: 1" = 20'

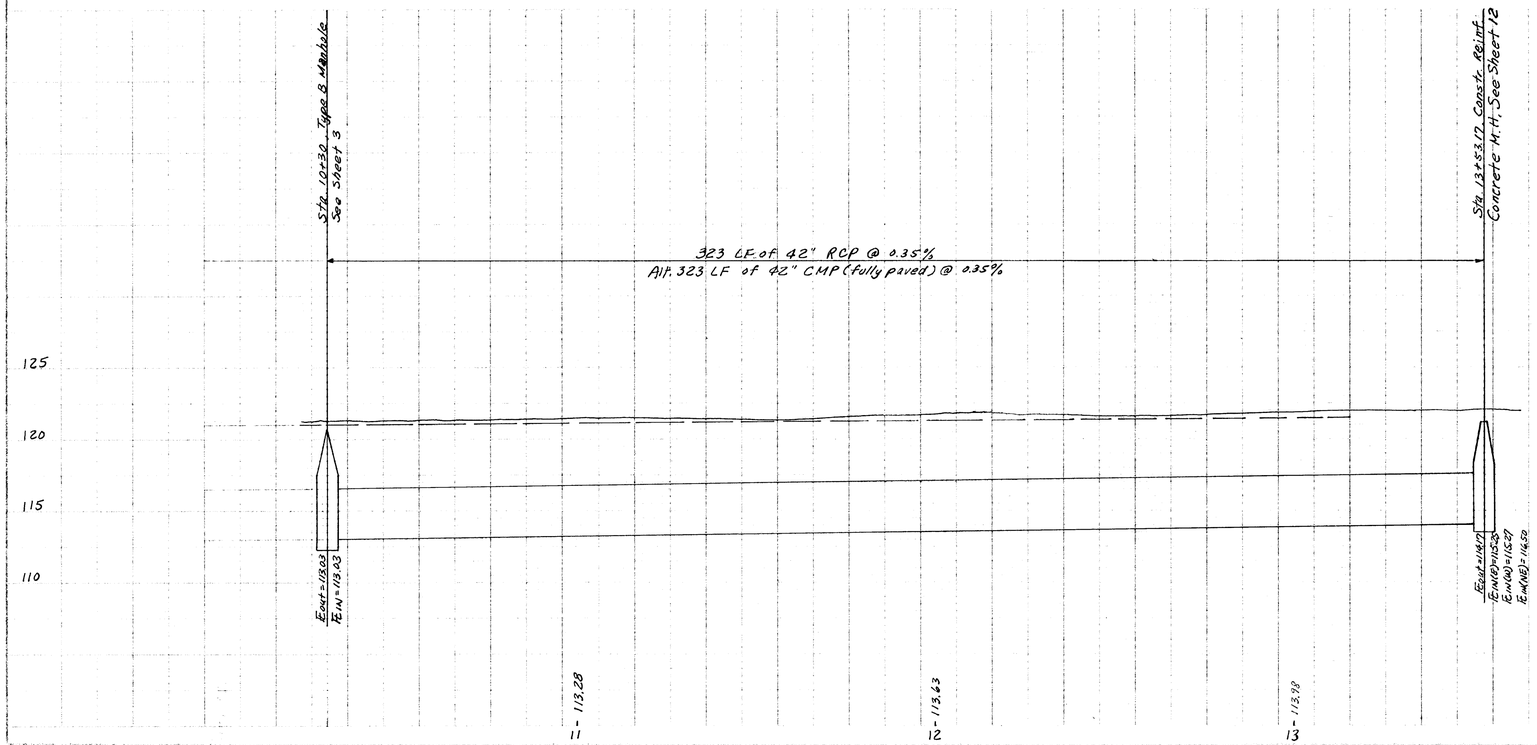


PLATE 1, PLAN-PROFILE
KEUFFEL & ESSER CO.

4/13


Sta. 17+70.65, Constr. Type 1A Curb Inlet W=7'0", Top=121.10
Sta. 17+43.30, Constr. Type 1A Curb Inlet W=7'0", Top=121.10
Constr. Type 1A Curb Inlet, W=4'2", Top=121.10
Install 35' 15" RCP or CMP
USFL=117.80, DSFL=117.41
15" SWS
N
Scale : 1"=20'
ST. LOUIS
AVENUE
DORIS
ST.
CLARA
ST.
See Sheet 4
Line 2, See Sheet 9
Install 7.4 0' SWS
Remove 20 LF 8" San. Sewer
Replace 20 LF 8" D.I.P.
Proposed Pave't
R/W
60'
14
15
16
17
13
B.M. 122.86 RR Spike W. face Street Light Pole
NE Cor. St. Louis & Doris
Sta. 13+53.17 R.C.M.H.
See Sheet 4
390 LF 29"x45" HERCP @ 0.24%
Alt. 390 LF of 43"x29" CMPA (fully paved) @ 0.24%
27 LF of 29"x45" HERCP @ 0.20%
Alt. 27 LF of 43"x29" CMPA
(F.P.) @ 0.20%
Sta. 17+43.30 Constr. Type 1A Curb Inlet, W=7'0", Top=121.1
Sta. 17+70.65 Constr. Type 1A Curb Inlet, W=7'0", Top=121.1
Exist'g 8" SS
IE=114.70
125
120
115
110
14-115.36
15-115.60
16-115.84
17-116.08
PLAN
PROFILE
5/13

PLATE 1 PLAN-PROFILE O. P. R. & R. E. STANDARD
100% RAG AGEPROOF VELLUM — MADE AND PRINTED IN U. S. A.
EUGENE DIETZGEN CO.

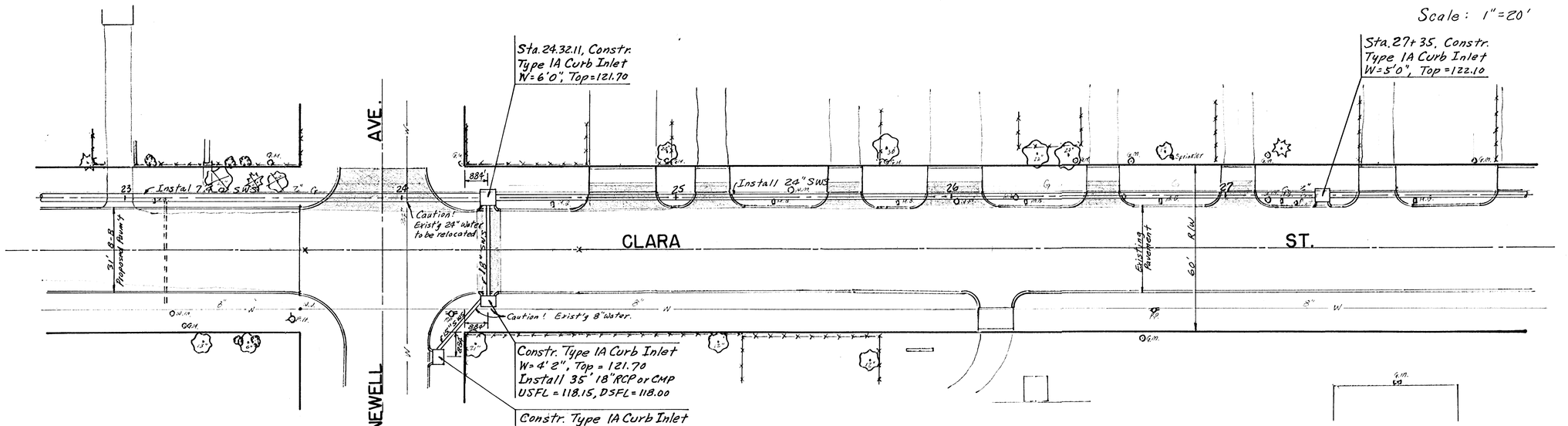
ST. LOUIS AVE
CLARA ST.
See Sheet 5
Sta. 20+95, Constr. Type 1A Curb Inlet W=6'0", Top=121.40
Install 7.4 0' SWS
Install 7.4 0' SWS
R/W
60'
31' B-B Proposed Pvm't
W 6"
W 3"
N
Scale: 1"=20'
B.M. 125.01 N.E Cor. Conc. Porch, Ho # 505 Clara
B.M. 123.62 N.E Cor. Conc. Coping, Ho # 541 Clara
PLAN
PROFILE
Sta 17+70.65 Constr. Type 1A Curb Inlet W=7'0", Top=121.1 See Sheet 5
Sta 20+95 Constr. Type 1A Curb Inlet, W=6'0", Top=121.4
324 LF of 29"x45" HERCP @ 0.14%
Alt. 324 LF of 43"x29" CMPA (F. P.) @ 0.14%
337 LF of 29"x45" HERCP @ 0.11%
Alt. 337 LF of 43"x29" CMPA (fully paved) @ 0.11%
125
120
115
110
116.28
116.62
116.56
116.71
116.82
116.93
18
19
20
21
22
23
6/13

PLATE 5 PLAN-PROFILE

EUGENE DIETZGEN CO.

PLAN — SURVEYED / PLOTTED — NOTE BOOK — NO. — ALIGNMENT CHECKED — LINES & GRADES CHECKED — STRUCTURE ADJANS CHKD — BY — DATE

Scale: 1"=20'



B.M. 123.10 N.W. Cor. Conc. Step No. Na 4925 W. Newell

PROFILE — SURVEYED / PLOTTED — NOTE BOOK — NO. — LINES & GRADES CHECKED — STRUCTURE ADJANS CHKD — BY — DATE

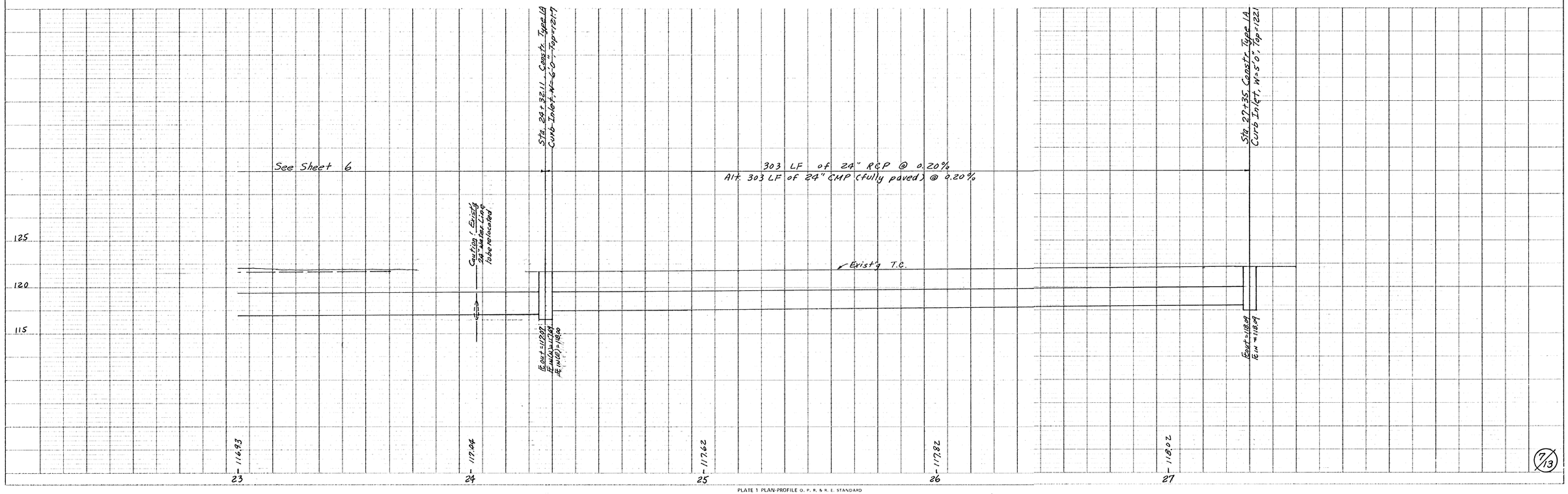
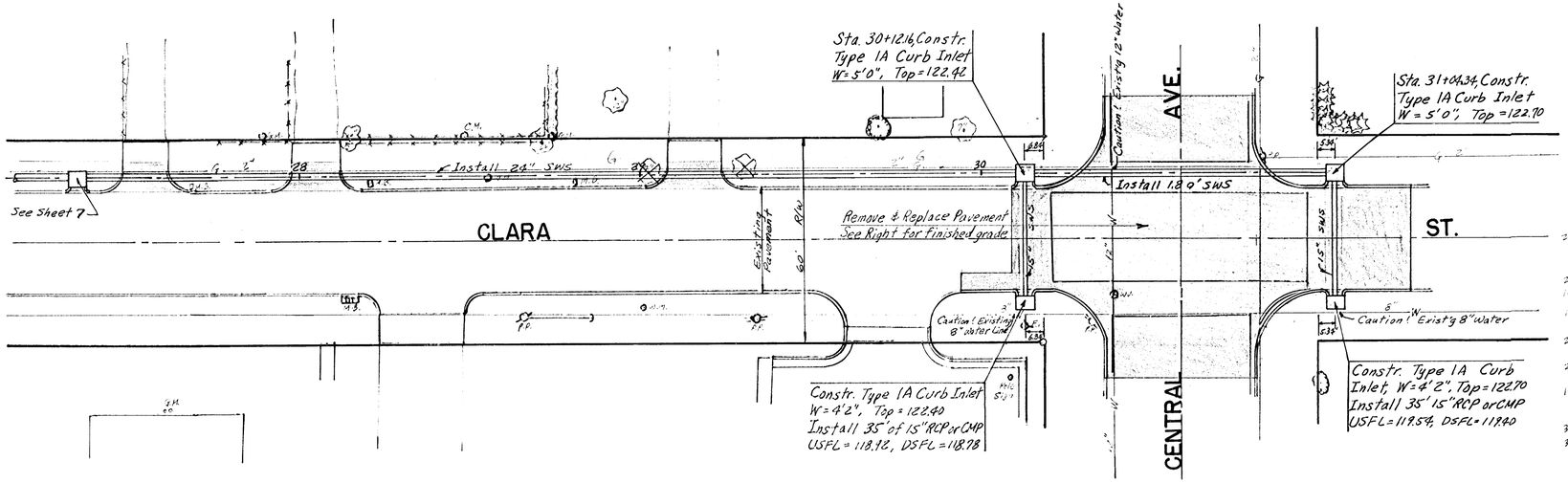
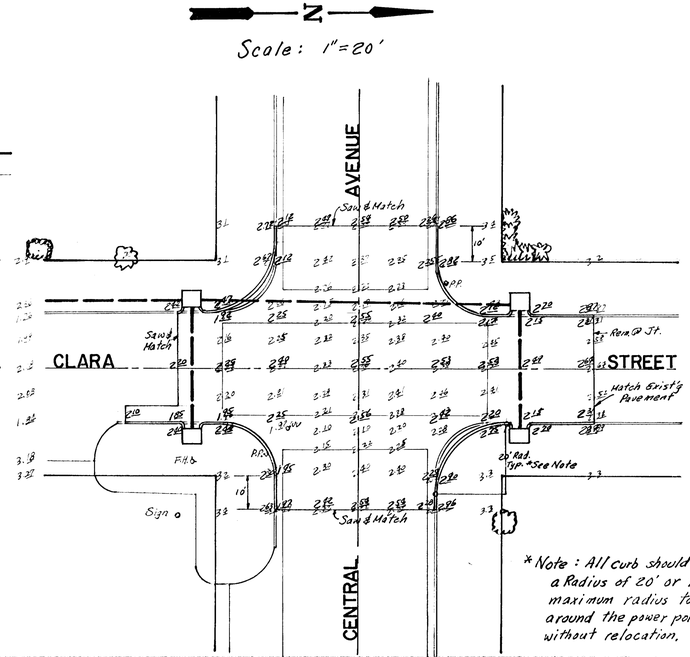


PLATE 1 PLAN-PROFILE O. P. R. & R. E. STANDARD
100% RAG ASEPROOF KELLUM-MADE AND PRINTED IN U. S. A.
EUGENE DIETZGEN CO.

7/13





B.M. 125.32 S face Conc. wk. adj. to NW Cor. Quik Trip 4936 W. Central, SE Cor. Central & Clara
B.M. 123.90 O Top E-Cb Bebe 2 ft N. of End of Rad. SE Cor. Bebe & Central

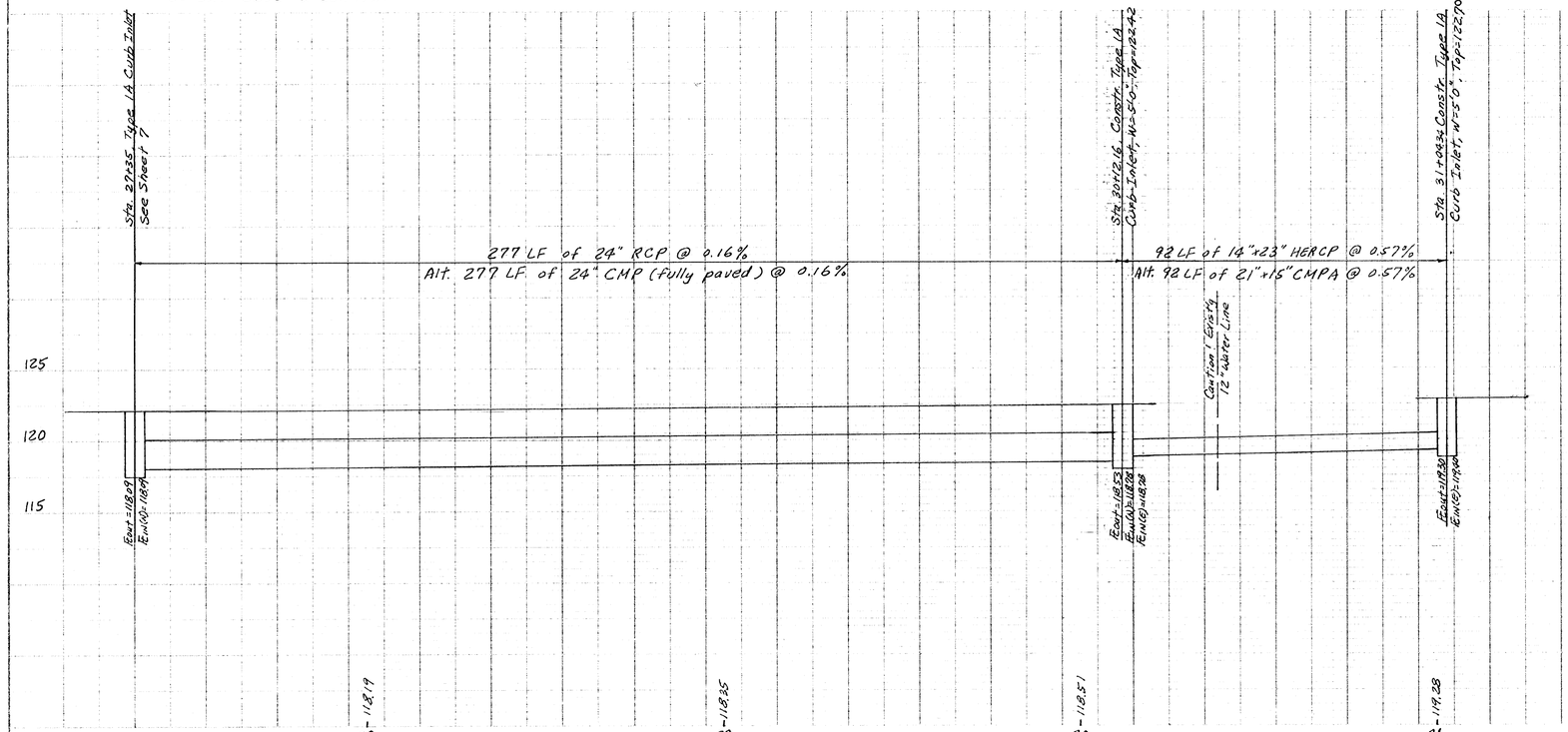
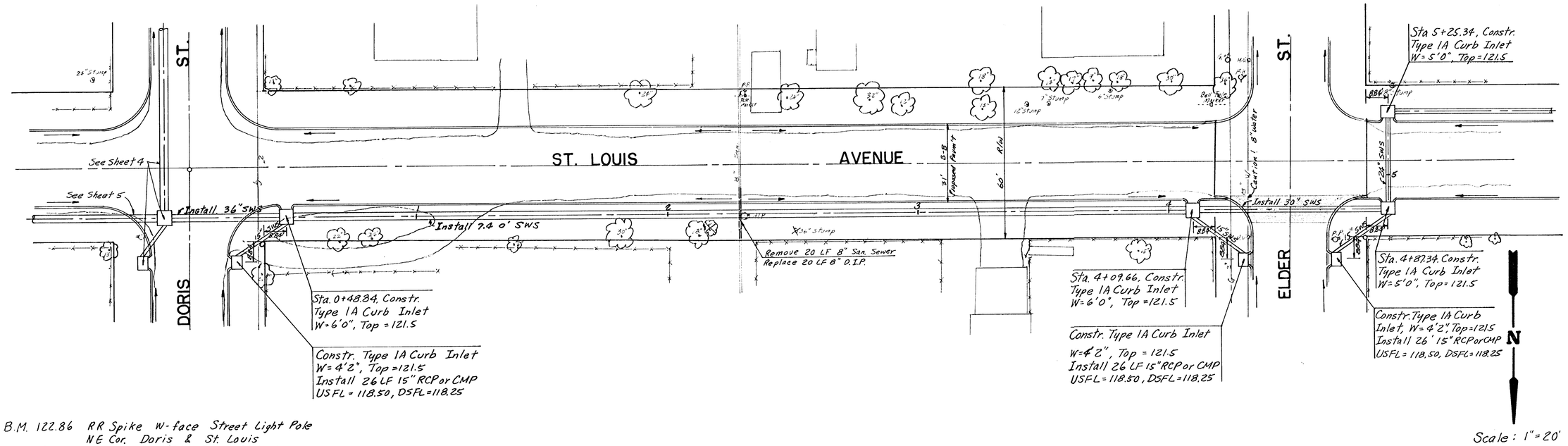


PLATE 1, PLAN-PROFILE
KEUFFEL & ESSER CO
18 1008 MADE IN U.S.A.

8/13

PLAN — SURVEYED — PLOTTED — NOTE BOOK — PAGE NO. — DATE — BY

PROFILE — SURVEYED — PLOTTED — GRADES CHECKED — NOTE BOOK — PAGE NO. — STRUCTURE NOTES NO. ON KO — DATE — BY



B.M. 122.86 RR Spike W-face Street Light Pole NE Cor. Doris & St. Louis
B.M. 121.50 ⌀ Top W-Cb Elder @ N.L. St. Louis

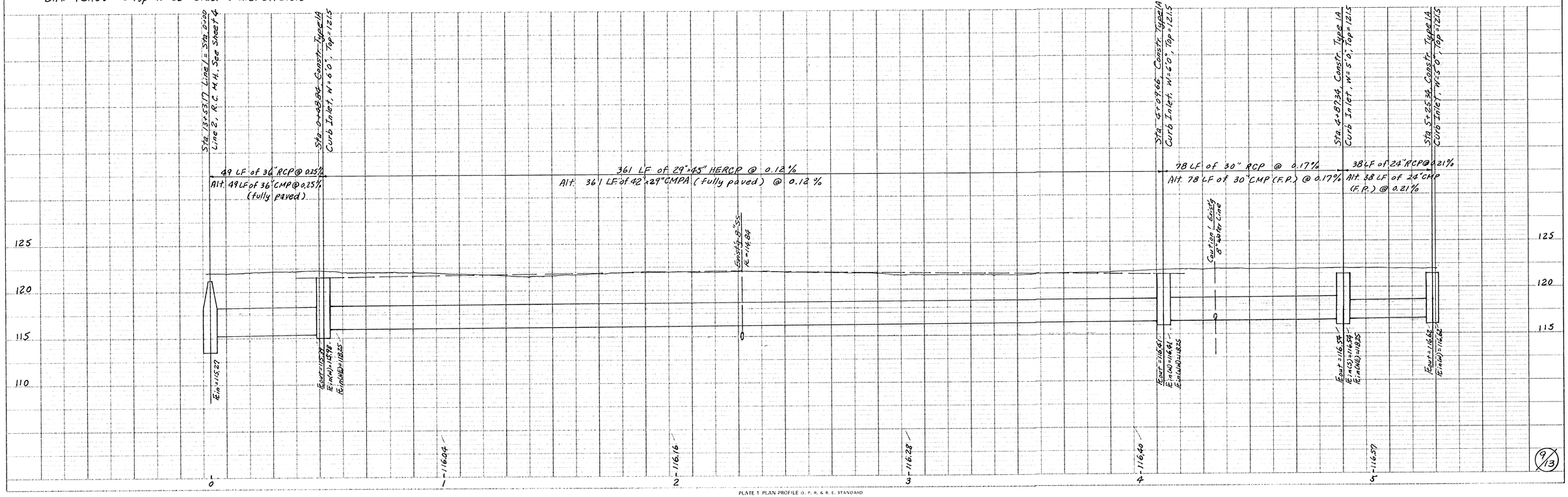
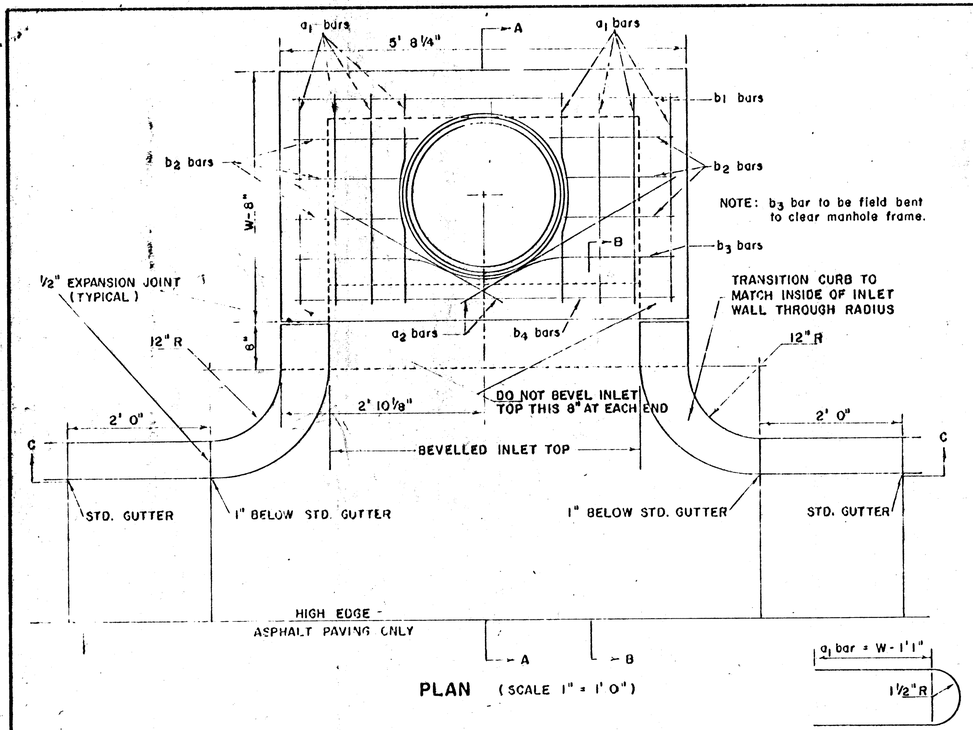


PLATE 1 PLAN-PROFILE O. P. R. & R. E. STANDARD
100% RAG ASEPROOF VELLUM — MADE AND PRINTED IN U. S. A.
EUGENE DIETZGEN CO.


ST. LOUIS AVENUE
ST.
FLORA
Install 24" SWS
R/W
60'
31' B-B
Proposed Pavement
8" San.
M.H.
HLP
Tele. Pedestal
15" SWS
21" SWS
Caution! 8" Water
Sta. 8+86.16, Constr.
Type 1A Curb Inlet
W=5'0", Top=121.4
Constr. Type 1A Curb Inlet
W=4'2", Top=121.40
Install 61 LF of 21" RCP or
CMP, USFL=117.63, DSFL=117.38
Constr. Type 1A Curb Inlet
W=4'2", Top=121.40
Install 4 LF 15" RCP or CMP
USFL=118.10, DSFL=118.00
Constr. Type 1A Curb Inlet
W=4'2", Top=121.4
Install 34 LF 15" RCP or CMP
USFL=118.25, DSFL=118.00
N
Scale: 1"=20'
B.M. 122.59 "+" Cut on East side 6" Dia. Conc. Base for HLP
NW Cor. Flora & St. Louis
PLAN
NOTE BOOK
NO. DLK421
PROFILE
Sta. 5+25.34 Type 1A Curb Inlet
See Sheet 9
Sta. 8+86.16 Constr. Type 1A
Curb Inlet, W=5'0", Top=121.4
361 LF of 24" RCP @ 0.21%
Alt. 361 LF of 24" CMP (fully paved) @ 0.21%
Exist. 8" SS
125
120
115
116.78
116.99
117.20
5
6
7
8
9
10/13

PLATE 1 PLAN-PROFILE O. P. R. S. R. E. STANDARD
100% RAG ACKPROOF VELLUM—MADE AND PRINTED IN U. S. A.
EUGENE DIETZGEN CO.



PLAN (SCALE 1" = 1'0")

BENDING DIAGRAM

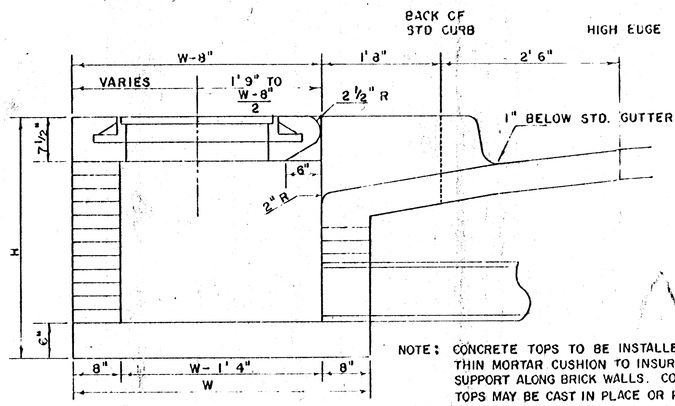
STEEL SCHEDULE

BAR	a_1	a_2*	b_1 W=4'2"	b_1 W=5'0"	b_1 W=6'0"	b_1 W=7'0"	b_1 W=8'0"	b_2	b_3	b_4	WT. LBS.
NUMBER	8	2	1	3	5	7	9	6	1	1	
SIZE	#4	#4	#4	#4	#4	#4	#4	#4	#4	#6	
LENGTH W=4'2"	6'5"	3'4"	5'5"	–	–	–	–	1'5"	5'6"	5'5"	60#
LENGTH W=5'0"	8'1"	4'4"	–	5'5"	–	–	–	1'5"	5'6"	5'5"	77#
LENGTH W=6'0"	10'1"	5'4"	–	–	5'5"	–	–	1'5"	5'6"	5'5"	97#
LENGTH W=7'0"	11'1"	6'4"	–	–	–	5'5"	–	1'5"	5'6"	5'5"	111#
LENGTH W=8'0"	12'1"	7'4"	–	–	–	–	5'5"	1'5"	5'6"	5'5"	124#

* NOTE: a_2 BARS TO BE PLACED APPROX. 2" BELOW TOP OF INLET COVER

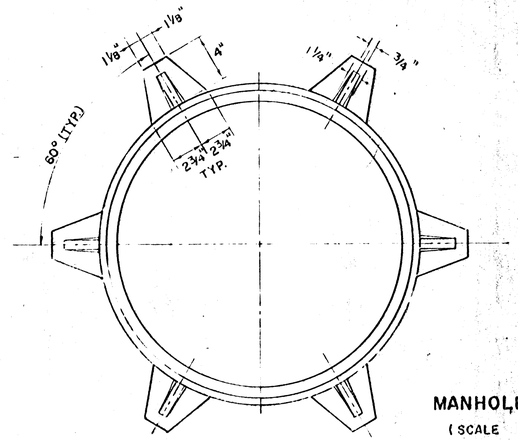
STANDARD CURB INLET PRECAST TOPS			
W	PRE-CAST TOP SIZE	PIPE SIZE	CU. YD. CONC.
4' 2"	3'6"x5'8 1/4"x7 1/2"	21" & SMALLER	0.46 #
5' 0"	4'4"x5'8 1/4"x7 1/2"	24" & 30"	0.57 #
6' 0"	5'4"x5'8 1/4"x7 1/2"	36" & 42"	0.71 #
7' 0"	6'4"x5'8 1/4"x7 1/2"	48" & 54"	0.84 #
8' 0"	7'4"x5'8 1/4"x7 1/2"	60" & 66"	0.97 #

* GROSS VOLUME

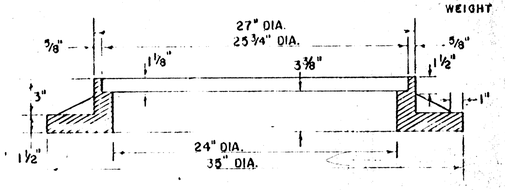


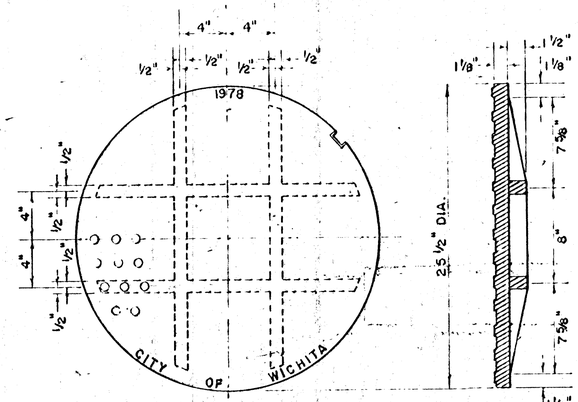
SECTION A-A
(SCALE 1" = 1'0")

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.

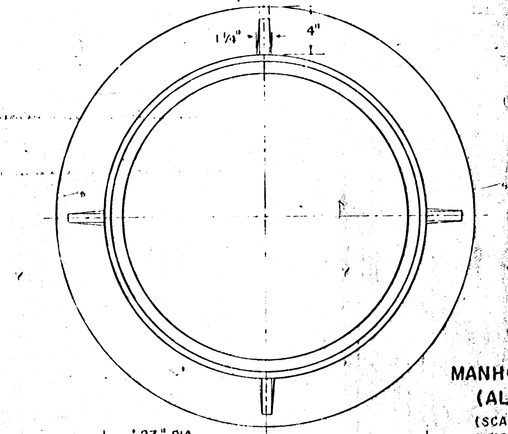


MANHOLE FRAME
(SCALE 1" = 6")
WEIGHT = 180 LBS.

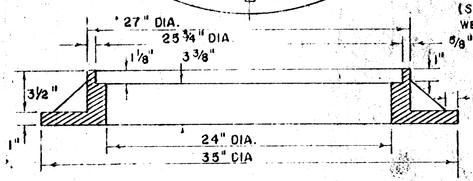


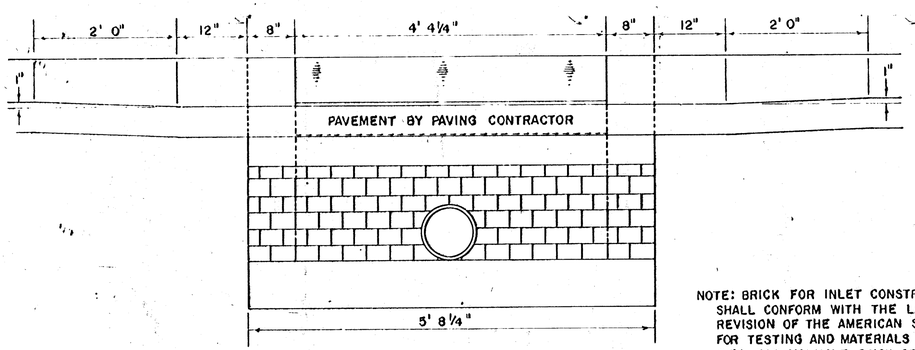


MANHOLE COVER
(SCALE 1" = 6")
WEIGHT = 170 LBS.



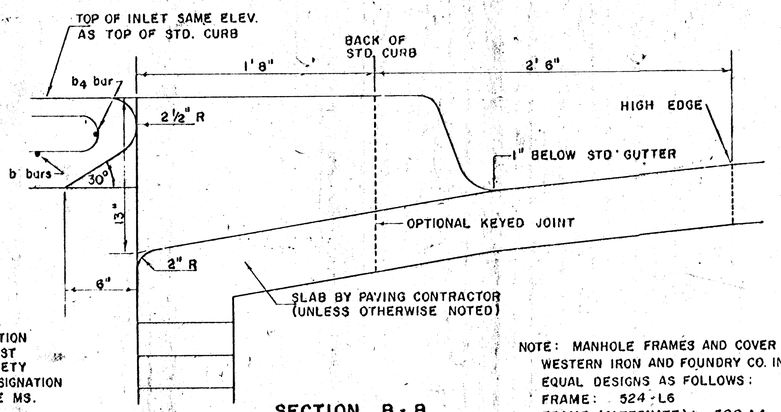
MANHOLE FRAME (ALTERNATE)
(SCALE 1" = 6")
WEIGHT = 180 LBS.





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

NOTE: BRICK FOR INLET CONSTRUCTION SHALL CONFORM WITH THE LATEST REVISION OF THE AMERICAN SOCIETY FOR TESTING AND MATERIALS DESIGNATION C-32 FOR MANHOLE BRICK GRADE MS.



SECTION B-B
(SCALE 1" = 6")

NOTE: MANHOLE FRAMES AND COVER ARE WESTERN IRON AND FOUNDRY CO. INC. OR EQUAL DESIGNS AS FOLLOWS:
FRAME: 524-L6
FRAME (ALTERNATE): 500 A4
COVER: 222 S4 "NOBBY"

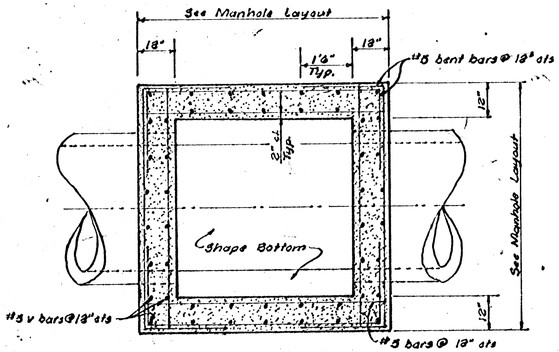
DETAIL STANDARD TYPE IA CURB INLET

CITY OF WICHITA, KANSAS

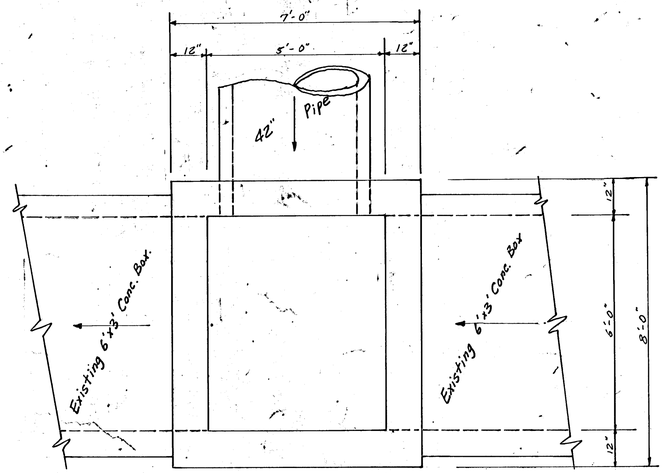
R. W. LINN — CITY ENGINEER

OCTOBER 1978

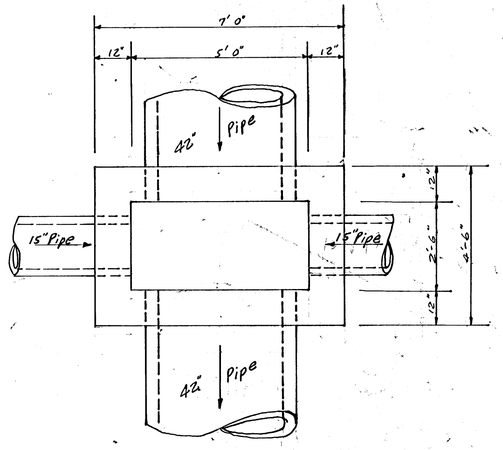
11/13



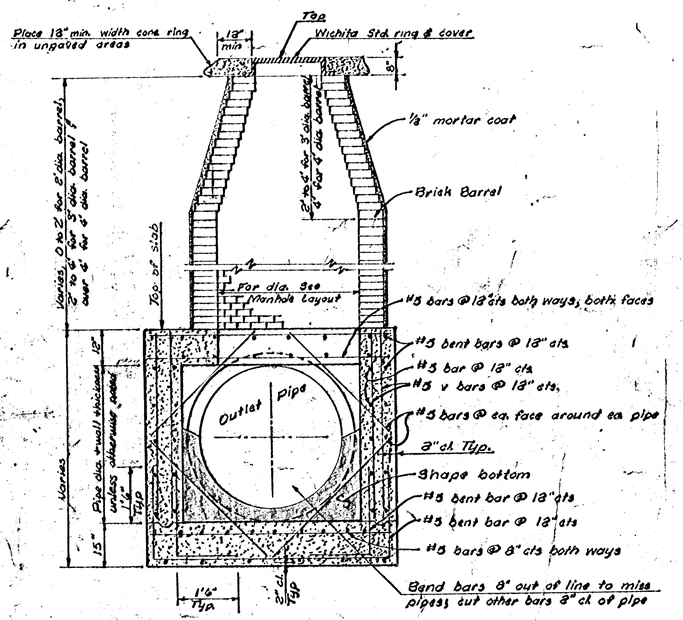
PLAN SECTION THRU WALLS
SCALE: 1/2" = 1'0"



Manhole Layout : Doris & 2nd



Manhole Layout : Doris & 3rd



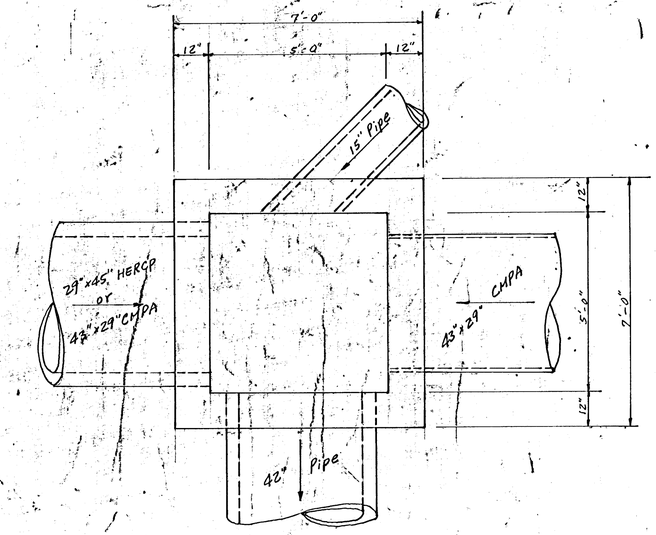
TYPICAL ELEVATION SECTION
SCALE: 1/8" = 1'0"

STD. REINF. CONC. MANHOLE DETAILS

NOTE: ALL STD. REINF. CONCRETE MANHOLES TO BE AS SHOWN ABOVE AND TO BE BID AT ONE UNIT PRICE PER MANHOLE FOR ALL SUCH MANHOLES WITHIN THE PROJECT.

ALL STD. REINF. CONCRETE MANHOLES TYPE "B" TO HAVE BRICK BARRELS SAME AS FOR WICHITA STD. MANHOLE TYPE "B" MODIFIED IN DIAMETER AS SHOWN ABOVE. THE PAY FOR SUCH MANHOLE TO BE AT ONE UNIT PRICE PER MANHOLE AS BID FOR STD. REINF. CONCRETE MANHOLE TYPE "B".

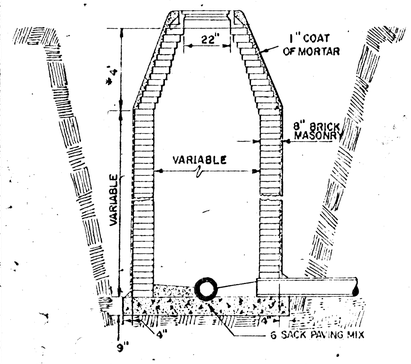
AT THE OPTION OF THE CONTRACTOR, THE REINF. CONCRETE PORTION OF THIS MANHOLE MAY BE INCREASED IN HEIGHT UP TO A MAXIMUM OF 12" BELOW THE BOTTOM OF THE RING & COVER. THE BARREL DIAMETER SHALL BE PROPERLY ADJUSTED FOR SUCH ALTERATION IN ACCORDANCE WITH BARREL HEIGHT AS SHOWN ABOVE.



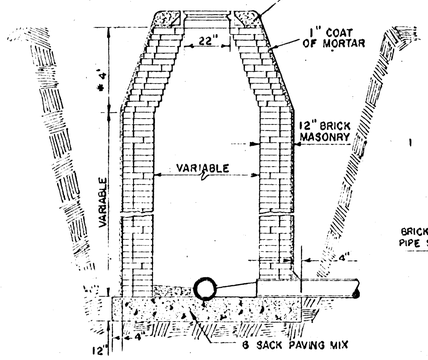
Manhole Layout : Doris & St Louis

NOTE: CROWN OF BOTTOM PIPE ON OUTSIDE DROP SHALL ALWAYS BE SET 0.1 ft. HIGHER THAN CROWN OF PIPE CARRYING FLOW OUT OF THE MANHOLE.

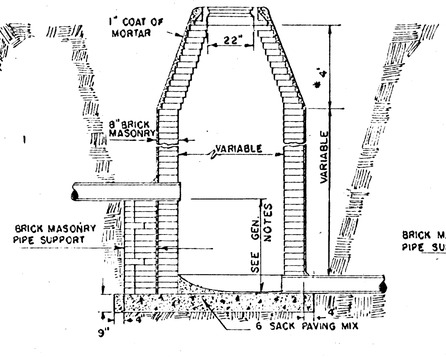
GROUT TO BE PLACED AROUND MANHOLE RING ONLY WHEN MANHOLE IS CONSTRUCTED IN UNPAVED AREAS. (TYPICAL ALL MANHOLES)



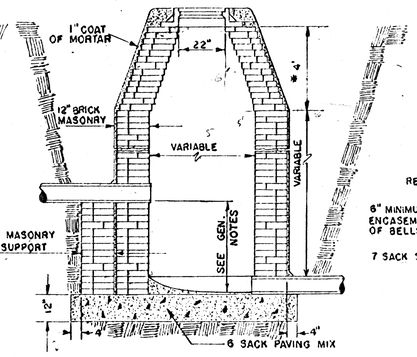
STANDARD MANHOLE TYPE "A"



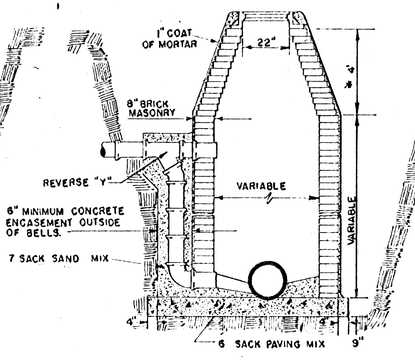
STANDARD MANHOLE TYPE "B"



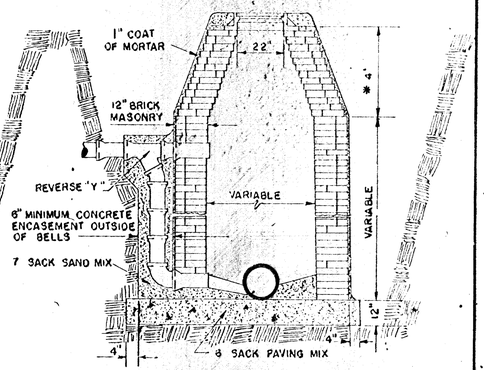
INSIDE DROP MANHOLE TYPE "A"



INSIDE DROP MANHOLE TYPE "B"



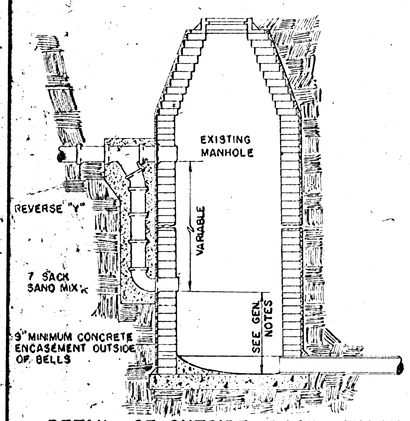
OUTSIDE DROP MANHOLE TYPE "A"



OUTSIDE DROP MANHOLE TYPE "B"

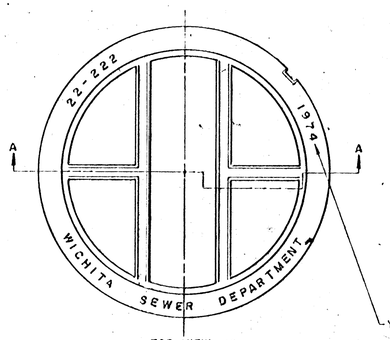
* DRAW = 6' ON 5' DIA. M.H.

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 OUTSIDE DROP STACK

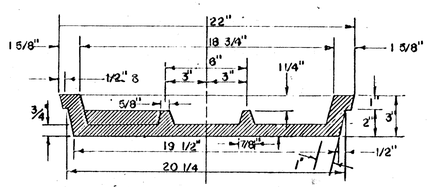
CONSTRUCTED ON EXISTING MANHOLE (USE ONLY WHEN NO OTHER PIPE ARE FLOWING INTO MANHOLE)



TOP VIEW

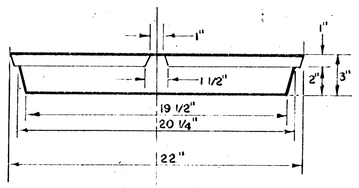
MANHOLE COVER

WEIGHT 110 LBS.



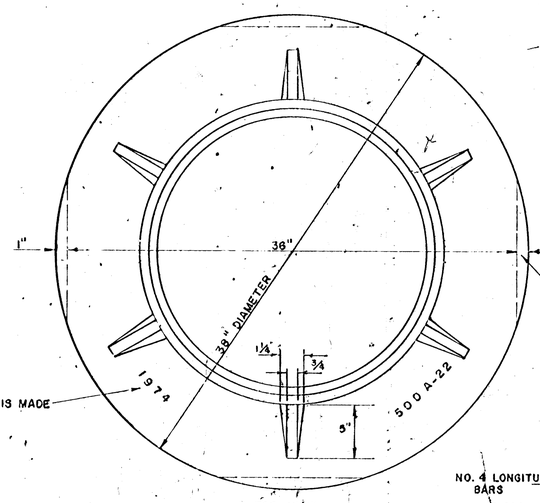
SECTION A-A

MANHOLE COVER



SIDE VIEW

MANHOLE COVER



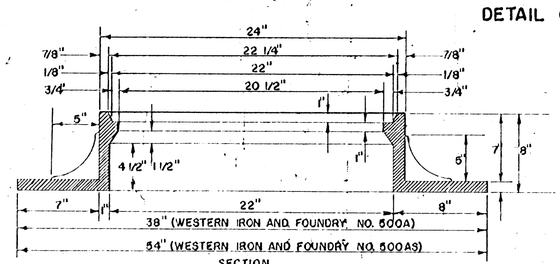
THIS PORTION OF FLANGE MAY BE OMITTED

TOP VIEW

MANHOLE RING

WEIGHT 325 LBS. RING NO. 500A

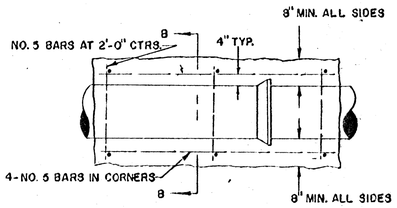
WEIGHT 800 LBS. RING NO. 500AS

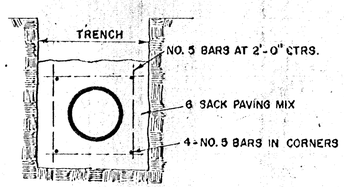


SECTION

MANHOLE RING

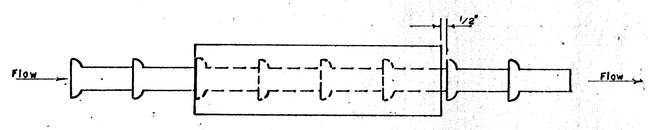
OUTSIDE CIRCUMFERENCE OF COVER AND THE INNER FACE AND SEAT OF RING TO BE MACHINE FIT.



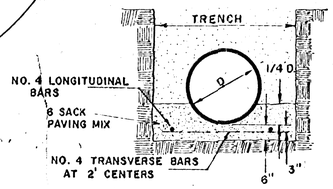


SECTION B-B

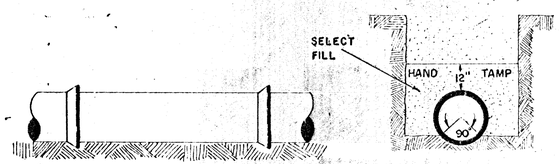
REINFORCED CONCRETE ENCASEMENT



DETAIL IN CONNECTION WITH THE TERMINATION OF CONCRETE ENCASEMENT OR CRADLE FOR CLAY PIPE



DETAIL OF CONCRETE CRADLE



ORDINARY BEDDING METHOD

STORM SEWER PIPE

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 INSIDE 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. CRADLE SHALL EXTEND TO FIRST JOINT OUTSIDE OF MANHOLE WHEN CLAY PIPE IS USED.

REVISED 4-4-80

DETAILS OF

SEWER APPURTENANCES

ADOPTED AS STANDARD DESIGN

BY

ENGINEERING DIVISION

CITY OF WICHITA, KANSAS

1974

13/13

1 of 1 original