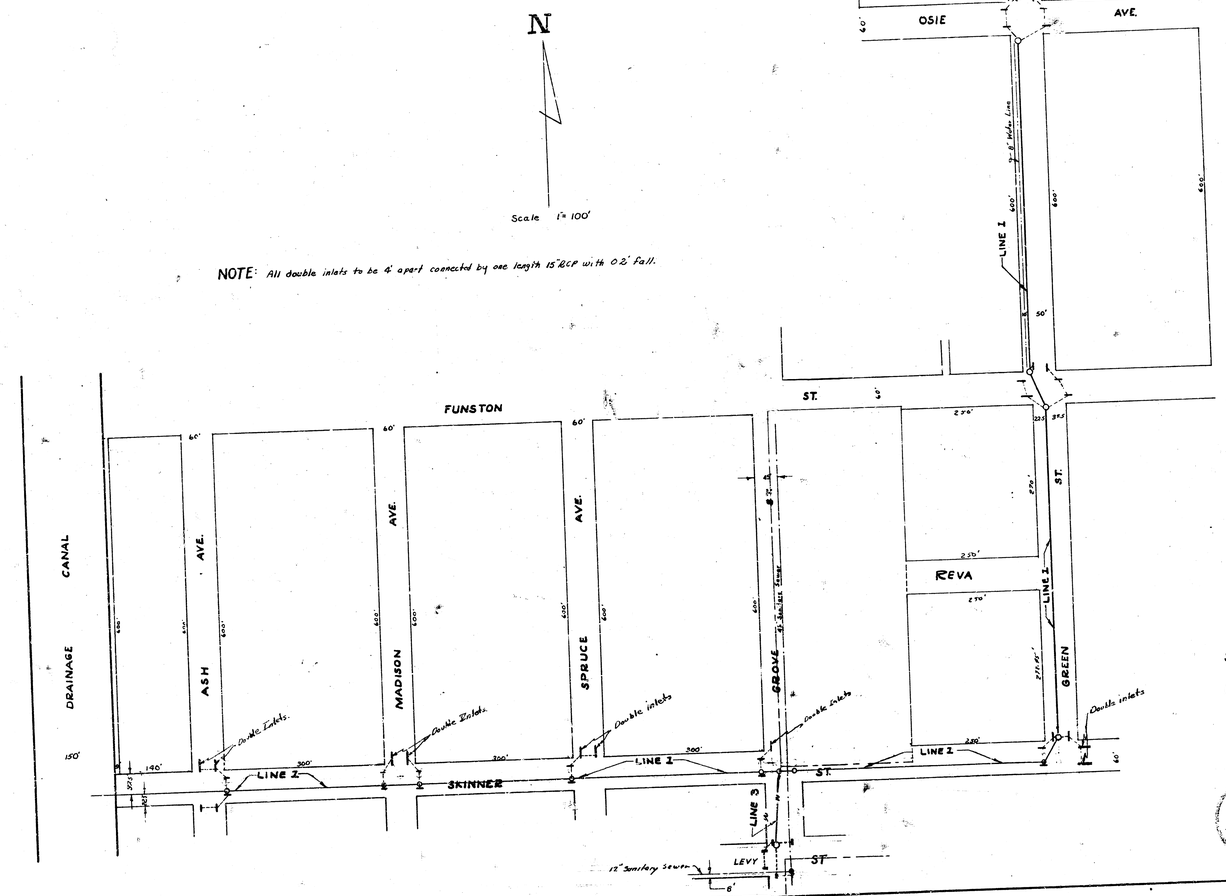
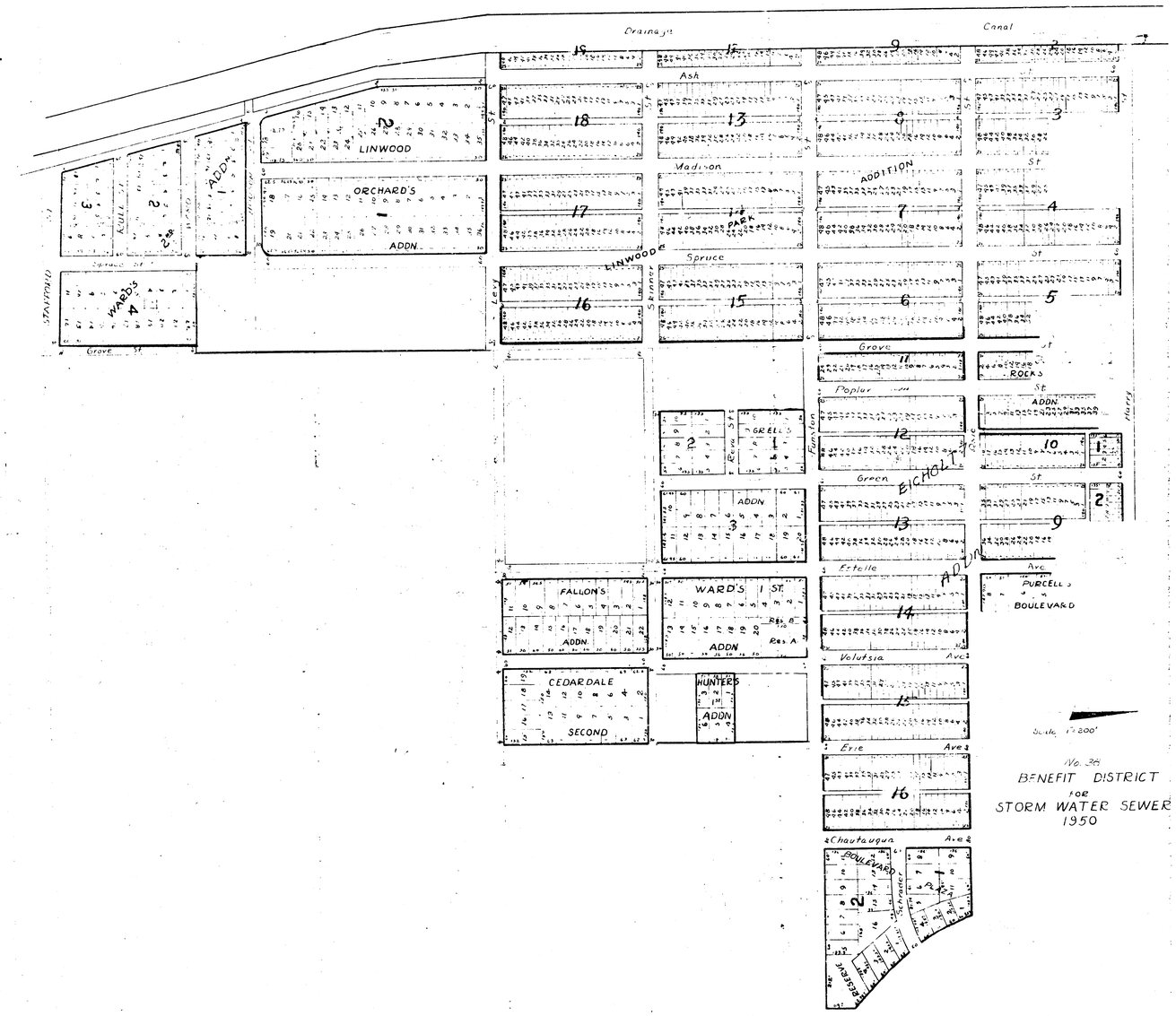
1/18



STORM SEWER NO. 38
WICHITA, KANSAS
L. K. WHITE CITY ENGINEER
1950
PROJECT NO. C20-66

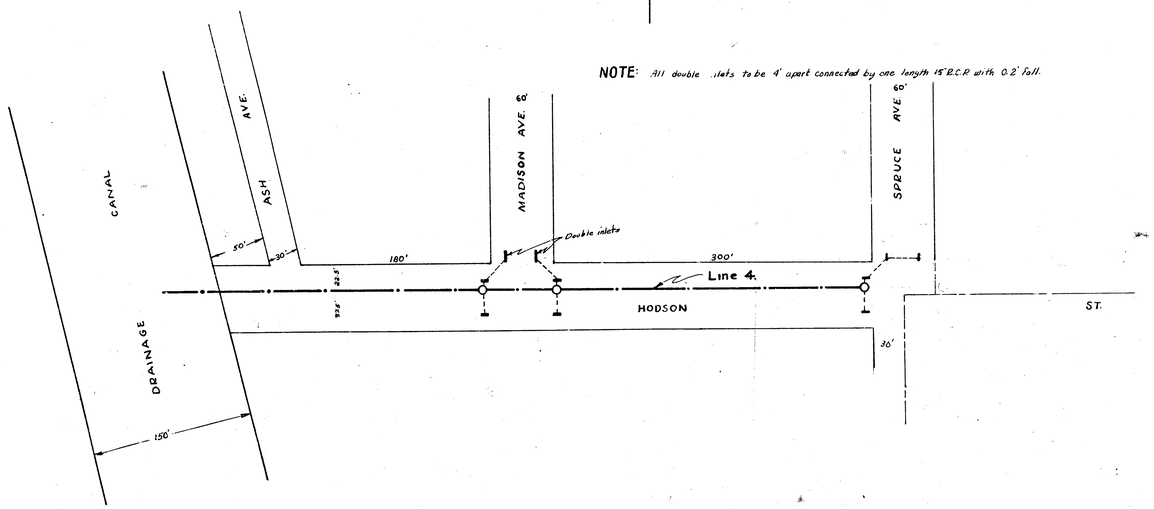
1/18



No. 39
BENEFIT DISTRICT
FOR
STORM WATER SEWER
1950

N

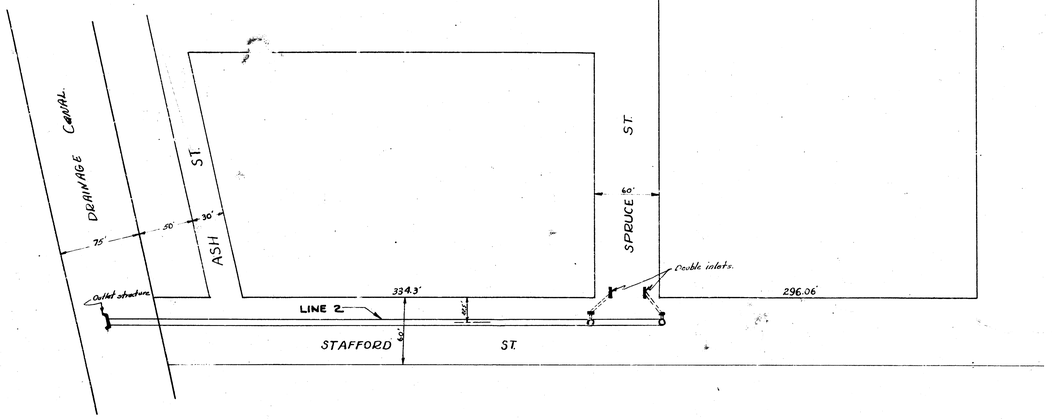
NOTE: All double inlets to be 4' apart connected by one length 15" R.C.P. with 0.2' fall.



STORM SEWER NO. 38
WICHITA, KANSAS
L.K. WHITE CITY ENGINEER
1950

N

NOTE: All double inlets to be 4' apart c nected by one length 15" R.C.P. with 0.2' fall.



STORM WATER SEWER #38
Wichita Kansas
L. K. White City Engineer
1950

B.M. 9932 ~ Ash & Skinner S.W. I.R.R. nail in P.P.
B.M. 10041 ~ Ash & Funston N.W. R.R. nail in P.P.

Drainage Canal

0100 watercourse
0102 Sec. 35 T.6 R.2E.
0137 Avg 60' more

1100 Monument

2'x5' Catch Basin Flo 94.30
Ch. elev. 98.80
12" x 24" R.C.P.

2'x5' Catch Basin Flo in 99.30
Flo out 94.10
12" x 32' R.C.P.

1191.6

Ave.

60'

2'x5' Catch Basin Fl. 94.10
Ch. elev. 98.20
12" x 24' R.C.P.

2'x5' Catch Basin N. Flo in 93.90
W. Flo in 93.90
Flo out 93.85 ~ 18" x 24' R.C.P.

2'x5' Catch Basin Flo in 98.20
Flo out 93.00
18" x 20' R.C.P.

Sta. 21+41 Const. Manhole
Install 60" x 29.4' R.C.P.
See sheet 17 for details

1191.6 Beg. sand Fill

32.5'

22.5'

Skinner

Line 1

St.

Flo in 96.30

Flo in 93.20

See sheet 16 for details of outfall structure

2'x5' Catch Basin, Ch. 98.40
Flo in 93.75, Flo out 93.90
18" x 28' R.C.P.

2'x5' Catch Basin, Flo in 94.05
Ch. 98.20, Flo out 93.95
12" x 24' R.C.P.

2'x5' Catch Basin Flo 94.45
Ch. 98.40
15" x 32' R.C.P.

60'

Ash

2'x3' Catch Basin Ch. line 98.30
Flo 93.50 15" x 4' R.C.P.

2'x5' Catch Basin, Flo in 93.30
Flo out 93.10 12" x 24' R.C.P.

2'x5' Catch Basin Ch. 98.80
Flo in 98.60 Flo out 94.30
18" x 20' R.C.P.

2'x5' Catch Basin Ch. 98.30
Flo 93.30 15" x 4' R.C.P.

2'x5' Catch Basin
Flo in 93.30 Flo out 93.10
15" x 24' R.C.P.

2'x5' Catch Basin, Ch. 98.80
Flo in 99.60 Flo out 94.30
18" x 20' R.C.P.

Ave.

Sta. 31+49.1 Const. Manhole
Install 60" x 29.5' R.C.P.
See sheet 17 for details

2'x5' Catch Basin Ch. 98.70
Flo 95.20
18" x 8' R.C.P.

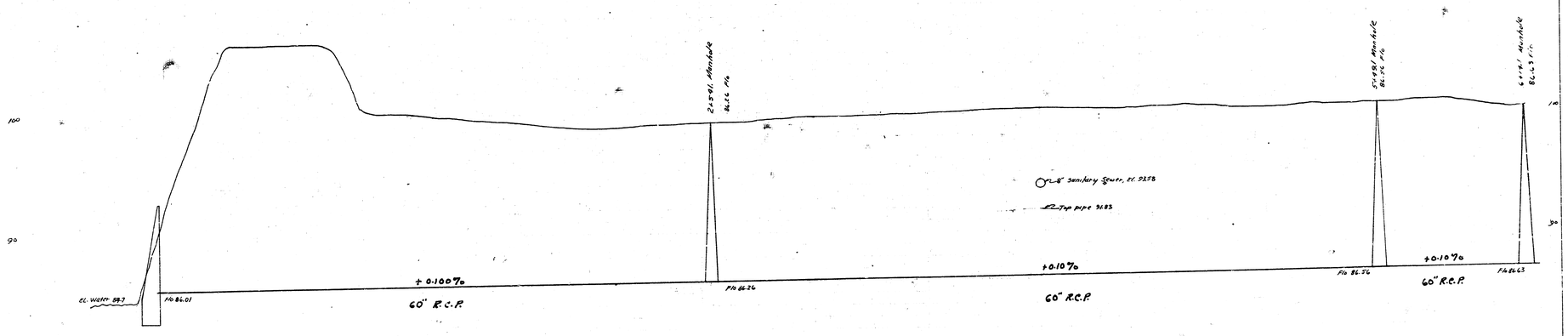
Sta. 41+49.1 Const. Manhole
Install 60" x 6.5' R.C.P.
See sheet 17 for details

2'x5' Catch Basin Ch. 98.60
Flo 95.10
15" x 8' R.C.P.

60'

Madison

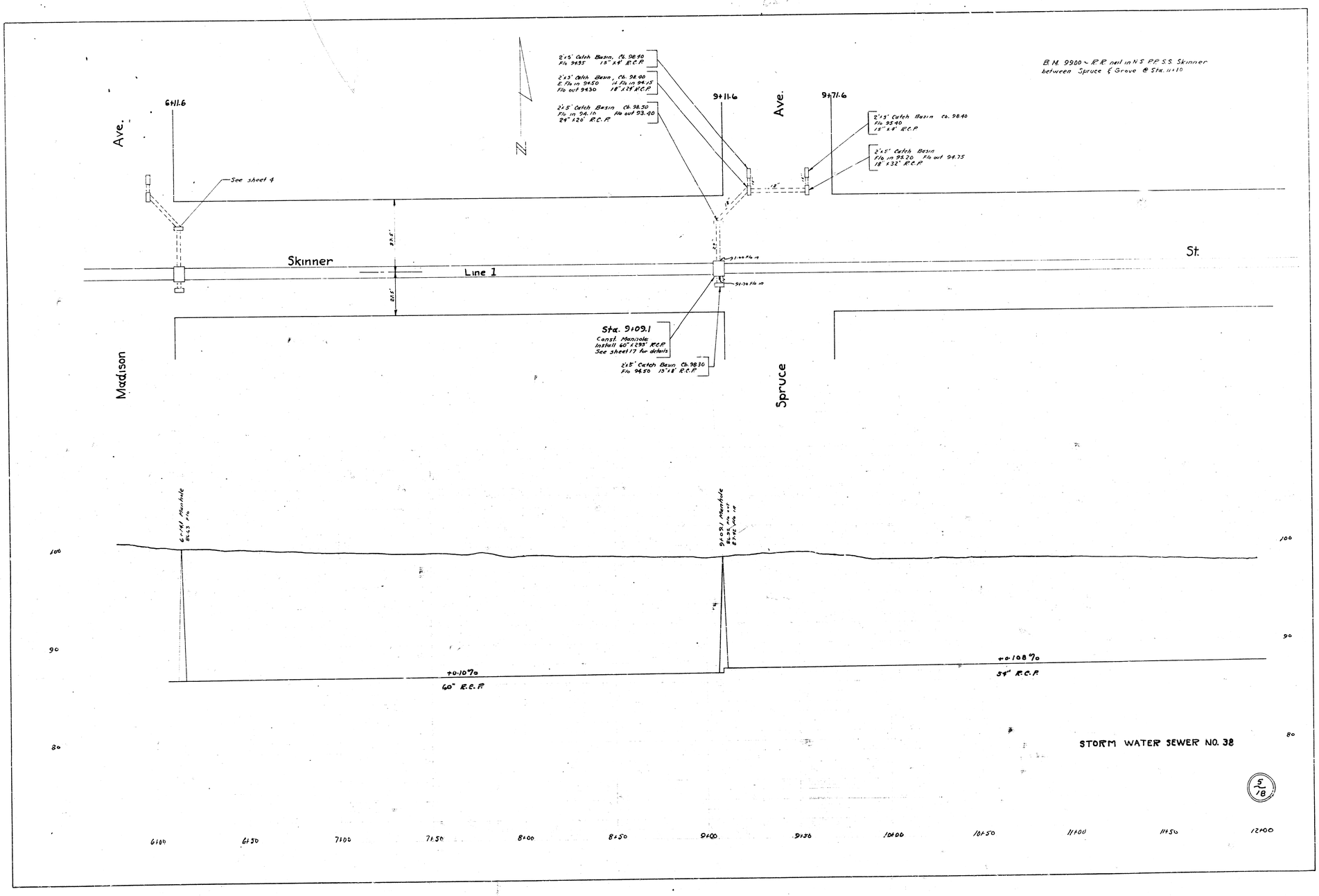
NOTE :~ All double inlets to be 4' apart connected by one length 15" R.C.P.

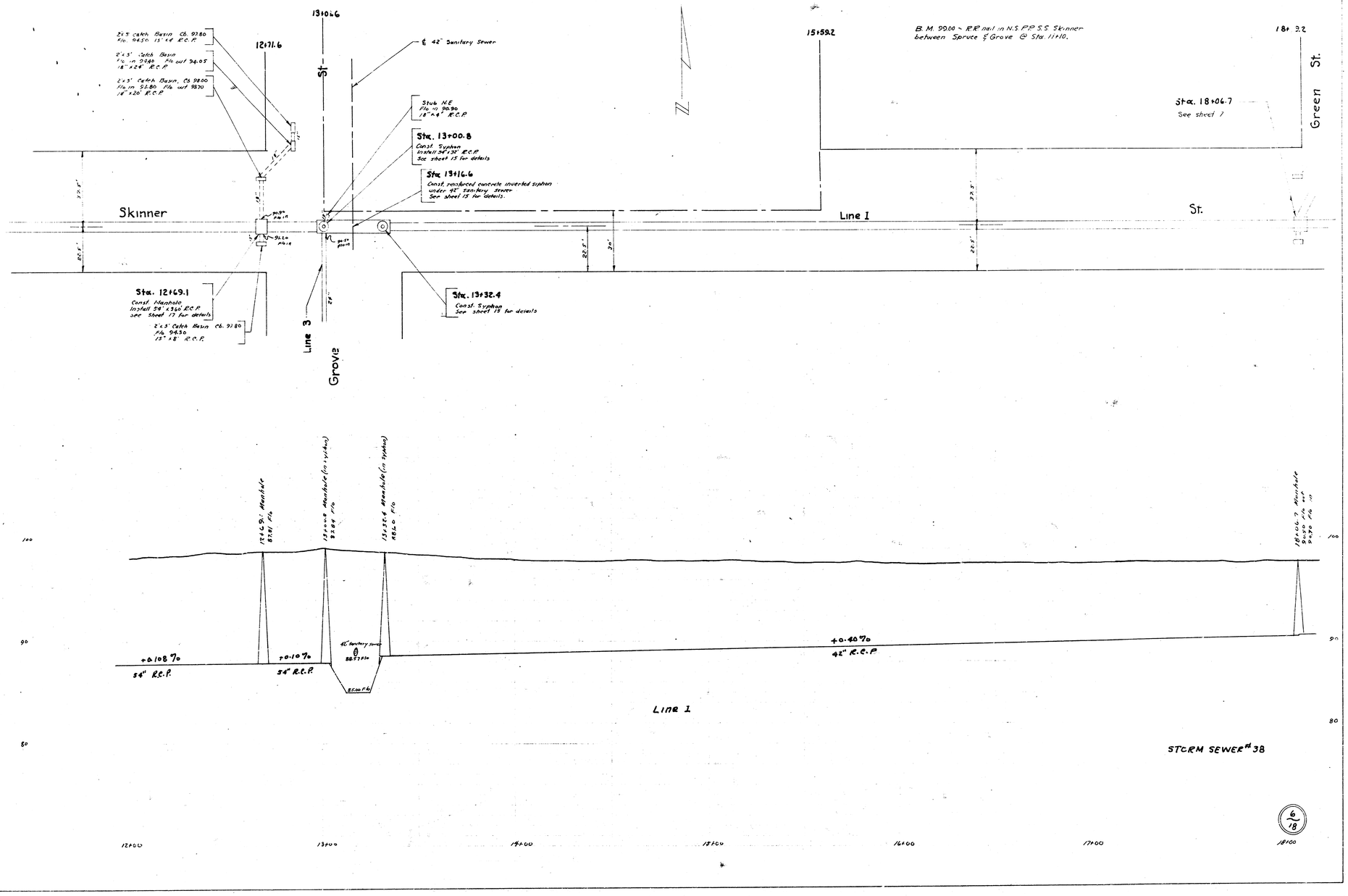


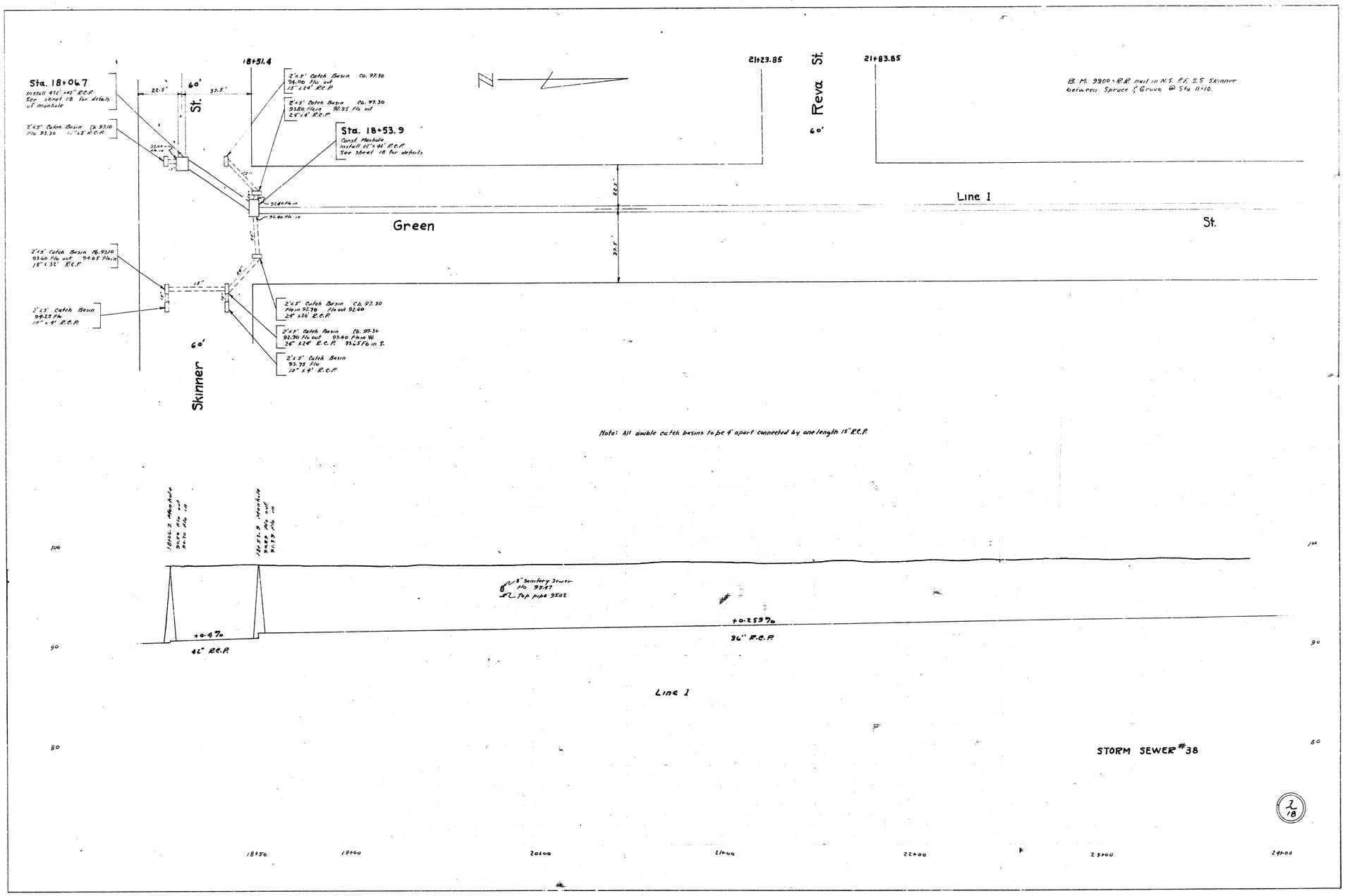
Line 1

STORM SEWER #38

1/18


2'x5' Catch Basin, Ch. 98.90
Flo 94.35 18" x 9" R.C.P.
2'x5' Catch Basin, Ch. 98.90
E. Flo in 94.50 14 Flo in 94.15
Flo out 94.30 18" x 29" R.C.P.
2'x5' Catch Basin Ch. 98.30
Flo in 94.11 Flo out 93.90
24" x 20" R.C.P.
B.M. 9900 ~ P.P. nail in N.S. P.P. S.S. Skinner
between Spruce & Grove @ Sta. 11+10
6+11.6
9+11.6
9+71.6
Ave.
Ave.
See sheet 4
2'x5' Catch Basin Ch. 98.40
Flo 95.40
18" x 9" R.C.P.
2'x5' Catch Basin
Flo in 95.20 Flo out 94.75
18" x 32" R.C.P.
N
Skinner
Line 1
St.
Sta. 9+09.1
Const. Manhole
Install 60" x 293" R.C.P.
See sheet 17 for details
2'x5' Catch Basin Ch. 98.30
Flo 94.30 15" x 8" R.C.P.
Madison
Spruce
6+141 Manhole
Rim 101.13
9+09.1 Manhole
Rim 101.00
Flo out 94.10
+0.10%
60" R.C.P.
+0.108%
54" R.C.P.
100
90
80
6+00
6+50
7+00
7+50
8+00
8+50
9+00
9+50
10+00
10+50
11+00
11+50
12+00
STORM WATER SEWER NO. 38
5/18


13+04.6
12+71.6
St.
24.5' Catch Basin Cb. 9780
Flo. 94.50 15" x8" R.C.P.
24.5' Catch Basin
Flo. in 94.96 Flo. out 94.05
18" x24" R.C.P.
24.5' Catch Basin Cb. 9800
Flo. in 93.80 Flo. out 93.70
18" x26" R.C.P.
℄ 42" Sanitary Sewer
Stub N.E.
Flo. in 96.96
18" A4" R.C.P.
Sta. 13+00.8
Const. Syphon
Install 24"x36" R.C.P.
See sheet 15 for details
Sta. 13+16.6
Const. reinforced concrete inverted siphon
under 42" sanitary sewer
See sheet 15 for details.
15+59.2
B.M. 99.00 ~ RR nail in N.S. P.P. S.S. Skinner
between Spruce & Grove @ Sta. 11+10.
18+32
Green St.
Sta. 18+06.7
See sheet 7
Skinner
Line 1
St.
90° Flo. in
94.20 Flo. out
Sta. 12+69.1
Const. Manhole
Install 54"x360 R.C.P.
see sheet 17 for details
24.5' Catch Basin Cb. 9780
Flo. 94.50
15" x8" R.C.P.
Sta. 13+32.4
Const. Syphon
See sheet 15 for details
Line 3
Grove
100
90
80
12+00
13+00
14+00
15+00
16+00
17+00
18+00
12+69.1 Manhole
87.81 Flo
13+00.8 Manhole (or syphon)
87.84 Flo
13+32.4 Manhole (or syphon)
88.40 Flo
18+06.7 Manhole
94.50 Flo out
94.70 Flo in
+0.108 %
54" R.C.P.
+0.10 %
54" R.C.P.
42" Sanitary Sewer
@
88.77 Flo
85.00 Flo
+0.40 %
42" R.C.P.
Line 1
STORM SEWER # 38
6/18



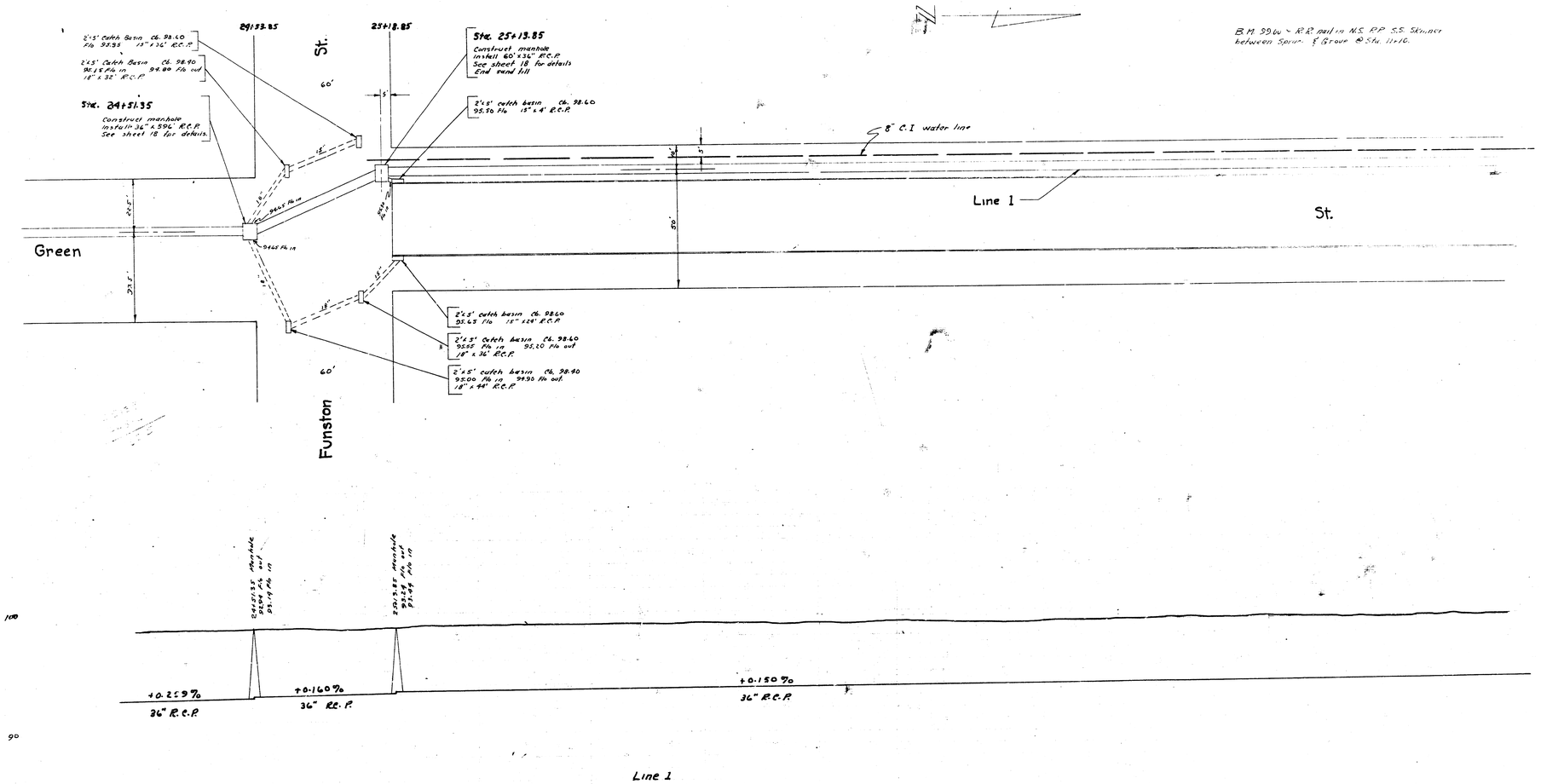
Note: All double catch basins to be 4' apart connected by one length 15" R.C.P.

Line 1

STORM SEWER #38

1/18

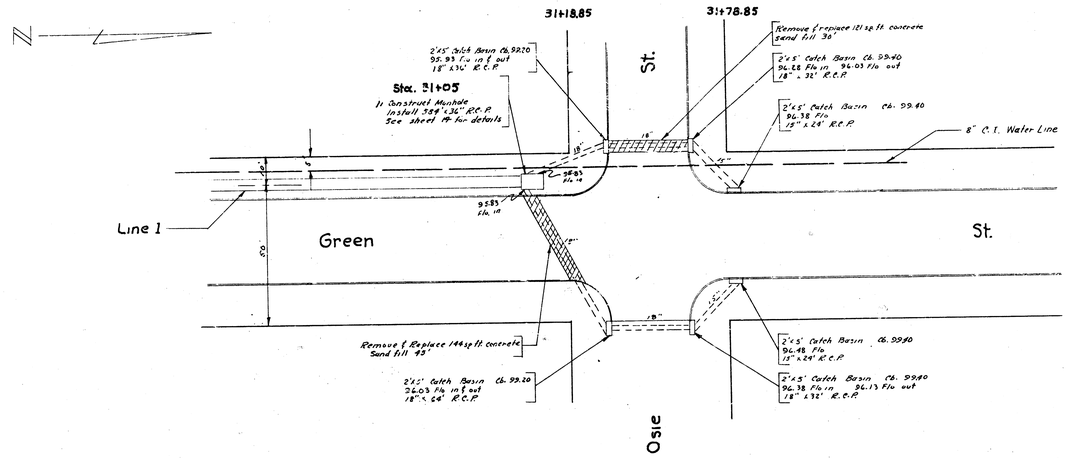
18+50 19+00 20+00 21+00 22+00 23+00 24+00

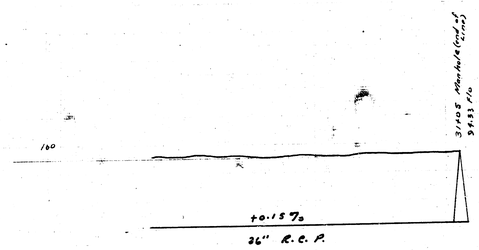


STORM SEWER #38

8
18

B.M. 99.00 ~ P.R. nail in N.S. F.P.S.S. Skinner between Spruce & Grove @ Sta. 11+10.





STORM SEWER #38

9/18

B.M. 166.15 – 34" in Mueller top fire hydr.
N.W. corner Levy & Madison

N

Sta. 0+00
Sta 13+00.8 on Line 1
Sur. Sheet #6

St.

Skinner

Sta. 13+32.2

Sta. 12+32

42" Sanitary Sewer

Grove St.

Line 3

Line 1 (Rel.)

22.5'

40'

25'

20'

2'x5' Catch Basin Co. 96.80
93.10 F/o out
18" x 64' R.C.P.

2'x5' Catch Basin Co. 97.30
93.30 F/o
18" x 24" R.C.P.

Sta. 6+30
Construct Manhole
Install 78" x 6.25' R.C.P.
Slp. 3% over 30 ft

St.

46'

15" Stub & 90° Elb. 15" R.C.P.

96.80 F/o in

18"

15"

2'x5' Catch Basin Co. 96.80
96.90 F/o out 93.35 F/o in
18" x 8' R.C.P.

2'x5' Catch Basin Co. 97.10
93.63 F/o in 93.45 F/o out
15" x 24' R.C.P.

2'x5' Catch Basin Co. 97.10
93.73 F/o
18" x 32' R.C.P.

60'

9'

Levy St.

12" Sanitary Sewer

NOTE: Sand backfill all ditches on this line.

0+00 = Manhole of
Sta 13+00.8 on Line 1
Flo in 94.20, Manh #2644

6+30 Manhole (not incl.)
96.26 F/o

100

90

80

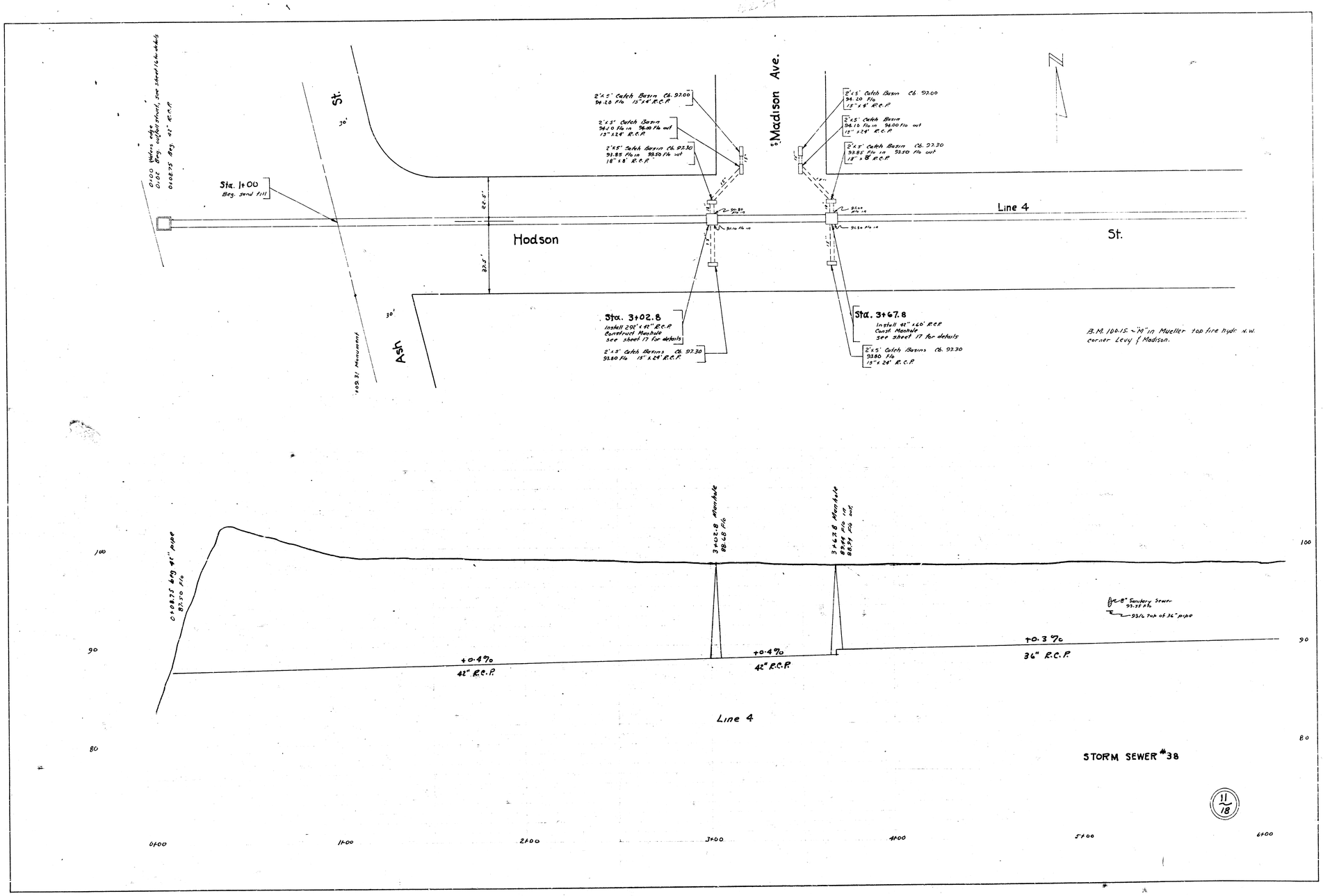
+0.279%
24" R.C.P.

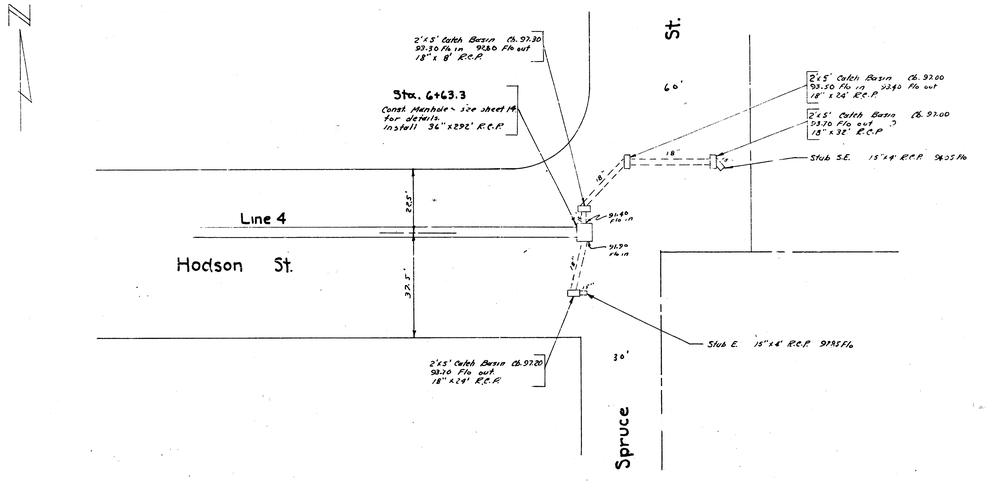
Line 3

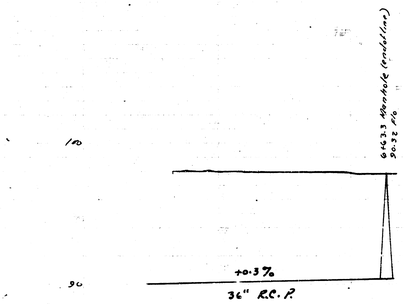
STORM SEWER #38

0+00 0+25 0+50 1+25 1+75 2+25 2+75 3+25 3+75 4+25 4+75 5+25 5+75 6+25

10
78


St.
30'
Madison Ave.
Sta. 1+00
Beg. sand fill
2'x5' Catch Basin Cb. 97.00
94.20 Flo 15"x24" R.C.P.
2'x5' Catch Basin
94.10 Flo in 94.00 Flo out
15"x24" R.C.P.
2'x5' Catch Basin Cb. 97.30
93.85 Flo in 93.50 Flo out
18"x18" R.C.P.
2'x5' Catch Basin Cb. 97.00
94.20 Flo
15"x18" R.C.P.
2'x5' Catch Basin
94.10 Flo in 94.00 Flo out
12"x24" R.C.P.
2'x5' Catch Basin Cb. 97.30
93.85 Flo in 93.50 Flo out
18"x18" R.C.P.
Line 4
Hodson
St.
Ash
30'
Sta. 3+02.8
Install 20'x 49" R.C.P.
Buntrust Manhole
see sheet 17 for details
2'x5' Catch Basins Cb. 97.30
93.80 Flo 15"x24" R.C.P.
Sta. 3+67.8
Install 42" x60' R.C.P.
Const. Manhole
see sheet 17 for details
2'x5' Catch Basins Cb. 97.30
93.80 Flo
15"x24" R.C.P.
B.M. 100.15 - "M" in Mueller top fire hydr. N.W. corner Levy & Madison.
N
Sta. 0+00 Begin sufficient sewer to take water
0+08.5' beg 42" pipe
87.70 Flo
3+02.8 Manhole
88.48 Flo
3+67.8 Manhole
88.34 Flo in
88.24 Flo out
Proposed Sanitary Sewer
93.44 Flo of 36" pipe
+0.4%
42" R.C.P.
+0.4%
42" R.C.P.
+0.3%
36" R.C.P.
Line 4
100
90
80
0+00
1+00
2+00
3+00
4+00
5+00
6+00
STORM SEWER #38
11/18



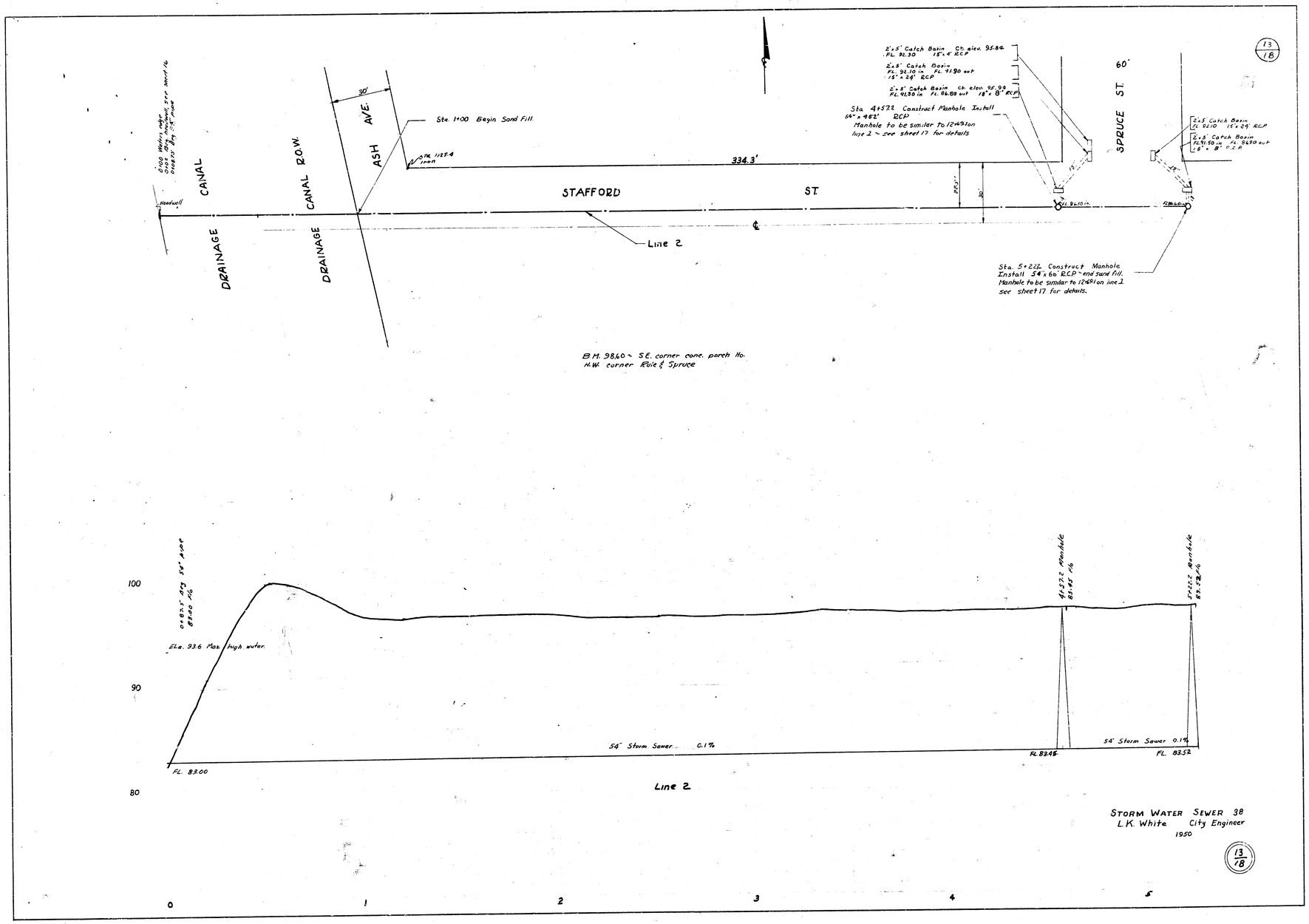


Line 4

B.M. 100.15 - "M" in Mueller top fire hydr. N.W. corner Levy & Hodson.

STORM SEWER #38

12/18



STORM WATER SEWER 38
L.K. White City Engineer
1950

Note:

Concrete for manholes shall contain not less than 1.65 barrels of cement per cu. yd. In no event shall the water content exceed 6.75 gals per sack of cement. The mixture of fine & coarse aggregate shall be such as will produce a maximum density & the most workable mixture.

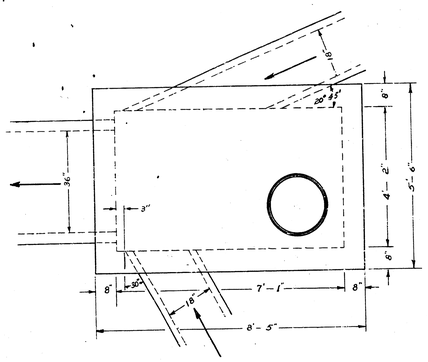
In general pipes will enter & leave the manholes at various positions, where possible, bend bars around pipe. Where pipes are large use ⅝ ϕ bars as shown.

Floors of manholes to be sloped for flow & drainage with concrete.

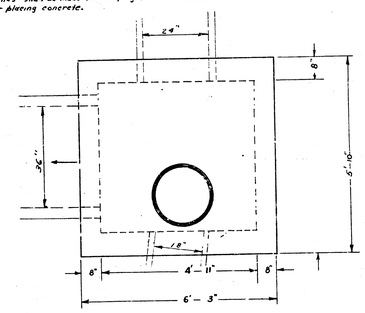
No deduction in concrete quantities shall be made for pipe openings.

No additions in concrete quantities shall be made for sloping floor of manholes.

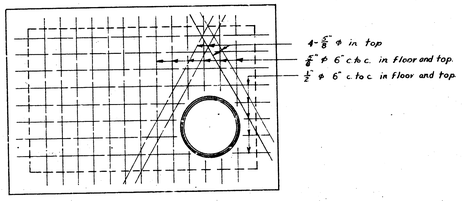
Internal vibrator to be used for placing concrete.



Manhole Layout Sta. 31+05

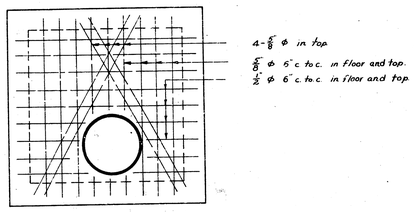


Manhole Layout Sta. 646+33



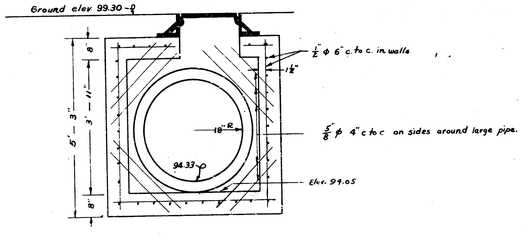
PLAN

Showing re-inforcing steel in top and floor.



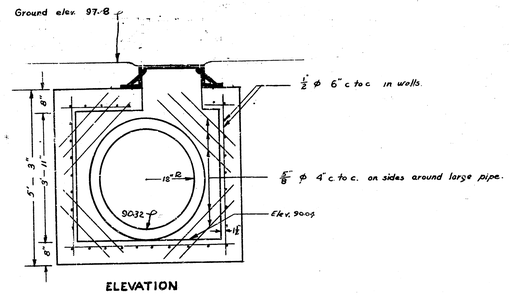
PLAN

Showing re-inforcing steel in top and floor.



ELEVATION

Showing re-inforcing steel in walls.



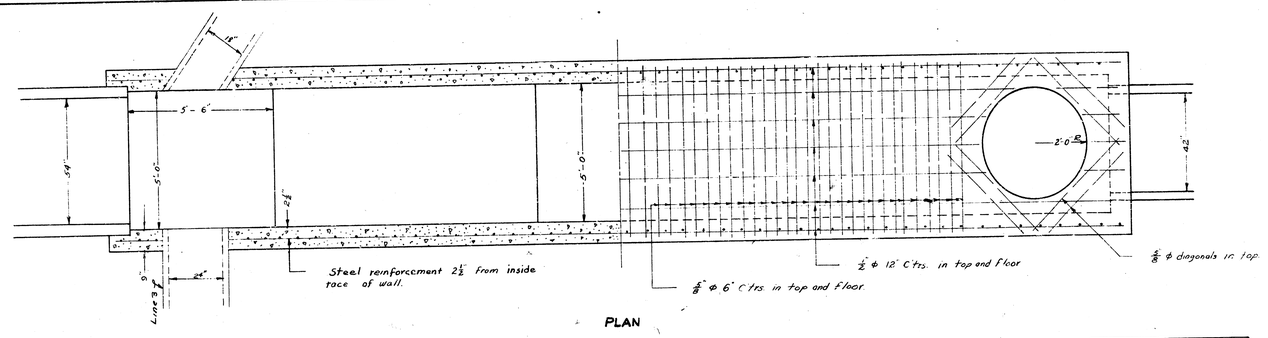
ELEVATION

Showing re-inforcing steel in walls.

STORM SEWER # 38
WICHITA, KANSAS
L. K. WHITE CITY ENGINEER
1950

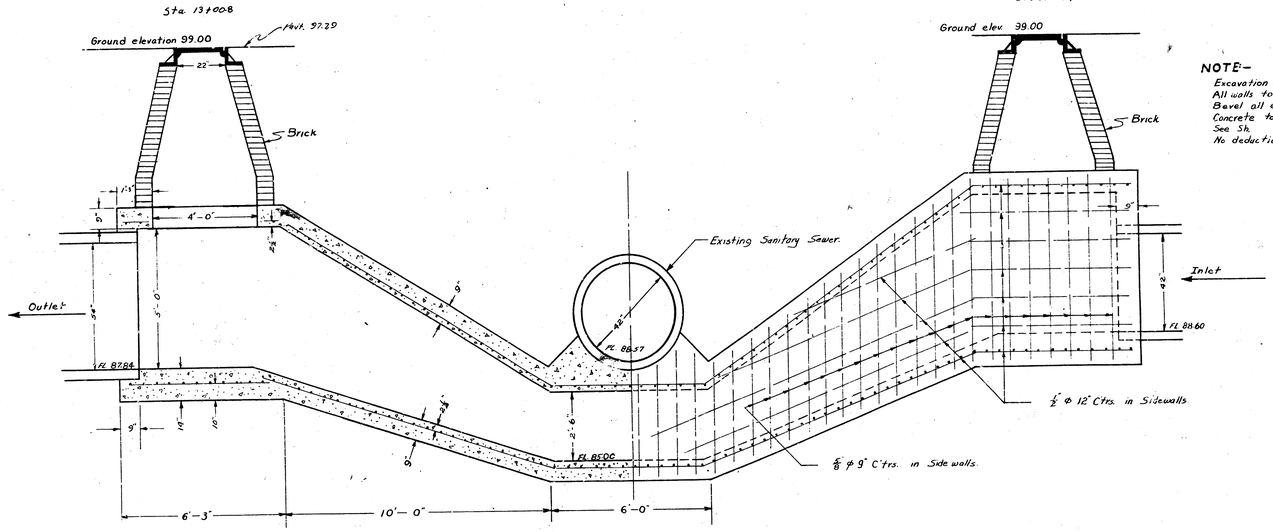
14
18

14
18



PLAN

BILL OF MATERIAL	
Excavation	145 cu. yds.
Concrete	25 cu. yds.
Reinf. Steel	2335 lbs.
2 Brick Manholes	11'-8"



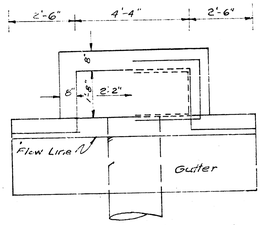
LONGITUDINAL SECTION
scale ½" = 1'

NOTE:-
Excavation is Figured 1 Ft. outside of walls.
All walls to be formed on both sides.
Bevel all exposed edges with ¾" Trianyular Moulding.
Concrete to be mixed the same as noted for Manholes See Sh.
No deduction of concrete quantities for pipe opening.

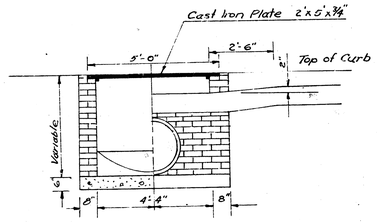
STORM SEWER # 38
LAYOUT & DETAIL FOR INVERTED SIPHON
WICHITA, KANSAS
L. K. WHITE CITY ENGINEER
1950

15/16

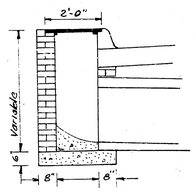
15/18



PLAN CATCH BASINS

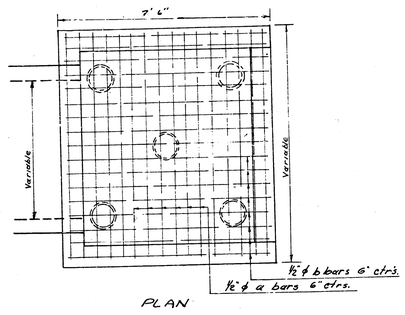


HALF SECTION HALF ELEVATION

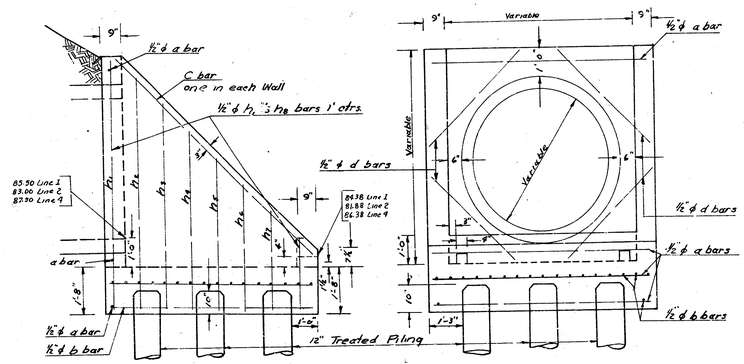


CROSS-SECTION
Scale ½"=1'

NOTE:- Where inlets are to be installed in streets that are ~~not~~ paved, the minimum length of curb to be removed shall be 9'-9".
Floors of inlets shall be shaped as shown. No additions in concrete quantities shall be made for shaping floors.
Concrete for floors of inlets shall contain 7 sacks of cement per cu. yd. with only sufficient water so that moisture will flush to the surface when tamped into place.



PLAN



SIDE ELEVATION

FRONT ELEVATION

DETAILS OF OUTFALL
No Scale.

NOTE:- Excavation is figured 1 Ft. outside of walls.
All walls to be formed on both sides. Bevel all exposed edges with a ⅞ triangular molding.
Concrete to be mixed the same as noted for manholes.
No deduction of concrete quantities for pipe openings or pile heads.
Broken paving or rock shall be placed from front of headwall to edge of Canal bed. This bed of rock to be not less than 2 Ft. thick.

Reinf. Steel Schedule for Line No. 1

Type	a	b	c	d	h_1	h_2	h_3	h_4	h_5	h_6	h_7	h_8
No.	20	20	2	4	2	2	2	2	2	2	2	2
Size	½ ϕ	½ ϕ	½ ϕ	½ ϕ	½ ϕ	½ ϕ	½ ϕ	½ ϕ	½ ϕ	½ ϕ	½ ϕ	½ ϕ
Lgth.	8'-7"	7'-6"	10'-6"	5'-5"	9'-11"	8'-9"	7'-8"	6'-7"	5'-6"	4'-5"	3'-5"	2'-4"

Reinf. Steel Schedule for Line No. 2

Type	a	b	c	d	h_1	h_2	h_3	h_4	h_5	h_6	h_7	h_8
No.	20	18	2	4	2	2	2	2	2	2	2	2
Size	½ ϕ	½ ϕ	½ ϕ	½ ϕ	½ ϕ	½ ϕ	½ ϕ	½ ϕ	½ ϕ	½ ϕ	½ ϕ	½ ϕ
Lgth.	7'-5"	7'-6"	9'-3"	5'-0"	8'-5"	7'-3"	6'-1"	5'-1"	5'-0"	3'-1"	3'-1"	2'-1"

Reinf. Steel Schedule for Line No. 4

Type	a	b	c	d	h_1	h_2	h_3	h_4	h_5	h_6	h_7	h_8
No.	20	16	2	4	2	2	2	2	2	2	2	2
Size	½ ϕ	½ ϕ	½ ϕ	½ ϕ	½ ϕ	½ ϕ	½ ϕ	½ ϕ	½ ϕ	½ ϕ	½ ϕ	½ ϕ
Lgth.	5'-3"	7'-6"	8'-11"	7'-5"	6'-7"	5'-8"	4'-10"	4'-1"	3'-8"	2'-10"	2'-1"	

Bill of Material for Line No. 1.

Excav.	241 cu. yds.
Conc.	29 cu. yds.
Reinf. Steel	309 lbs.
Piling	5 - 20' Treated piles
Rock	3 cu. yds.

Bill of Material for Line No. 2

Excav.	187 cu. yds.
Conc.	6.6 cu. yds.
Reinf. Steel	275 lbs.
Piling	5 - 20' Treated piles
Rock	3 cu. yds.

Bill of Material for Line No. 4

Excav.	105 cu. yds.
Conc.	5.9 cu. yds.
Reinf. Steel	213 lbs.
Piling	5 - 20' Treated piles
Rock	3 - cu. yds.

Storm Sewer #38
Wichita, Kansas
L. K. White ~ City Engineer
Nov. 1950

Note:-

Concrete for manholes shall contain not less than 1.65 barrels of cement per cu. yd. In no event shall the total water content exceed 6.5 gals. per sack of cement. The mixture of the coarse aggregate shall be such as will produce a maximum density & the most workable mixture.

In general, pipes will enter & leave the manholes at various positions, where possible. Bend bars around pipe. Where pipes are large use 1/2 ϕ bars as shown.

Floors of manholes to be shaped for flow & drainage with concrete.

No deduction in concrete quantities shall be made for pipe openings.

No additions in concrete quantities shall be made for shaping floor of manholes.

Internal vibrator to be used for placing concrete.

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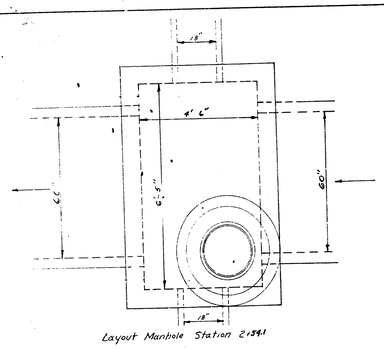
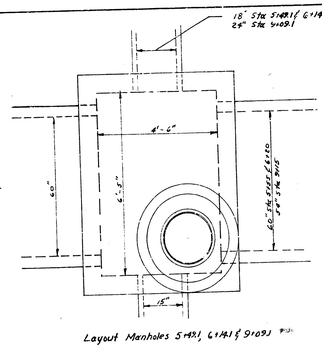
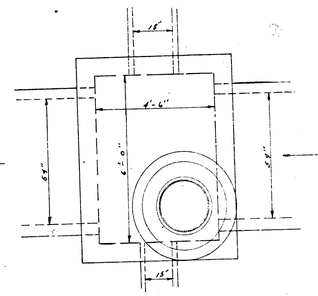


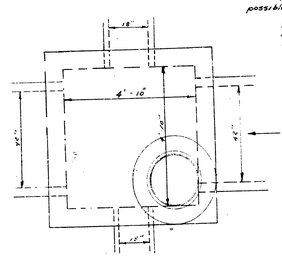
Layout Manhole Station 2+54.1



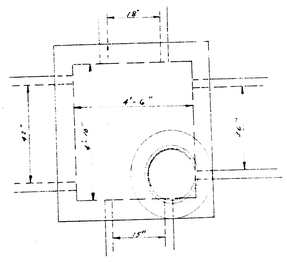
Layout Manholes 5+48.1, 6+14.1 & 9+09.1



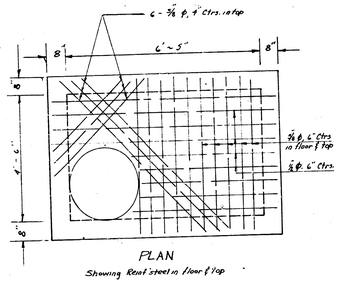
Layout Manhole Sta. 12+69.1



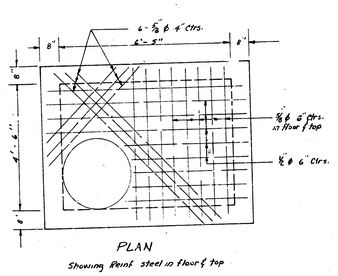
Layout Manhole Sta. 3+02.8



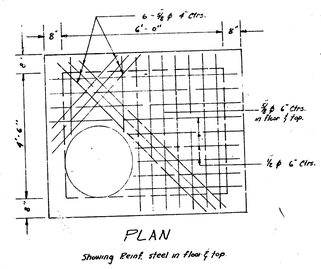
Layout Manhole Sta. 3+67.8



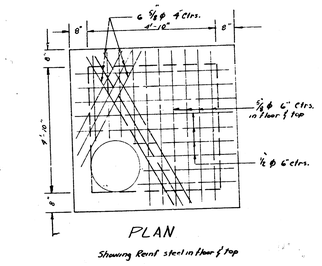
PLAN
Showing Reinf. steel in floor & top



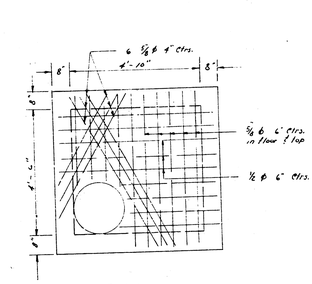
PLAN
Showing Reinf. steel in floor & top



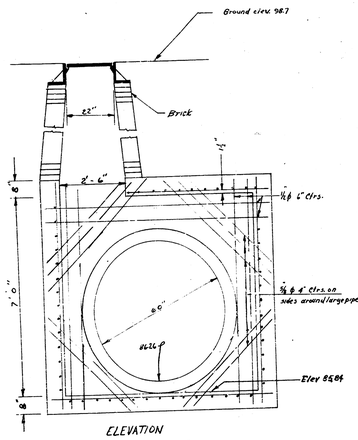
PLAN
Showing Reinf. steel in floor & top



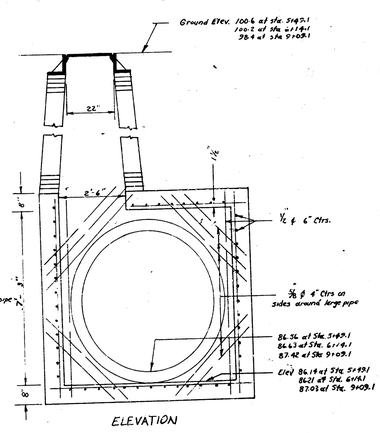
PLAN
Showing Reinf. steel in floor & top



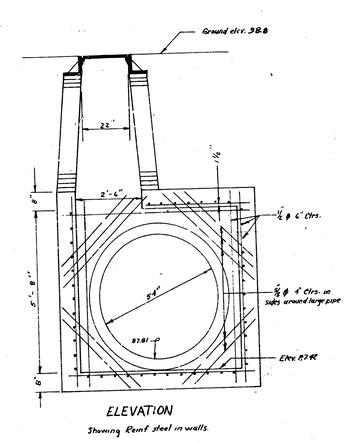
PLAN
Showing Reinf. steel in floor & top



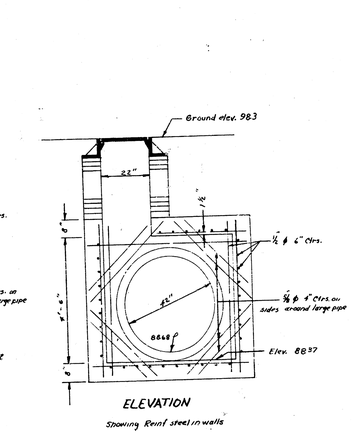
ELEVATION
Showing Reinf. steel in walls



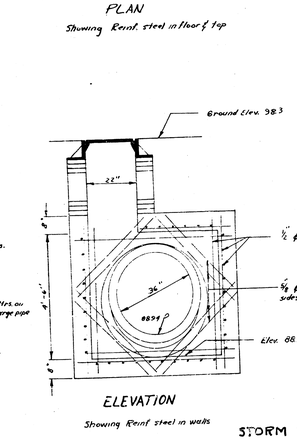
ELEVATION
Showing Reinf. steel in walls



ELEVATION
Showing Reinf. steel in walls



ELEVATION
Showing Reinf. steel in walls



ELEVATION
Showing Reinf. steel in walls

STORM SEWER #38

WICHITA, KANSAS

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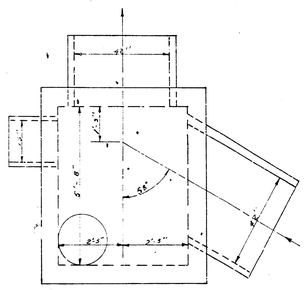
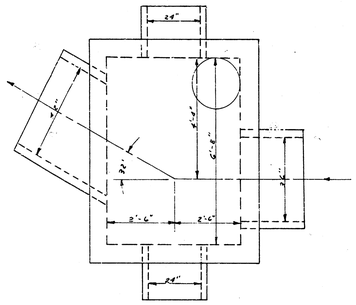
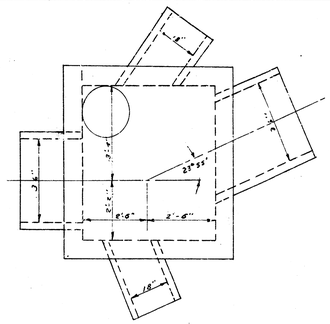


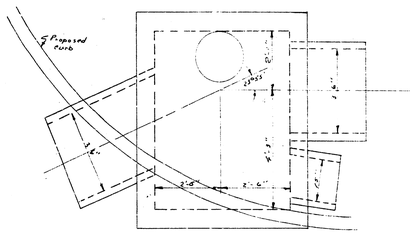
Layout Manhole Sta. 18+06.7



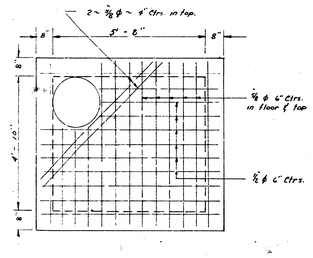
Layout Manhole Sta. 18+33.9



Layout Manhole Sta. 24+51.35



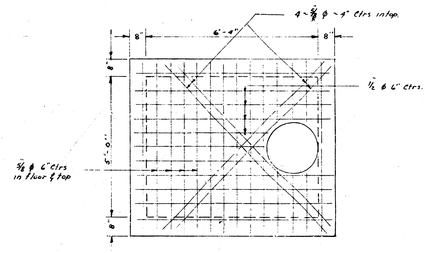
Layout Manhole Sta. 25+13.85



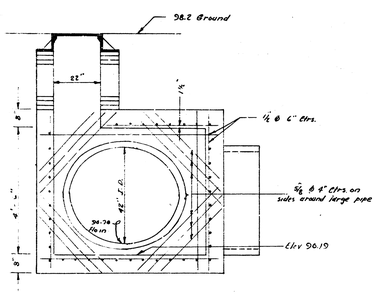
Plan.
Showing Reinf. steel in floor & top.

Plan
Showing Reinf. steel in floor & top.

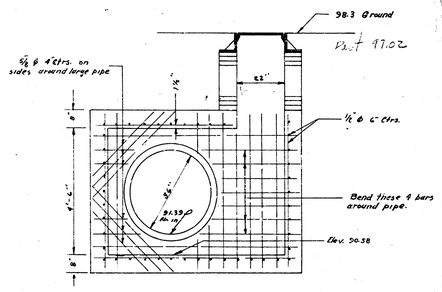
Plan
Showing Reinf. steel in floor & top.



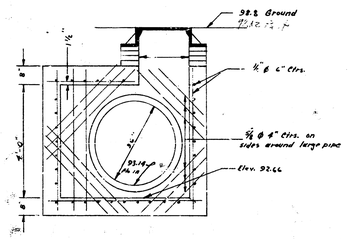
Plan
Showing Reinf. steel in floor & top.



Elevation
Showing Reinf. steel in walls

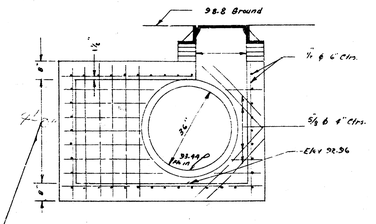


Elevation
Showing Reinf. steel in walls.



Elevation
Showing Reinf. steel in walls.

Hold this dimension to a minimum so top of box will be below proposed curb.



Elevation
Showing Reinf. steel in walls.

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Storm Sewer #38