

Book 53 Dr. 11

OFFICE OF COUNTY ENGINEER
RAMSEY CO. MINN.

Drainage.....Survey

Hamline Ave. Vicinity.....

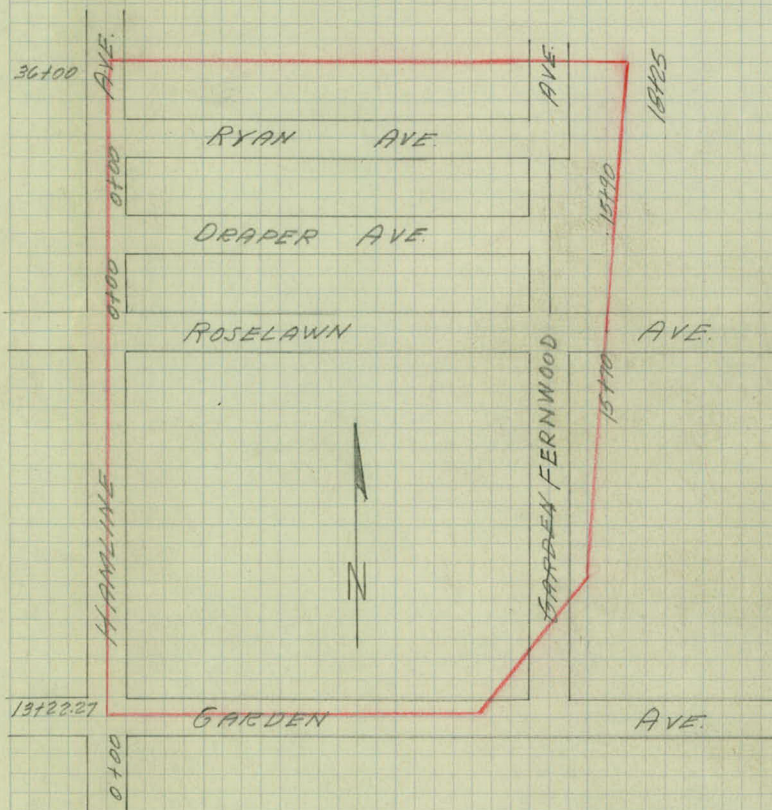
Roselawn Ave. Garden Ave.
From Draper " To Ryan "

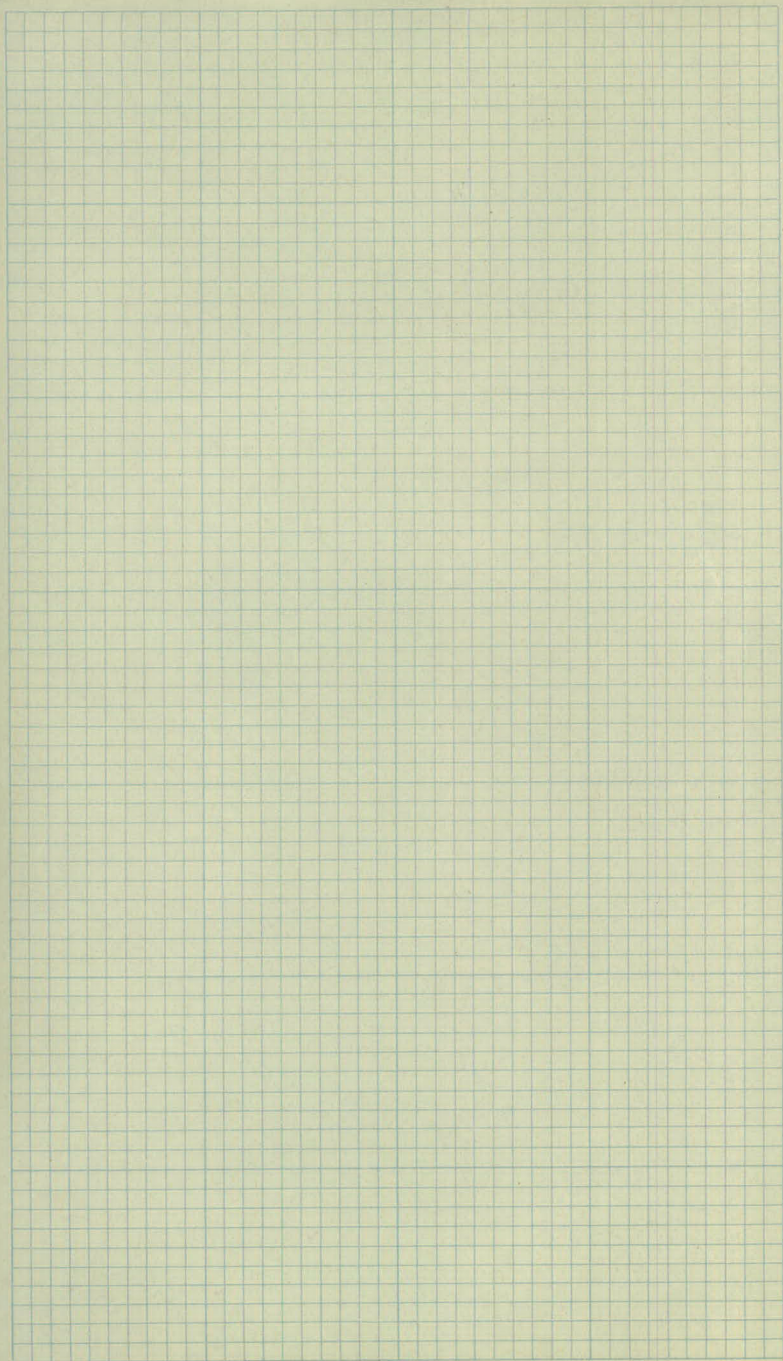
Road Acc't. No.

Date Filed. 11-7-45

File.

DRAINAGE SURVEY





x sections

Hamline Ave.

Sta	+	π	-	Elev
B.M.	1.74	947.18		(945.44)

13 +22.27				42.5
-----------	--	--	--	------

+41				42.5
-----	--	--	--	------

+46				42.5
-----	--	--	--	------

+77				42.5
-----	--	--	--	------

14				42.7
----	--	--	--	------

+50				43.3
-----	--	--	--	------

15				43.7
----	--	--	--	------

T.P	4.98	948.79	3.37	943.81
-----	------	--------	------	--------

+50				43.7
-----	--	--	--	------

£

£t.

Top Hyd. at Garden & Hamline Ave's.

42.6
47 46 45 42
25 50 100

+

42.6
42.3
41.5
41.8
47 46 49 57 59
9 28 44 60

X

42.5
42.1
42.2
42.1
43.2
47 47 51 50 51 40
7 20 27 39 60

X

42.4
42.2
41.6
43.0
43.5
47 48 50 56 42 37
8 19 22 31 60

X

42.6
42.4
41.8
43.6
44.4
45 46 46 54 36 28
8 19 21 31 60

X

43.2
43.3
42.0
42.6
44.8
45.2
39 40 39 52 46 24 20
9 19 22 26 32 60

X

43.4
43.6
42.4
42.6
45.1
45.7
35 38 36 43 46 21 15
9 19 22 25 31 60

X

43.5
43.7
42.6
42.9
45.0
45.5
46.0
51 53 51 62 59 38 33 28
7 19 21 25 30 60 100

✓

Sta.	+	π	-	Elev.
------	---	-------	---	-------

		948.79.		
--	--	---------	--	--

16				43.9
----	--	--	--	------

+50				44.0
-----	--	--	--	------

17				44.1
----	--	--	--	------

+50				44.3
-----	--	--	--	------

18				44.6
----	--	--	--	------

+50				45.0
-----	--	--	--	------

19				45.6
----	--	--	--	------

+50				46.2
-----	--	--	--	------

T.P.	9.25	955.60.	2.44	946.35.
------	------	---------	------	---------

4

21

43.7	43.3	43.5	42.6	42.8	44.2	45.0	46.3
49.5	55	53	62	60	46	38	25
11	14	20	23	25	28	60	105

44.0	44.1	42.9	43.9	44.3	45.4
48.4	47	59	49	45	34
7	20	22	24	26	60

44.0	43.8	44.1	43.6	43.1	43.5	44.2	46.1
47.4	50	47	5.2	57	58	46	27
10	13	17	20	24	26	60	125

44.0	44.0	43.3	43.7	44.3
45.4	48	5.5	51	45
14	19	24	23	27

44.5	44.5	43.7	44.1	44.2	44.9
42	43	43	5.1	47	46
13	20	22	25	26	60

44.8	45.0	44.7	43.6	43.7	44.0	44.6	44.6
38	40	38	41	52	51	48	42
8	9	19	22	24	26	39	60

45.3	45.3	44.0	44.2	45.1	45.9
32	35	35	48	46	37
8	18	21	25	28	60

46.1	46.1	45.1	45.2	46.8	47.6	48.0	47.9
26	27	27	37	36	2.0	12	0.8
10	19	22	24	30	39	54	60

Sta + π - Elev.

955.60

20

47.0

+50

47.7

+82

48.2

21

48.5

+50

49.4

22

50.1

+50

50.6

+84

51.0

2

pt.

46.7 46.8 47.0 45.5 45.4 48.2 49.0 49.6
86 89 88 86 101 100 74 66 60
8 14 18 21 23 30 35 60

47.6 47.2 47.3 46.2 49.1 49.6 50.4
79 80 84 83 94 65 60 52
10 15 19 24 24 31 48 75

48.0 47.8 47.1 49.6 50.6 50.9
74 76 78 85 60 50 47
9 18 24 26 30 43 75

48.3 47.3 47.5 49.3 49.7 50.2
71 73 83 81 63 59 54
17 21 25 29 45 60

49.1 49.1 48.7 47.8 49.8 50.2
62 65 65 69 78 58 54
8 13 19 24 31 68

49.9 49.4 48.4 48.5 51.4 51.2 50.2
55 57 62 72 71 42 44 54
9 15 21 24 30 47 60

50.2 49.8 48.9 49.2 52.2 52.1 51.2
50 53 58 67 64 34 35 44
8 18 21 24 30 45 54

50.7 50.6 49.9 49.9 54.2 54.1 53.9 53.9
46 49 50 57 57 14 15 17 17
12 18 21 24 31 42 50 60

Sta.	+	π	-	Elev
		955.60.		

23				51.1
----	--	--	--	------

	+50			51.4
--	-----	--	--	------

24				51.4
----	--	--	--	------

	+50			51.4
--	-----	--	--	------

25				51.5
----	--	--	--	------

T.P.	11.00	962.35.	4.25	951.35.
------	-------	---------	------	---------

	+35			51.6
--	-----	--	--	------

	+66			51.9
--	-----	--	--	------

26				52.2
----	--	--	--	------

E

RT.

50.8
45 48 49 60 5.8 1.2 20 2.1
9 18 21 24 32 45 60



50.9 51.0 50.8 49.8 51.4 52.4
42 47 46 48 5.8 4.2 3.2
9 12 18 21 24 28 60



51.0 50.8 50.1 50.1 50.8 51.1 50.9
42 46 48 55 4.8 45 4.7
9 18 22 24 26 38 60



51.2 50.7 50.5 50.0 50.3 50.0 50.3
42 44 49 51 5.6 5.3 5.6 5.2
9 17 20 22 24 25 33 60



51.1 50.8 50.4 50.0 50.3 50.1
41 45 48 52 5.6 5.3 5.5
9 19 31 36 50 60



51.4 51.1 50.7 50.8 50.8
10.8 11.0 11.3 11.7 11.6
9 18 20 33 60



51.7 51.4 51.6 51.4 51.6
105 107 110 114 110 108
9 15 20 26 60



51.8 51.6 50.9 50.6 50.9
102 106 108 115 118 115
12 18 25 30 60



Sta.	+	π	-	Elev.
		962.35		
26	+21			52.6
	+26			52.7
	+44.55			53.0
	+60			53.2
	+70			53.4
B.M.	7.61	962.37	7.61	954.74. (954.76)
27				53.7
	+50			55.0
28				56.9

52.4 51.8 52.0 51.0 50.9
98 100 106 104 114 115
11 22 35 40 60

✓

52.7 52.2 52.1 52.9
97 97 102 103 95
7 22 32 60

✓

53.1 53.2 53.5
94 93 92 89
25 50 100

✓

53.2 52.8 52.8
92 92 96 96
7 25 60

✓

53.1 52.8 52.3 51.7 51.7
90 93 96 101 107 107
11 20 34 40 60

✓

Spt. in P.P. N.W. Cor. Hamline & Rose/Avon Aves

53.4 53.1 52.3 52.6 52.4 52.4
87 90 93 101 98 100
7 16 18 22 42-60

✓

54.7 53.5 53.6 54.7 55.0 54.9
74 77 89 88 77 74 75
11 17 16 20 41 60

✓

56.7 56.7 55.9 56.2 57.6 57.9 58.0
55 57 57 65 62 48 45 44
7 10 14 17 21 41 60

✓

Sto	+	π	-	Elev.
		962.37.		

28	+28			57.7
T.P.	4.74	964.14.	2.97	959.40.

	+60			58.3
--	-----	--	--	------

29				58.9
----	--	--	--	------

	+46			59.4
--	-----	--	--	------

	+54			59.4
--	-----	--	--	------

	+74.54			59.4
--	--------	--	--	------

30				59.2
----	--	--	--	------

	+13			59.2
--	-----	--	--	------

E

Bt.

57.3	56.7	56.8	57.3	59.5	59.6	60.0
47.5	57	56.5	51	2.9	2.8	2.4
10	12	16	22	25	42	75

✓

57.9	57.4	57.5	59.6	59.2
58.6	62	67	66	4.5
10	14	16	27	60

✓

58.4	58.6	58.2	58.6	59.2	59.4
52	57	55	59	35	4.9
10	11	16	17	31	60

✓

58.8	59.1	58.8	58.8	59.3	59.1	58.6
47	53	50	53	48	51	55
10	13	16	20	22	39	60

✓

58.9	58.6	58.1	57.5
47	52	55	60
14	20	38	60

✓

59.0	58.7
47	51
25	50

✓

58.8	58.7	58.1	58.3	57.7
49	53	54	60	58
7	13	18	32	60

✓

58.7	58.4	58.7	62.1	61.7	60.3
49	54	57	54	2.0	2.4
9	14	20	28	51	75

✓

Sta.	+	π	-	Elev.
		964.14.		
30	+43			59.1
	+60			59.0
31	"			58.8
	+37			58.6
	+40			58.6
	+75			58.4
32				58.3
	+15			58.1

4

Rt.

58.7 59.1 62.5 61.5 59.5
50 54 50 16 26 46
18 21 29 50 75

✓

58.7 58.5 59.0 59.6 62.3 62.3 62.1 61.3 59.9
51 54 56 51 45 18 18 20 28 42
9 14 20 24 29 40 48 51 75

✓

58.3 58.1 58.3 62.9 62.8 59.6
53 58 60 58 12 13 46
9 14 21 32 49 75

✓

58.1 58.0 62.8 61.9 58.8
55 60 61 13 22 53
9 18 33 48 75

✓

58.1 58.6 59.9 60.2 59.8
55 60 61 42 39 43
9 17 24 45 60

✓

58.0 57.3 57.4 58.8 59.1 58.7
57 61 68 67 53 50 54
13 15 17 24 34 60

✓

57.9 56.9 57.1 58.7 59.1 58.8
58 62 72 70 54 50 53
12 15 18 23 34 60

✓

57.6 56.9 56.9 58.5 58.7 58.3
60 65 72 72 56 54 58
13 16 17 23 34 60

✓

Sta	+	π	-	Elev.
		964.14.		

32 +55

57.6

+78

57.4

33

57.3

T.P.

3.10

959.62.

7.62

956.52.

+20

57.0

+30

56.9

+60

56.3

34

55.7

+37

55.2

$\frac{1}{2}$ R.H.

57.1	56.7	56.8	58.0	58.4	58.6	✓
65	70	74	73	61	57	55
12	14	16	21	35	60	

57.2	56.5	57.7	58.7	58.7	✓
67	69	76	64	54	54
12	15	17	20	42	60

57.7	58.0	58.1	✓
68	64	61	60
25	50	75	

56.6	56.3	56.6	56.8	✓
26	30	33	30	28
13	26	45	60	

56.5	55.3	56.0	56.8	57.4	✓
27	31	43	36	28	2.2
13	16	18	19	40	60

55.9	54.6	55.3	56.1	56.9	57.4	✓
33	37	50	43	3.5	27	2.2
12	18	20	26	44	60	

55.3	54.2	54.1	55.3	55.9	57.0	✓
39	43	54	55	43	37	2.6
12	15	17	21	37	60	

54.8	54.7	53.1	53.3	54.9	55.7	56.7	✓
44	48	49	65	63	47	39	2.7
10	14	17	19	23	40	60	

Sta + π - Elev.

959.62

34 +63

54.7

+76

54.3

35

53.7

+30

52.8

+64

52.2

+98 24" X 40' CON. X Drain.

• 2.12 958.32

958.30

36

51.7

T.P.

555

956.74

8.43

951.19

B.M.

2.12

954.62

954.59

7 958.30

E

E.

54.1 53.2 54.5 55.3 56.2
 49 55 64 51 43 34
 13 17-18 22 37 60

53.8 52.6 53.2 54.6 54.7
 53 58 70 64 50 4.9
 13 16-19 22 43 60

53.3 53.2 51.9 51.6 52.7 53.1
 59 63 64 77 80 69 65
 10 14 19 25 31 60

52.4 52.6 49.8 49.7 51.0 50.5
 68 72 70 98 9.9 86 9.1
 10 18 26 28 31 60

51.9 52.0 51.5 48.1 47.8 47.2
 7.4 77 76 81 115 118 124
 9 14 19 32 45 60

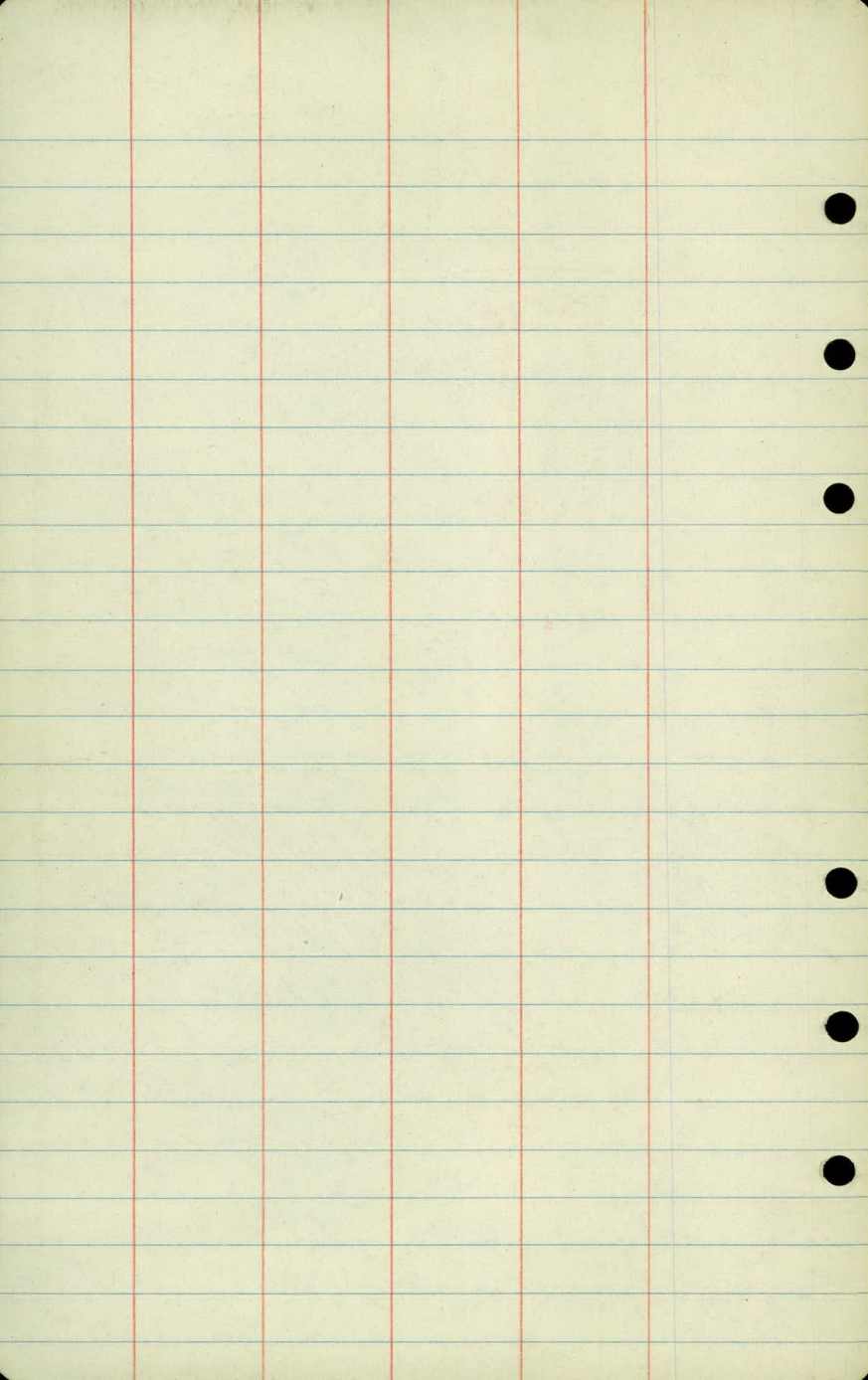
49.5 FL.)
 10.1
 20.5

47.6 FL.)
 12.0
 19.5

51.4 51.5 50.6 48.5 47.4 47.1 46.3
 79 82 81 9.0 11.1 12.2 12.5 13.3
 9 13 22 28 32 43 60

Top of Joint of Flag Pole in Front of Rosa Living School

? per Knot wJB 9/6/46



House Location

N.E. of Homline & Garden Ave's.

3-23-75
K.A.
C.N.
C.F.

10A

Object Azimuth Dist. Rod Elev.

H.I. = 4.57 above Hydol Garden & Hamline

945.51

950.08

H.I. = 950.08

At sta 18+00 on

Hamline Ave. N: 0°00'

S.W. Cor. Garage 82°12' 510'

Cor. Floor

15.10

935.0

30' N.E.S. 24 E & W

S.W. Cor. Ho.

85°33'

576

Ground

13.9

936.2

28' N.E.S. 38' E & W Water table =

11.50

938.6

X Sections

Hamline Ave. Baseline

Sta	+	π	-	Elev.
B.M.	4.57	950.01		(945.44)
B.M.	10.20	948.71	11.50	938.51

15 +25

16 +00

17

18

19

+05

20

21				
T.P.	9.15	947.66	10.20	938.51

3-27-43
K.A.-A.B.
C.F.
C.N.

12

E

Rt.

Top Hyd at Garden & Hamline Ave's.
Water table on So. side of Ho.

46.9 46.5 44.5
1.8 2.2 4.2
200 260 300

✓

47.8 47.1 43.2
0.9 1.6 5.5
200 255 300

✓

46.7 46.1 39.5
2.0 2.6 9.2
200 240 300

✓

45.2 40.7 36.4
3.5 8.0 12.3
200 260 300

✓

46.3 43.0 39.7 35.6 33.3 31.9 32.2 32.9 34.0
24 57 9.0 13.1 15.4 16.8 16.5 15.8 14.7
140 200 250 300 350 400 450 500 506

N.W. Cor
Barn.

32.9
15.8
506

✓

49.1 43.6 37.5
10.4 5.1 11.2
142 200 300

✓

49.6 44.8 39.2
10.9 3.9 9.5
136 200 300

✓

Sta.	+	π	-	Elev.
------	---	-------	---	-------

		947.66		
--	--	--------	--	--

15	+35			
----	-----	--	--	--

16				
----	--	--	--	--

16				
----	--	--	--	--

	+50			
--	-----	--	--	--

17				
----	--	--	--	--

	+50			
--	-----	--	--	--

LF

RF

38.5
9.2
400

39.0
8.7
500

✓

33.9	37.0	39.4	41.2 ±	40.7 ±	40.0				
138	10.7	8.3	65 ±	7.0 ±	7.7				
400	400	500	550	600	700				
			38.9	40.5	40.5				
			0.8	7.2	7.4				
			500	550	600				
			150						
			36.6						
			34.1						
			33.9						
			11.1						
			9.2						
			9.2						
			7.5						
			7.5						
			3.2						
			3.2						
			2.2						
			2.2						
			2.1						
			3.4						
			44.3						
			44.3						
			45.6						
			45.5						
			45.5						
			44.2						
			44.5						
			44.4						
			42.7						
			5.0						
			3.3						
			3.2						
			3.5						
			7.4						
			7.2						
			40.5						
			40.2						
			38.5						
			38.5						
			150						
			36.6						
			34.1						
			33.9						
			11.1						
			9.2						
			9.2						
			7.5						
			7.5						
			3.2						
			3.2						
			2.2						
			2.2						
			2.1						
			3.4						
			44.3						
			44.3						
			45.6						
			45.5						
			45.5						
			44.2						
			44.5						
			44.4						
			42.7						
			5.0						
			3.3						
			3.2						
			3.5						
			7.4						
			7.2						
			40.5						
			40.2						
			38.5						
			38.5						
			150						
			36.6						
			34.1						
			33.9						
			11.1						
			9.2						
			9.2						
			7.5						
			7.5						
			3.2						
			3.2						
			2.2						
			2.2						
			2.1						
			3.4						
			44.3						
			44.3						
			45.6						
			45.5						
			45.5						
			44.2						
			44.5						
			44.4						
			42.7						
			5.0						
			3.3						
			3.2						
			3.5						
			7.4						
			7.2						
			40.5						
			40.2						
			38.5						
			38.5						
			150						
			36.6						
			34.1						
			33.9						
			11.1						
			9.2						
			9.2						
			7.5						
			7.5						
			3.2						
			3.2						
			2.2						
			2.2						
			2.1						
			3.4						
			44.3						
			44.3						
			45.6						
			45.5						
			45.5						
			44.2						
			44.5						
			44.4						
			42.7						
			5.0						
			3.3						
			3.2						
			3.5						
			7.4						
			7.2						
			40.5						
			40.2						
			38.5						
			38.5						
			150						
			36.6						
			34.1						
			33.9						
			11.1						
			9.2						
			9.2						
			7.5						
			7.5						
			3.2						
			3.2						
			2.2						
			2.2						
			2.1						
			3.4						
			44.3						
			44.3						
			45.6						
			45.5						
			45.5						
			44.2						
			44.5						
			44.4						
			42.7						
			5.0						
			3.3						
			3.2						
			3.5						
			7.4						
			7.2						
			40.5						
			40.2						
			38.5						
			38.5						
			150						
			36.6						
			34.1						
			33.9						
			11.1						
			9.2						
			9.2						
			7.5						
			7.5						
			3.2						
			3.2						
			2.2						
			2.2						
			2.1						
			3.4						
			44.3						
			44.3						
			45.6						
			45.5						
			45.5						
		</							

Sta	+	π	-	Elev
		947.66.		
18	+00			
19	+00			
	+06			
	+10			
20				
21				
T.P.	15.30	952.98.	9.98	957.68.
22				
22				

AB 3-27-45
F.H.
C.F.
C.N.

14

W

Rt

32.7 32.8 32.9 34.2 36.6 38.3 42.1 43.8 44.5 45.1 45.1 44.3
140 149 148 135 141 94 56 39 32 26 2.6 3.4
350 400 450 500 600 700 800 850 900 950 1000 1100

35.1 36.4 37.0 38.9 40.6 42.9 44.7 44.9 44.4
12.6 11.8 10.7 8.8 7.1 4.8 3.0 2.8 3.3
550 600 700 800 900 1000 1100 1200 1275

34.2
135
550

35.1
12.6
600

32.1 31.8 31.8 33.5 34.9 36.1 38.1 41.7 42.8 46.0 46.1 44.7
156 159 159 142 128 116 96 60 49 17 16 30
400 450 500 600 700 800 900 1000 1100 1200 1230 1275

33.9 32.9 32.6 33.1 34.6 35.4 35.0 35.3 36.4 40.5 41.6 43.1
138 148 151 146 131 123 127 124 113 72 61 46
400 450 500 550 600 650 700 800 900 970 1000 1100

Drains S.E.

44.4 46.0 46.0 44.9
33 17 1.7 2.8
1350 1300 1270 1200

Spt. in S.E. cor Pasture Fe post

48.9 45.8 42.1 38.6 37.2 38.5 37.8 37.2 37.4
41 72 109 144 158 145 152 158 156
100 200 300 400 500 600 650 700 800

Sta	+	π	-	Elev.
-----	---	-------	---	-------

952.98.

22 +50

23

24

+50

25

TR	6.05	951.60.	7.43	945.55.
----	------	---------	------	---------

22

23

+50

A.B.
K.A.
C.F.
C.P.

3-28-45

15

E

Rt.

47.3
5.7
200

45.9
7.1
250

44.4
8.6
300

✓

51.5
15
130

48.0
50
200

45.4
26
300

42.7
10.3
400

41.6
11.4
500

40.0
13.0
600

37.4
15.6
700

37.4
15.6
800

40.1
12.9
900

✓

53.0
00
150

50.6
24
200

48.1
49
300

46.9
61
400

44.7
83
500

43.7
93
550

41.8
11.2
600

38.9
14.1
700

39.0
14.0
800

40.5
12.5
900

✓

45.9
71
500

45.1
7.9
550

✓

46.1
6.9
500

45.6
7.4
550

43.6
9.4
600

40.4
12.6
700

39.0
14.0
800

38.1
14.9
850

38.9
14.1
900

40.6
12.4
945

42.3
10.7
950

43.7
9.3
1000

46.5
6.5
1050

47.8
5.2
1100

47.6
5.4
1200

✓

36.9
14.7
900

41.7
9.9
1000

44.8
6.8
1100

45.5
6.1
1200

46.4
5.2
1274

46.4
5.0
1300

45.9
5.7
1350

Diving S.E.

✓

42.9
8.7
950

44.9
6.7
1000

46.1
5.5
1050

47.0
4.6
1100

46.3
5.3
1200

46.8
4.8
1300

45.7
5.9
1400

✓

43.6
8.0
950

45.5
6.1
1000

46.8
4.8
1050

47.4
4.2
1100

46.0
5.6
1200

✓

Sta	+	π	-	Elev
-----	---	-------	---	------

		951.60.		
--	--	---------	--	--

24

25

B.M.

420	947.40.	947.46
-----	---------	--------

A.P. 3-28-45
K.A.
C.F.
C.N.

16

E

Rt

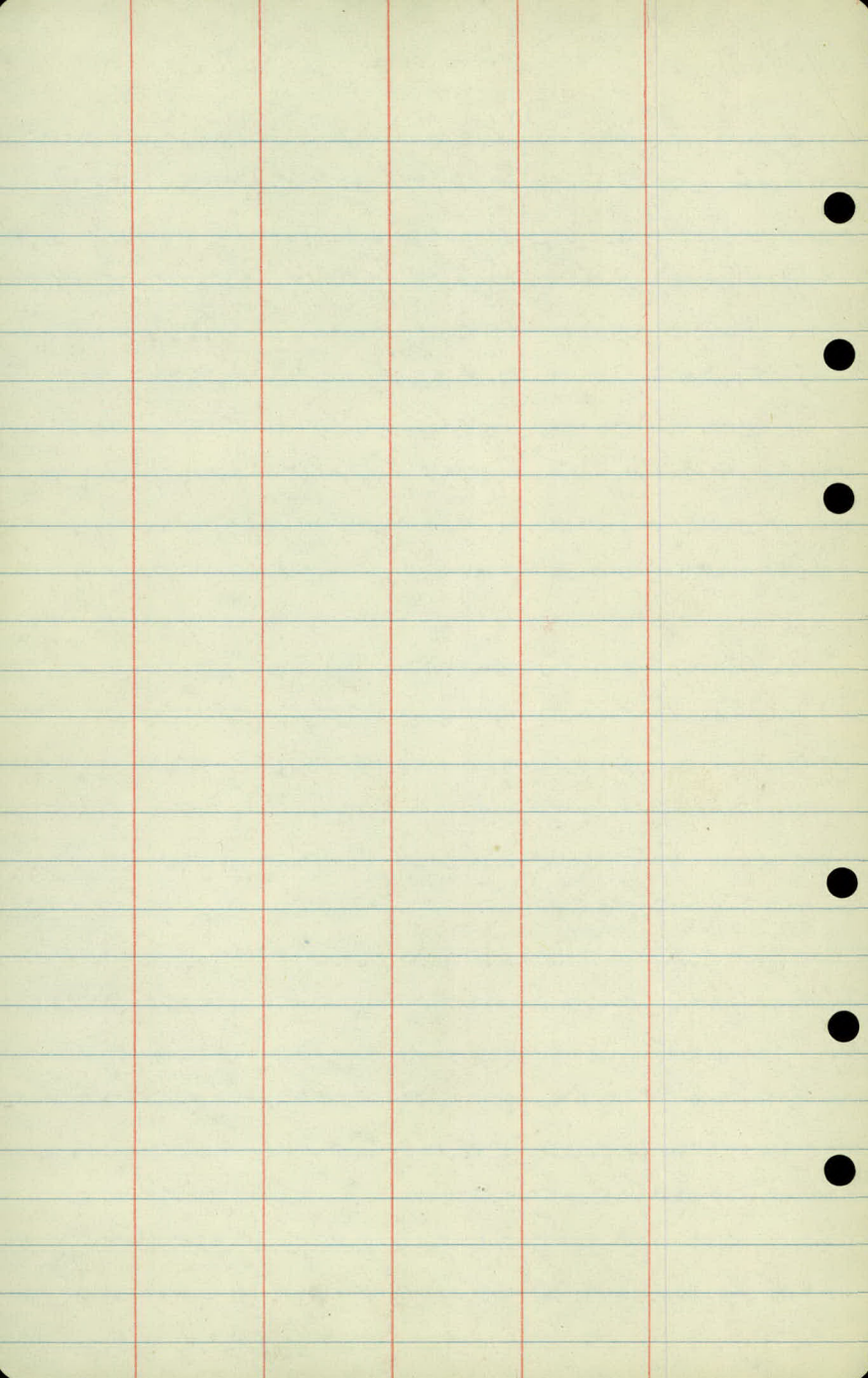
43.1	45.9	47.4	47.6	47.3	47.0	46.5	
85	57	42	40	43	46	51	Drains S.E.
950	1800	1050	1100	1200	1300	1400	

✓

46.5	45.4	
51	62	Drains East.
1300	1400	

✓

Top Boat Spt at Fernwood & Boardwin.



X sections
Roselawn Ave.

0+00 = Hamline Ave.

Sta	+	-	Elev.
B.M.	420	958.96.	(954.76)

1	+24		53.7
---	-----	--	------

	+60		54.0
--	-----	--	------

2			54.3
---	--	--	------

	+30		54.6
--	-----	--	------

3			54.2
---	--	--	------

	+10		
--	-----	--	--

	+25		53.7
--	-----	--	------

4			52.0
---	--	--	------

2.B.
K.R.
C.F.
C.N.

3-28-45

18

1A.

2

1B.

Spt 19 P.P.A.W. Cor. Hamline & Rose Hwy Ave's

53.9
51 56 72 55
65 30 25 15

53.3.
51.9.
51.8.
53.1.
54.6.
52.7.
53 57 71 72 59 44 63
14 19 25 30 67 150

53.4.
51.6.
55.5.
55.7.
53.4.
49.8.
50 56 74 35 33 56 92
14 19-23 30 66 103 150

58.2.
57.9.
55.7.
52.1.
52.1.
53.9.
08 11 33 69 69 51 47
134 114 37 26 18 14

56.4.
57.9.
55.9.
26 11 31
150 65 33

54.4.
46
24

54.0.
51.1.
50.6.
52.0.
49.1.
48.0.
44 50 79 84 70 99 110
12 18-25 29 100 150

54.6.
55.0.
56.4.
57.0.
56.3.
53.2.
53.8.
44 40 26 20 27 58 52 48
170 150 113 69 30 22 14

53.5.
51.1.
53.9.
52.7.
49.3.
49.1.
55 79 51 63 97 99
14 30-27 32 65 125 150

52.8.
54.1.
56.2.
62 49 28
170 121 72

53.1.
51.2.
58.7.
53.5.
51.6.
49.8.
53 59 78 51 55 74 92
13 18-25 30 65 87 129

49.7.
50.9.
51.4.
51.1.
50.8.
51.6.
73 81 76 79 82 74 70
166 150 100 28 19 13

51.2.
50.4.
49.3.
47.6.
46.9.
78 86 97 114 121
17 33 65 100 150

Sta.	+	π	-	Elev.
		958.96		

4	+75			
---	-----	--	--	--

5				49.2
T.P.	382	951.24	11.54	947.42

	+50			47.4
--	-----	--	--	------

	+53			
--	-----	--	--	--

6				45.6
---	--	--	--	------

7				42.9
---	--	--	--	------

	+50			
--	-----	--	--	--

8				41.9
---	--	--	--	------

lt. & rt.

48.8
102
17
46.6
124
47

✓

✓
49.0
100
150
49.5
95
28
48.8
102
16

50.4
86
17
46.4
126
40
45.6
134
80

✓

✓
48.3
29
167
49.0
22
140
49.4
18
60
48.8
24
34
47.0
42
16
47.4
38
46.5
47
45.8
54
50

✓

✓
48.3
29
167
48.3
29
140
48.2
30
60
47.6
56
36
46.5
47
18
47.2
40
16

✓

✓
48.1
31
152
48.4
28
70
46.9
43
40
45.2
60
18
44.6
56
18
45.5
57
20
44.0
72
85

✓

✓
46.6
46
150
439
73
87
42.0
92
18
42.5
87
16
41.9
83
18
40.4
93
25
40.0
108
80
112

✓

40.9
103
18
38.9
123
22
39.1
121
80

✓

42.8
84
150
41.2
100
107
40.0
112
20
41.1
101
16

93

40.7
105
18
39.1
121
22
38.8
124
80

Sta.	+	π	-	Elev.
		951.24.		
8	+20	18" C.M. X Drain		41.8
	+50			42.0
9				
	+25			42.7
	+32			
T.P.	880	951.17.	887	942.37.
	+74			44.0
	+94	15" X 20" C.M.		
10				44.6

Lt

Z

Rt

✓ 40.5 39.8 FL 39.0 41.4 41.0 38.6 FL 39.2 ✓
 10.7 11.4 12.2 98 94 10.2 12.6 12.0
 60 23 19 17 17 21 31

✓ 45.0 43.7 40.5 39.9 40.9 ✓
 6.2 7.5 10.7 11.9 10.3 9.2
 150 124 60 22 17

✓ 47.2 45.3 42.4 ✓
 40 59 86
 150 111 72

41.2 39.6 39.3 39.0 ✓
 100 116 119 12.2
 18 23 30 70

✓ 46.1 45.5 42.8 40.9 40.9 41.8 ✓
 5.1 5.7 8.4 10.3 10.3 9.4 PS
 150 103 51 46 19 16

✓ 45.5 45.5 44.7 43.9 40.8 41.9 ✓
 5.7 5.7 6.5 7.9 10.4 9.3
 150 103 50 29 21 20 16

✓ 45.3 44.6 43.5 41.1 FL 43.5 43.3 41.7 41.7 42.5 42.3 ✓
 5.9 6.6 7.7 10.1 7.7 7.2 7.9 9.5 9.5 8.7 8.9
 70 29 23 21 19 17 22 30 32 80

✓ FL 41.1
 10.1
 21

✓ 43.4 44.4 43.8 41.3 44.2 ✓
 7.8 6.8 7.4 9.9 7.0 6.6
 150 79 24 22 21 18

Sta	+	π	-	Elev
		951.17		

10	+47			45.6
----	-----	--	--	------

+50 & 18" Ditch

+54

+67

+72

46.0

11

46.6

12

47.8

+63

+83

47.5

13

47.5

Lt.

E

Rt.

12" CM
 2.8 43.4
 22 ✓
 44.9
 9.8 79 6.8 9.4 45.0
 150 77 26 23.5-22 18 15 16-19 21 90

✓
 41.5
 9.7 9.4 9.3 45.0
 150 77 26 22

✓
 42.4
 88 81 5.8
 150 108 18

12" CM
 42.5 + 6.7
 42.0 22.0
 87 9.2 9.1 8.0 6.6 6.8 5.7 5.2
 234 150 128 61 25 20 16

✓
 42.3
 8.9 8.9 8.1 5.8 6.2 5.1 46.5 3.6 5
 225 150 95 27 21 16 13 16-18 22 98

✓
 44.3
 6.9 6.0 4.8 4.2 5.1 3.6 3.4 4.1 1.3 3 4.3 3.8
 200 150 100 25 20 14 13 16-18 20 70

✓
 44.5
 6.7 5.9 4.7 5.2
 190 150 100 27

✓
 47.1
 45.9
 46.9
 47.4
 48.3
 48.1
 + 6.3 = 2.9 3.1
 46.8 46.0 46.0 46.2
 3.7 4.4 5.2 5.2 5.0
 15 21 70 140

✓
 46.2
 5.0 4.4 4.5 3.7 4.5 4.7 4.7
 150 100 50 50 100 150

Sta + π - Elev

951.17.

13 +22

47.5

14

47.4

+70

46.9

15 +70

44.9

B.M

373

947.44.

(947.46).

AB.
K.P.
C.F.
C.N.

3-28-43

22

Lt

E

Rt

46.6 47.4 47.2 46.9
46 38 40 43 37
150 100 50 18

46.9 45.9 45.3 45.5
43 53 59 57
15 18 85 150

480. 471. 470. 471. 46.5 460.
32 41 42 38 41 47 52
150 66 24 14 17 70

46.5 46.3 46.3 46.0 46.5 46.6 45.9 46.6 44.9
47 49 49 52 47 43 46 53 46 63
150 82 32 24 15 12 16 20 108

Drains E.

43.5

42.2

42.7

44.4

44.4

43.9

44.6

45.0

Drains 77 9.0

8.5 6.8

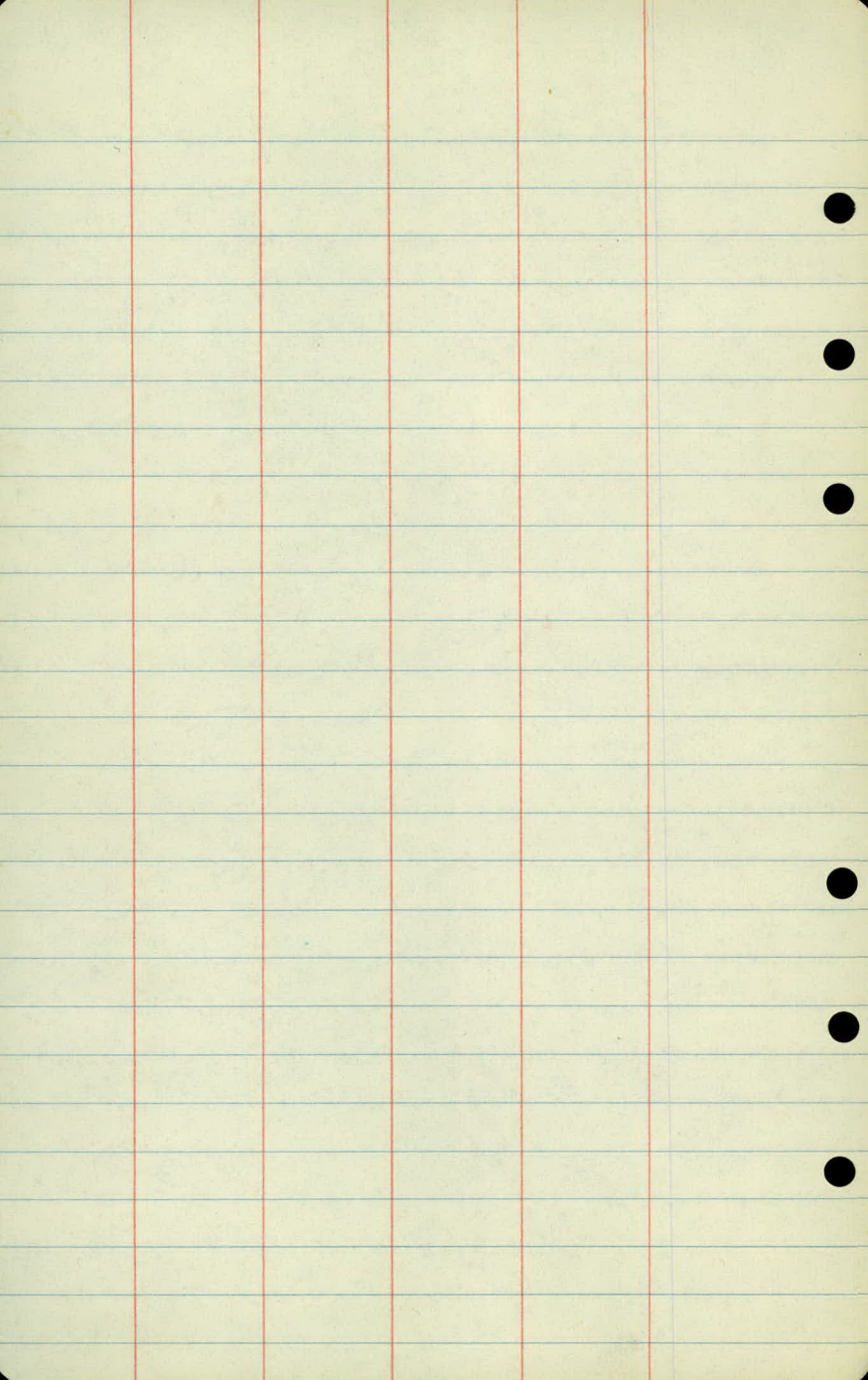
6.3 6.6 7.3 6.6 6.2

Drains East

East 150 100 20 15

11 16 20 68

Beat spk at Fernwood & Rose lawn Aves,



X Sections

Droper Ave.

0+00 = E Hamline Ave.

Sta	+	π	-	E/ev
B.M.	8.05	962.81.		(954.76).

T.P.			3.42	959.39.
------	--	--	------	---------

1	+00 .			57.8 ✓
---	-------	--	--	--------

	+58 .			
--	-------	--	--	--

2				54.8 ✓
---	--	--	--	--------

	+40 .			
--	-------	--	--	--

	+49 .			
--	-------	--	--	--

T.P.	0.71	953.34.	10.18	952.63.
------	------	---------	-------	---------

3				51.5 ✓
---	--	--	--	--------

	+54 .			
--	-------	--	--	--

4				49.7 ✓
---	--	--	--	--------

	+54 .			
--	-------	--	--	--

AB 3-29-45
K.A.
C.F.
C.N.

24

Lt. E Rt.

Spt in P.P. NW. Cor. Hamline & Roselawn's.

Spt & Draper & Hamline Ave's
 58.4 57.6 57.2 58.5 58.8 56.2 57.3 57.7 57.3 58.1 59.0 59.3
 44 5.2 5.6 4.3 4.0 6.6 5.5 5.0 5.5 6.1 5.5 4.1 3.8 3.5
 227 225 150 89 34 18 14 14 18 26 32 128 164

52.9 53.3 53.9 53.0 53.3 54.4
 9.9 9.5 8.9 9.8 9.5 8.4 80
 150 90 25 20 16 13
 150 29 38 164
 54.0 53.6 52.3 57.7 56.6 57.7
 8.8 9.2 5.5 5.1 6.2 5.1
 15 21 36 82 162 164

56.6 57.9 56.1
 6.2 4.9 6.7
 34 80 150

52.9 51.5 52.6 55.1 54.8 54.8
 9.9 11.3 10.2 7.7 8.0 8.0
 12 18 22 26 80 150 164

50.6 51.7 52.5 49.9 51.1 51.1 50.1 50.5 52.1 53.5 51.9
 2.7 1.6 0.8 3.4 2.2 1.8 2.2 3.2 2.8 1.2 4.0 2 1.4
 140 97 32 22 17 13 14 17 24 35 100 138

50.4 53.1 52.4
 2.9 0.2 0.9
 150 83 35
 51.7 51.4 51.5
 1.6 1.9 1.8
 35 85 138

49.6 51.6 51.8 49.0 48.4 49.4 49.3 48.3 49.3 52.3 51.0 49.8
 3.7 1.7 1.5 4.8 4.9 3.9 3.6 4.0 5.0 4.0 1.0 2.3 3.5
 150 75 35 24 17 10 14 17 27 38 80 134

48.9 49.6 50.6
 4.4 3.7 2.7
 150 95 35
 50.4 49.4 48.3
 2.9 3.9 5.0
 37 72 120

Sta + π - Elev

953.34.

5 . 48.7 ✓

+50 .

+62 .

6 . 48.5 ✓

+70 .

7 . 48.7 ✓

+19 Bcg Washout

+31 .

+33 . & Washout

+35 .

L.H.

C

R.H.

X 49.6
3.7 3.2 4.2 5.3 5.8 5.0 4.6 5.0 5.7 5.8 4.3 5.6 5.6 X
150 67 94 23 15 12 13 15 22 34 80 143

X 48.9 FL. 47.6 46.4 48.2
44 57 69 51
31 21 18 12
48.2 46.3 FL. 15" CM 47.1
5.1 20 40 51 6.2
12 18 21 33 89

X 50.4
2.9 1.8
150 85

X 49.8 51.1 49.0 47.8 47.1 48.2
3.5 2.2 4.3 5.5 6.2 5.1
150 103 90 24 17 13
48.2 47.2 47.8 47.0 46.9 47.4
4.8 5.1 6.1 5.5 6.3 6.4 5.9
14 18 22 30 66 100 150

X 48.7 49.0 48.3
4.6 4.3 5.0
150 79 32
47.1 46.6 46.5 46.6 47.3
6.2 6.7 6.8 6.7 6.0
28 36 89 150 165

X 48.6 50.4 49.0 47.5 48.6
4.7 2.9 4.3 5.8 4.7
150 85 30 17 13

48.2 47.2 46.6 46.9 47.3
4.6 5.1 6.1 6.7 6.4 6.0
14 18 52 95 161

46.4 46.4 46.4 45.8
6.9 6.9 7.5
131 160 160

47.5 47.1 46.4
5.8 6.2 6.9
16 17 160

Sta + π - Elev

953.34 .

7 +50 Ent. H. & 1/4 no culverts 48.3 ✓

+60

T.P. 3.22 952.18 . 4.38 948.96 .

8 47.9 ✓

+40 .

+50 .

+75 .

9 45.2 ✓

+33 .

+50 .

10 24" Corog X drain 43.6 ✓

+45 .

+51 . 43.3 ✓

LT. E ET

48.7	50.0	50.5	49.1	48.3		48.2	47.1	47.3	45.7	44.9	45.7
46	39	28	42	50	50	51	62	60	76	84	76
138	96	48	19	12		21	55	131	163	165	166

Wash
out

47.3
60
16
46.9
64
17

Nail in PP. rt. sh. 6+

49.7	49.2	48.8	48.8	46.8	46.5	47.7	47.5	46.3	47.1	46.8	47.5	44.9	
25	30	34	34	54	57	45	43	47	59	51	54	47	73
150	118	82	30	23	18	13	14	18	24	59	96	150	

47.4
+40 = 48
84

46.4
46.1
+50 = 5.8
93 123

175	81												
45.5	44.0	43.6	44.2	42.7		44.8							
67	82	86	80	95		74	70						
150	118	77	43	20		14							

45.0													
42.0													
72													
12													

43.3
+50 = 89
88

42.4
+33 = 102
41.8 42.7 44.2
+50 = 104 95 80 70
86 118 210 220

44.6	43.5	43.2	44.2	41.2 FL	40.8	43.4							
76	87	90	80	110	114	88							
150	107	75	32	24	18	13							

43.1	41.4	42.5											
86	91	115	104	97									
15	19	30	95										

42.5
42.4
77 98
10.3 108
118 150

43.0
41.9
41.5
N.W. Cor. Gar.
43.3 43.4
89 92 103 107 84 88 97
14 17 24 31 80 118
43.8

Sta	+	π	-	Elev.
		952.18.		

T.P.	11.05	953.60.	9.63	942.55.
------	-------	---------	------	---------

11				43.5 ✓
----	--	--	--	--------

+58.

+

12				44.5 ✓
----	--	--	--	--------

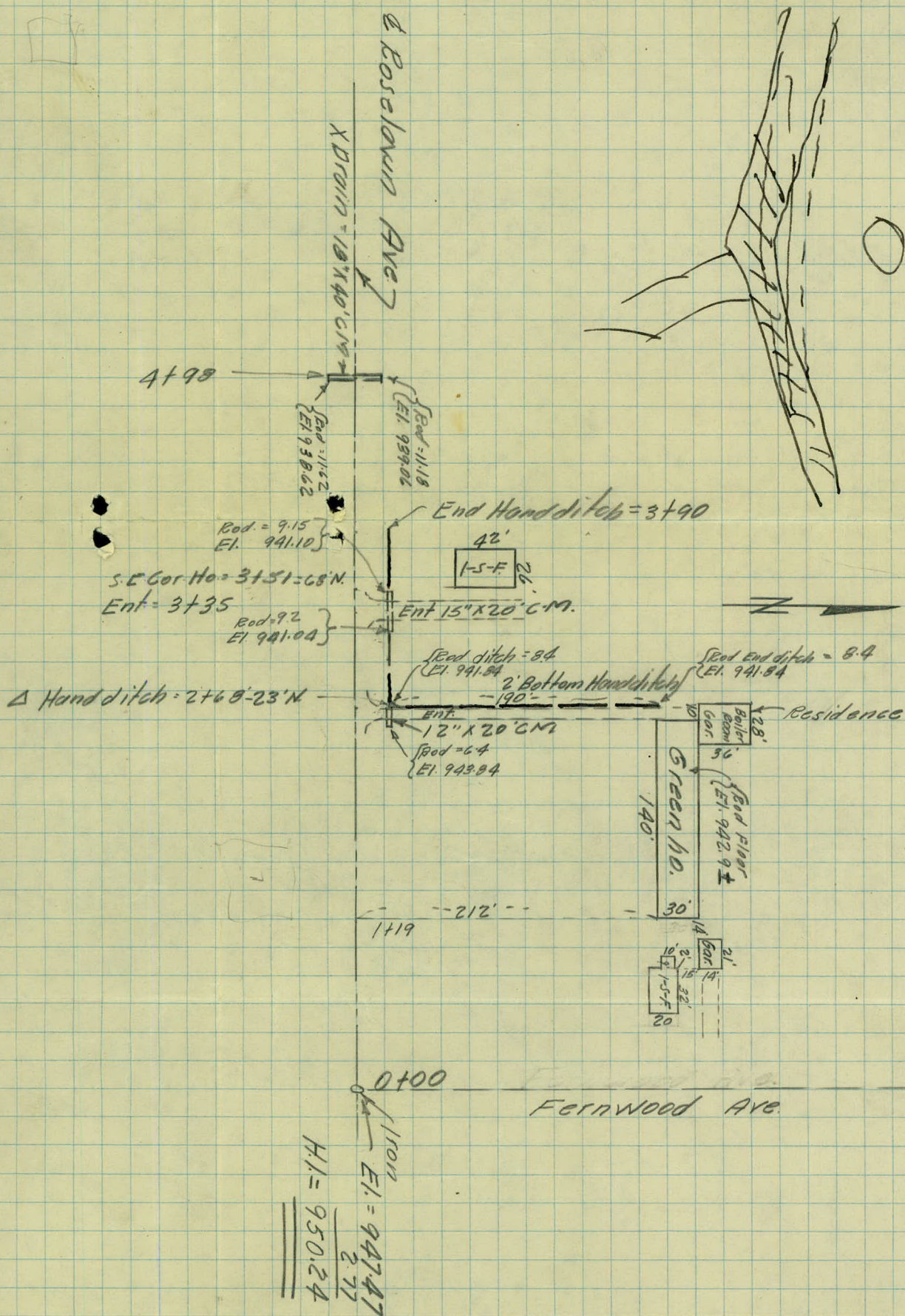
+30.

+80.

+90.

46.0 ✓

3-23-45			
E.A.			
C.F.			
C.N.			



5

490
2
5
49

5
5

5900
40
5
10

14

E

14

448
7.4

X

43.4

8.8

Garage Floor

Green Ho.
Door sill
W. End. of
Bldg.

✓ 44.9
8.7 91 91 12.0 101 10.1
150 70 92 23 19 14

43.3 41.6 43.2 43.1
10.3 120 104 10.5
14 1923 29 69

at Green
Ho

✓ 46.2
7.4 8.5 10.3
150 100 31

✓ 50.3 45.9 42.5 41.8 41.8 44.3
33 7.7 11 11.8 9.3
150 93 29 27-22 14

44.2 42.4 42.9 43.5
91 94 112 107 10.1
14 19 52 69

NE Cor
Green Ho

✓ 52.9 46.1 42.6 44.9
0.7 7.5 11.0 8.7
150 96 20 14

44.6 42.8 42.7 44.8 45.0
9.0 108 109 88 8.6
13 20 52 58 86

Gar Floor
at po

45.4 43.9 43.5 43.2 44.7
8.2 9.7 101 104 8.9
15 20 27 53 58

(12'6" M. X Drive - Fernwood

✓ 50.1 47.2 45.4 45.9 44.4 44.4 45.7
3.5 6.4 8.2 7.7 9.2 7.9 7.6
150 106 54 27 22-18 14

45.3 43.6 43.9 44.0 44.5 44.3
9.8 10.0 9.7 9.6 9.1 9.3
16 27 61 79 103 135

Ent

Sta	+	π	-	Elev.
		953.60.		
12	+95.			46.2 ✓
13	+04.			46.4 ✓
	+16.			46.2 ✓
	+18.			
	+84.			49.5 ✓
14	+28.			
14	+91.			50.1 ✓
15	+90.			48.6 ✓
BM.		6.14	947.46.	(947.46).
T.P.		1.16	952.44.	

A.B.
K.A.
C.F.
C.N.

3-29-45

28

Lt.

2

Et.

X 50.5 48.4 46.9 46.5
31 52 67 71
150 100 50 21

1A 8.4 8.3 8.4
50 100 150

X

X 50.6 48.6 47.1
30 50 65
150 100 50

12 7.9 8.0 7.7
50 100 150

X

X 49.9 48.2 46.9
37 54 67
150 100 50

Fernwood
FL. 12" CM. X Drain
1A 8.0 9.1 8.0 7.8 8.2 8.2
22 27 30 50 100 150

45.8
7.8 X
27

X 54.4 53.6 49.6 49.2 50.2 50.8 50.6 47.7 47.5
10.8 00 40 44 34 28 30 4.1 5.9 6.1
195 175 122 107 102 87 46 50 113

X
49.0 48.6
25 50
110

X 50.3 3.3
150

51.9 51.9 14 + 28 =
1.7 1.7 3.5
92 56

X
48.6 47.4
50 6.2
50 114

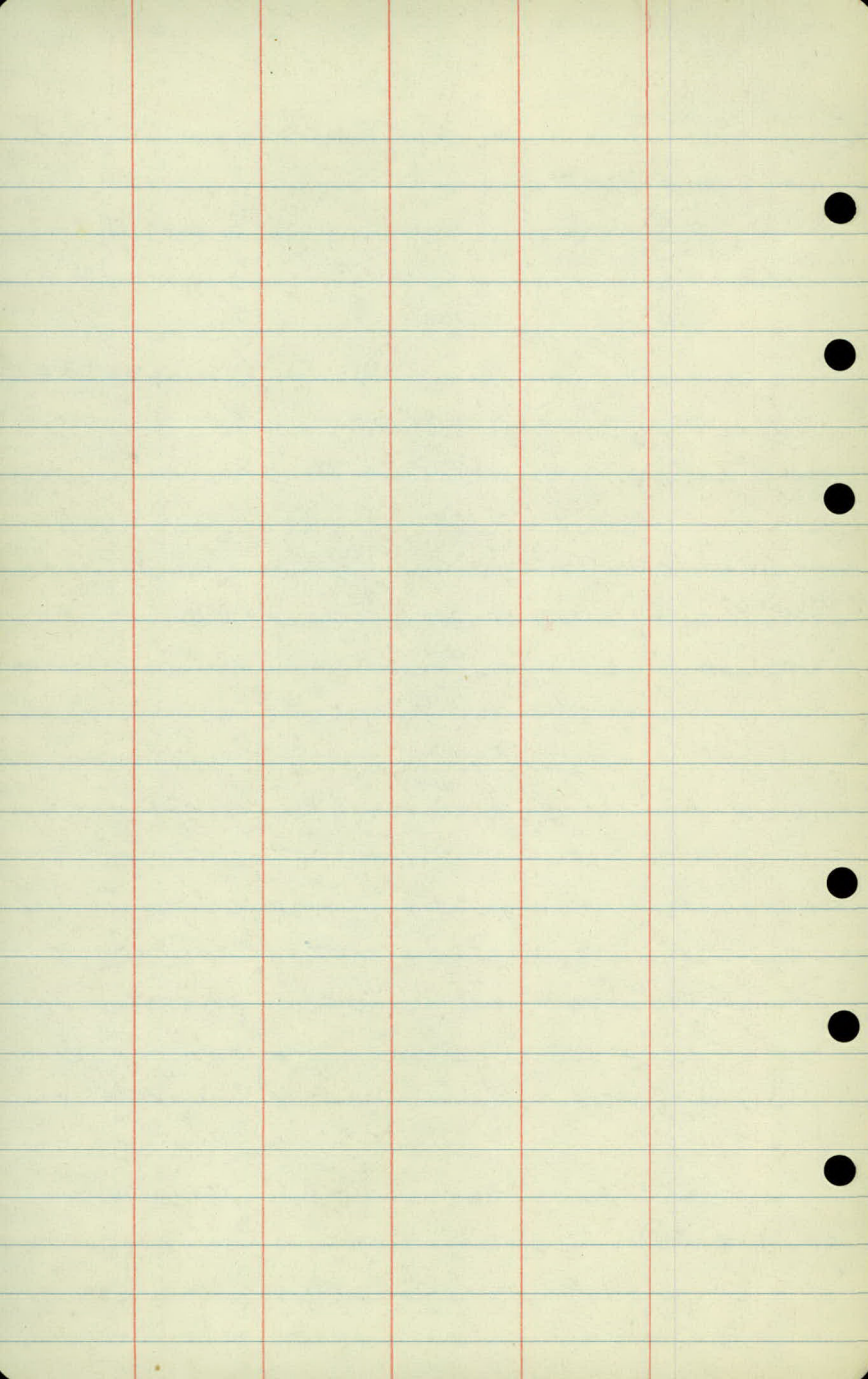
X 50.2 49.8 51.5 49.8 48.6 47.2 42.9
34 38 21 38 50 6.4 10.7
150 133 100 45 55 130

Top Boat Spk. at Fernwood & Rosedown Aves.

Nail in P.P. on Fernwood between Ryan & Diaper

V 16+90 4.2 49.4
130

Drains S.E.



X sections

Ryan Ave.

0+00 = Hamline Ave.

Sta.	+	-	Elev.
T.P.	3.00	962.39.	(959.39)

0 +80

58.1

1 +25

1 +50

+52

+79

56.7

+77

2

T.P.	1.92	958.67.	5.64	956.75.
------	------	---------	------	---------

2

55.9

+26

A.B.
K.A.
C.F.
C.N.

3-29-45

29

Lt.

2

Rt.

Spt. at 2 Draper & Hamline Ave's

4	52.9	55.1	57.0	57.2	57.6	57.9	57.5	56.8	57.8	58.0	58.8	58.7	
95	67	54	52	48	45	49	56	46	43	44	36	37	✓
200	166	163	150	97	44	28	15	11		21	21	100	
4				57.1	57.1	57.4							
+25-				53	53	50							
				160	80	32							

57.1	57.9	57.8
53	45	46
21	21	50

57.1	57.0
53	54
23	50

4	52.1	54.6	56.3	56.3	55.7	55.4	56.3	56.6	56.8	57.0	57.8	Top Cor. Wall
103	7.8	6.1	6.1	6.7	7.0	6.1	57	58	56	54	46	✓
190	150	106	68	24	16	12	12	21	53	103		

56.6	55.7	55.4	55.8	Ground at Cor. Wall
5.8	6.7	7.0	6.6	✓
12	24	53	103	

S.E. Cor. Step - 1381

55.6	54.4
28	31
13	25
55.2	7.2
105	

4	47.2	48.3	50.6	53.0	55.7	56.0	55.1
115	104	8.1	57	30	27	36	
250	230	165	162	116	67	22	

Sta + π - Elev.

958.67.

2 +36

+70

↘
53.8

3 +12

↘
52.2

+26

+80

↘
50.1

4 +37

↘
49.8

5 +01

↘
49.7

+06

T.P. 6.92 956.22. 9.37 949.30.

AP.
C.F.
CN.

3-21-43

LT

Q

CT

4 77 63 50 46 53 40
162 116 67 20 18 16 13

4 53.3
54
70

53.6 53.2 53.3 53.4 52.9 52.0 51.0
49.5 55 57 53 58 67 77
7 11 21 56 96 100 162

51.8 51.7 52.9 50.1
65 69 70 58 86
14 48 100 105

4 47.6 51.7 51.2 50.0 50.2 49.6 51.2
111 70 75 87 85 91 75
250 190 150 100 33 17 12

51.5 50.0 49.5 50.1
72 87 92 86
13 18 60 105

4 47.4 49.7 47.8 47.6 48.4 48.4 49.6
113 90 109 111 103 103 91
250 200 140 115 71 16 13

49.8 48.1 48.1 49.2 49.4
86 89 106 106 95 93
12 17 53 94 160

4 47.4 49.9 50.5 47.9 46.7 46.9 48.2 48.1 49.6
113 88 92 108 120 118 105 106 91 89
300 250 217 165 120 86 44 16 11

49.3 47.8 47.8 48.7 48.9
94 109 109 100 98
12 17 50 114 160

4 47.2 49.1 48.9 48.4 47.3 47.0 47.4 47.2 49.4
115 96 98 103 114 117 113 107 93
300 250 200 157 125 72 18 15 12

49.5 48.1 48.1 49.0 50.2 49.5
90 92 106 106 97 85 92
11 15 22 60 104 145

49.3 50.8 50.2
94 79 85
19 61 104

Sta	+	π	-	Elev
		956.22.		

5 +64

49.9

+68

6

50.2

+24

+30

+49

B.M.

1.90

954.32.

+55

7

51.6

T.P

9.72

961.45.

4.49

951.73.

+70

3-31-45
S.A.
S.A.
S.A.

31

Lt.

E

Rt.

4
6.0 50.2
250 189 185

63 49.7
65 47.9
83 47.9
66 49.6
59 50.3
70 49.2
65 49.7
61 50.1
11 17.8 21 59 99 120 160

478
84 7.9 48.9
17 60 100 120 49.7

38 29 31 56 67 7.7 7.8 7.8 6.4 6.0
270 292 205 183 146 100 52 14 11

50.0
6.2 48.2
11 15 48 94 128 160

52.0
42 16 19 33 4.8
300 265 227 193 182

50.2
48.4
48.2
48.5
49.4
+30: 60 7.8 80 7.7 6.8
12 16 47 95 161

Draws 53.1
Wash 31 26 1.6 3.8 5.9 6.6 6.6 6.8 5.4
350 300 262 187 141 94 46 16 11
Nail in P.P. 17.8 Lt. 51.0 6.7 7.5

52.4
38 3.9 4.5 5.2
187 141 94 19

53.1
9.1 22 2.1 3.5 4.1 5.5 5.5 4.8 4.6
168 164 138 32 19 16-19 11

51.4
4.8 5.7 5.4 6.5 7.7 7.5
19 16 33 80 119 170

52.2
9.8 4.6 5.2 9.1 120 123
12 37 64 107 160 195

Sta. + π - Elev

951.41

961.45

7 +90

8

53.1

+50

53.3

53.7

T.P.

863

960.36

972

951.13

+50 12" C.M. X Drain

53.8

10

54.3

+35

+70

LT.

E

RT.

X
55.3
6.2 58 55 64 65
135 104 83 40 23

X
55.3 58.1 60.6 60.5 56.7 55.0 53.1
6.2 34 09 1.0 48 65 84 84
135 126 104 83 40 23 12

4
55.1 59.2 59.8 58.5 56.1 53.3
64 23 17 30 54 82 82 87 90 7.2 74 97 121 135
150 103 75 47 23 11 11 14 35 63 96 137 166

X
53.1 54.2 54.0 53.2 53.6
84 73 75 83 79
160 107 56 15 12
Top 5-End C.M. X Drain

X
53.3 52.7 52.2 52.0 52.7 53.6
71 77 82 84 77 68 66 72 97 105 131 158 160
160 107 54 18 16 13 10 15 17 51 105 160

4
54.7 54.1 53.3
57 63 71
162 88 38

53.2 54.3
72 61 61
17 14

45.2
152 140 144 162
117 147 168 206

45.3
151
162

X

Sta.	+	π	-	Elev.
------	---	-------	---	-------

960.36.

11

55.4

+55

12

55.1

+35

54.8

+65

+91 15" CMX Drain

+94 Gutter Rt

13

Gutter Lt

54.4

A.D.
K.A.
C.F.
C.N.

4-2-45

33

Lt.

Q

Pt.

61.1	62.9	60.4	56.7	55.9	55.4	54.9	53.2	51.4	48.7	46.9	45.1
+07	+25	00	37	45	50	50.5	52	9.0	11.7	13.5	15.3
155	123	90	54	23	12	9	12	28	60	95	158

65.1	65.7	61.1	56.8	55.6		55.0	54.5	53.8	49.3	49.9	48.7	46.9
+4.7	+5.3	+07	3.6	4.8		5.4	5.9	6.6	11.1	10.5	11.7	13.5
156	130	44	14	11		10	12	22	71	93	128	155

67.1	65.7	60.4	57.4	56.2	55.1	54.6	53.1	51.6	50.9	51.4	52.2
+6.7	+5.3	00	30	42	53	53.5	7.3	8.8	9.5	9.0	8.2
183	140	88	56	19	11	10	14	32	63	100	154

64.7	62.9	56.8				54.3	52.1	51.9	52.4	54.4	54.9
+4.3	+2.5	3.6				5.6	6.1	8.3	8.5	8.0	6.0
170	135	85				11	16	47	79	117	161

54.0	53.8	52.6	53.5	54.6	53.0
64	76	78	69	58	74
12	15	41	75	134	163

60.0	56.4	54.2	53.4	54.6	
0.4	4.0	6.2	7.0	5.8	
163	105	20	14	13	

53.7	53.0	52.9	52.6	51.4
6.7	7.4	7.5	7.8	9.0
21	25	50	100	150

56.1	55.2	54.4	54.2	54.3	
4.3	5.2	6.0	6.2	6.1	
162	123	83	46	19	

53.7	53.1	51.7
6.7	7.3	8.7
50	100	150

Sta	+	π	-	Elev
		960.36.		
13	+07	E Rd. Rt.		54.3
+18		E gutter Rd. E Rd. Lt.		53.9
+29				53.4
+35				52.1
+62				51.6
+85				
14	+35			51.4
+60				51.5

Lt.

Q

Rt.

53.8
61 66 72 87
50 100 150

✓ 52.6 55.3 54.6
38 49 58 65
150 100 52

53.0 52.9 51.0
74 75 94
50 100 150

✓ 56.3 55.3 54.6
41 51 58 70
150 100 52

✓ 54.2 53.2 52.3
62 72 81 83 78 78 74
150 100 52 3 33 54

✓ 55.6 55.3 53.4
48 51 70
154 112 63

88 51.7 54.0 54.2
87 64 62 62 72
30 50 87 132 150

✓ 56.4 56.8 56.6
40 36 38 77
164 122 95 45

54.1 52.6 52.3
63 78 81
160 100 40

51.1 51.1 53.5 54.0 54.1
90 93 93 69 64 63
18 36 51 97 136

✓ 57.8 57.0 52.7
2.6 34 77 89
140 84 35

51.0 50.6 50.8 50.8
94 9.8 9.6 9.6
22 40 71 135

Sta	+	π	-	Elev.
		960.36.		
15				↓ 51.6
+60				↓ 51.3
16				↓ 51.2
B.M.	718	959.62.	7.91	952.45. (952.44).
+60				↓ 50.8
17				↓ 51.5
+50				↓ 52.3
18				↓ 53.1
+55				↓ 52.3

L

E

R

59.8
 X 06 12 57
 154 113 52

51.0
 88 94 96 98 99
 17 44 78 130

55.0
 X 54 66 86 91 91 95 88 60 92
 170 157 92 33 27 59 100 152

54.8
 X 56 88 100 110 97
 188 135 100 70 40

51.1
 92 93 86 57 60 91
 29 58 104 123 153

Nailin P.P. on Fernwood between

51.5
 X 8.1 8.5 9.5 48.8 49.8 51.1 51.7 52.8 51.4 50.0
 174 146 119 64 34 35 58 94 129 157

51.2
 X 8.3 8.1 9.1 9.1
 171 110 68 47

50.6
 81 90 88 91 100
 31 63 103 154

52.6
 X 7.0 62 6.6 6.5 7.3 8.5 8.9 9.5 9.1
 180 117 68 18 33 59 100 149

53.0
 X 6.6 4.4 5.4
 175 129 74

53.0
 66 91 107 112
 23 69 109 144

53.2
 X 64 4.8 7.3
 129 60

Drops
 48.4
 48.4

Sta. + A - Elev.

959.62.

19+25

↓
50.4

B.M. 6.67 960.99. 959.32.

7

+65

8 +40

9 +28

+65

10

T.P. 6.60 967.32. 0.27 960.72.

Lt.

E

Et

X 50.9
8.7 9.2 8.7
183 140 88

50.0 48.4 46.0 ✓
9.2 9.6 11.2 13.6 Drains South
35 75 135

Lt.

E

Nail in PP. 178 Lt. sta. 6775
51.1 53.8
Drains west 9.9 7.2 5.9 5.6 8.2 7.8 X
4 400 368 339 300 228 200

51.9 53.1 54.4 54.4 55.2 55.2
9.1 7.0 6.6 6.6 5.8 5.8
400 347 300 237 185 126

X Drains NW 54.8 57.4 57.6 56.3 55.1 53.8 54.0
6.2 3.6 3.4 4.7 5.9 7.2 7.0
500 445 395 339 300 220 172

X 53.6 54.7 56.8 53.8 52.0 52.1 51.6 52.2 52.2
7.4 6.3 4.2 7.2 8.0 8.9 9.4 8.8 8.8
500 476 427 365 329 329 300 248 188

Drains North X 54.4 56.9 54.4 53.8 52.9 52.9 53.0
6.6 4.1 6.6 7.2 8.1 8.1 8.0
500 427 376 335 300 248 200

Drains North X 56.0 56.9 59.0 59.5 56.5 55.0 55.5
5.0 4.1 2.0 1.5 4.5 6.0 5.5
500 467 436 396 342 333 300

Sta.	+	π	-	Elev.
------	---	-------	---	-------

96732.

10 +48

+78

11

+50

12

+35

+91

13 +03 Ditch Line

LH

E

X 56.1
 11.2 59 46 58 77 83 82
 500 429 374 342 300 263 219

X 63.2
 91 90
 396 369

4 56.6
 10.7 8.2 4.7 5.6 7.0 6.8 7.4
 500 449 394 341 300 242 199

4 56.6
 10.7 10.1 6.4 7.5 7.5 7.1 4.4
 500 455 397 335 300 258 174

4 57.6
 9.7 9.7 7.5 6.5 7.4 6.0 2.7
 475 446 382 339 300 255 218

4 60.4
 6.9 7.5 7.1 5.8 7.5 6.7 2.4
 484 431 394 339 300 256 220

4 60.0
 7.3 4.1 4.5 6.9 8.8 9.3 8.9 8.1
 500 430 400 350 322 300 250 200

4 58.3
 9.0 7.9 7.6 7.8 8.6 9.4 9.4 9.6 10.7
 North, 550 500 450 400 350 318 300 250 200

Sta	+	π	-	Elev.
		967.32		

13 +08 Shoulder

+32 Shoulder

+36 Ditch Line

+41

+56

14 +20

15

+60

LH

L

✓	61.0	61.4	61.2	60.6	59.3	58.1	57.2
	63	59	61	67	80	92	101
	500	450	400	350	300	250	200

+	60.0	61.1	61.2	61.1	60.5	59.2	58.2	57.3
	73	62	61	62	68	81	91	100
	550	500	450	400	350	300	250	200

Drains	57.8	59.4	60.1	59.7	58.2		
North	95	79	72	76	91		
	550	500	450	400	350		

+	55.2	55.0	54.8	55.1
	121	123	125	122
	325	300	250	200

+	58.2	60.3	63.5	65.4	64.7	58.4	57.3	55.2
	91	70	38	19	26	89	100	121
	550	500	462	434	409	352	331	326

Drains	60.7	63.9	64.3	59.3	56.9	55.3	55.6	56.6	55.8
N.W.	6.6	34	30	8.0	10.4	12.0	11.7	10.7	11.5
	500	453	425	367	331	329	300	258	200

+	61.8	65.1	62.7	59.1	55.8	55.0	55.3	55.9	57.8	59.1
Drains	5.5	2.2	4.6	8.2	11.5	12.3	12.0	11.4	9.5	8.2
West	520	472	435	400	331	328	300	265	214	170

✓	65.2	65.6	63.4	59.0	58.7	56.6	55.5	55.5	55.9	55.9
	21	17	39	8.3	8.6	10.7	11.8	11.8	11.4	11.4
	600	570	490	411	381	335	329	300	250	218

Drains East

sta	+	π	-	Elev
		967.32		

16 +25

17

+65

18 +25

B.M.

14.87 952.45. (952.44).

H.O.
K.A.
C.F.
C.N.

4-2-45

39

LT

2

Drains North
+ 67.8 67.0
405 233 09 86 115 108 94 104 137
700 657 600 500 432 382 331 300 234
Drain East

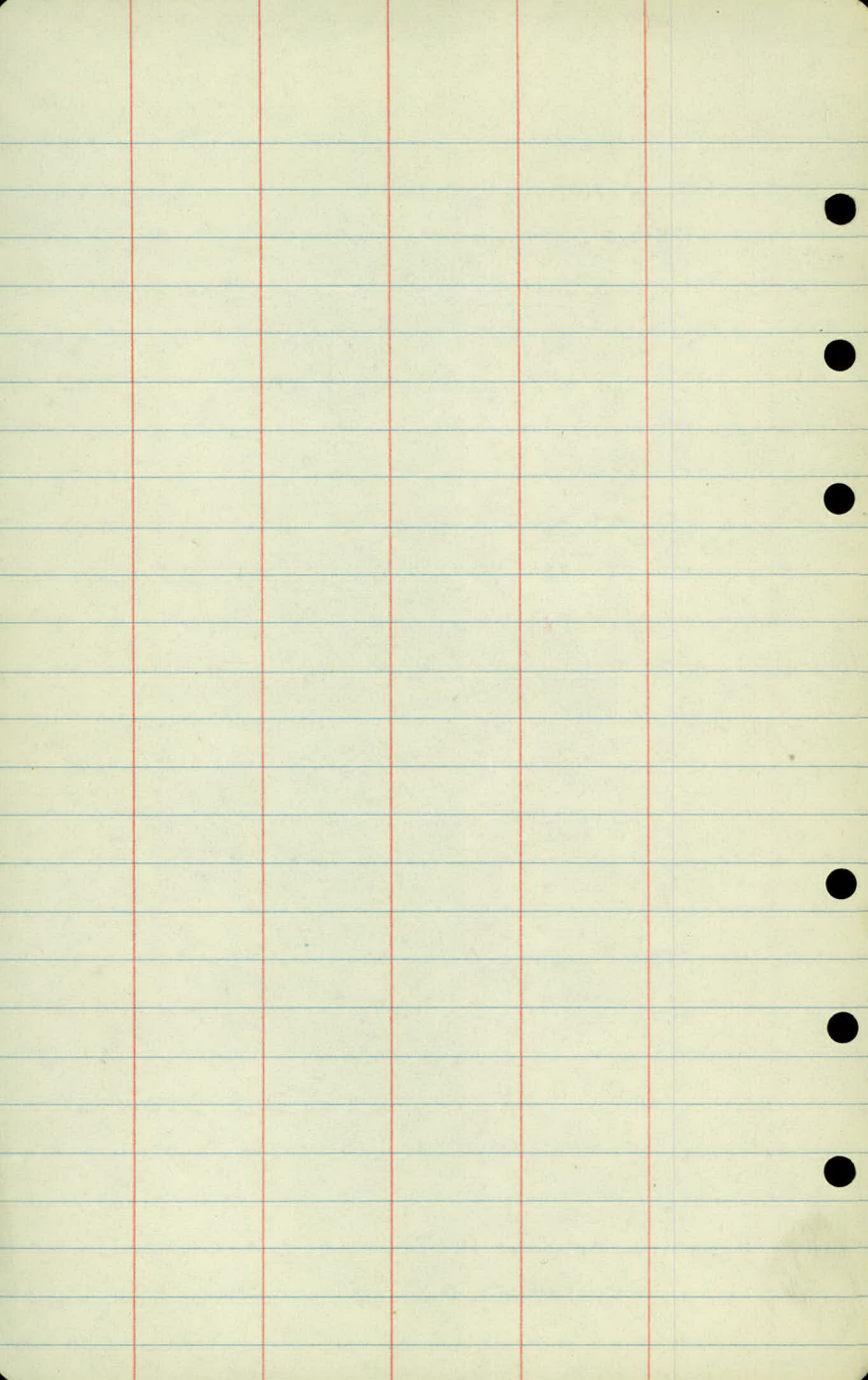
Drains S.E.
+ 62.9 55.9 54.1 51.9 55.5 55.9 55.3 54.3 51.9
44 114 132 154 118 114 120 130 154
550 500 476 413 353 333 330 300 200

+ 53.3 51.5 51.5 54.7 54.1 55.0 55.3
140 158 158 126 132 123 120
500 441 384 332 330 300 238

4 51.7 51.9 51.9 51.5 51.3 51.6
156 154 154 158 160 157
416 369 332 300 264 215

Drains Southeastern

Nail in P.P. on Ferwood between Ryan & Draper



X sections

Garden Ave.

Sta	+	π	-	Elev.
B.M.	0.58	946.02.		945.44

1 +00

2 +00

3 +20

+30

4

32.8 ✓

T.P.

3.31

935.54.

1379

932.23.

+63

18" X 42' Conc X Drain

30.9 ✓

5 +10

30.6 ✓

6

30.2

41.1	38.7	35.2	33.0	31.1	29.9	29.9	30.3
+5.6	+3.2	0.3	2.5	4.4	5.6	5.6	5.2
260	160	100	70	33	24	18	16

Sta	+	π	-	Elev.
		935.54		

7	280			30.7
---	-----	--	--	------

8	330 9150	10-380		
---	----------	--------	--	--

9				
---	--	--	--	--

10				
----	--	--	--	--

11				
----	--	--	--	--

12				
----	--	--	--	--

T.P.	13.66	945.89	3.31	932.23
------	-------	--------	------	--------

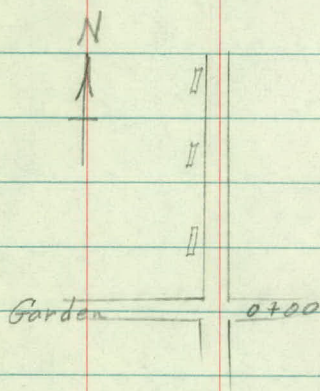
B.M.			0.45	945.44, 945.44
------	--	--	------	----------------

Sta + π - E/er

Hamline at

Garden

Drainage Survey



CKJ = KP
23 MAR 1960

Sta	+	π	-	Elev
		100.00		

0+00

+ 23

1 + 15

+ 35

+ 98

2 + 18

Ditch

March 23, 1960

2

94.20

5.80

92.05

7.25
FL

94.2

5.8

92.94

7.06
FL

94.94

5.06

93.38

6.62

95.2

4.8

93.37

6.63

95.6

4.4

93.35

6.65

95.5

4.5

5.81
1.25

5.37
1.25

5.38

5+a

2+77

+83

+97

Pitch 4 March 23, 1960 3

93.78

95.7

4.97
1.25

6.22

4.3

94.1

94.1

94.1

5.9

5.9

5.9

75

50

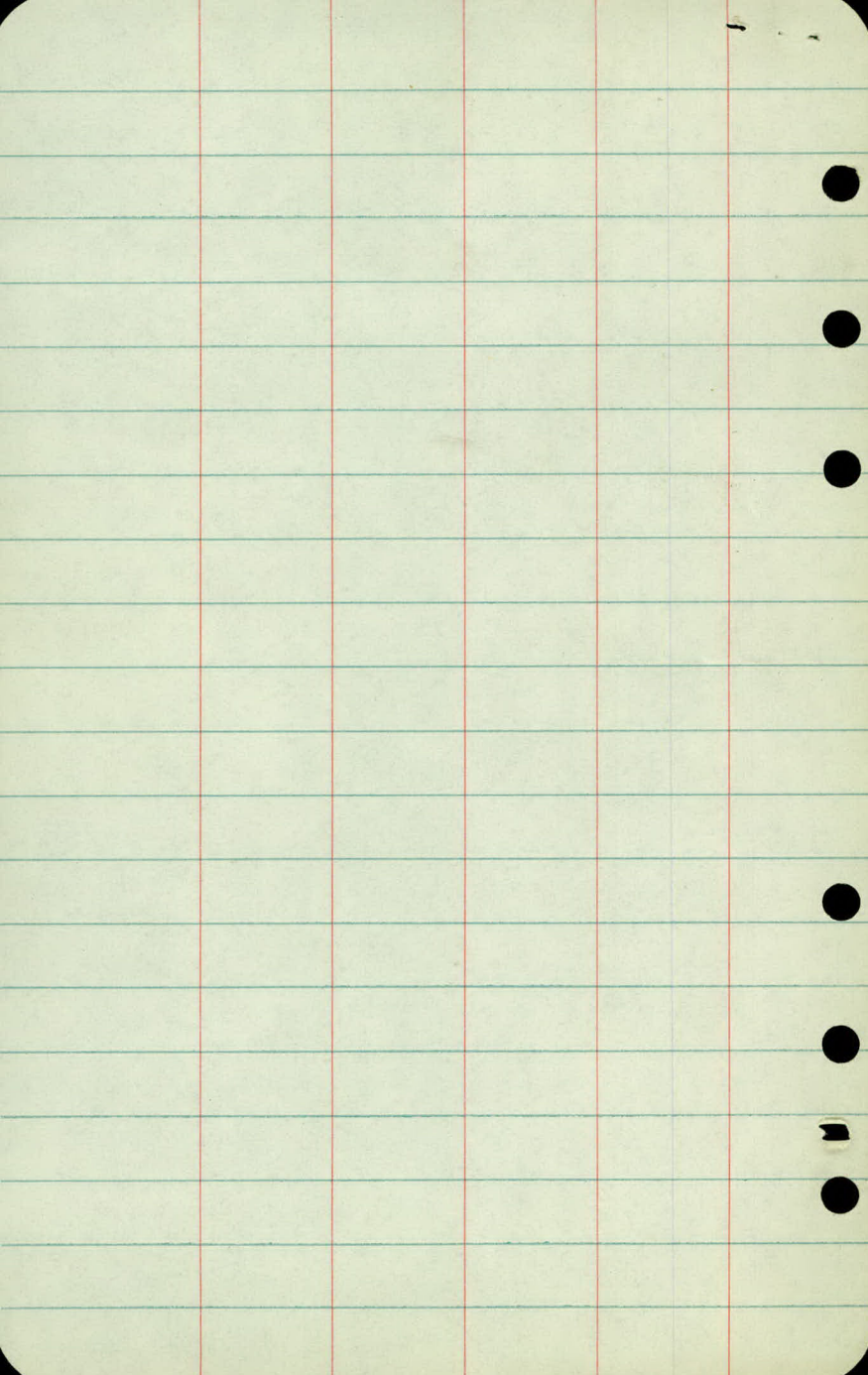
35

93.75

95.8

6.25

4.2



Hamline Ave
Drainage

Sta 156 + 77

~~Drawn up in pencil
ADC folded same and
put in his brief case
8/29/55
W.G.B~~

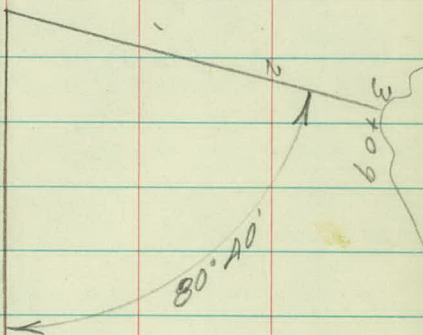
156+77 P.I.

FR
AM
LC
JC

Aug 29, 1955

2

0010



Sta + π - Elev

911.63

156 Ham. X-Drain [?] 24" x 74' SCP

157 Ham.

906.10

0+00 = $\pm$ Hamline Ave

0+19 Shoulder

+ 32

+ 40

+ 80

2 Aug 29, 1955

3

4.72 906.91

5.53 906.10

5.35 906.78

6.0 905.63

14.5 897.10

15.6 896.60

17.2 894.4

STA + K - ELEV

+1+45

+55

1+92

2

+40

2+63

^{long}
BEGIN 5' spillway 3' Lt

2+78

SPILLWAY

3+09

END SPILLWAY 15' Left

WATER at 3+09

3+10

Aug 29, 1955 4

£

17.9 93.7

12" Catalpa
15

10" apple
9

18.4 93.2

14" Catalpa
6

8" Pine
10

2" Pine
10

19.6 92.0

5" Pine
10

21.0 90.6
7' 11"
9

8" Apple
13'

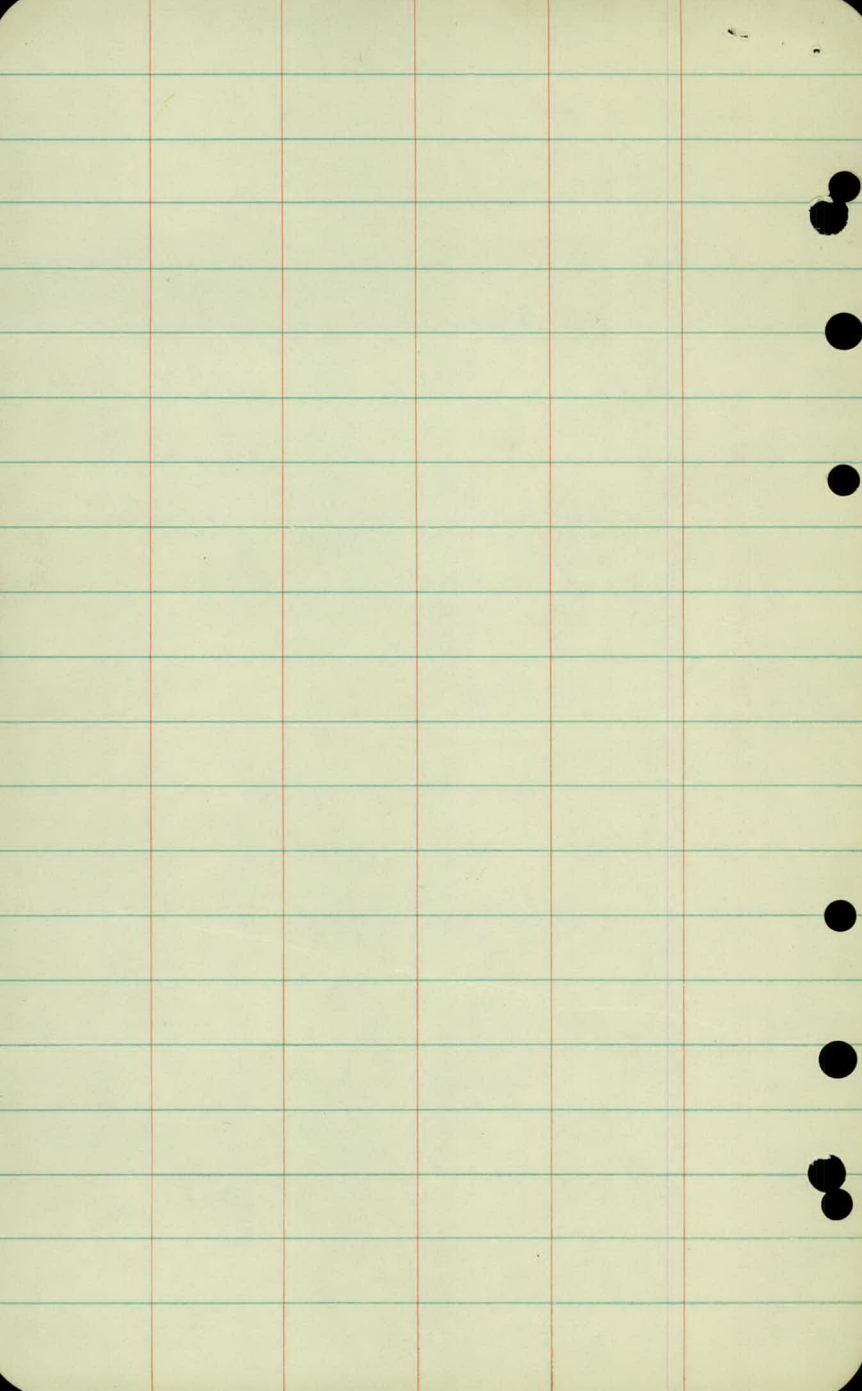
27.8 83.8
15' 11"

883.5³

28.1
15' 11"

6" Birch
£

Aug 29 (883.40)



1
Hamline Ave

Sewer

&

X-Drain

Drainage Survey

between

Josephine Rd. & T.H. 51

10 pages

Rec. 9/9/55

Hamline Ave Tie

Sta

156+79.62

156+64.1 P.I. of sewer 89.84' Rt

156+01.7 W End X-Drain

155+99.6 Right 36.54

155+55.29 P.I.

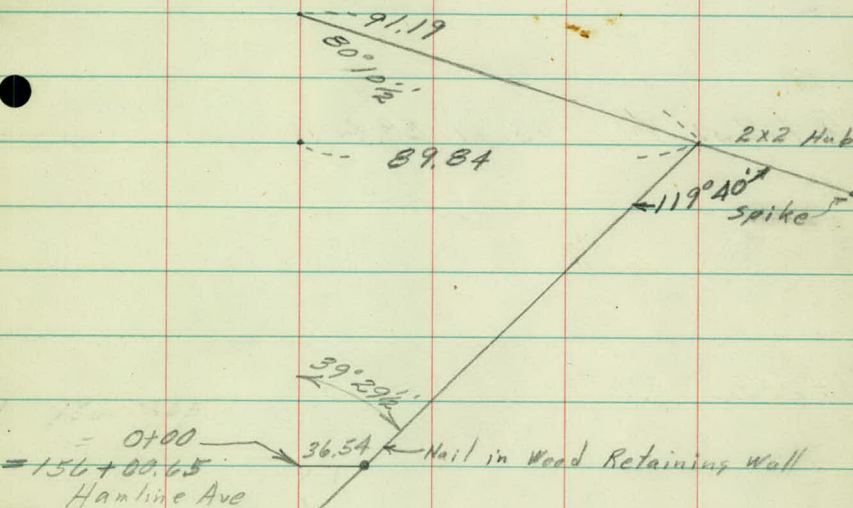
155+99.6 E End X-Drain

13
65

£

Sept. 7, 1955

2



Sewer Alignment

Sta Point ΔL ΔR

3+33.05 P.O.T.

2+90.54 $18^{\circ}50'$
2+92.60 P.I. $18^{\circ}51'$

1+16.54 $59^{\circ}17'$
1+20.22 P.I. $60^{\circ}20'$

0+36.54 P.I. $50^{\circ}30' \pm$

0+00 $\angle$ Hamline

83.68

FK
AM
LC
MMc

Sept. 8, 1955

3

112.54
17A.00
190.54

Spike

Spike

2x2 Hub

Spike

Hamline

Ave.

Nail

New Alignment

Sta Point ΔL ΔR

3+33.00 P.O.T.

2+90.5 P.I. $17^{\circ}54'$

1+17.00 P.I. $58^{\circ}42\frac{3}{4}'$

0+36 P.I. $51^{\circ}30\frac{3}{4}'$

0+00 E Hamline

→ Sta 156+00.65

Sept 27, 1955

3a

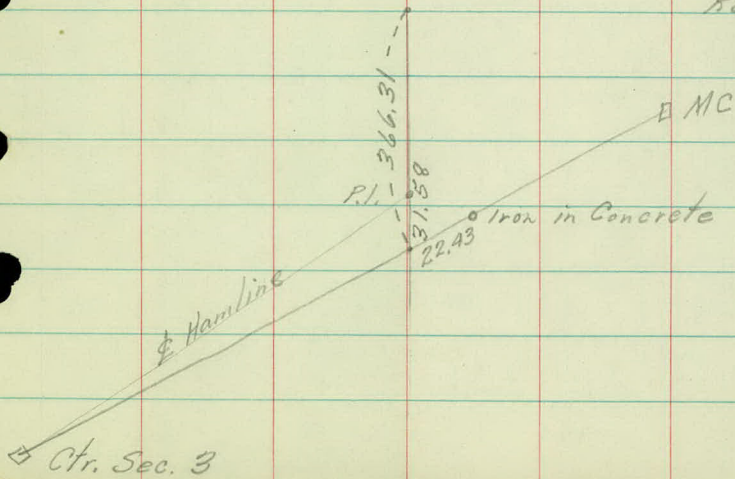
spike

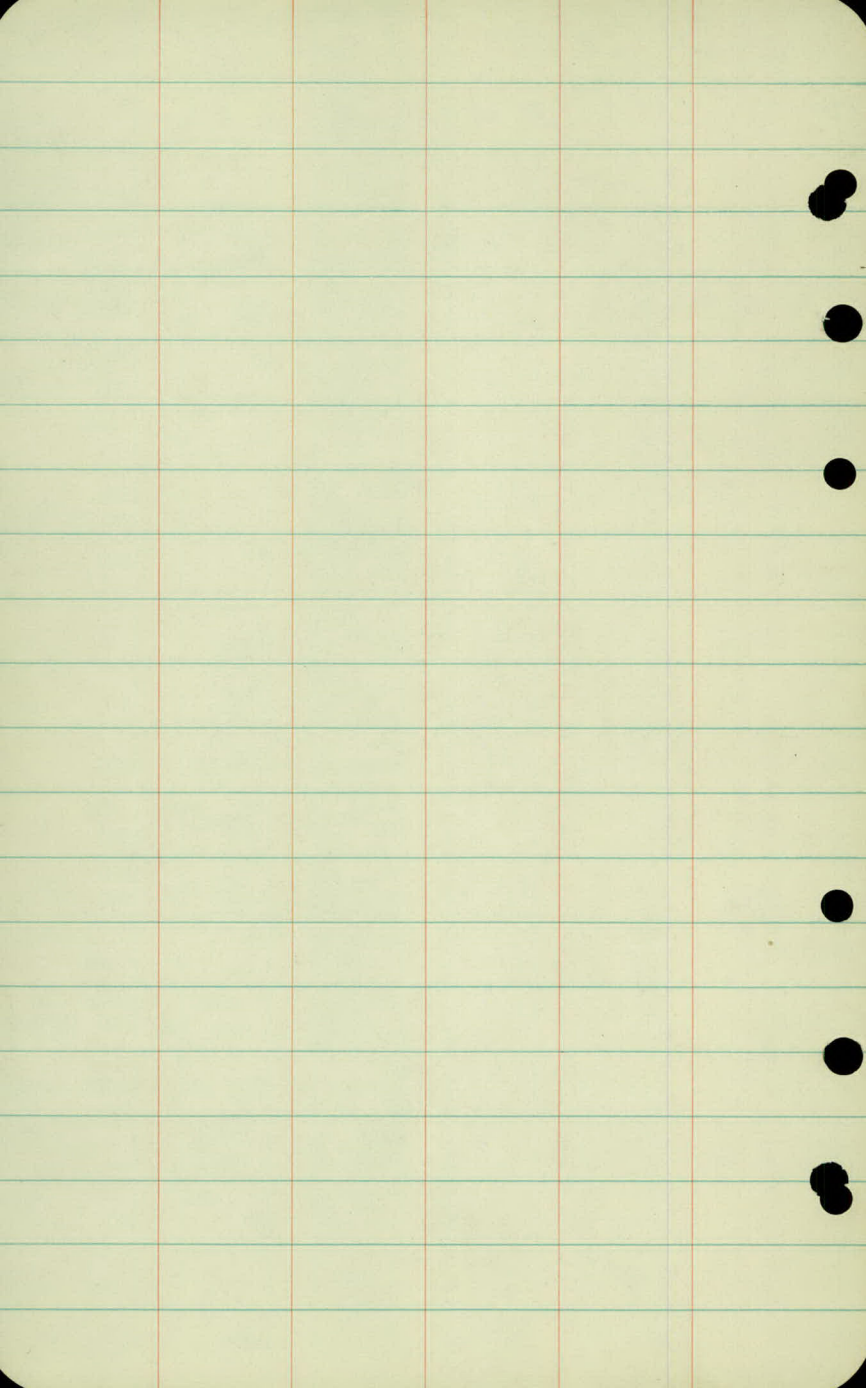
spike

spike

Reel Mark

Red





Topography

2

+41. Water

End 7' Apron

+41 2

+38 Twin 15" Wills.
14

+11 Stamp
10.5

+17 12" Linden
14.5

+28 8" Birch
13

+107 20" O
20.5

3
+78 6" P
17

+88 4" P
10.5

+94 7' Apron
2

+92 8" A
13

+69 8" P
8.5

+65 6" P
23

+65 2" P
9.5

+61 4" P
17

+54 8" P
25.5

+31 15" Cat.
8

+43 8" A
25

+20 8" P
21

+37 9" A
15.5

+102 15" Cat.
17.5

2

+17 8" P
11

+109 10" W
15

+99 8" P
13

+93 8" P
23

+85 10" A
11.5

+54 6" A
27

+87 12" Cat.
13.5

1

+75 2" Lilac
31

+77 3" Elm
13.5

+93 8" A
17

+77 8" A
8

+64 6" A
6

+61 End W.R.W.
14.5

+43.9 W.R.W.
2

+66 8" A
24

+38 2" Row Lilac
2

+48 20" Map.
10.5

(W.R.W.)
Wood Retaining Wall

+34 H.S. Bush
6

+34 X-Fe
2

+34.5 End 24"
Cats

+34

3

0

-20 Side Street
20' 50'

N. End 15" x 60" CW

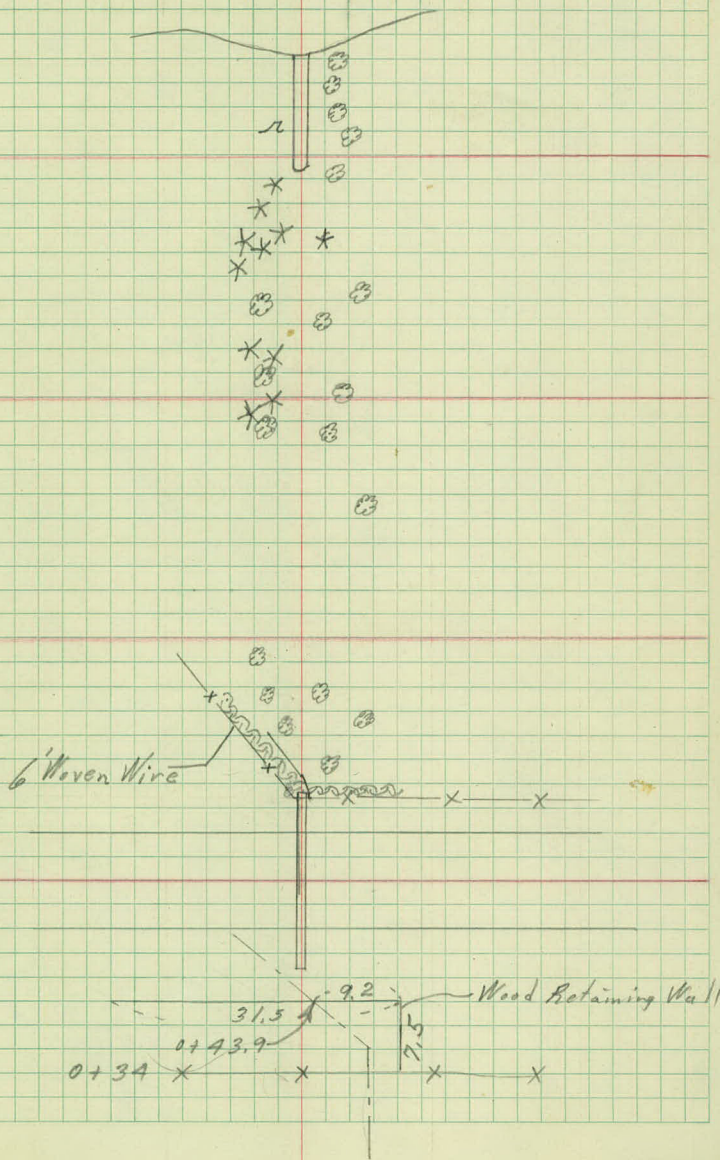
-32.2

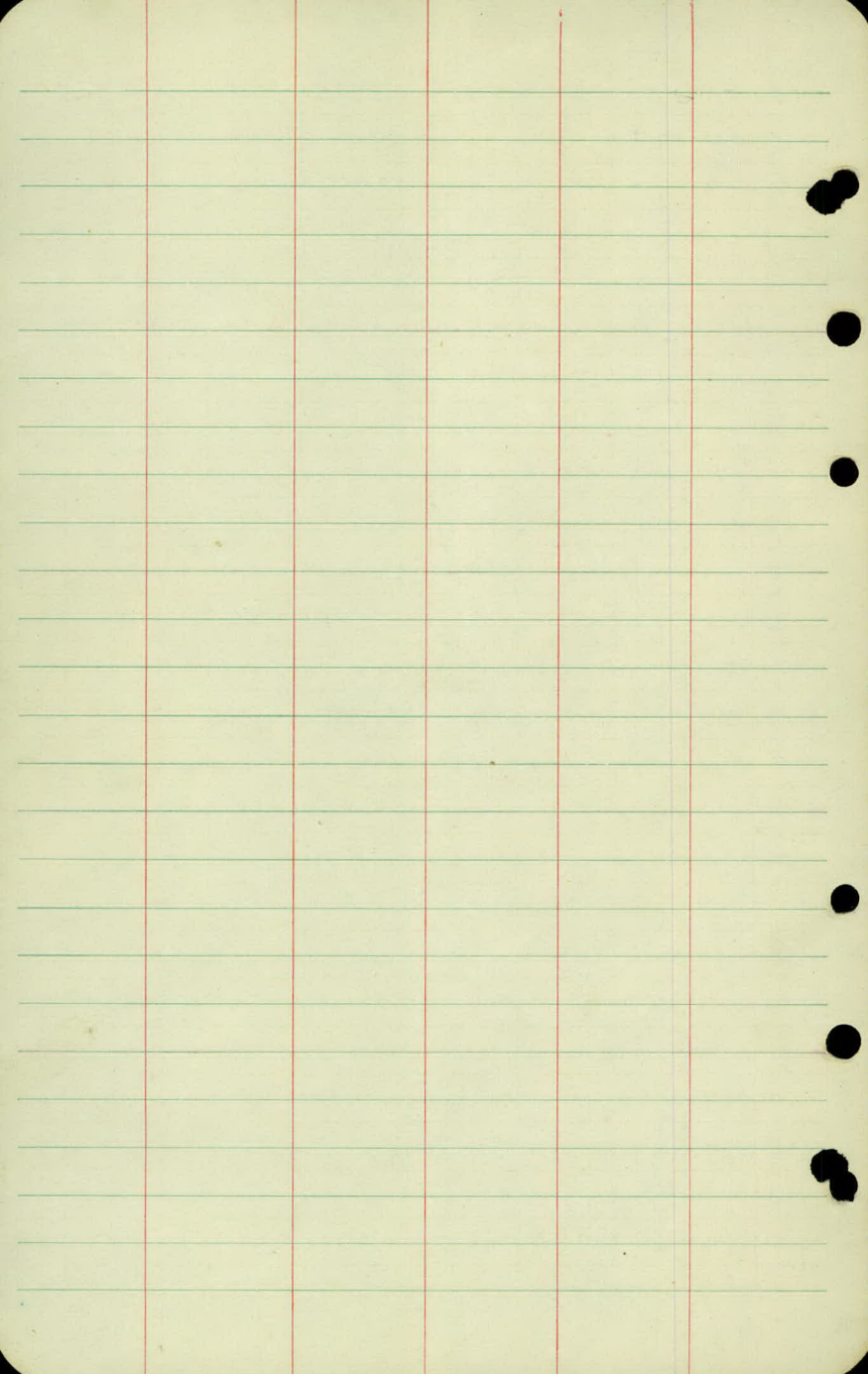
5.7' to 65.7

-100' S. Street
22 - 55'

Sept. 8, 1955

5





Sept 8, 1955

6

Profile

+

Benchs

Sta	+	π	-	Elev
BM	8.61	918.58		909.97

BM	1.43	911.61	8.40	910.18
----	------	--------	------	--------

0-38.4

0-22 Shoulder

0+00

+21 Shoulder

+33

+34.5

T.P	0.61	899.16	13.06	898.55
-----	------	--------	-------	--------

Sept. 8, 1955

7

RR Spike in 20" Elm 33' W Intr. of Hamline & Josephine

Spike in PP Rt Sta 15A+88 Hamline

888
225
1113

900.48
11.13
FL W. End
24" x 74' S.C.P.

06.6
06.6
5.0

06.9
4.7

06.3
5.3

98.6
13.0

1308
225
15.33

96.28

15.33
FL E. End
24" x 74' S.C.P.

Sta + π - Elev

899.16

0+34.5 Ground at Culvert

0+42

+43

+50

/

+20.22 P1

Sept. 8, 1955

8

97.8

1.4

97.8

1.4

97.0

2.2

96.6

2.6

94.8

4.4

94.5

4.7

Sta + π - Elev

899.16

1+50

2

+50

+92.60 Pl.

BM

4.20 894.96

TP

6.48

895.13

10.51

888.65

3

+08

PM 4.20

Sept. 8, 1955

9

94.2

5.0

93.6

5.6

93.0

6.2

92.1

7.1

Top of Apple tree Guy Wire post.

91.59

3.54

90.76

4.37

+41	Water
-----	-------

Sept 8, 1955

10

84.78

10.35

83.79

11.34

883.33

11.80

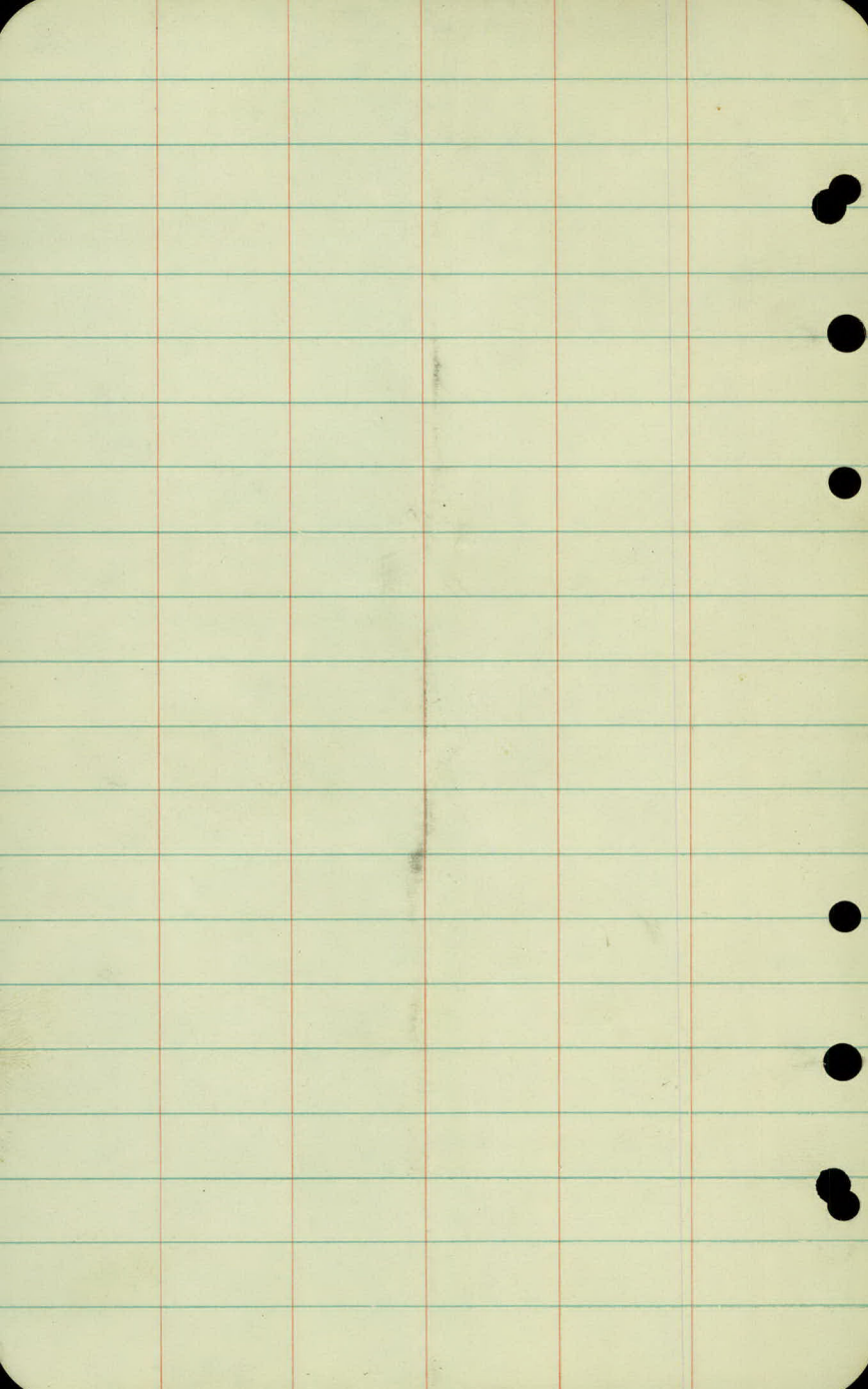
Water Surface

Normal

884.20

Gauge - .80

883.40



Staking

1-20'	20	30
2-30'	60	28
3-28'	84	30
3-26'	78	28
	242	28
	2	
	244 LF	

2+90-3+11 out (20)

2+90
1+17

800 {
28
26
26
26 ←

28
23
84
62
146
88
172

96 170
23
78

3+10'
20

270
2
272

2+90 End E/ban (E)

2+88 End E/ban (W)

F.L.
G.R.

BM 2.37 897.33

894.96

3+10 887.61 9.72

39

93.5 ✓ 93.4

2+90

2+88 88.03 9.30
26 1.6
2.9

2 90.5
2+62 ✓ 88.51 8.82
28.5

90.5
2+34 89.05 8.28
36.5

90.5
2+06 89.59 7.74
82.5
56.5
2.9

FK
AM
LC
WJ

Oct 17, 1935

2

⑤ 5' Lt

+ 1.9% Top of Apple Tree Guy Wire Post

2.2
38
38
418

6.72
C 3.0

3+10

2+62

748

1.9

222

48

902

1.9

38

3+10

2+34

576

1.9

684

76

1444

4.60
C 4.7

3.9

4

07.6

3.82
C 5.0

3.29
C 5.0

2+10 = 889.51

3.14
C 4.6

Sta PG GR FL
897.33

1+78 90.12 7.21

1+48 90.68 6.65
5.15
3.6

1+18 91.26 6.07

BM 5.00 899.96 894.96
91.26
8.70
3.2

1+17 91.50 8.46
25

0+92 92.22 7.74
30
56

0+67 92.97 6.99
36

0+42 93.72 6.24

142 898.34
21.25
896.34 96.28

Oct 11, 1955

3

$$\begin{array}{r} 2+10 \\ 1178 \end{array} \quad \begin{array}{r} 19 \\ 88951 \\ \hline 61 \end{array}$$

$$\begin{array}{r} 32 \\ 1.9 \\ \hline 288 \\ 32 \\ \hline 608 \end{array} \quad \begin{array}{r} 91.41 \end{array}$$

$$\begin{array}{r} 3.21 \\ C4.0 \end{array}$$

$$\begin{array}{r} 2+10 \\ 1101 \end{array}$$

$$\begin{array}{r} 62 \\ 1.9 \\ \hline \end{array}$$

$$\begin{array}{r} 558 \\ 62 \\ \hline 1178 \end{array} \quad \begin{array}{r} 89.51 \\ 1.17 \\ \hline 0.68 \end{array}$$

$$\begin{array}{r} 2.85 \\ C38 \end{array}$$

$$\begin{array}{r} 607 \\ 2.67 \end{array}$$

$$C3.4$$

$$\begin{array}{r} 1+10 = 91.41 \\ 15 \\ \hline 91.26 \end{array}$$

$$1.9$$

$$8$$

$$152$$

$$893.90$$

$$.48$$

$$.72$$

$$893.90$$

$$.24$$

$$71.50$$

$$5.06$$

$$C3.4$$

$$31$$

$$3$$

$$93$$

$$56$$

$$1.3$$

$$1.68$$

$$117$$

$$36$$

$$81$$

$$2.43$$

$$92.97$$

$$93.90$$

$$1.68$$

$$92.22$$

$$93.9$$

$$2.43$$

$$91.47$$

$$80$$

$$3$$

$$240$$

$$4.54$$

$$C3.2$$

$$C3.0$$

$$2.34$$

$$C3.9$$

FL 24 SCP

