

OFFICE OF COUNTY ENGINEER
RAMSEY COUNTY, MINN.

STORM SEWER Survey
RAMSEY COUNTY NURSING
HOME STORM SEWER PROJECT

From STA 0+00 To STA 20+80

Road Acc't. No. OF 020

Date Filed _____

File _____

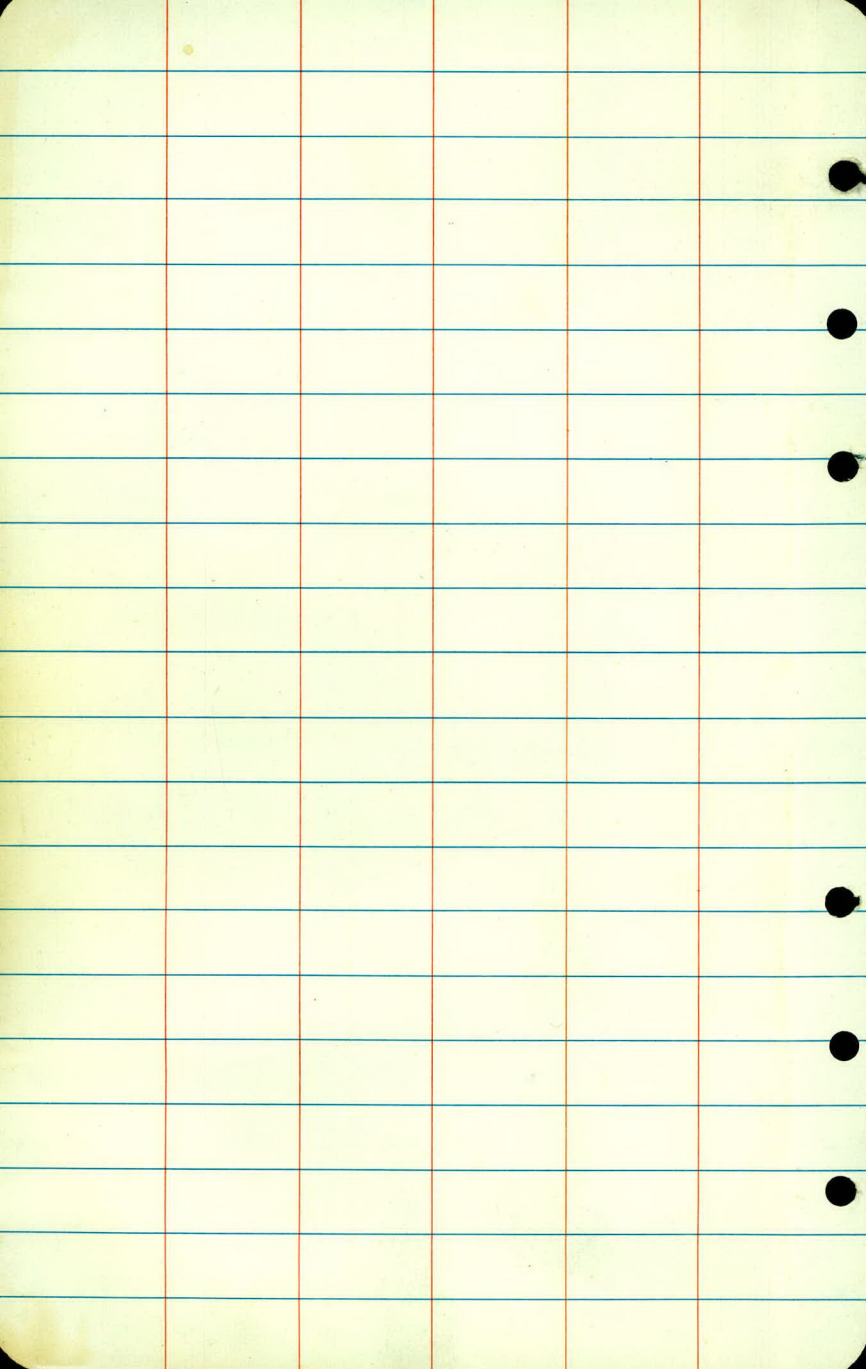
947.24

941.82

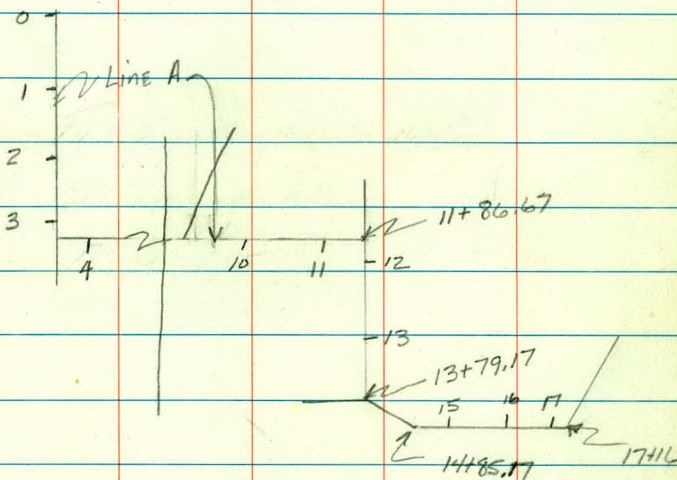
178'

3.0%

2.29%



JAN 24, 80
Cloudy 28°



STA

POINT

Δ LT

Δ RT

(M.H. 9)

3+10.80

P.I.

$90^{\circ}32'10''$

0+00

(S.D. 10)

N

PAINT MARK LITE
BASE (CONC)

14.57

62.12

DISC IN 8" ASH

57.72

DISC IN 6" ASH

WHITE PAINT MARK
LITE BASE (CONC)

96.45

OR 54.04

PAINT
MARK
LITE BASE
(CONC)

89.61

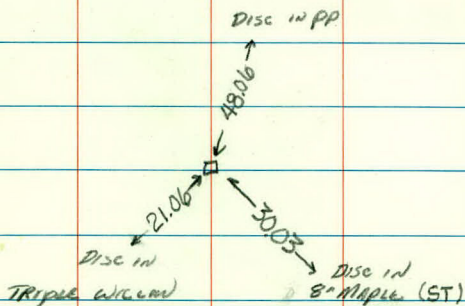
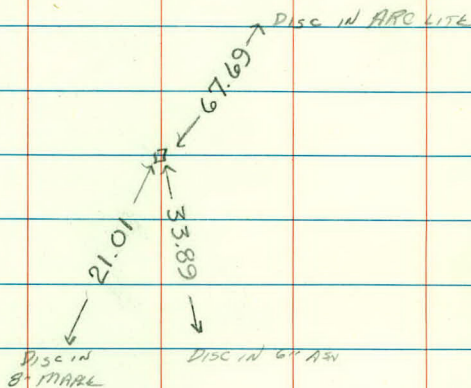
DISC IN MAPLE

STA	POINT	ALT	Δ RT
-----	-------	-----	------

13+79.17	P.L.	123°08'25"
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(M.N. 5) MH#6
11+86.67 P.I. 89°21'05"

N



STA

POINT

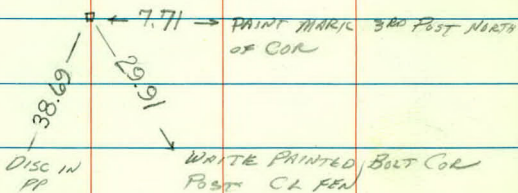
Δ LT

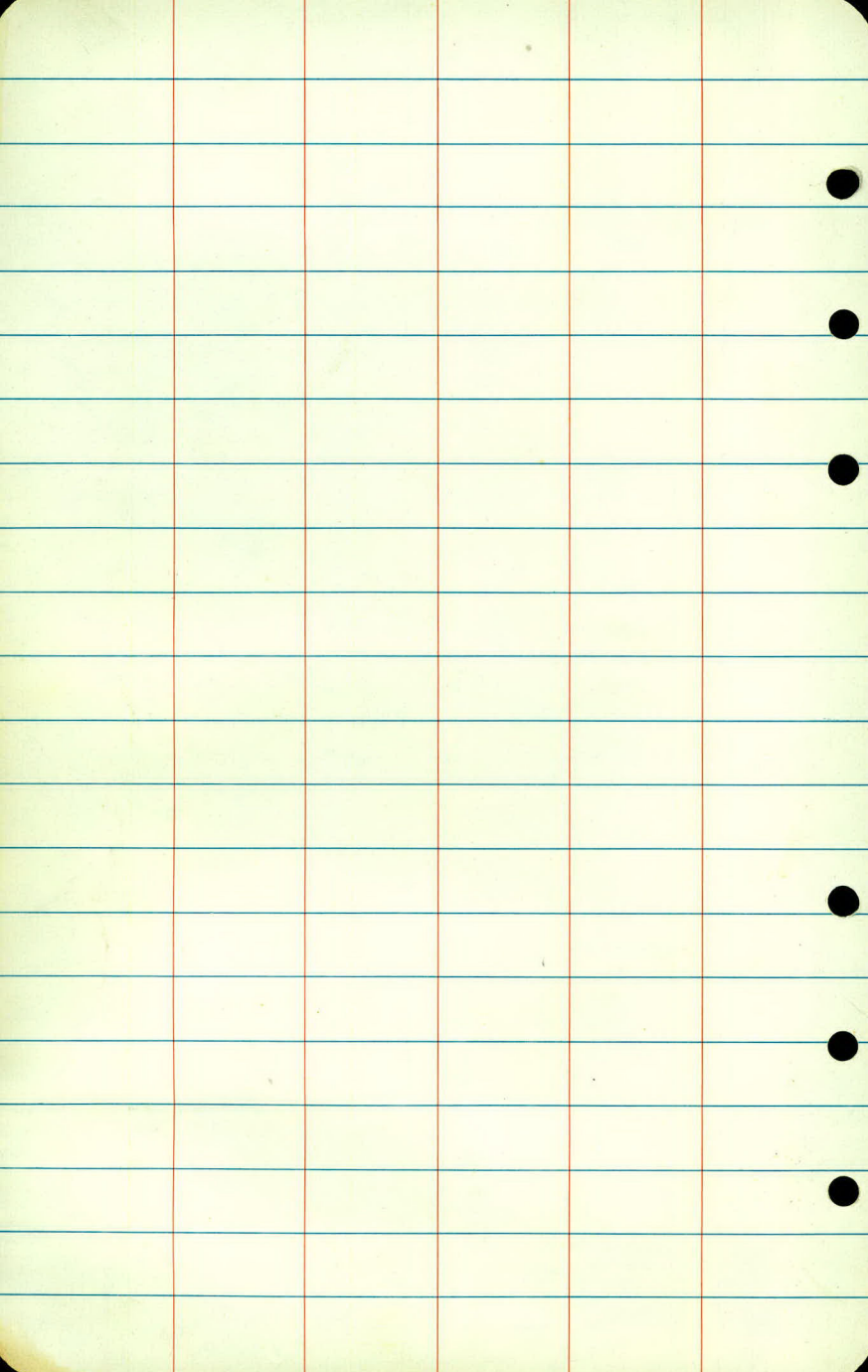
Δ RT

(M.H. 3)

14+85.17 P.I.

N





Topography Ditch

Section from Station 5+00 ±
to Sta 12+00 ±

+50
13" CMP
+45 6
+38 13
+47 13
Tw 6" will
+31 13

+44 & GRAVEL ENT (VANDYKE) 22'

+24 10" will
13
Tw 7" will
+09 13
+01 10" will
13

7
+92 8" will
13
Fe
13

+77 6" will
13
+62 8" will
13
+69 8" will
13
+54 10" will
13
+50

+24 15" CMP
6
Core Bldg
+10 11

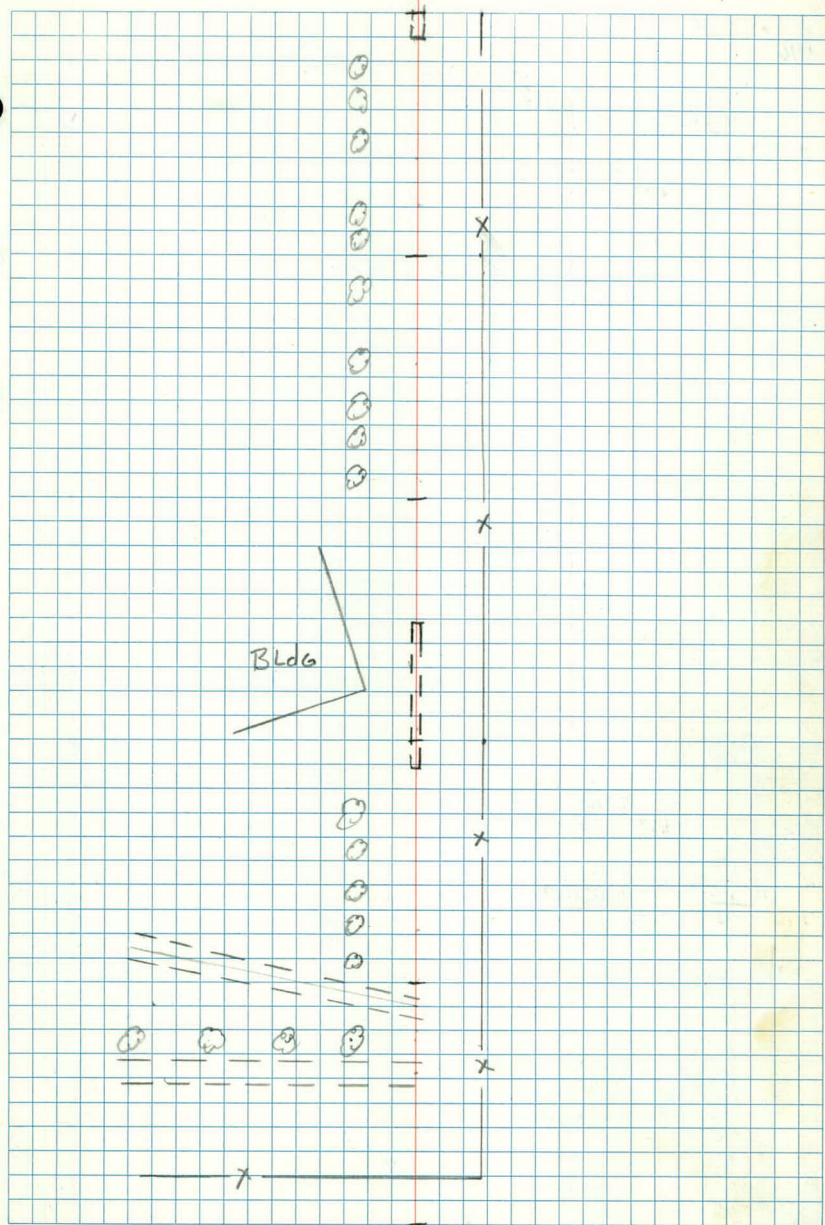
6
+77 Tw 4" will
13
+69 Tw 6" will
13
+85 15" CMP
1
Fe
14

+61 Tw 6" will
13
+53 6" Willow
13

+50
+45 Q Ditch
Row Willow
+37 14-100+ +1

+21 Q Ditch
Fe
+10 0-100
Fe
+10 0-14

5+00



10
4-24" Will
+96 6

F₂
10

+77 NSP Cable Crossing
♀

10" Will
+61 16
12" Will
+68 16
6" Will
+75 16
+53 16

+50

19" Cmp
+41 4

+45 ± ENR (JAN DYKE) 22

Coe Bldg
+13 12

+100 ± VAN DYKE
231

F₃
11

9

5-10" Will
+94 14
TR 8" Will
+78 14
TR 5" Will
+69 14
Tw 6" Will
+55 14

18"
+99 3

+50
TR 6" Will
+46 14

12" Will
+38 14

15" Will
+22 14
11" Will
+14 14
Tw 6" Will
+07 14

8

Tw 12" Will
13

F₂
12

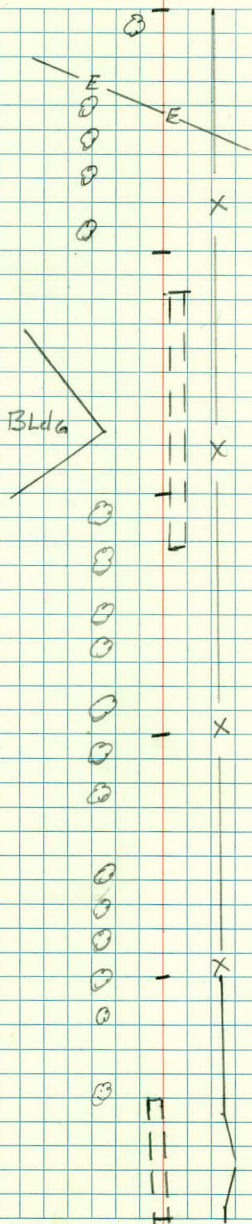
+100 NYA
19

9" Will
+92 13

8" Will
+77 13
18" Cmp
+75 2

20 Guts
+62 12

7+50



*

+80 E. End 18" CMP
2

+50

18" CMP W. End
2

12

18" CMP East End

+88 35

+88 18" CMP W. End To 8" WIL
67

+74 17

+82 3" FB
9

+73 Core Conc Curb
17-

+50

+41 BR (VAN DYKE)
214 - 249

+33 4" Pine
8

+18 Lite Pole 9
+16 2" Pine 3

11

F2
9

+96 4" Pine
7

+61 Core Conc Curb
15-33

+50

+43 12" WIL
16

+27 2" Pine
22

+36 15" WIL
16

+39 PP
14

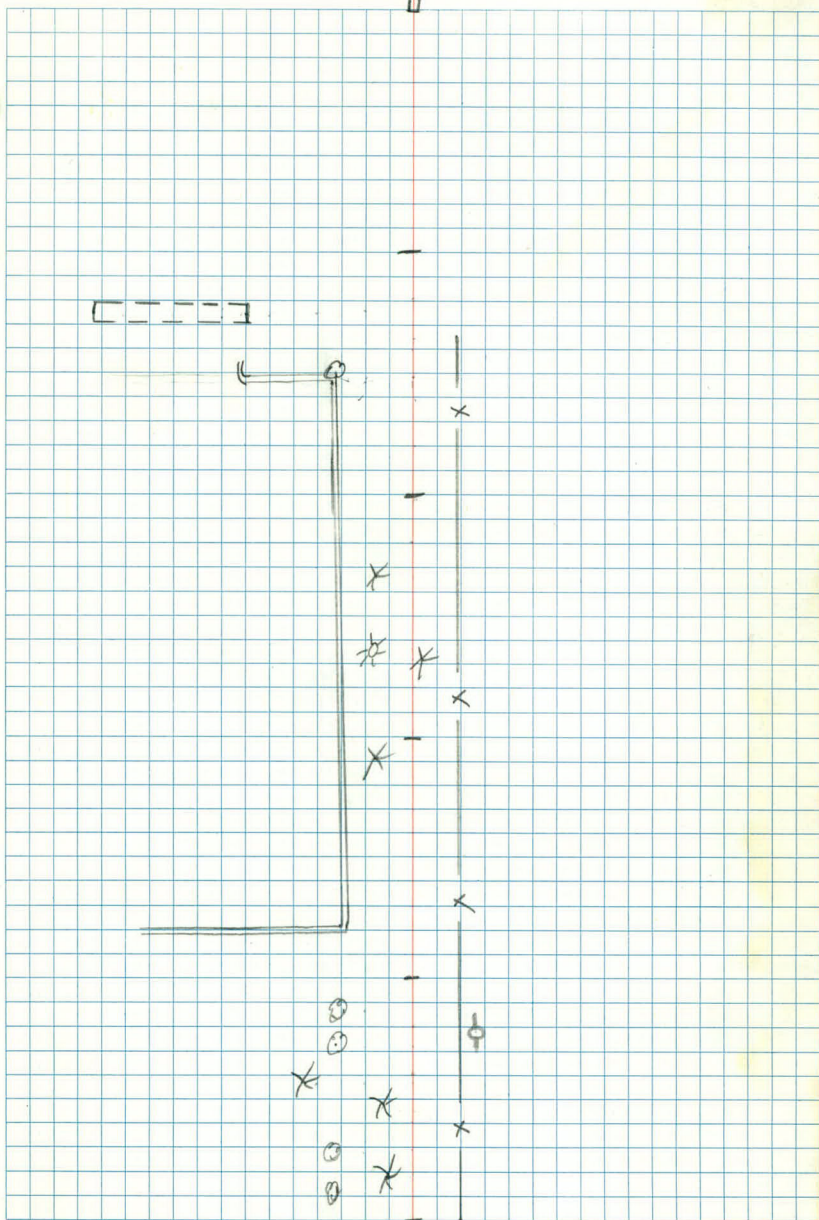
+14 12" WIL
17

+23 2" Pine
6

+09 2" Pine
5

+06 6" WIL
17

10 +00



LT

2

RT

15

FE
7

+50

$$\begin{array}{r} \text{END} \\ +47 \text{ FE} \\ \hline 5 \end{array}$$

$$\begin{array}{r} +63 \text{ COLL FE} \\ \hline 23 \end{array}$$

$$\begin{array}{r} +50 \text{ FE} \\ \hline 0 \end{array}$$

$$\begin{array}{r} +47 \text{ ARC LTR} \\ \hline 7 \end{array}$$

14

$$\begin{array}{r} +59 \text{ ER (VAN DYKE)} \\ \hline 12-45 \end{array}$$

+50

13

$$\begin{array}{r} +76 \text{ EAST EDGE ENT} \\ \hline 25 \text{ (P.H.)} \end{array}$$

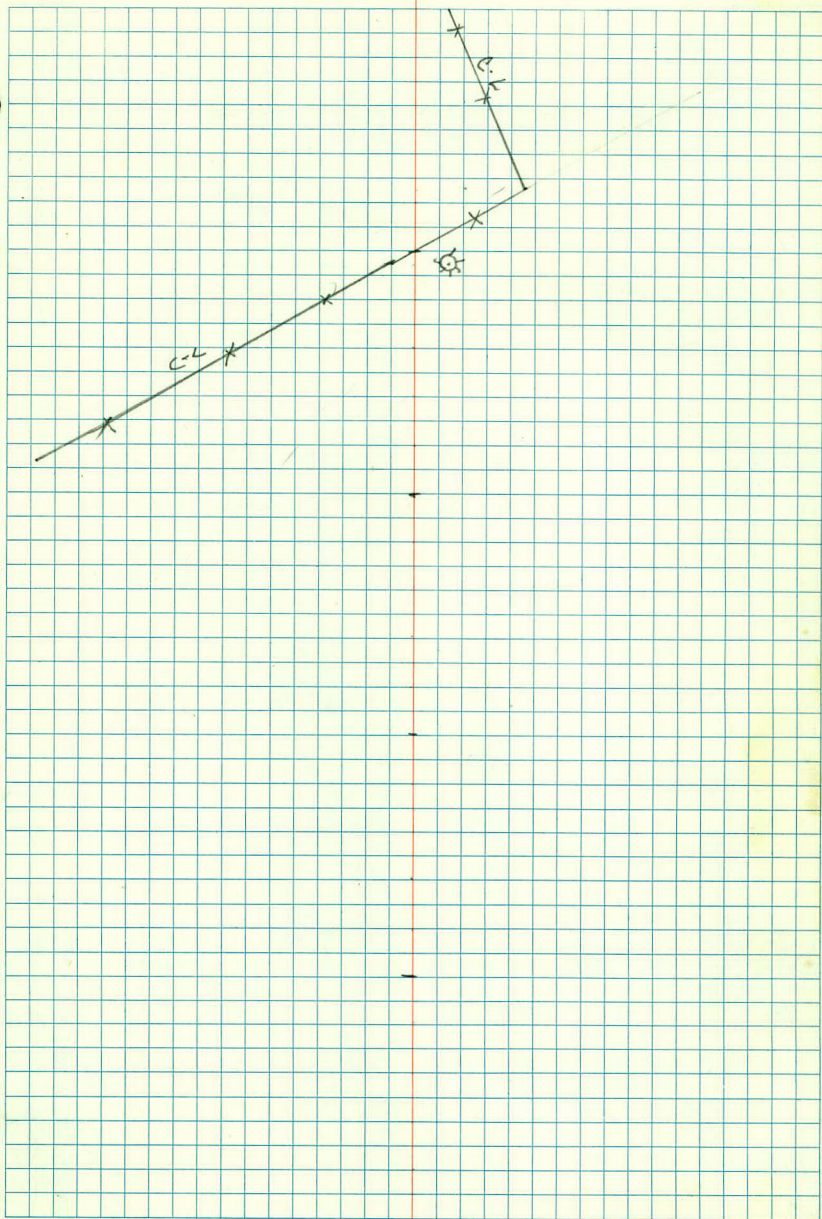
$$\begin{array}{r} +52 \text{ WEST EDGE ENT} \\ \hline 25 \text{ (PARKING LOT)} \end{array}$$

12+50

Lt

E

Rt



Lt

2

Rt

+50

116 48" RCP

0

17

FE

7

+50

16

FE

7

+50

15

FE

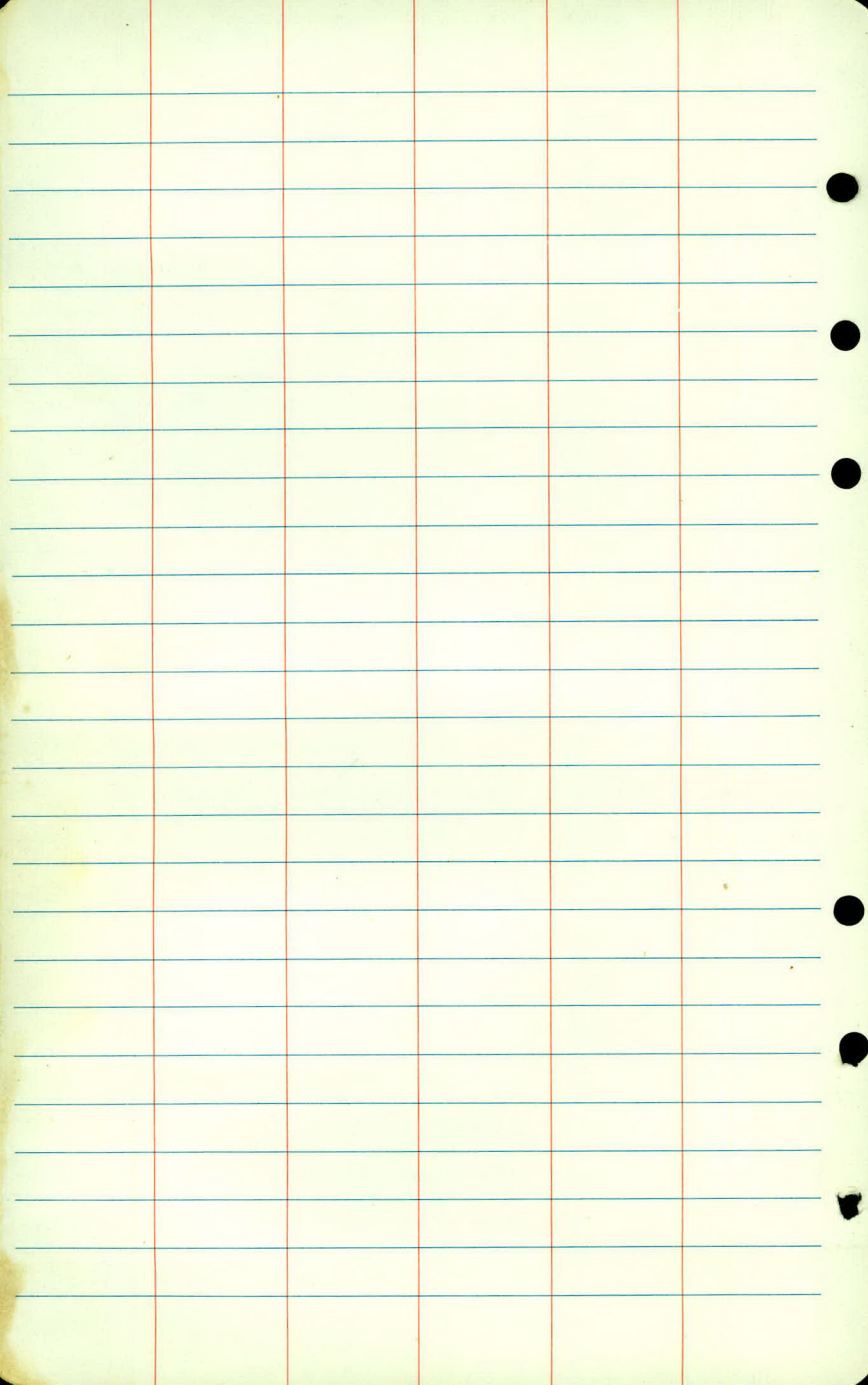
7

Lr

Z

Rr





ML
DS
CM
BW

MARCH 19, 80

CLEAR 50°

ADDITIONAL Topo
RAMSKY COUNTY HOME STORM SEWER

4+00

R

R

+81 Root DRAIN (C.I.)
18

+50

+92 Root DRAIN (C.I.)
12

3+00

+85 Root DRAIN (C.I.)

+50

+40 Root DRAIN
9

2+00

+87 Root DRAIN (C.I.)
9

+56 Root DRAIN (C.I.)
9

1+50



+50

+00 Z VANDYKE (35')

233

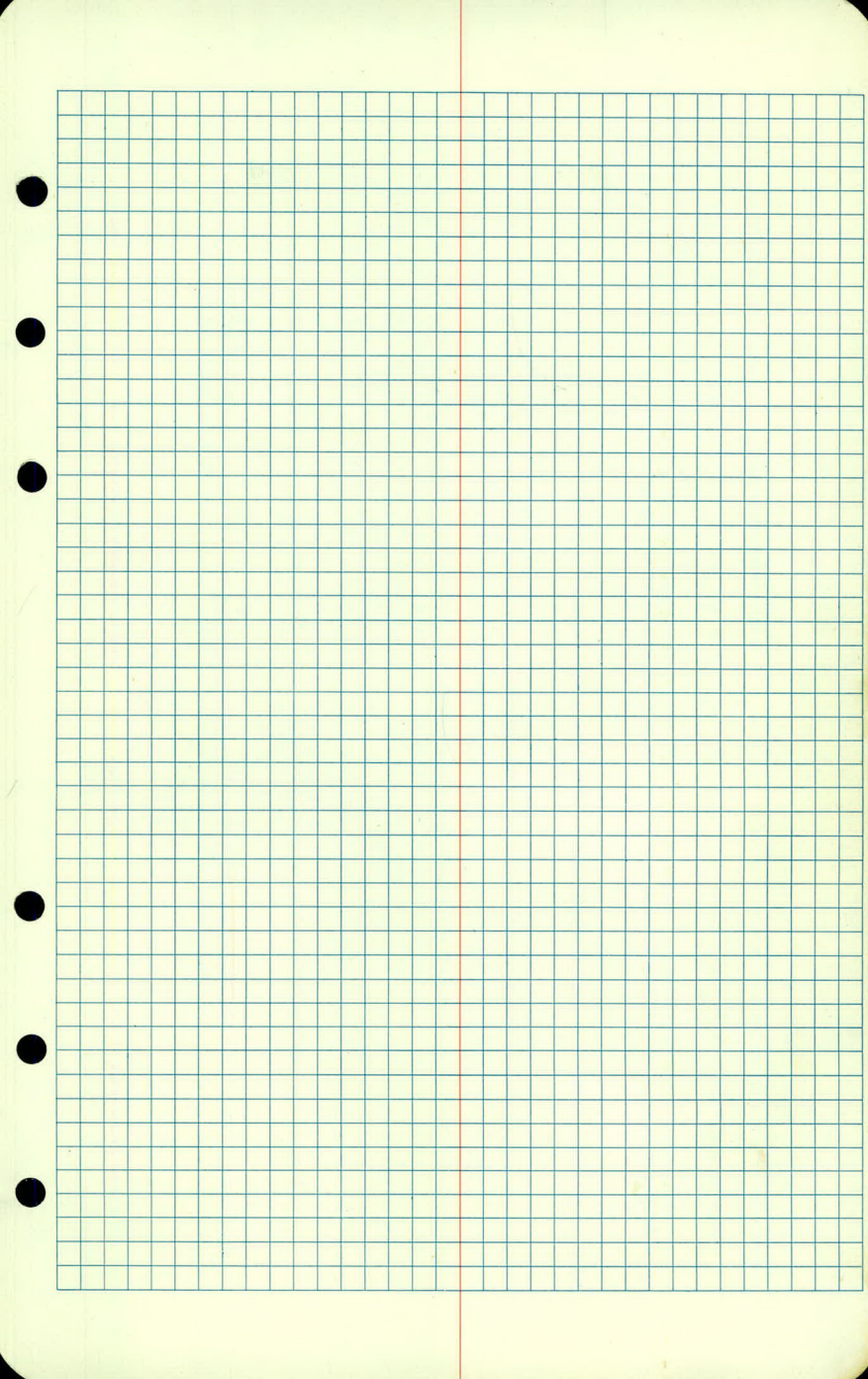
5+00

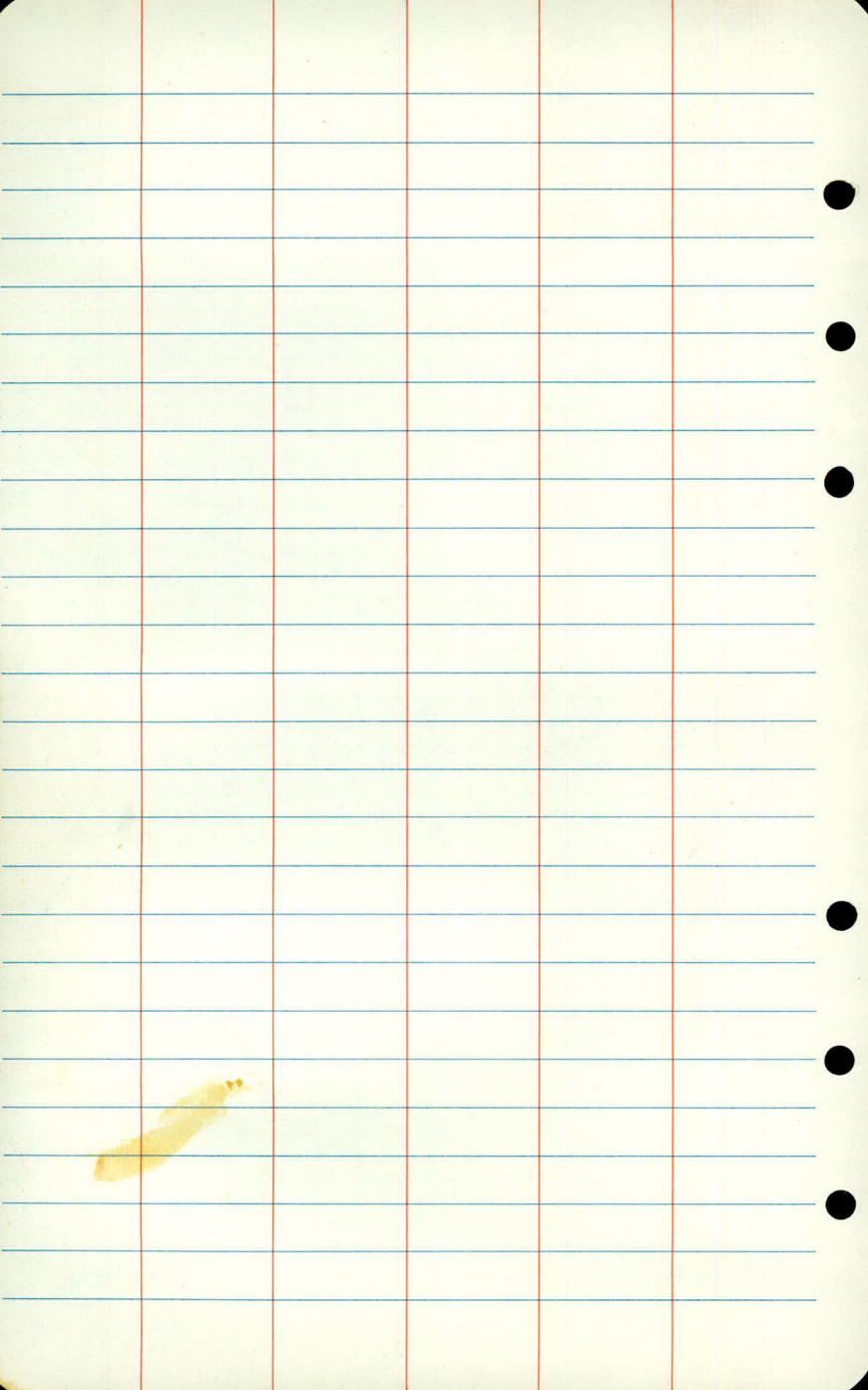
+64 ELECTRIC LITE

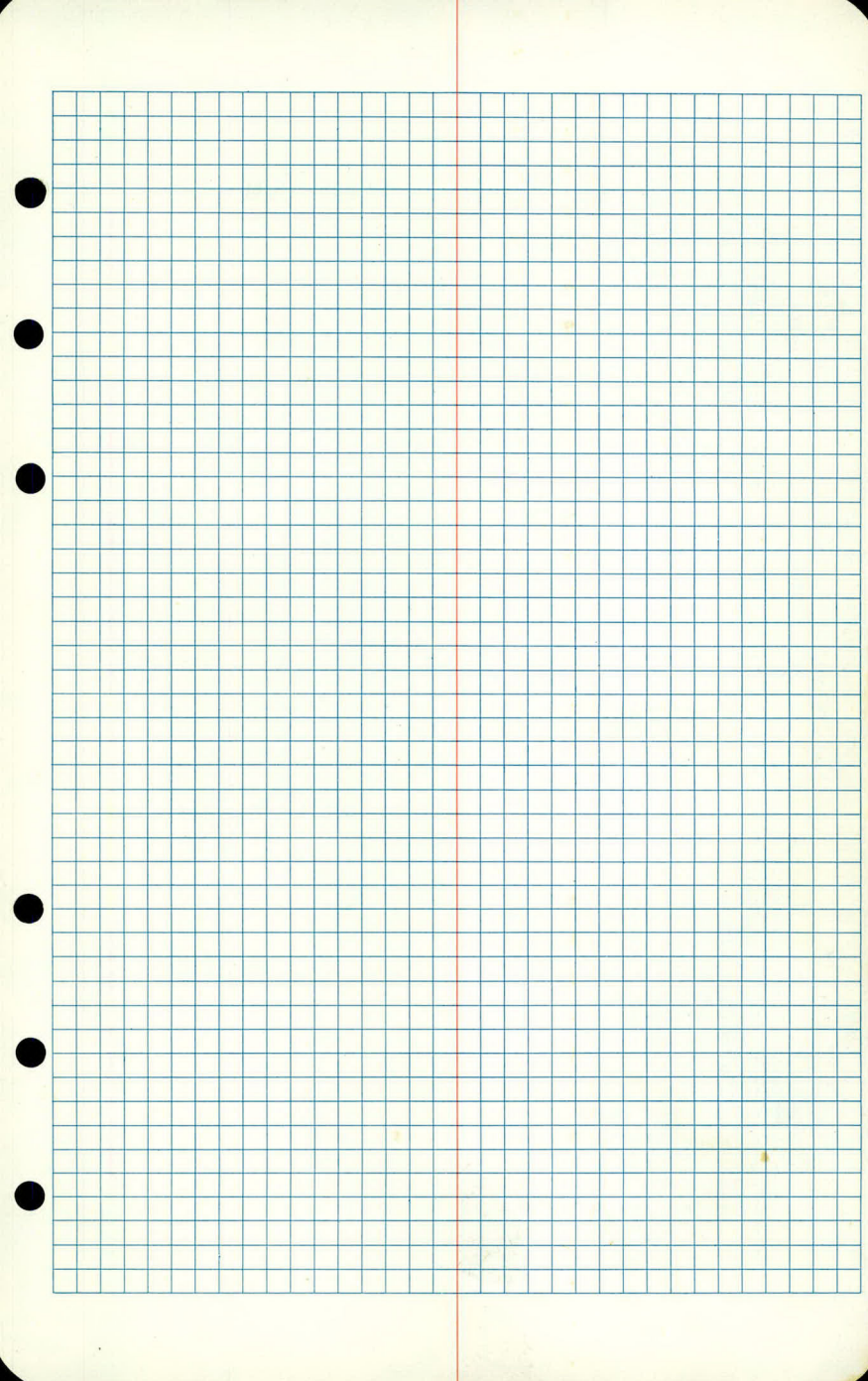
13

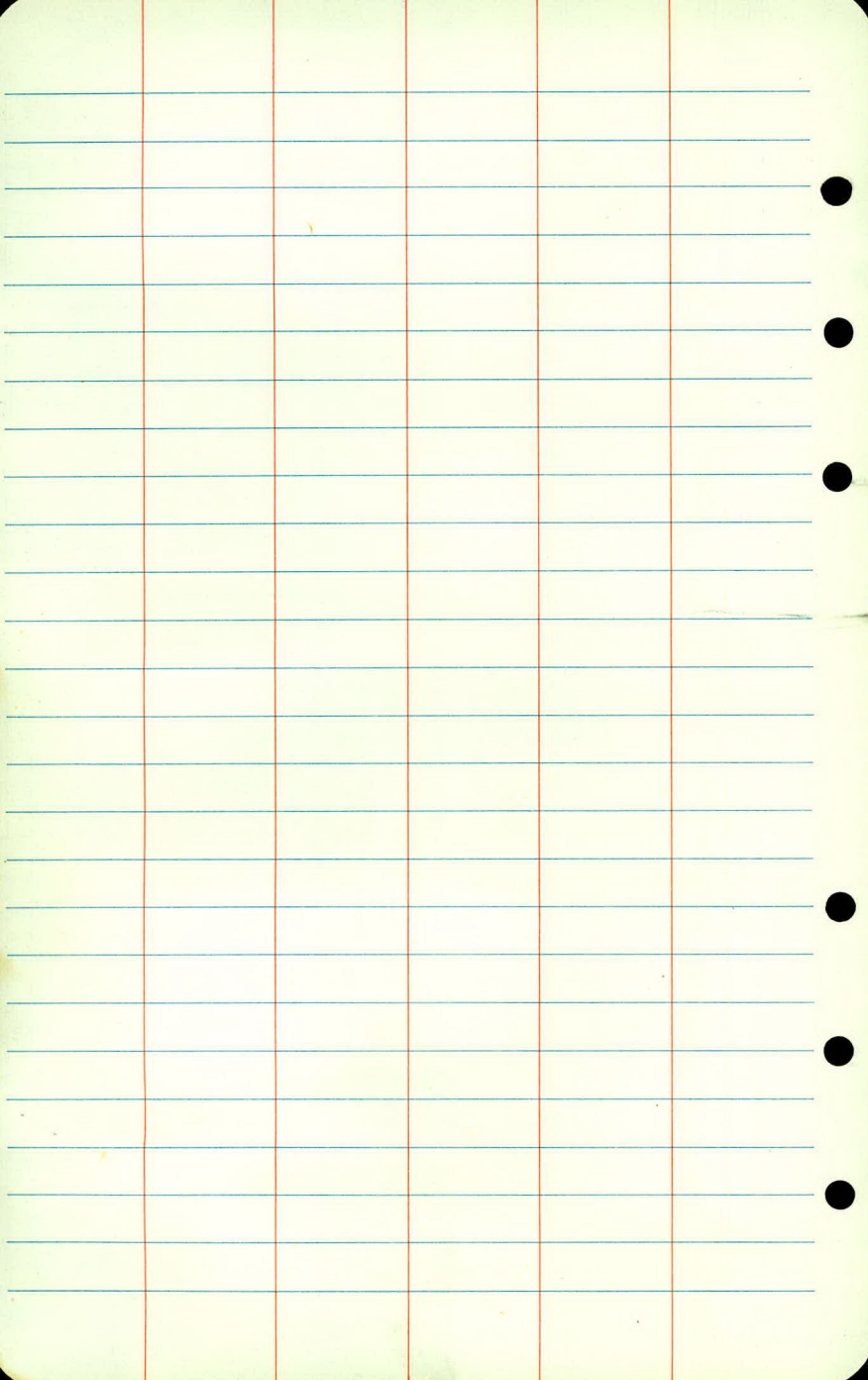
+50

4+00









JA
ML
DS
BW

MAR 23, 80
Sunny 35°

ADDITIONAL TOPO
RAMSEY COUNTY HOME
17+16 TO END 48' RCP

*

20

+64 END APRON

0

+56 END 48" R.C.P.

0

+50

+39 BIT ROAD

0

+06 FE

11

+18 BIT ROAD

0

+00 FE

9

19

+94 S.D.

0

+50

+36 FE GATE (16')

16

+42 FE

0

+44 C.C. FE

9

18

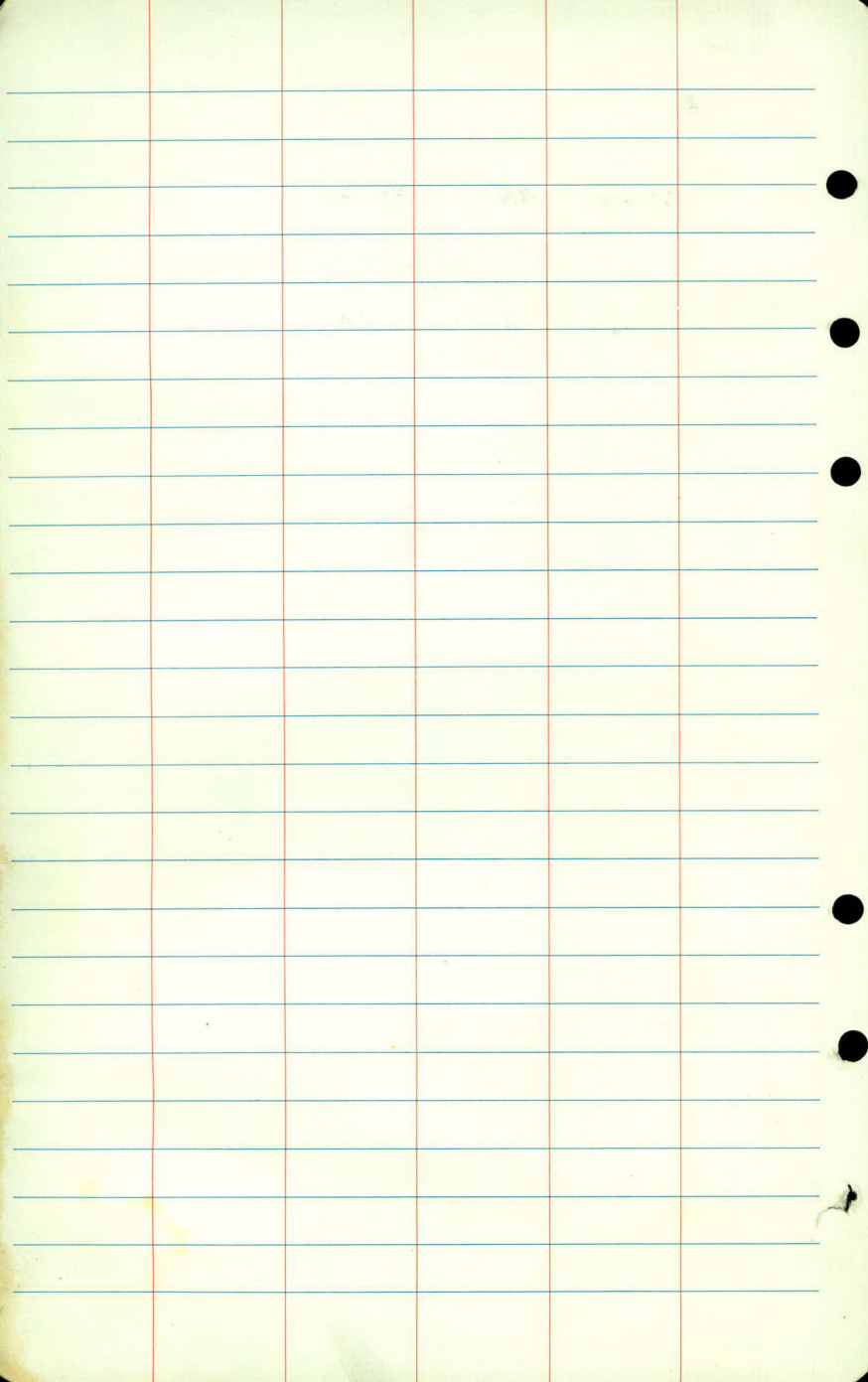
+73 GAS Pump

52

+

17+50

+50 12" BIT ENT TO THE EAST



Topo Ramsey County
Home M.H. #3 to APRON No 2

APRON 2 NORTH 42' OF M.H. 3

M.H. 3 LT 146'

ML
DS
BM
BW

MARCH 26, 80
SUNNY 34°

Topo New ALINEMENT
Ramsay County HOME Storm
SEWER 0+00 TO 5+20

+50

+44 DRAIN
9

+28 S.W.
28

+07 S.W.
0

2+00

+91 DRAIN
9

+59 DRAIN
9

+82 SHRUB
11

+53 CURB
9.13

+70 SHRUB
15

+50

+

+09 SHRUB
19

1+00

+00 CONC CURB
13

+00 SHRUB
20

+92 SHRUB
19

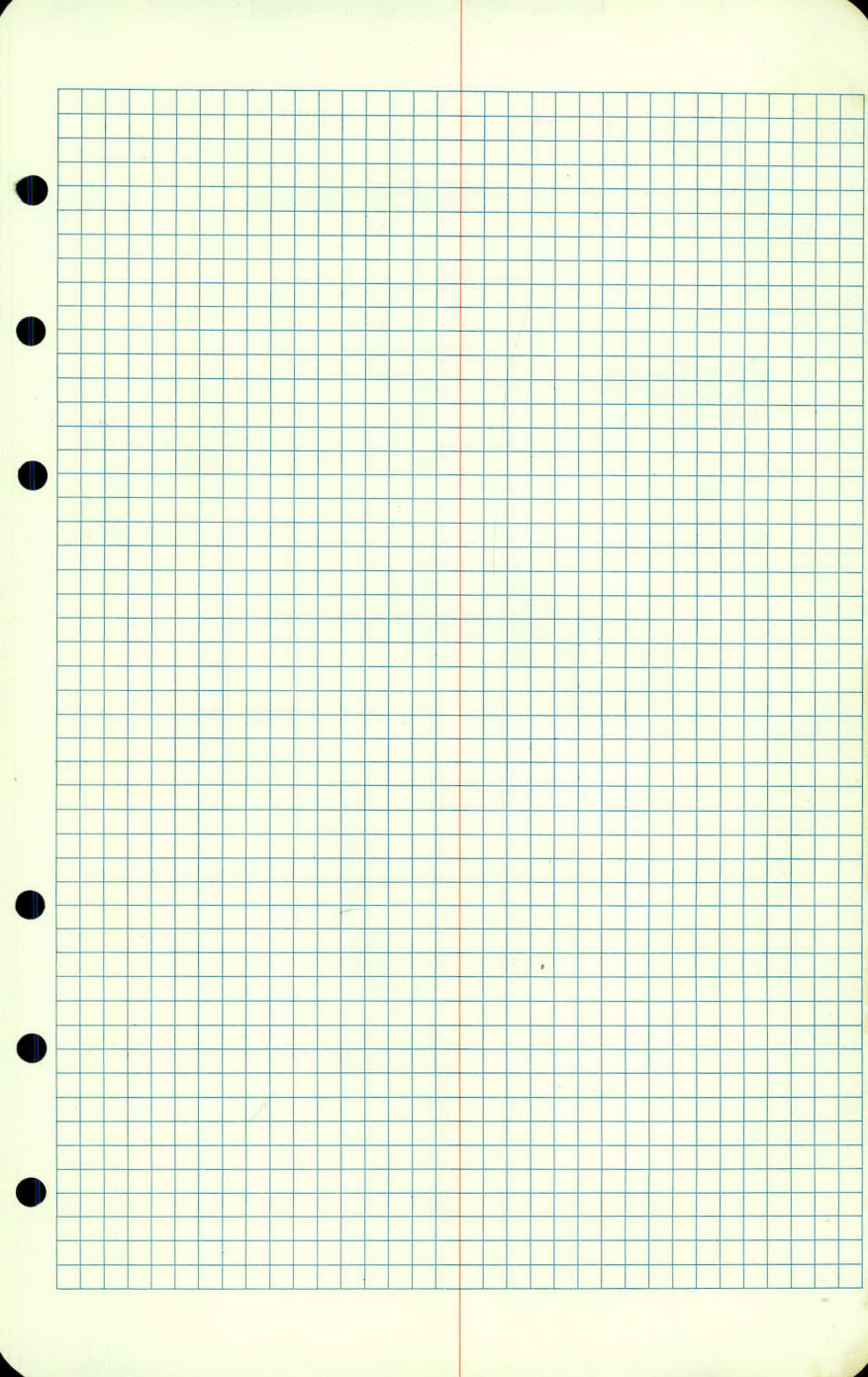
+50

+46 ER
11

+39 BR
5

+37 CURB
0

0+00



5

+50

4

+50

+38 CURB
8

+43 DRAIN
7

+27 CURB
9

+27 S.W
0

+38 DRAIN
46

+02 S.W
0

3

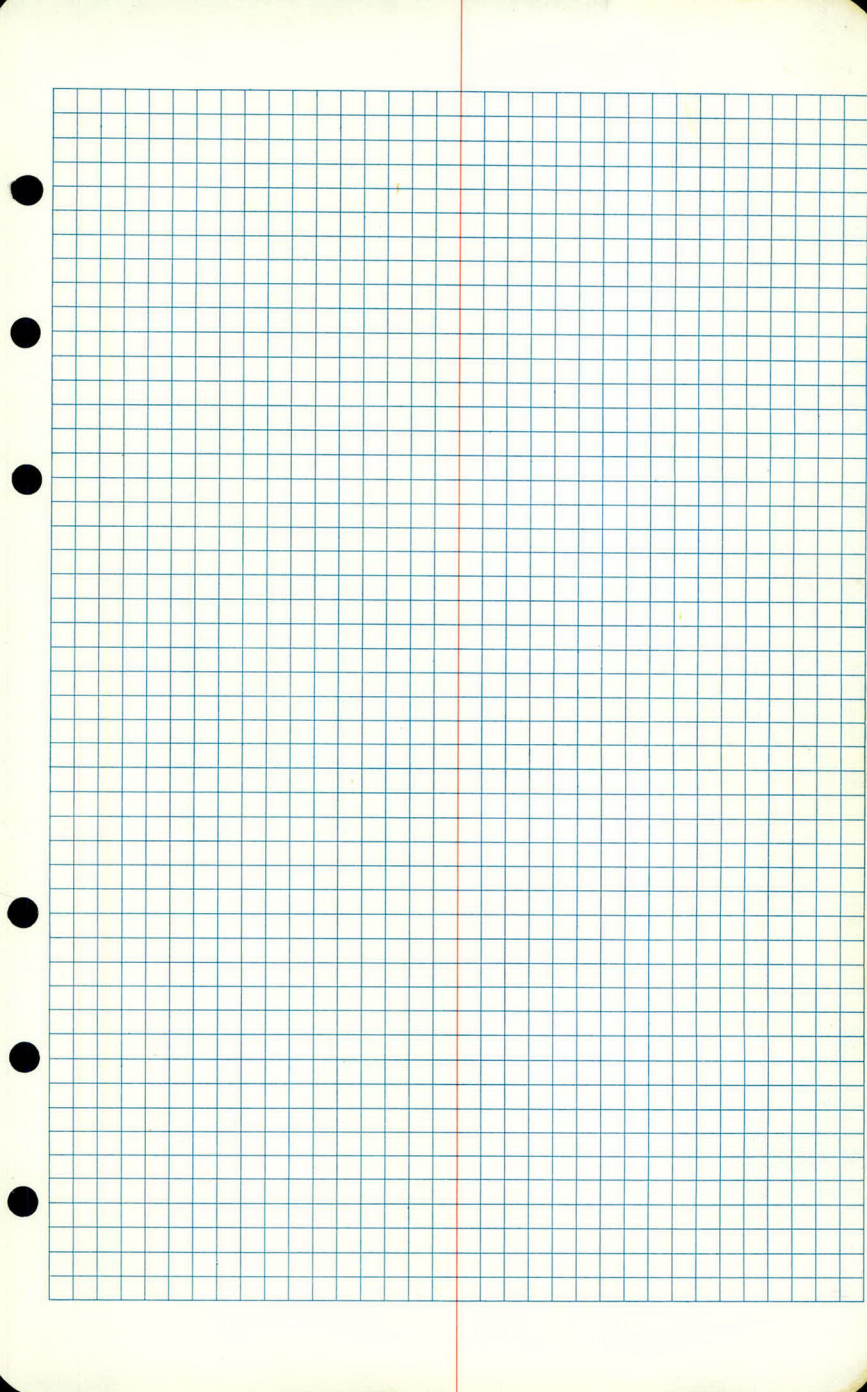
+89 DRAIN
9

+68 SHEVA
11

+63 SHEVA
5-11

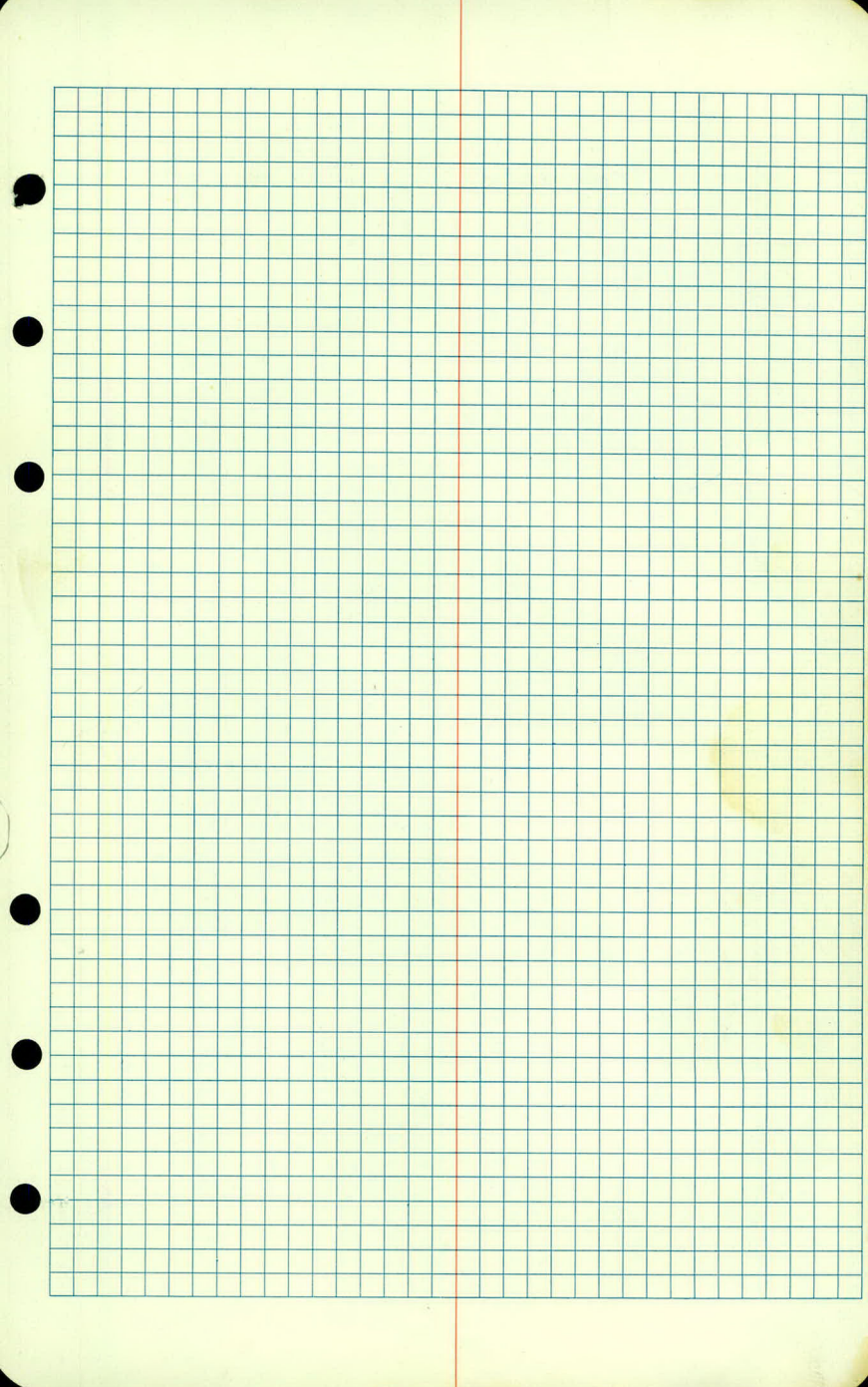
+54 SHEVA
4-11

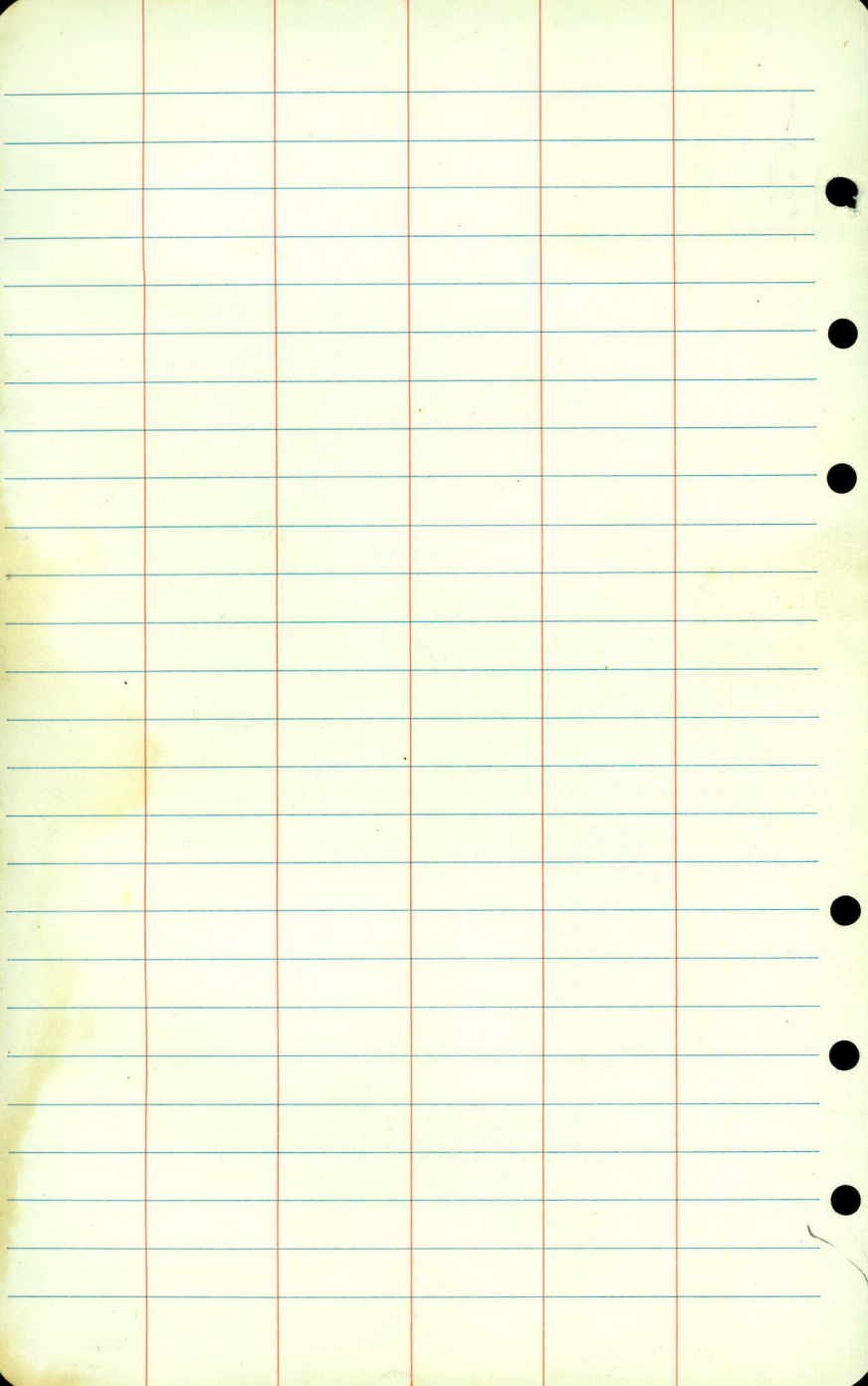
2+50



+10 live
6

5





Profile And Cross sections for

Storm SEWER Ramsey County

Nursing Home

[illegible]

N.W. Cor Top Bot set of steps So. Ent Ram. Co. Home

Top N.E. Cor Steel Base of most West Lite in No. Row

Paint spot N.W. Cor Conc Lite Base $4+75^{\pm}$ Rt 15'

Top Hyd East Side of New Ram. Co. Home

Spike in transformer Pole No. Side Recreation Rd

STA	+	π	-	ELEV
BM	3.83	969.36		965.53
0+00			5.15	64.21
+25			4.92	64.44
+50			4.74	64.62
+75			4.67	64.69
1+00			4.55	64.81
+25			4.56	64.80
+50			4.53	64.83
+75			4.55	64.81
2+00			4.55	64.81
+25			4.62	64.74
+50			4.60	64.76
+75			4.60	64.76
3			4.72	64.64
+10				
+25			5.02	64.34
+50			5.39	63.97
+75			5.85	63.51
4			6.47	62.89

Top NW COR STEEL BASE ARENA 4450 Rt

64.67

4.69

64.72

4.64

15

64.57

4.79

40

64.30

5.00

65

64.21

5.15

90

Sta	+	π	-	ELEV
		969.36		
4+25			6.63	62.73
+50			7.00	62.36
+75			7.21	62.15
5			7.68	61.68
T.P	0.10	965.75	3.71	965.65
+25				
+46				
+75				
6				

LT

E

RT

TOP COR FENCE POST

59.9	59.6	59.3	59.2	59.5	60.8
5.9	6.3	6.5	6.6	6.30	5.0
100	75	50	25		14

59.2	59.1	59.0	59.0	58.8	60.6
6.6	6.7	6.8	6.8	7.0	5.2
100	75	50	25		14 FE

61.2	58.6	60.6
4.6	7.2	5.2
14 TREE		14 FE

61.1	60.8	60.6
4.7	CULVERT 5.0	5.2
14 TREE		14 FE

STA

+

π

-

ELEV

965.75

6+25

+50

+75

7

+25

+50

T.P.

1.36

962.75

4.36

961.39

LT

Z

RT

60.9	58.3	60.3
4.9	7.5	5.5
14	.	14
TREE		FE

60.6	58.4	60.0
5.2	7.4	5.8
14	.	14
TREE		FE

60.5	59.2	59.8
5.3	7.6	6.0
14	.	14
TREE		FE

60.1	59.1	59.4
5.7	7.7	6.4
14	.	13
TREE		FE

60.0	59.8	59.4
5.8	8.0	6.4
14	.	13
TREE		FE

59.6	59.8	59.6
	CULVERT	
6.2	6.0	6.2
14	.	13
TREE		FE

Top HYD 8+0.5 RT

STA

+

π

-

ELEV

962.75

7+75

8

+25

+50

+75

9

LT

E

RT

59.6	58.2	59.5
3.2	4.6	3.3
14	.	12
TRK		FE

58.5	56.9	58.4
4.3	5.9	4.4
14	.	12
TRK		FE

58.2	56.7	57.9
4.6	6.1	4.9
14	.	12
TRK		FE

57.8	56.6	57.9
5.0	6.2	4.9
14	.	12
TRK		FE

58.0	56.2	57.7
4.8	6.6	5.1
14	.	12
TRK		FE

59.1	58.4	57.7
3.7	4.4	5.5
14	.	11
TRK		FE

STA

+

X

-

ELEV

962.75

9+25

+50

+75

10

+25

+61 SE COR PARKING Lr

LT

Z

RT

59.0	59.2	59.1
5	5	5
3.0	3.6	5.7
14		11
TRKE		FE

58.6	56.0	56.9
4.2	6.8	5.9
14		11
TRKE		FE

57.7	55.7	56.3
5.6	7.1	6.5
14		11
TRKE		FE

57.2	55.4	56.1
5.6	7.4	6.7
16		10
TRKE		FE

56.8	55.2	56.6
6.0	7.6	6.2
16		10
TRKE		FE

56.1	56.99	57.49	55.0	54.4
6.7	5.76	5.26	7.8	6.4
57	15	15		10
BIT	6011111	T.C.		FE.

STA

+

π

-

ELEV

962.75

10+75

11

+25

+50

+73

NE COR PARKING LOT

+86

☿ DITCH ALONG REC ROAD

LT

E

RT

5 ⁹	56 ⁹²	57.42	54.8	56.2
5.9	5.83	5.33	8.6	6.6
39	16	16		10
BIT	GUTTER	T.C.		FE

56 ⁹	56 ⁸³	57.23	54.9	56.0
5.9	5.92	5.42	7.9	6.8
43		16		9
BIT	GUTTER	T.C.		FE

56.6	56.6 ⁹	57.19	54.9	55.7
6.2	6.06	5.56	7.9	7.1
46	14	16		9
BIT	GUTTER	T.C.		FE

56.6	56.6 ⁴	57.04	54.6	55.6
6.2	6.21	5.71	8.2	7.2
47	16	16		9
BIT	GUTTER	T.C.		FE

56.5	56.42	56.91	54.4	55.1
6.3	6.33	5.84	8.4	7.7
50	16	16		9
BIT	GUTTER	T.C.		FE

56.4	57.85	54.7	54.1
6.4	4.90	8.1	8.7
98	65	17	
WEST			
INLET			
18" CMP			

STA

+

T

-

ELEV

962.75

BM

4.73

961.51

6.00

956.75

(956.78)

12+00

+25

+50

+75

13

LT

Z

RT

SPIKE IN TRANSFORMER 11+86 LT

56.0	54.1	55.3
5.5	7.4	6.2
13		12
BIT		

55.8	54.3	55.8
5.7	7.2	5.7
13		15
BIT		

55.7	55.1	55.8
5.8	6.4	5.7
15		12
BIT		

55.6	55.5	55.8
5	KNT	
5.9	6.0	5.7
1K		18
BIT		BIT

55.1	55.6	55.1
6.4	7.9	6.1
14		12
BIT		

STA	+	+	-	ELEV
-----	---	---	---	------

		961.51		
--	--	--------	--	--

13+25				
-------	--	--	--	--

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

+79				
-----	--	--	--	--

		9	DITCH TO THE SOUTH	
--	--	---	--------------------	--

14				
----	--	--	--	--

+25				
-----	--	--	--	--

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

T.P.	3.39	958.25	6.65	954.86
------	------	--------	------	--------

LT

E

RR

54.9	54.0	55.0
5	5	5
6.6	7.9	6.5
15	.	"
B.T		

54.5	54.1	54.1
5	5	5
7.0	7.8	6.8
15	.	"
B.T		

54.3	55.0	54.1	54.4	54.1	54.0
5	5	5	5	5	5
7.2	8.5	8.4	8.1	7.8	7.5
9	.	25	50	75	100
B.T					

54.1
6.8

55.0
6.5

54.0
7.5

SPIKE IN PP STA 14+47 RT

STA

+

π

-

ELEV

958.25

14+85

PROFILE DITCH SOUTH

14+85

15

+25

+50

+75

LT

Z

FF

51.0	52.3	52.4	52.5	53.1
6.5	6.0	5.9	5.8	5.2
.	25	50	75	100

53.5	51.8	52.6
4.8	6.5	5.8
13	.	7
		FE

53.2	51.2	52.4
5.1	6.8	5.9
12	.	7
		FE

52.1	51.1	52.2
5.2	7.2	6.1
12	.	7
		FE

53.0	50.9	52.1
5.3	7.4	6.2
12	.	7
		FE

53.1	50.3	51.8
5.2	8.0	6.5
12	.	7
		FE

STA

+

π

-

ELEV

958.25

16100

+25

+50

+75

17

+16

11.01 947.24

LT

E

RT

52.8	50.0	51.6
5.5	8.3	6.7
12	.	7
		FE

51.3	49.7	51.3
5.7	8.6	7.0
12	.	7
		FE

52.3	49.2	51.1
6.0	9.1	7.2
12	.	7
		FE

51.8	48.8	50.6
6.5	9.5	7.7
12	.	7
		FE

51.8	48.1	50.4
6.5	10.2	7.7
12	.	7
		FE

INVERT 48" RCP 17+16

STA	+	π	-	ELEV
-----	---	-------	---	------

		958.25		
--	--	--------	--	--

17+16	S.O.	PROFILE	NW	
-------	------	---------	----	--

T.P	3.22	955.12	6.35	951.90
-----	------	--------	------	--------

0+00	NORTHEND	48"	INVERT	
------	----------	-----	--------	--

+25				
-----	--	--	--	--

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

+75				
-----	--	--	--	--

LT

E

RT

41.3	51.6	51.5	50.6
11.0	6.7	6.8	7.7
	18	38	55

NE COR CONC BASE FOR GAS PUMP

46.2	40.54	46.8
8.9	14.58	8.3
9		12

44.0	40.5	46.7
11.1	14.6	8.9
14		14

43.3	39.8	45.7
11.8	15.3	9.4
13		15

42.1	39.0	43.5
13.0	16.1	11.6
13		13

STA	+	π	-	ELEV
-----	---	-------	---	------

		955.12		
--	--	--------	--	--

1+00				
------	--	--	--	--

+24	SOUTH INVERT	24" RCP		
-----	--------------	---------	--	--

T.P.	6.36	958.34	3.14	951.98
------	------	--------	------	--------

	6.74	961.61	3.47	954.87
--	------	--------	------	--------

			4.83	956.78
--	--	--	------	--------

				956.78
--	--	--	--	--------

ADDITIONAL SNOTS				
------------------	--	--	--	--

B.M	3.29	958.16		954.87
-----	------	--------	--	--------

15+12	SPILLWAY FROM GOLF COURSE			
-------	---------------------------	--	--	--

			6.20	951.96
--	--	--	------	--------

				951.98
--	--	--	--	--------

Lt

4

Rt

41.1	38.6	43.2
13.4	14.5	11.9
14		"

40.0	36.8	41.4
15.1	18.30	13.7
10	INJECT	10

Top 48" RCP 17+16

SPIKE PP 1

SPIKE TRANSFORMER

SPIKE PP 14+47 Rt

7.04	6.4	52.8
	7	5.4
		37 (LOW SPOT)

BIT SPIKE

Top 48" RCP

[illegible]

ML
BW
MR

APR 22, 80

Sunny 75°

ADDITIONAL

X SECTIONS

Ramsey County Home

~~*~~

+

π

—

BM

507

963.87

0+00

1+60

3+38

EAST

LT

I

RT

CONC BASE APC LITE 5+10 RT

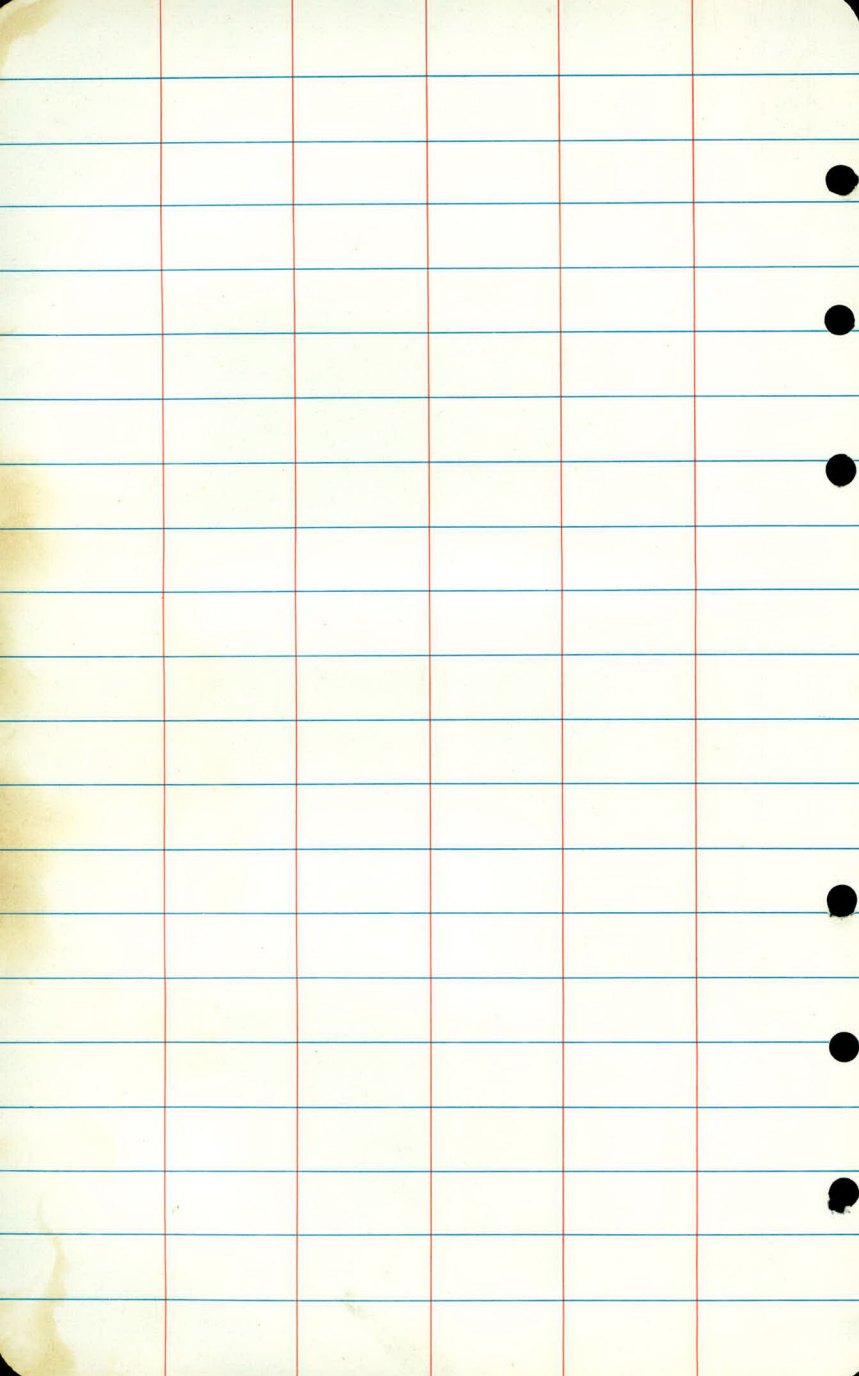
4.81	4.86	4.83	4.70	4.69
	25	50	75	100

4.53
125

5.60	5.26	4.85	4.54	4.01
100	75	50	25	

5.77	6.25	6.42	8.54
125	150	175	M.H.2

2.86	2.75	3.30
	25	45



M.L.
GA
DS
BW

FEB 14, 80
Cloudy 38°

Ramsay County Home
X SECTION

5+25 LT

+

A

-

Elev ✓

0.55

966.08

965.53

5+25

B.M.

4.69

961.39

(961.39)

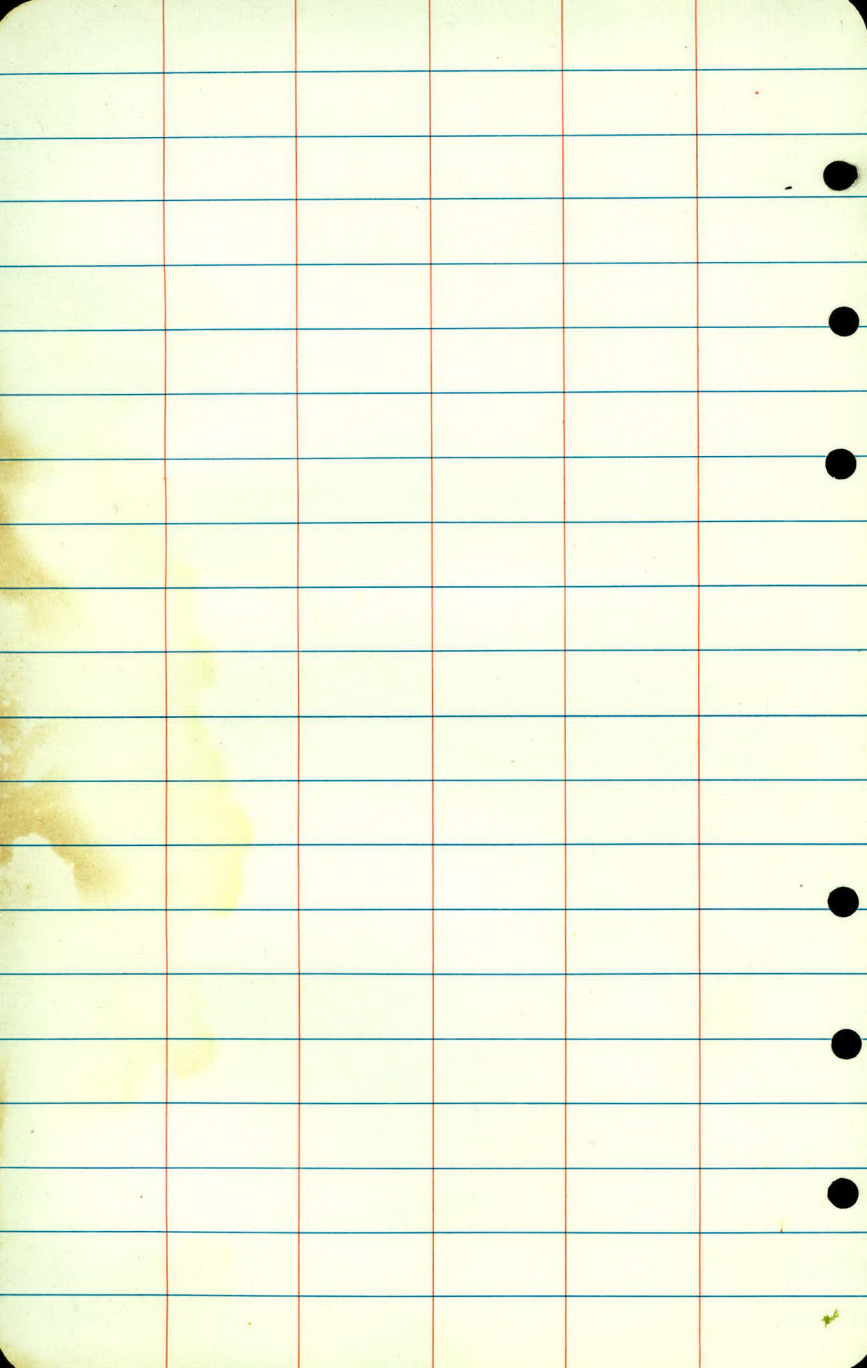
£

RT

NW Cor STEEL LITE BASE 4+50 RT

60.9	61.0	60.9	60.1	60.6		61.4
5.2	5.1	5.3	5.4	5.5	5.2	4.7
14	48	100	145	182	197	216
					Edg. of Rd	Bit

Top HYD 8+05 RT



JA
ML
DS
CM
BW

MARCH 26, 80.

SUNNY 34°

ADDITIONAL PROFILE GRADES

0+00 TO 5+50 Ramsey County

Hime Storm Sewer

X	STA	+	A	-	ELEV	
	BM	5.54	969.41		963.87	
	0+00			5.2	964.2	
				4.40 Gutter	965.01	
	+38			3.91 TC	965.50	
	+50			3.5	965.9	
	+75			2.9	966.5	
1						
	+25			2.5	966.9	
	+50			2.6	966.8	
	+75			2.7	966.7	
2						
	+25			3.05	966.36	Steps
	+50			2.7	966.7	
	+75			2.7	966.7	
3						
	+25			3.08	966.33	Steps
	+38			3.3	966.1	
	+45			3.80 T.C	965.61	
	+75			5.1	964.3	
4				5.5	963.9	

2

Conc ~~Box~~ ARC LTR 5+10 RT 6

65.54 66.7
3.87 2.7
13
T.C.

65.67 66.5
3.74 2.9
9
T.C.

65.66 66.6
3.75 2.8
9
T.C.

M.H. #1

STA

+

A

-

ELR ✓

969.41

4+25

6.1

63.3

+50

6.7

62.7

+75

6.7

62.7

5

7.1

62.3

+25

7.3

62.1

+50

7.7

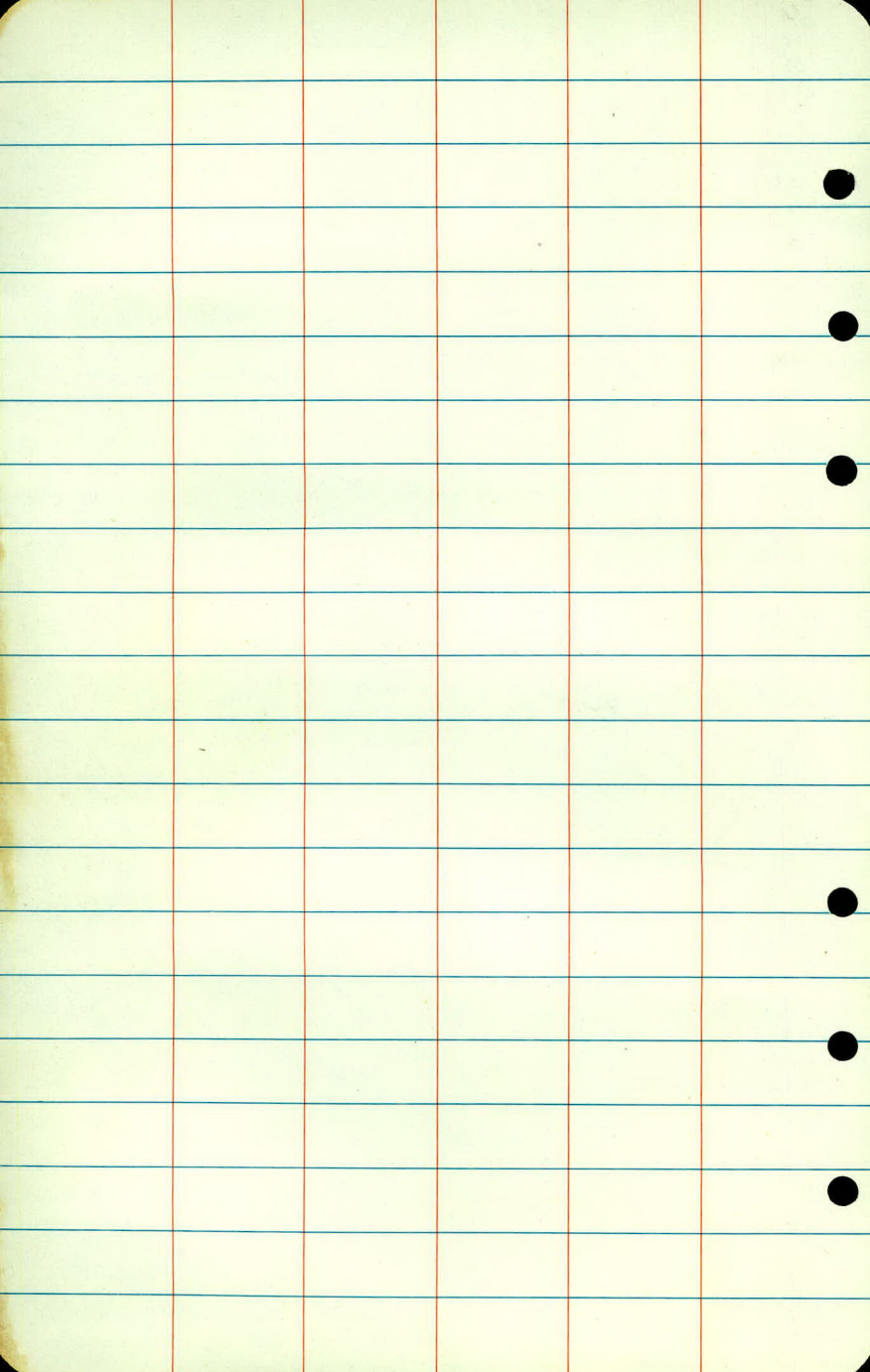
61.7

B.M.

5.54

963.87

Cond BASE 5410 LT 6



JA
ML
DS
BW

MAR

ADDITIONAL PROFILE

GRADES Ramsey County

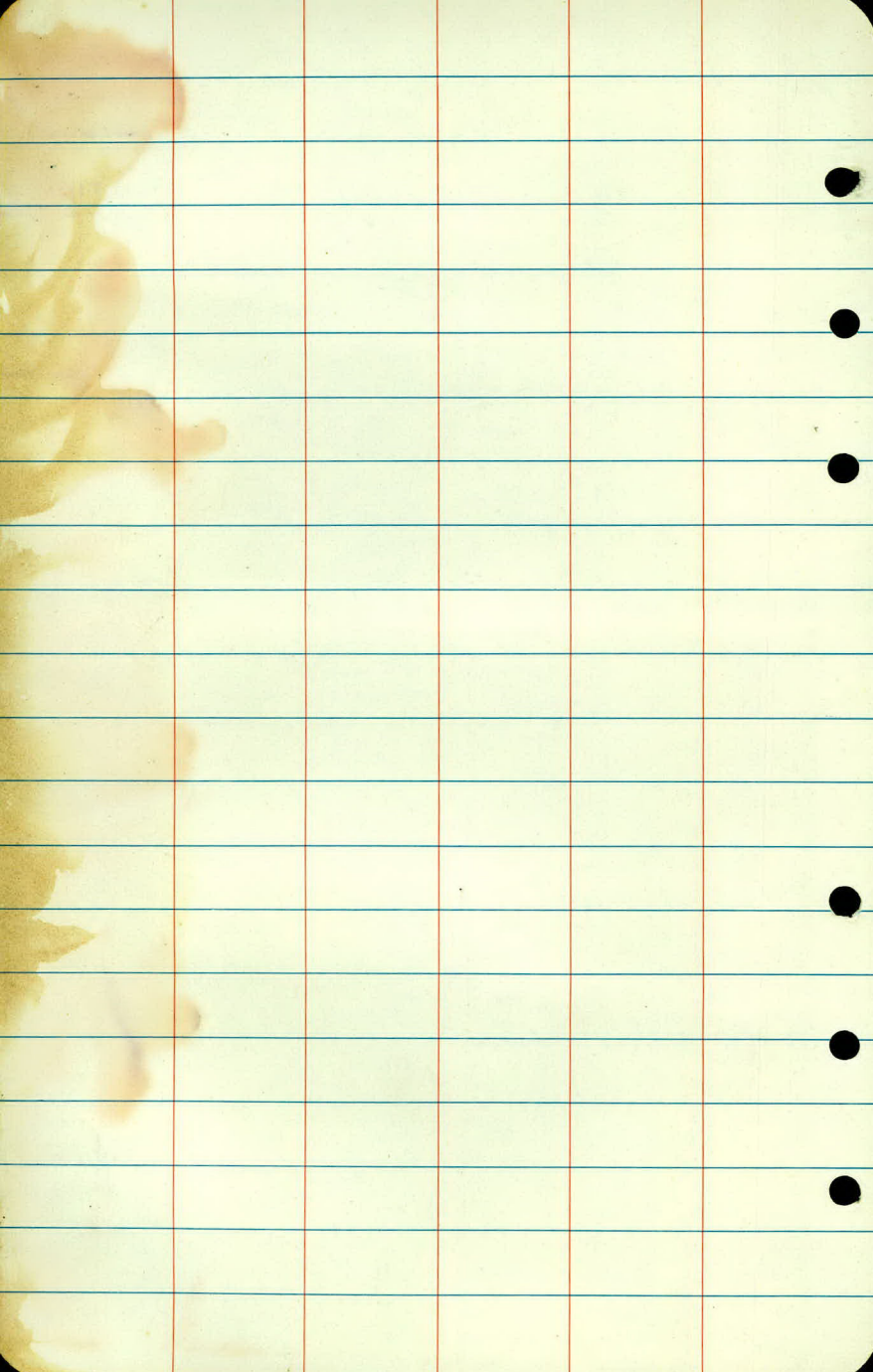
Hook 17+25

Sta	+	π	-	Elev
BM	3.50	955.40		951.90
17+25			3.6	951.8
+50			BIT 4.45	950.95
+75			4.4	951.0
18			4.9	950.5
+25			5.5	949.9
+50			6.1	949.3
+75			6.3	949.1
19			6.6	948.8
+25			7.2	948.2
+50			BIT 7.3	948.1
+75				
BM			3.43	951.97

NE Core Gas Pump

	+	π	-	ELL
B.M.	3.61	967.48		963.87
S+20 Lt/100'			7.5	959.98
(M.N.3)				
S+20 Lt/146'			6.9	960.58
S+20 Lt/166'			6.7	960.78
M.H.3 NO. 20'			5.7	961.78
PT. 1/2 DIST.				
APRON 2			7.9	959.58
(No. 42' OF M.H. #3)				
			3.61	

NW Cor Cone Base LITE 4460LT



STRUCTURAL DATA TYPE

STORM		ELECTRIC		WATER	
SANITARY	X	TELEPHONE		OTHER	
STATION		LEFT	RIGHT	SIZE	
1+18		23			11" INCH CAS

TYPE OF CONST.	COMMENTS
BLOCK	X
BRICK	
SECTIONAL	

ADJUSTING RINGS	TYPE	NO.	DEPTH	COMMENTS
BLOCK				
BRICK				
CONC. RINGS	1			

DEPTH FROM
BOTTOM OF M.H. TO TOP OF CASTING

ELEV.

11.91 952.20

DISTANCE
FROM HIGHEST
FLOW LINE TO
TOP OF CASTING

ETC.

INV.

SIZES OF ALL
PIPES AND
DIRECTION OF
FLOW

DESIGN

ELEVATION - TOP

FINAL ELEVATION

DIFFERENCES

ADJUST

RECONSTRUCT



964.11	

Top CASTING M.H. 10

INVERT M.H. 10

INVERT NORTH END 48"

NORTH END 48" To M.H. 61'

M.H. To SOUTH END 48" 178'

