FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	378A-03-68	1967	7	25

FINAL SURVEY	BY	DATE
SURVEYED		
PLOTTED		
NOTE BOOK TEMPLATE		
AREAS		
NO. AREAS CHECKED		

ORIGINAL SURVEY	BY	DATE
SURVEYED		
PLOTTED	S. Bega	10-27-1966
NOTE BOOK TEMPLATE		
AREAS		
NO. AREAS CHECKED		

Exc=44
Emb=5
2+50
C=44
F=0
Exc=156
Emb=0
2+00
C=124
F=0
Exc=280
Emb=0
E.P.
1+50
C=178
F=0
Exc=288
Emb=0
E.P.
1+00
C=133
F=0
Exc=181
Emb=0
E.P.
0+50
C=62
F=0
Exc=58
Emb=1
E.P.
0+00
C=1
F=1
Exc=1
Emb=1
-0+15
℄
Exc=22
Emb=0
6+00
C=12
F=0
Exc=20
Emb=0
5+50
C=10
F=0
Exc=17
Emb=0
5+00
C=8
F=0
Exc=17
Emb=0
4+50
C=10
F=0
Exc=29
Emb=0
4+00
C=21
F=0
Exc=26
Emb=3
3+50
C=7
F=3
Exc=9
Emb=7
3+00
C=3
F=5
℄
Exc=20
Emb=0
9+50
C=11
F=0
Exc=24
Emb=0
9+00
C=15
F=0
Exc=30
Emb=0
8+50
C=17
F=0
Exc=55
Emb=0
8+00
C=42
F=0
Exc=62
Emb=0
7+50
C=25
F=0
Exc=36
Emb=0
7+00
C=13
F=0
Exc=23
Emb=0
6+50
C=12
F=0
℄
Exc=31
Emb=1
12+50
C=21
F=0
Exc=43
Emb=0
12+00
C=25
F=0
Exc=60
Emb=0
11+50
C=40
F=0
Exc=48
Emb=0
11+00
C=12
F=0
Exc=23
Emb=0
10+50
C=13
F=0
Exc=21
Emb=0
10+00
C=10
F=0
℄

IMPROVEMENT NO. 9

5

K+E PLATE 3, CROSS SECTION
KEUFFEL & ESSER CO.
46 7052 MADE IN U.S.A. 28017

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	378A-03-68	1967	8	25

FINAL SURVEY	BY	DATE
SURVEYED		
PLOTTED		
TEMPLATE		
AREAS		
AREAS CHECKED		

NOTE BOOK NO.

ORIGINAL SURVEY	BY	DATE
SURVEYED		
PLOTTED	S. Bega	10-28-1966
TEMPLATE		
AREAS		
AREAS CHECKED		

NOTE BOOK NO.

Exc = 17 Emb = 0
15+50
C = 8 F = 0
Exc = 18 Emb = 0
15+00
C = 11 F = 0
Exc = 57 Emb = 0
14+50
C = 52 F = 0
Exc = 120 Emb = 0
14+00
C = 78 F = 0
Exc = 79 Emb = 1
13+50
C = 7 F = 1
Exc = 18 Emb = 2
13+00
C = 12 F = 1
Exc = 12 Emb = 7
18+50
C = 7 F = 7
Exc = 9 Emb = 33
18+00
C = 3 F = 29
Exc = 5 Emb = 56
17+50
C = 2 F = 31
Exc = 7 Emb = 43
17+00
C = 6 F = 15
Exc = 10 Emb = 24
16+50
C = 5 F = 32
Exc = 14 Emb = 30
16+00
C = 10 F = 0
Exc = 12 Emb = 0
21+50
C = 7 F = 0
Exc = 15 Emb = 0
21+00
C = 9 F = 0
Exc = 16 Emb = 0
20+50
C = 8 F = 10
Exc = 23 Emb = 0
20+00
C = 17 F = 0
Exc = 32 Emb = 0
19+50
C = 18 F = 0
Exc = 22 Emb = 1
19+00
C = 6 F = 1
Exc = 61 Emb = 0
24+50
C = 40 F = 0
Exc = 44 Emb = 1
24+00
C = 8 F = 1
Exc = 14 Emb = 1
23+50
C = 7 F = 0
Exc = 13 Emb = 0
23+00
C = 7 F = 0
Exc = 7 Emb = 7
22+50
C = 1 F = 8
Exc = 6 Emb = 7
22+00
C = 6 F = 0
℄

IMPROVEMENT NO. 9

K+E PLATE 3, CROSS SECTION KEUFFEL & ESSER CO.
46 7052

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	378A-03-68	1967	9	25

FINAL SURVEY
NOTE BOOK NO.
SURVEYED
PLOTTED
TEMPLATE
AREAS
AREAS CHECKED
BY
DATE

ORIGINAL SURVEY
NOTE BOOK NO.
SURVEYED
PLOTTED
TEMPLATE
AREAS
AREAS CHECKED
BY
DATE

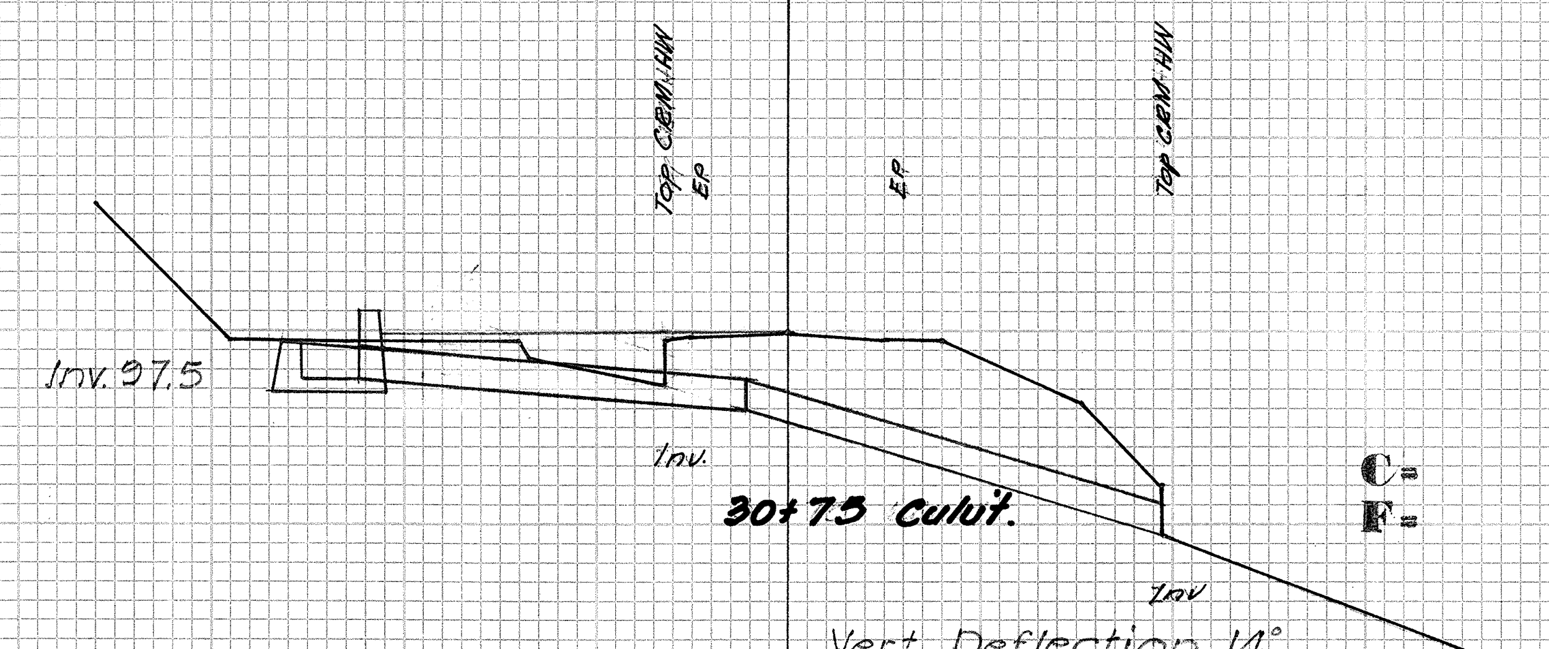
Exc = 88
Emb = 0
27+50
C = 28
F = 0
Exc = 56
Emb = 0
27+00
C = 32
F = 0
Exc = 40
Emb = 0
26+50
C = 11
F = 0
Exc = 17
Emb = 0
26+00
C = 7
F = 0
Exc = 18
Emb = 0
25+50
C = 12
F = 0
Exc = 36
Emb = 0
25+00
C = 26
F = 0
Exc = 9
Emb = 6
30+50
C = 8
F = 0
Exc = 19
Emb = 0
30+00
C = 12
F = 0
Exc = 47
Emb = 0
29+50
C = 39
F = 0
Exc = 49
Emb = 0
29+00
C = 14
F = 0
Exc = 118
Emb = 0
28+50
C = 113
F = 0
Exc = 167
Emb = 0
28+00
C = 67
F = 0
Exc = 6
Emb = 29
E.P.
33+50
GR
C = 1
F = 31
Exc = 10
Emb = 52
E.P.
33+00
GR
C = 10
F = 25
Exc = 12
Emb = 82
32+50
GR
C = 3
F = 63
Exc = 6
Emb = 91
32+00
GR
C = 3
F = 35
Exc = 5
Emb = 70
31+50
GR
C = 2
F = 41
Exc = 4
Emb = 44
31+00
GR
C = 2
F = 7
Exc =
Emb =
E.P.
34+50
GR
C = 0
F = 0
Exc = 5
Emb = 0
E.P.
34+00
GR
C = 5
F = 0
℄
℄
℄
℄

IMPROVEMENT NO. 9

K+E PLATE 3, CROSS SECTION
KEUFFEL & ESSER CO.
46 7052 MADE IN U.S.A.

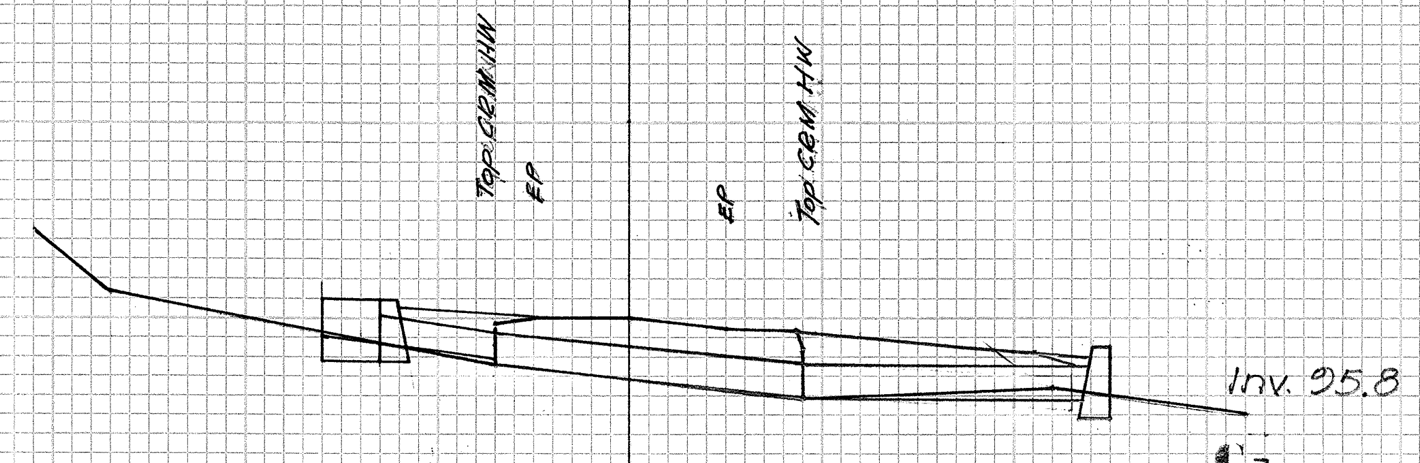
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	378A-03-68	1967	10	25

Note: ℄ Culvert Station Elevation
is 100.00 (Assumed)


Top C.R.M. H.W
EP
EP
Top C.R.M. H.W
Inv. 97.5
Inv.
Inv
C=
F=

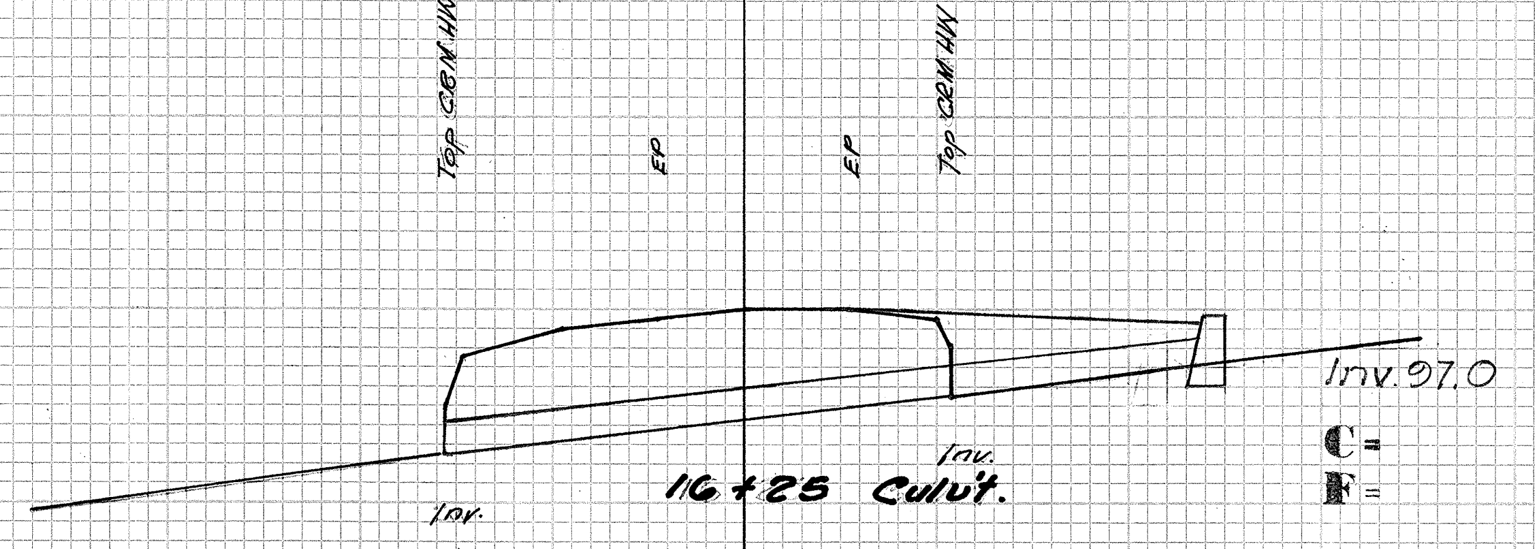
30+75 Culvt.

Vert. Deflection 14°
Remove 4' of exist. pipe
to make connection

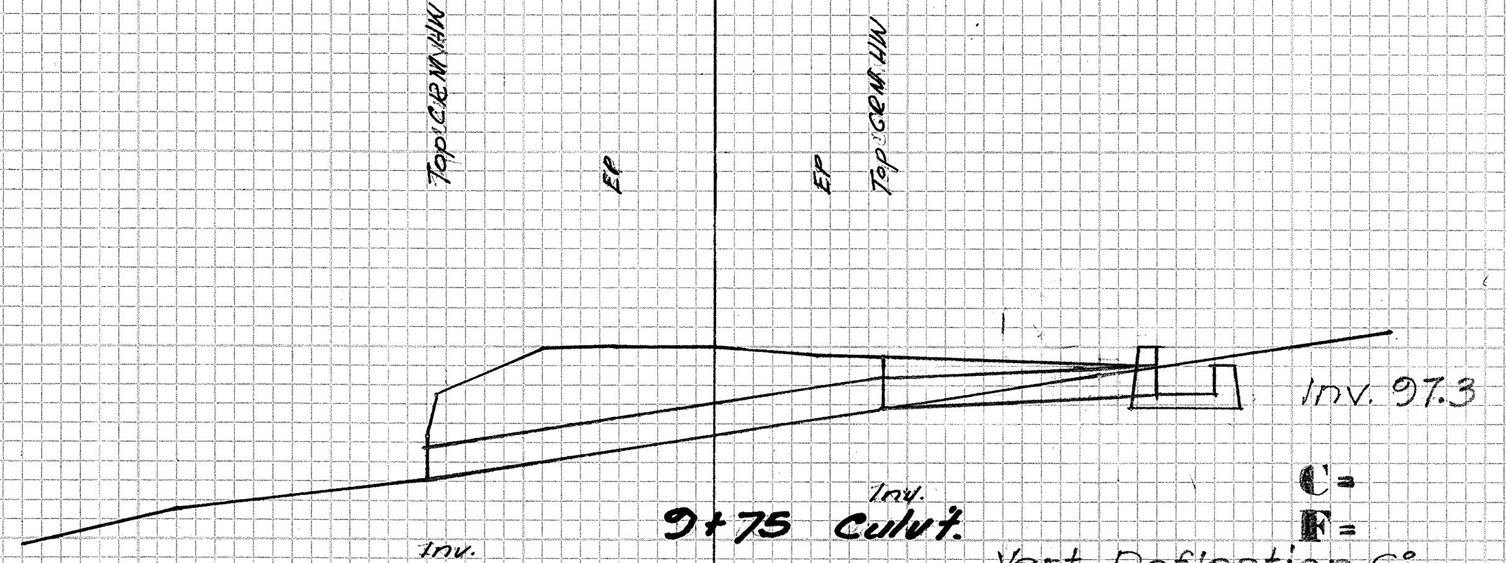

Top C.R.M. H.W
EP
EP
Top C.R.M. H.W
Inv. 95.8
C=
F=

20+36 Culvt.

Vert. Deflection 4°

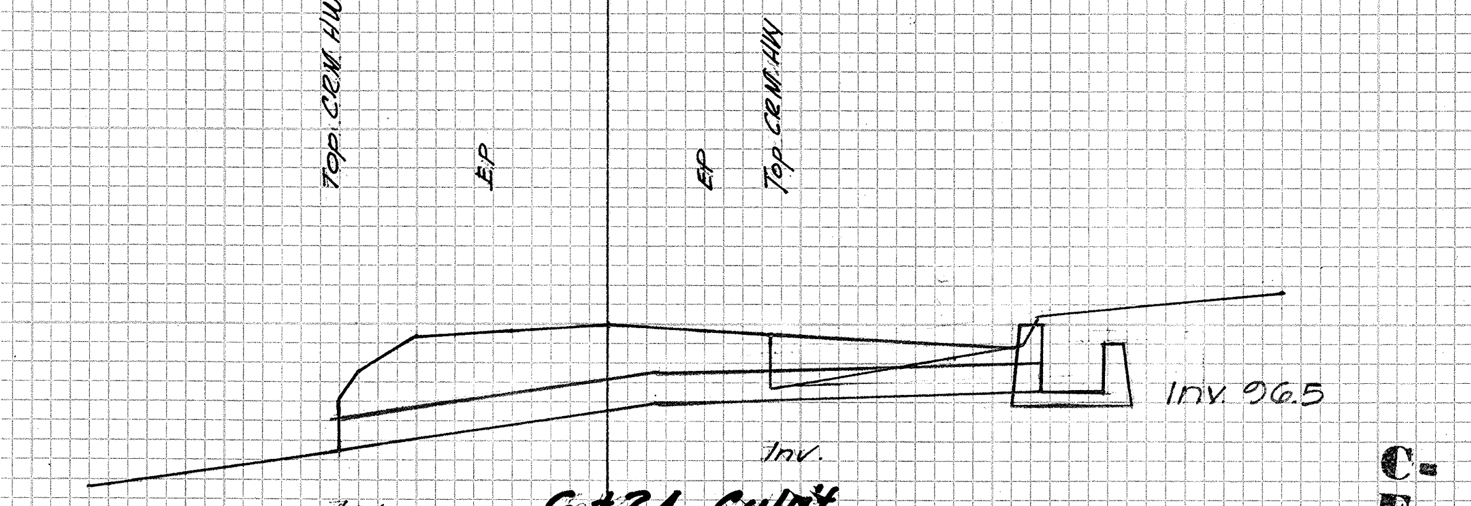

Top C.R.M. H.W
EP
EP
Top C.R.M. H.W
Inv. 97.0
Inv.
Inv.
C=
F=

16+25 Culvt.


Top C.R.M. H.W
EP
EP
Top C.R.M. H.W
Inv. 97.3
Inv.
Inv.
C=
F=

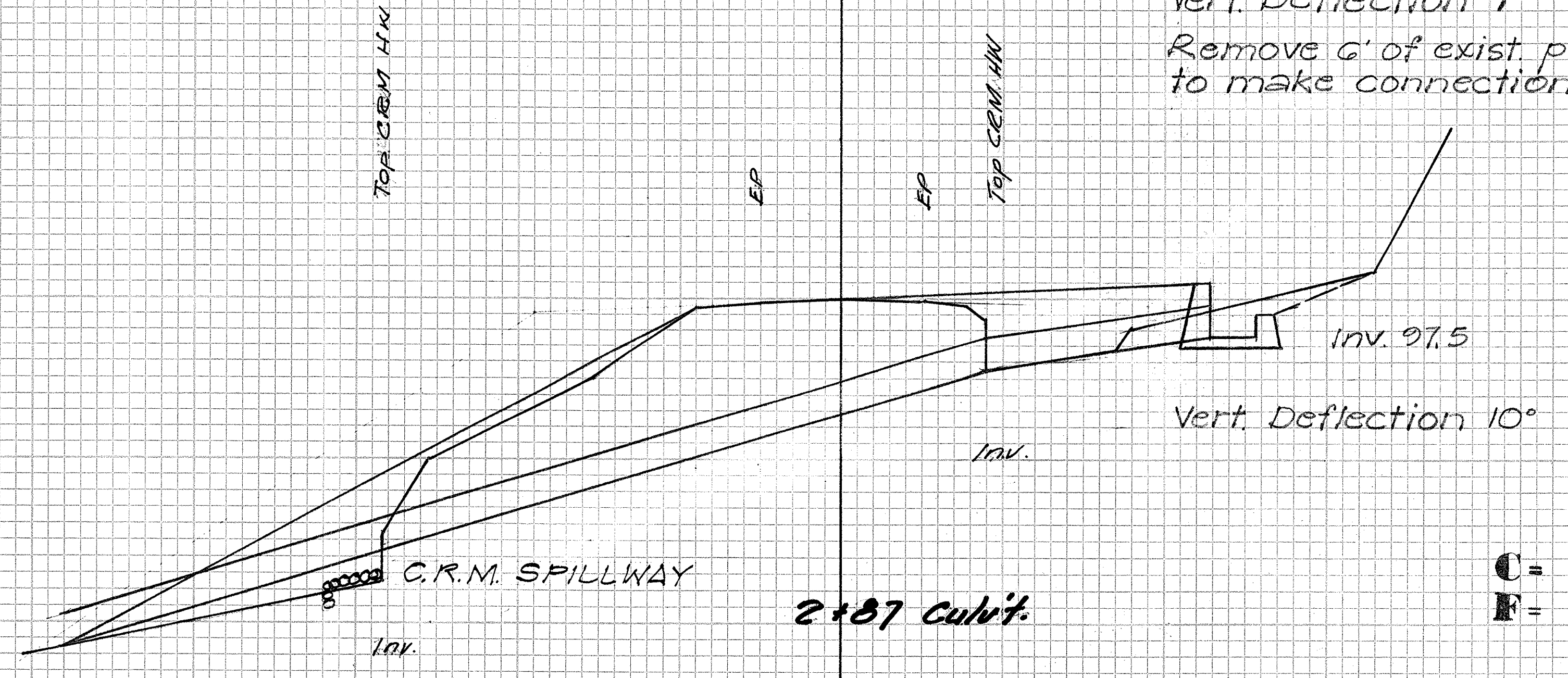
9+75 Culvt.

Vert. Deflection 6°


Top C.R.M. H.W
EP
EP
Top C.R.M. H.W
Inv. 96.5
Inv.
Inv.
C=
F=

6+26 Culvt.

Vert. Deflection 7°
Remove 6' of exist. pipe
to make connection


Top C.R.M. H.W
EP
EP
Top C.R.M. H.W
Inv. 97.5
Inv.
C.R.M. SPILLWAY
Inv.
C=
F=

Vert. Deflection 10°

2+87 Culvt.

IMPROVEMENT NO. 9

FINAL SURVEY
SURVEYED
PLOTTED
TEMPLATE
AREAS
AREAS CHECKED
NOTE BOOK NO.
BY
DATE

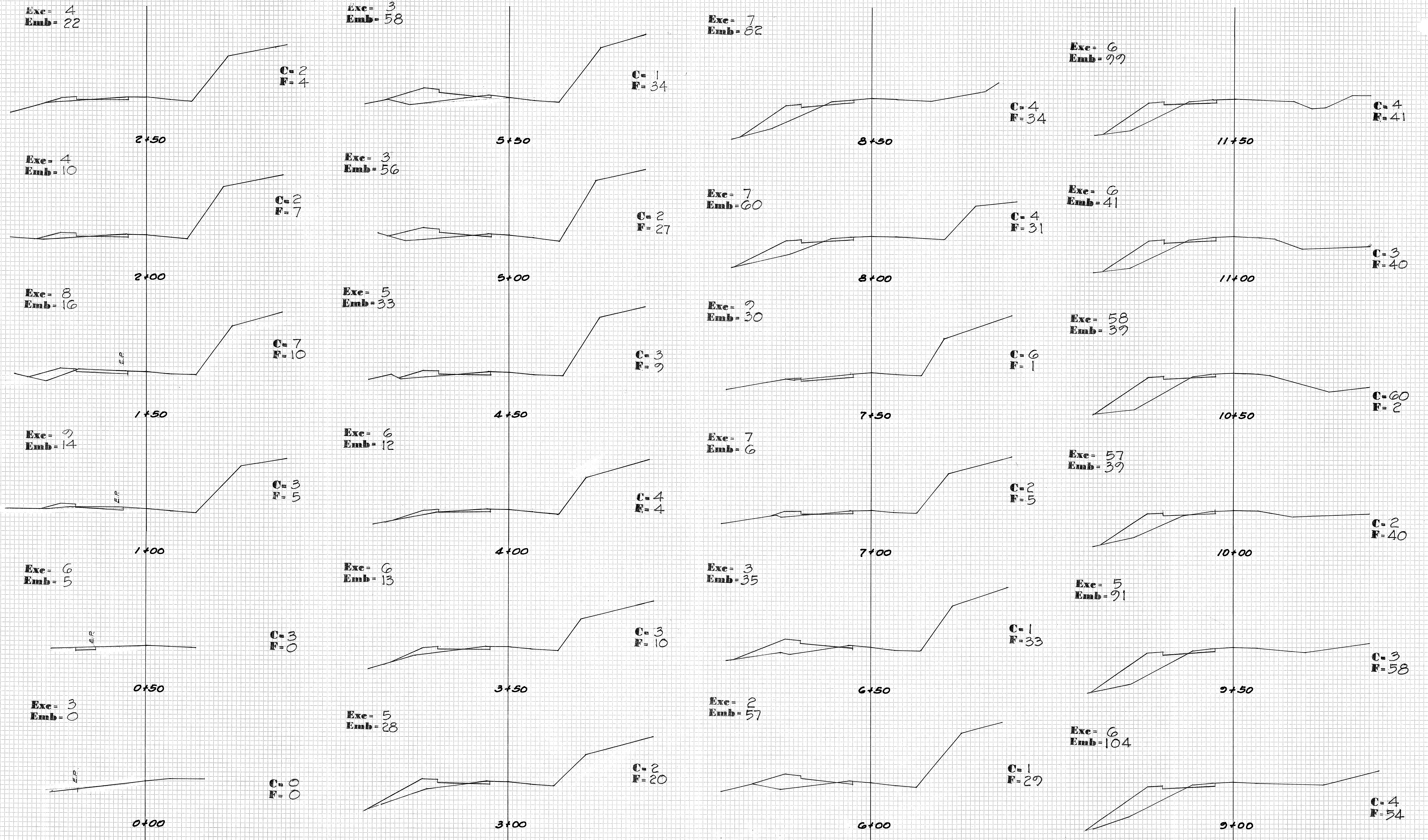
ORIGINAL SURVEY
SURVEYED
PLOTTED
TEMPLATE
AREAS
AREAS CHECKED
NOTE BOOK NO.
BY
DATE

K+E PLATE 3, CROSS SECTION
KEUFFEL & ESSER CO.
46 7052 MADE IN U.S.A.

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	378A-03-68	1967	11	25

FINAL SURVEY	BY	DATE
SURVEYED		
PLOTTED		
TEMPLATE		
AREAS		
AREAS CHECKED		
NOTE BOOK NO.		

ORIGINAL SURVEY	BY	DATE
SURVEYED		
PLOTTED	L. CHIKASA	10-31-1966
TEMPLATE		
AREAS		
AREAS CHECKED		
NOTE BOOK NO.		


Exc= 4 Emb= 22
C= 2 F= 4
2+50
Exc= 4 Emb= 10
C= 2 F= 7
2+00
Exc= 8 Emb= 16
E.P.
C= 7 F= 10
1+50
Exc= 9 Emb= 14
E.P.
C= 3 F= 5
1+00
Exc= 6 Emb= 5
E.P.
C= 3 F= 0
0+50
Exc= 3 Emb= 0
E.P.
C= 0 F= 0
0+00
Exc= 3 Emb= 58
C= 1 F= 34
5+50
Exc= 3 Emb= 56
C= 2 F= 27
5+00
Exc= 5 Emb= 33
C= 3 F= 9
4+50
Exc= 6 Emb= 12
C= 4 F= 4
4+00
Exc= 6 Emb= 13
C= 3 F= 10
3+50
Exc= 5 Emb= 28
C= 2 F= 20
3+00
Exc= 7 Emb= 82
C= 4 F= 34
8+50
Exc= 7 Emb= 60
C= 4 F= 31
8+00
Exc= 9 Emb= 30
C= 6 F= 1
7+50
Exc= 7 Emb= 6
C= 2 F= 5
7+00
Exc= 3 Emb= 35
C= 1 F= 33
6+50
Exc= 2 Emb= 57
C= 1 F= 29
6+00
Exc= 6 Emb= 99
C= 4 F= 41
11+50
Exc= 6 Emb= 41
C= 3 F= 40
11+00
Exc= 58 Emb= 39
C= 60 F= 2
10+50
Exc= 57 Emb= 39
C= 2 F= 40
10+00
Exc= 5 Emb= 91
C= 3 F= 58
9+50
Exc= 6 Emb= 104
C= 4 F= 54
9+00

IMPROVEMENT NO. 10

18

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	378A-03-68	1967	12	25

Exc= 5
Emb= 118
C= 2
F= 101
15+00
Exc= 5
Emb= 127
C= 3
F= 36
14+50
Exc= 6
Emb= 46
C= 3
F= 14
14+00
Exc= 5
Emb= 19
C= 2
F= 7
13+50
Exc= 4
Emb= 17
C= 2
F= 11
13+00
Exc= 4
Emb= 55
C= 2
F= 48
12+50
Exc= 4
Emb= 106
C= 2
F= 66
12+00
Exc= 28
Emb= 1
C= 8
F= 1
18+00
Exc= 14
Emb= 2
C= 7
F= 1
17+50
Exc= 19
Emb= 1
C= 13
F= 0
17+00
Exc= 15
Emb= 2
C= 3
F= 10
16+50
Exc= 6
Emb= 18
C= 3
F= 9
16+00
Exc= 6
Emb= 33
C= 3
F= 27
15+50
Exc= 35
Emb= 3
C= 8
F= 1
21+50
Exc= 13
Emb= 2
C= 6
F= 1
21+00
Exc= 15
Emb= 1
C= 10
F= 0
20+50
Exc= 19
Emb= 0
C= 11
F= 0
20+00
Exc= 24
Emb= 0
C= 15
F= 0
19+50
Exc= 46
Emb= 0
C= 35
F= 0
19+00
Exc= 53
Emb= 0
C= 22
F= 0
18+50
Exc= 18
Emb= 7
C= 15
F= 0
25+00
Exc= 91
Emb= 0
C= 83
F= 0
24+50
Exc= 182
Emb= 0
C= 113
F= 0
24+00
Exc= 218
Emb= 0
C= 122
F= 0
23+50
Exc= 152
Emb= 0
C= 42
F= 0
23+00
Exc= 126
Emb= 0
C= 94
F= 0
22+50
Exc= 115
Emb= 2
C= 30
F= 2
22+00

NOTE: Line shifted to Left Side at Contractor's request. No additional cost to State.

IMPROVEMENT NO. 10

FINAL SURVEY		BY	DATE
NOTE BOOK	SURVEYED		
	PLOTTED		
	TEMPLATE		
	AREAS		
NO.	AREAS CHECKED		

ORIGINAL SURVEY		BY	DATE
NOTE BOOK	SURVEYED		
	PLOTTED	S. Beyo	11-1-1966
	TEMPLATE		
	AREAS		
NO.	AREAS CHECKED		

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K+E PLATE 3, CROSS SECTION KEUFFEL & ESSER CO.
46 7052 MADE IN U.S.A.

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	378A-03-68	1967	13	25

Note: ℄ Culvert Station Elevation is 100.00 (Assumed)

FINAL SURVEY	BY	DATE
SURVEYED		
PLOTTED		
TEMPLATE		
AREAS		
AREAS CHECKED		
NOTE BOOK NO.		

ORIGINAL SURVEY	BY	DATE
SURVEYED		
PLOTTED	S. Bega	11-4-1966
TEMPLATE		
AREAS		
AREAS CHECKED		
NOTE BOOK NO.		

C= 14
F= 0
28+50
Exc= 29
Emb= 0
C= 17
F= 0
28+00
Exc= 33
Emb= 0
C= 19
F= 0
27+50
Exc= 19
Emb= 4
G.R.
C= 2
F= 4
27+00
Exc= 4
Emb= 7
G.R.
C= 2
F= 4
26+50
Exc= 4
Emb= 20
G.R.
C= 2
F= 17
26+00
Exc= 6
Emb= 22
G.R.
C= 4
F= 7
25+50
Exc= 12
Emb= 1
C= 6
F= 0
32+00
Exc= 14
Emb= 0
C= 9
F= 0
31+50
Exc= 11
Emb= 3
C= 3
F= 3
31+00
Exc= 8
Emb= 4
C= 6
F= 1
30+50
Exc= 12
Emb= 1
C= 7
F= 0
30+00
Exc= 14
Emb= 0
C= 8
F= 0
29+50
Exc= 19
Emb= 0
C= 12
F= 0
29+00
Exc= 24
Emb= 0
Exc= 9
Emb= 8
E.P.
C= 4
F= 13
35+57⁶
Exc= 7
Emb= 10
C= 4
F= 2
35+00
Exc= 3
Emb= 6
C= 3
F= 4
34+50
Exc= 9
Emb= 4
C= 7
F= 0
34+00
Exc= 19
Emb= 0
C= 14
F= 0
33+50
Exc= 20
Emb= 0
C= 8
F= 0
33+00
Exc= 14
Emb= 1
C= 7
F= 1
32+50
Top of C.R.M. H.W.
E.P.
E.P.
Top of C.R.M. H.W.
Inv. 97.5
35+58⁶ Culv't.
Top of C.R.M. H.W.
E.P.
E.P.
Top of C.R.M. H.W.
Inv. 96.5
Inv.
Inv.
25+60 Culv't.
Top of C.R.M. H.W.
E.P.
E.P.
Top of C.R.M. H.W.
Inv. 92.0
Inv.
Inv.
10+58 Culv't.
C = 0
F 0
E.P.
Exc= 6
Emb= 0
E.P.
36+57⁶
C= 6
F= 0
36+07⁶
℄
℄
℄
℄

IMPROVEMENT NO. 10

PLATE 3 CROSS SECTION B. P. R. & R. E. STANDARD
100% RAG PAPER—MADE AND PRINTED IN U. S. A.
EUGENE DIETZGEN CO.

13

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	378A-03-68	1967	14	25

FINAL SURVEY
NOTE BOOK NO.
SURVEYED
PLOTTED
TEMPLATE
AREAS
AREAS CHECKED
BY
DATE

ORIGINAL SURVEY
NOTE BOOK NO.
SURVEYED
PLOTTED Orikasa, Bega
TEMPLATE
AREAS
AREAS CHECKED
BY
DATE 11-4-1966

Exc= 17
Emb= 1
C= 16
F= 0
2+00
Exc= 68
Emb= 0
E.P.
C= 57
F= 0
1+50
Exc= 68
Emb= 0
E.P.
C= 16
F= 0
1+00
Exc= 25
Emb= 0
E.P.
C= 7
F= 0
0+50
Exc= 10
Emb= 0
E.P.
C= 0
F= 0
0+00
Exc= 45
Emb= 2
C= 32
F= 0
4+50
Exc= 107
Emb= 0
C= 84
F= 0
4+00
Exc= 183
Emb= 0
C= 114
F= 0
3+50
Exc= 132 132
Emb= 0 0
C= 28
F= 0
3+00
Exc= 31
Emb= 1
C= 5
F= 1
2+50
Exc= 10
Emb= 0
C= 5
F= 4
7+00
Exc= 6
Emb= 6
C= 2
F= 3
6+50
Exc= 7
Emb= 6
C= 6
F= 4
6+00
Exc= 10
Emb= 6
C= 5
F= 2
5+50
Exc= 20
Emb= 4
C= 17
F= 2
5+00
Exc= 11
Emb= 63
C= 5
F= 68
9+50
Exc= 13
Emb= 148
C= 9
F= 92
9+00
Exc= 11
Emb= 104
C= 3
F= 20
8+50
Exc= 7
Emb= 31
C= 5
F= 13
8+00
Exc= 10
Emb= 12
C= 6
F= 0
7+50
℄
℄
℄
℄

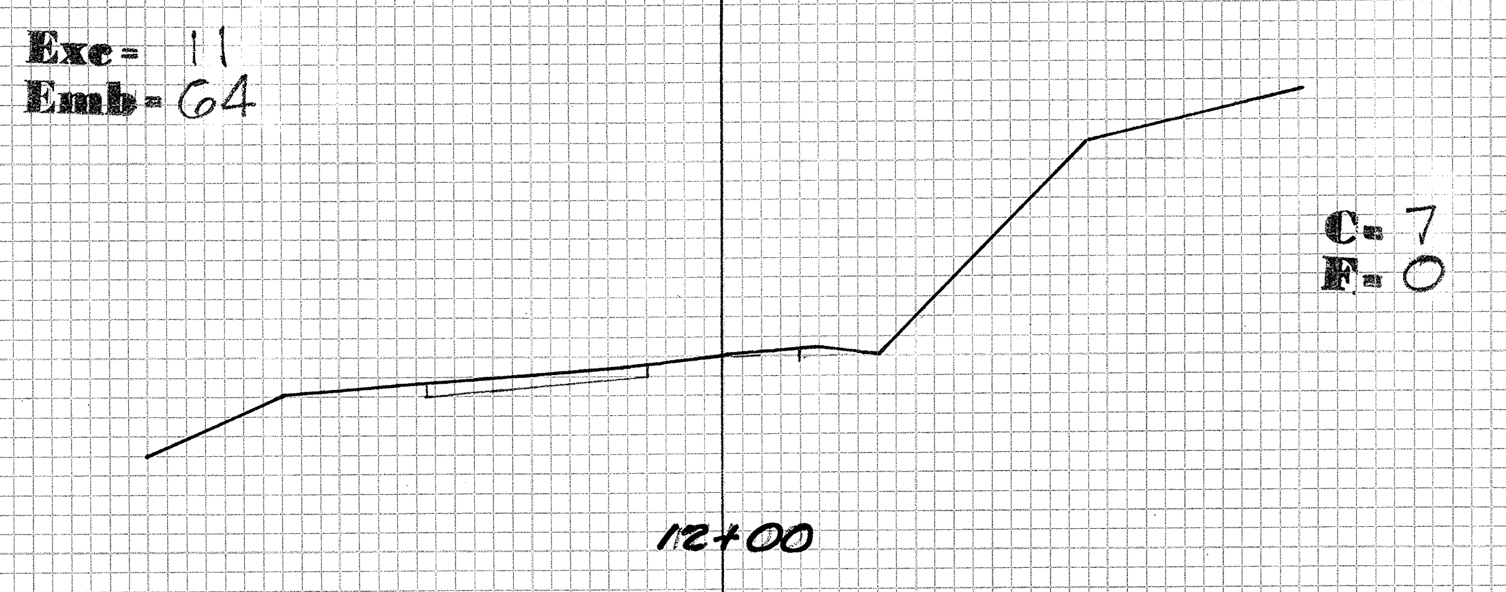
IMPROVEMENT NO. 11

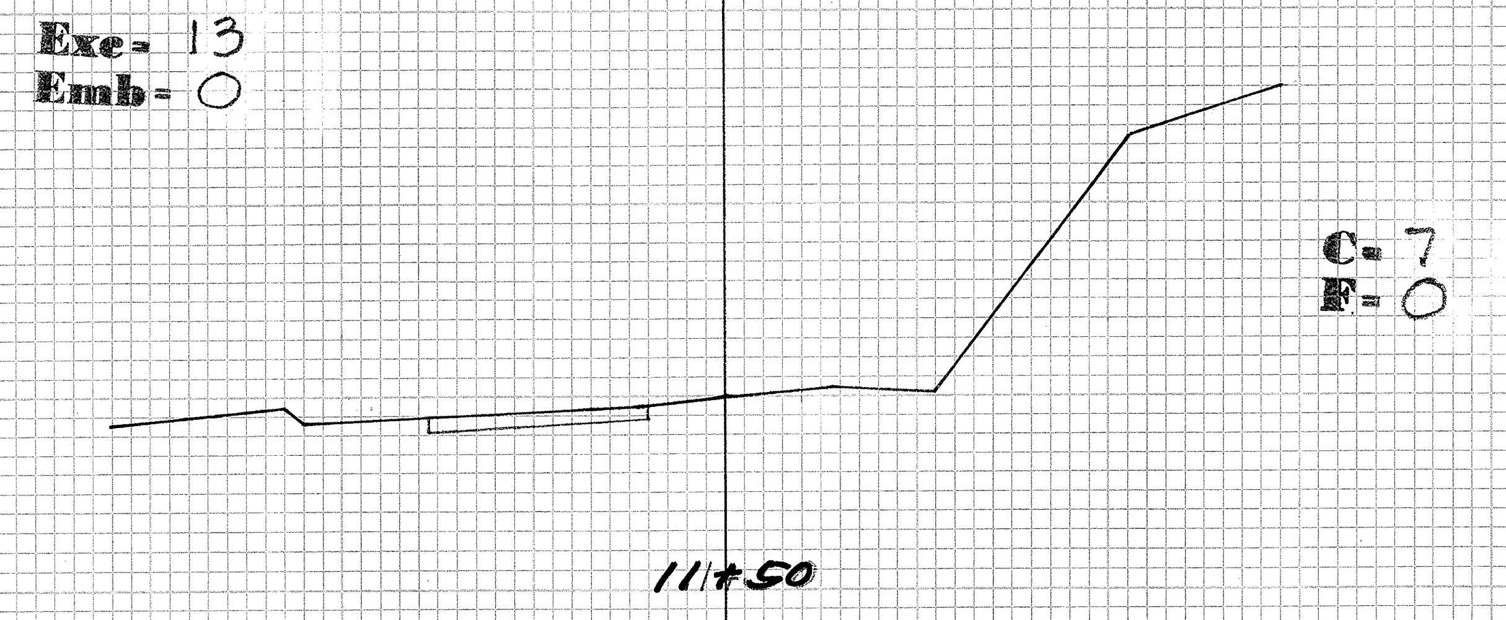
K+E PLATE 3, CROSS SECTION KEUFFEL & ESSER CO.
46 7062

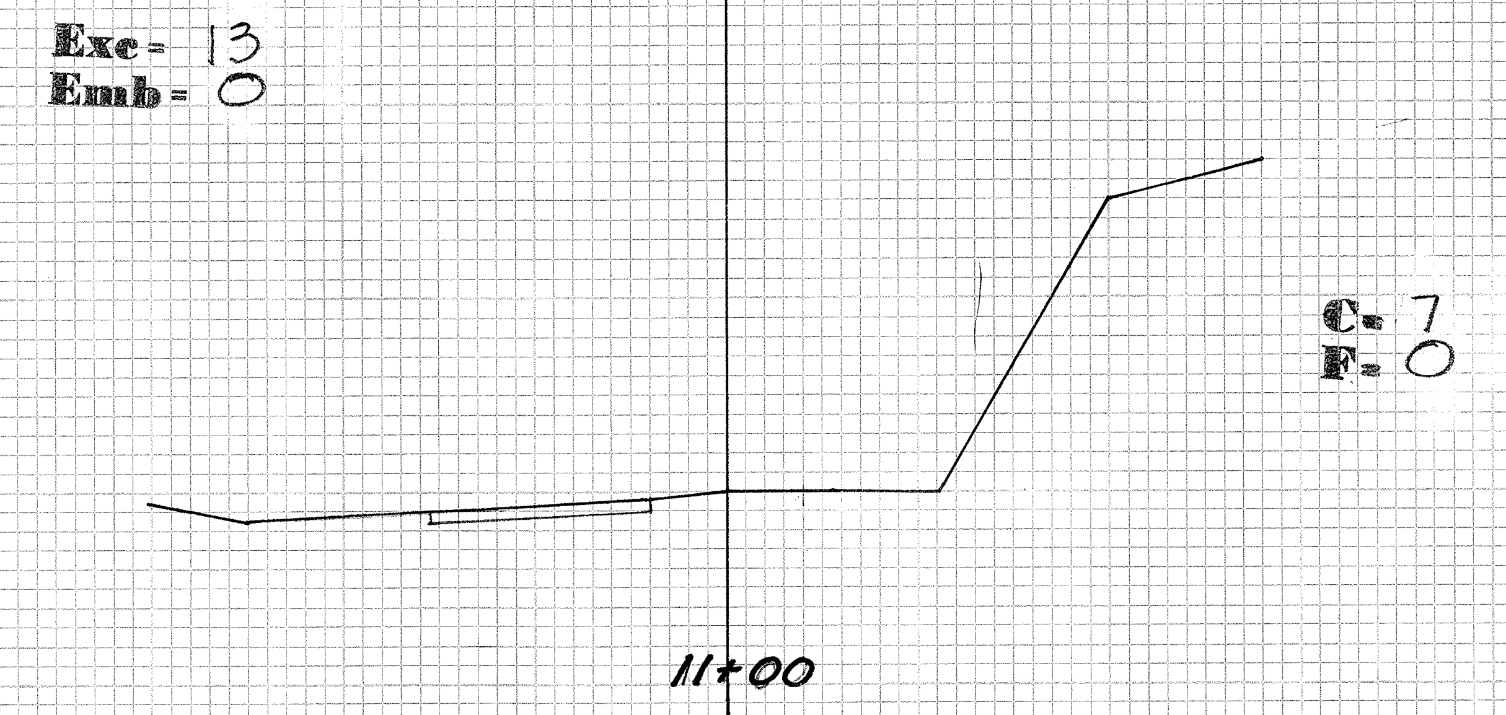
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	378A-03-68	1967	15	25

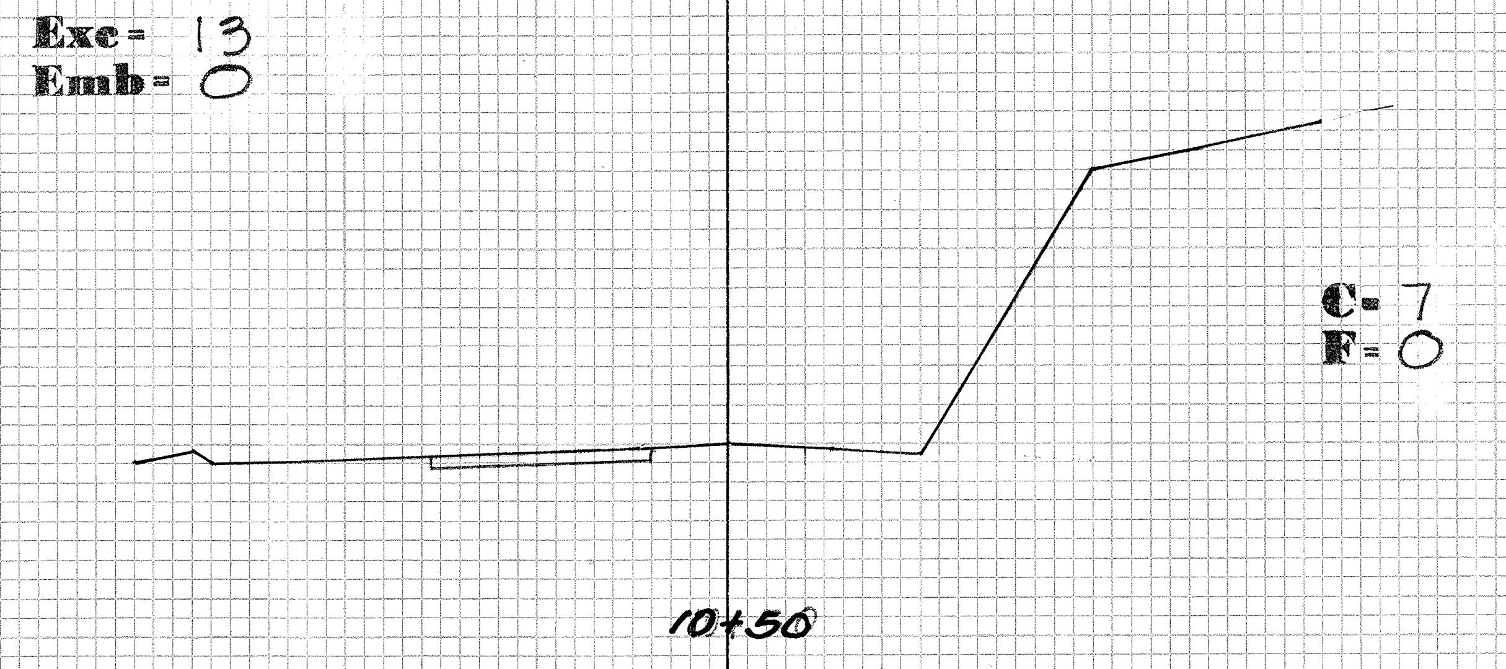
FINAL SURVEY
NOTE BOOK
NO.
SURVEYED
PLOTTED
TEMPLATE
AREAS
AREAS CHECKED
BY
DATE

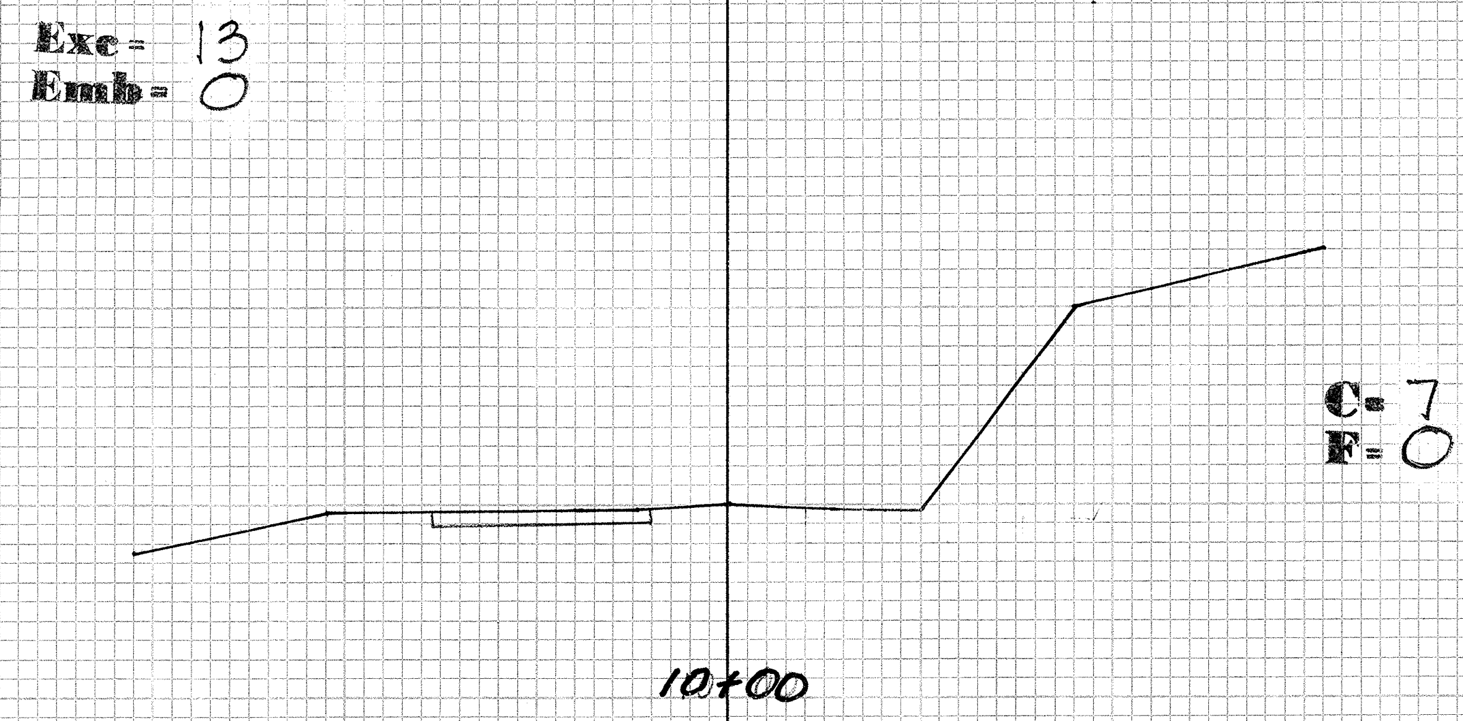
ORIGINAL SURVEY
NOTE BOOK
NO.
SURVEYED S. Bega 11-7-1966
PLOTTED
TEMPLATE
AREAS
AREAS CHECKED
BY
DATE

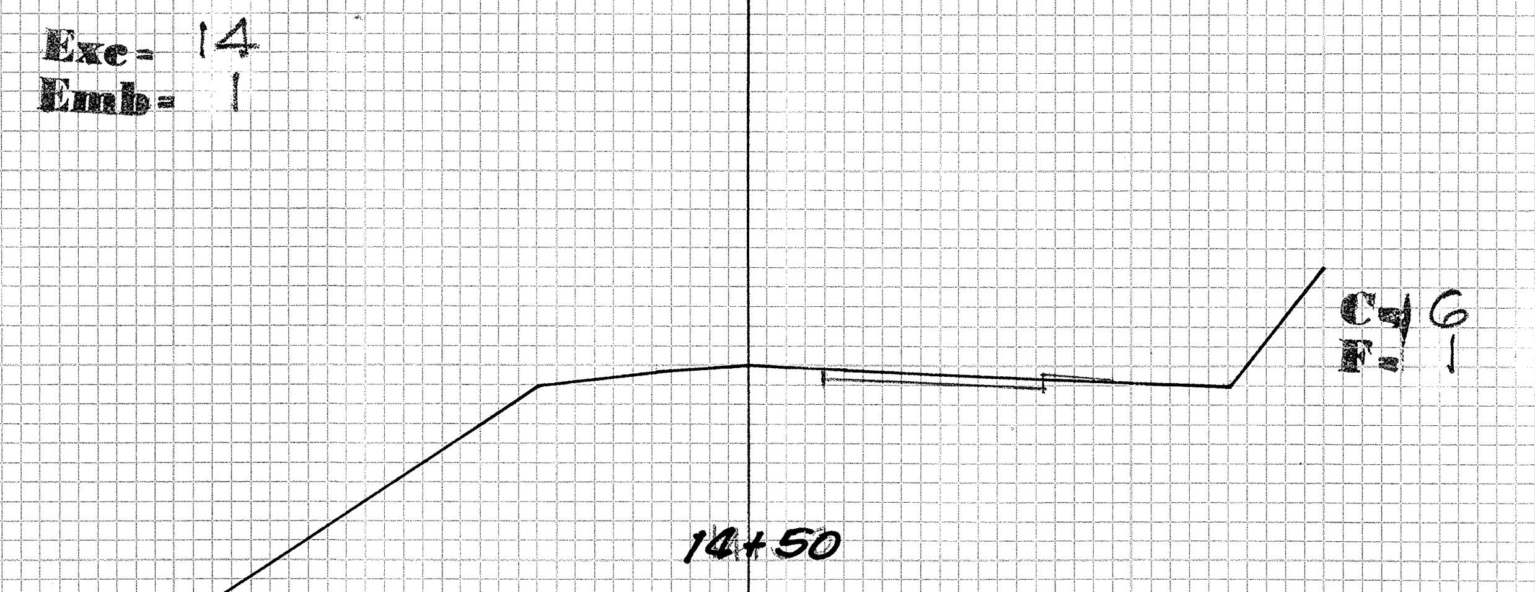

Exc = 11
Emb = 64
C = 7
F = 0
12+00

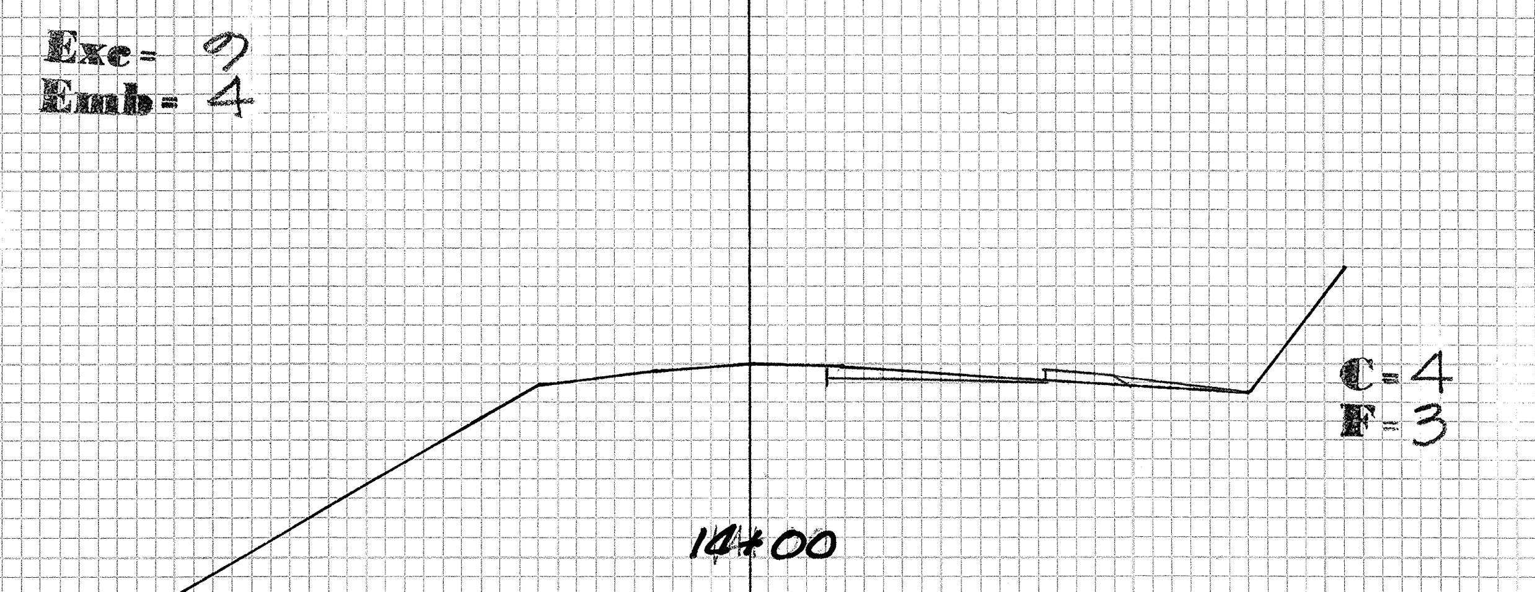

Exc = 13
Emb = 0
C = 7
F = 0
11+50

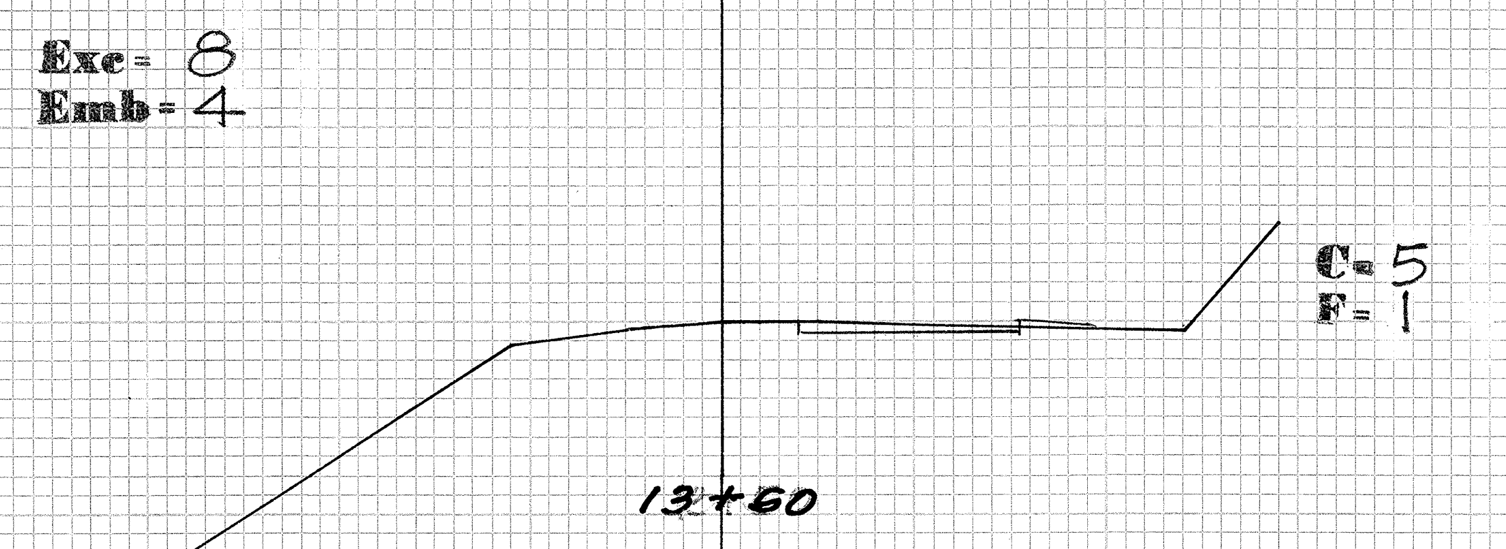

Exc = 13
Emb = 0
C = 7
F = 0
11+00

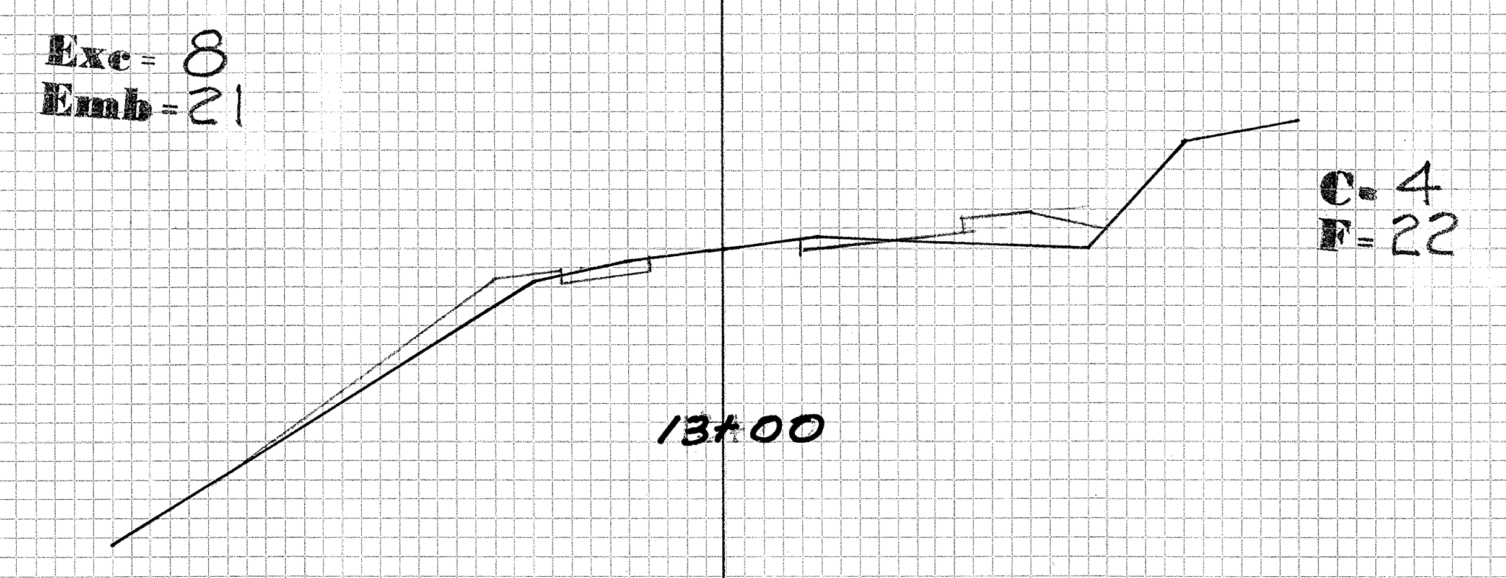

Exc = 13
Emb = 0
C = 7
F = 0
10+50

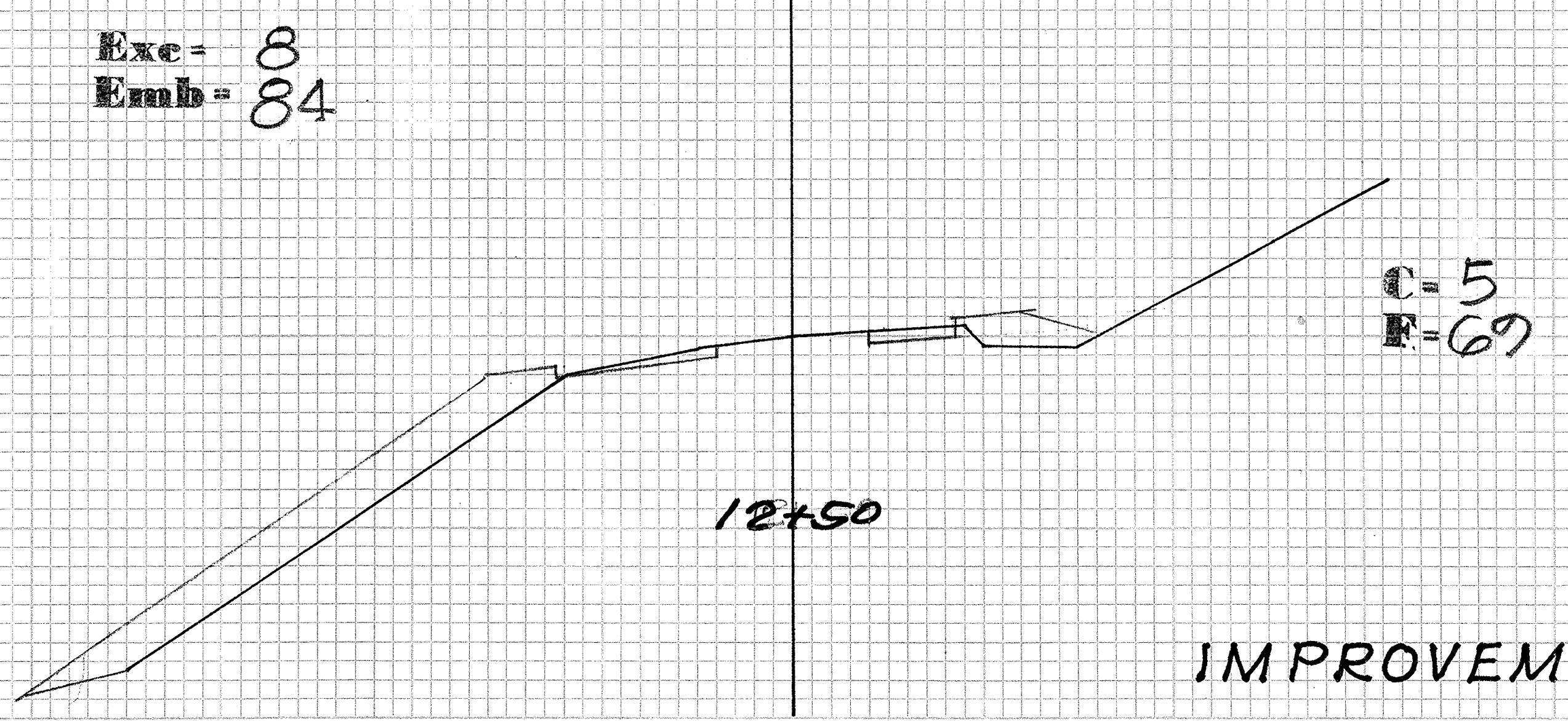

Exc = 13
Emb = 0
C = 7
F = 0
10+00

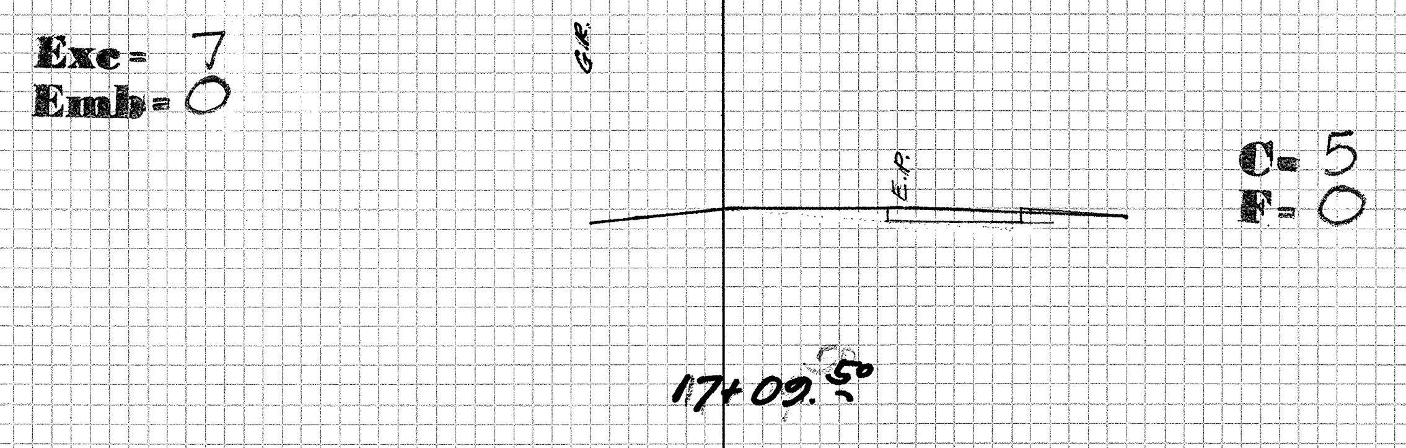

Exc = 14
Emb = 1
C = 6
F = 1
14+50

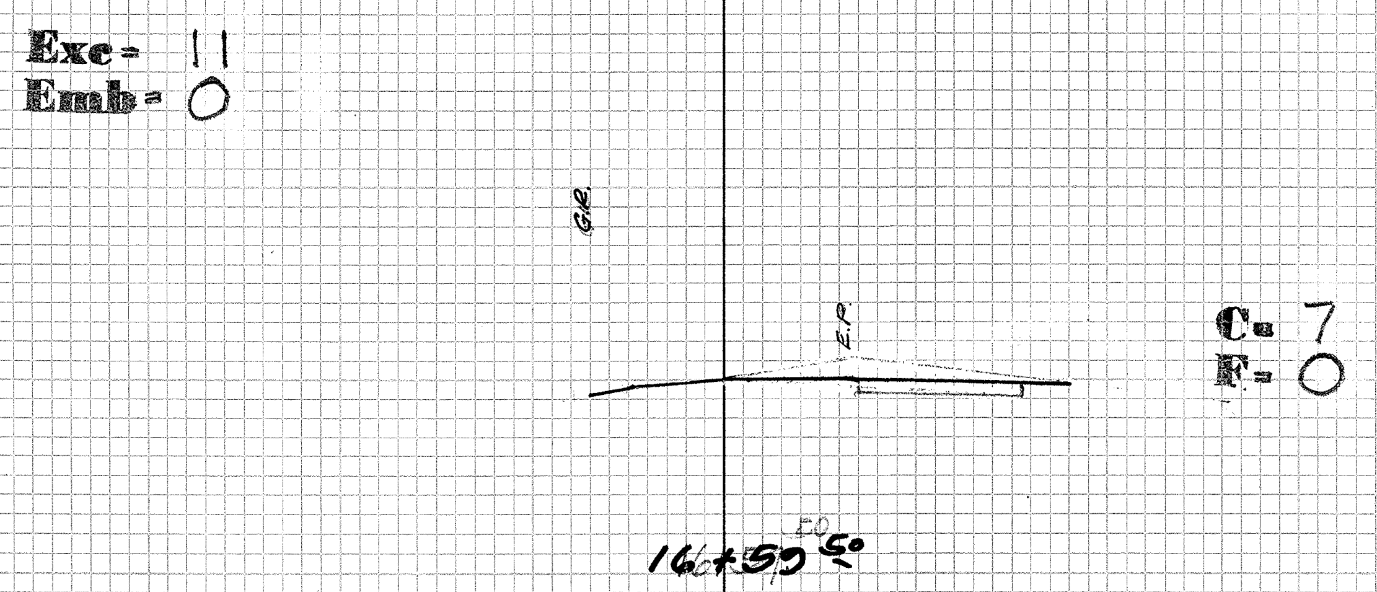

Exc = 9
Emb = 4
C = 4
F = 3
14+00

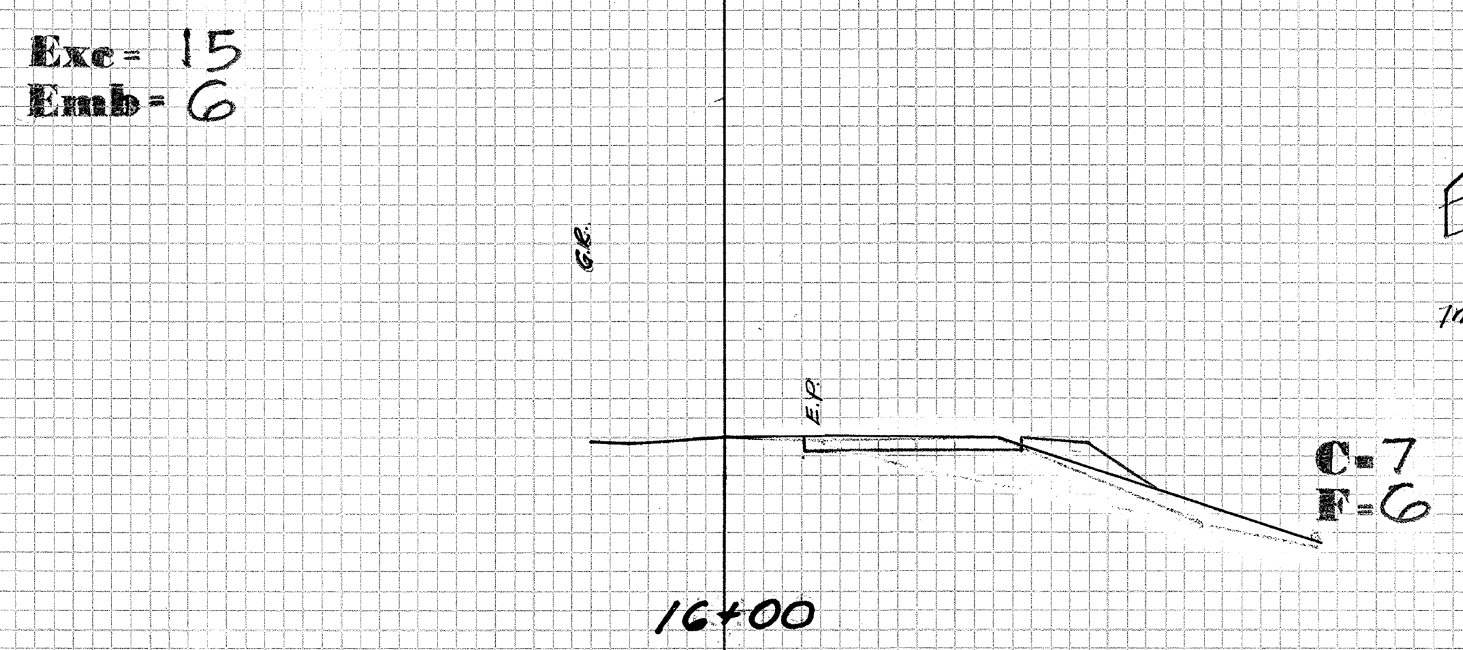

Exc = 8
Emb = 4
C = 5
F = 1
13+50

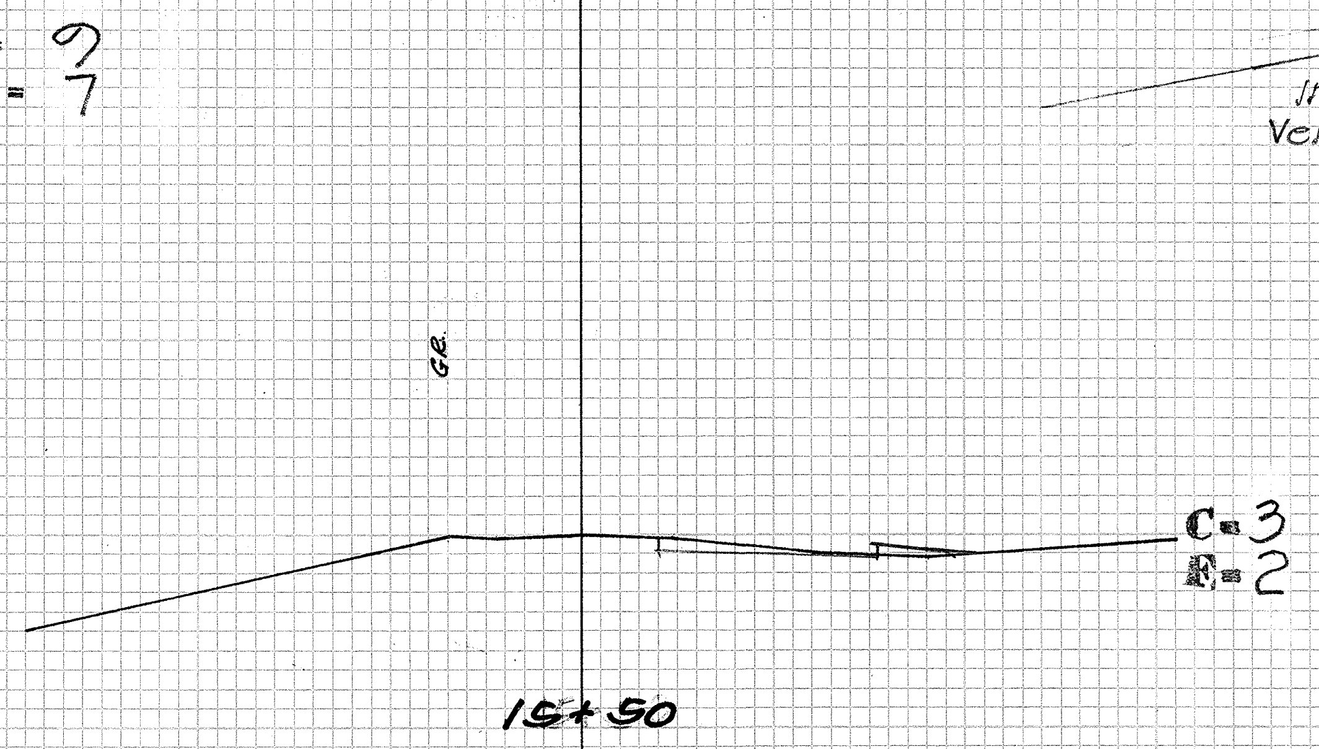

Exc = 8
Emb = 21
C = 4
F = 22
13+00

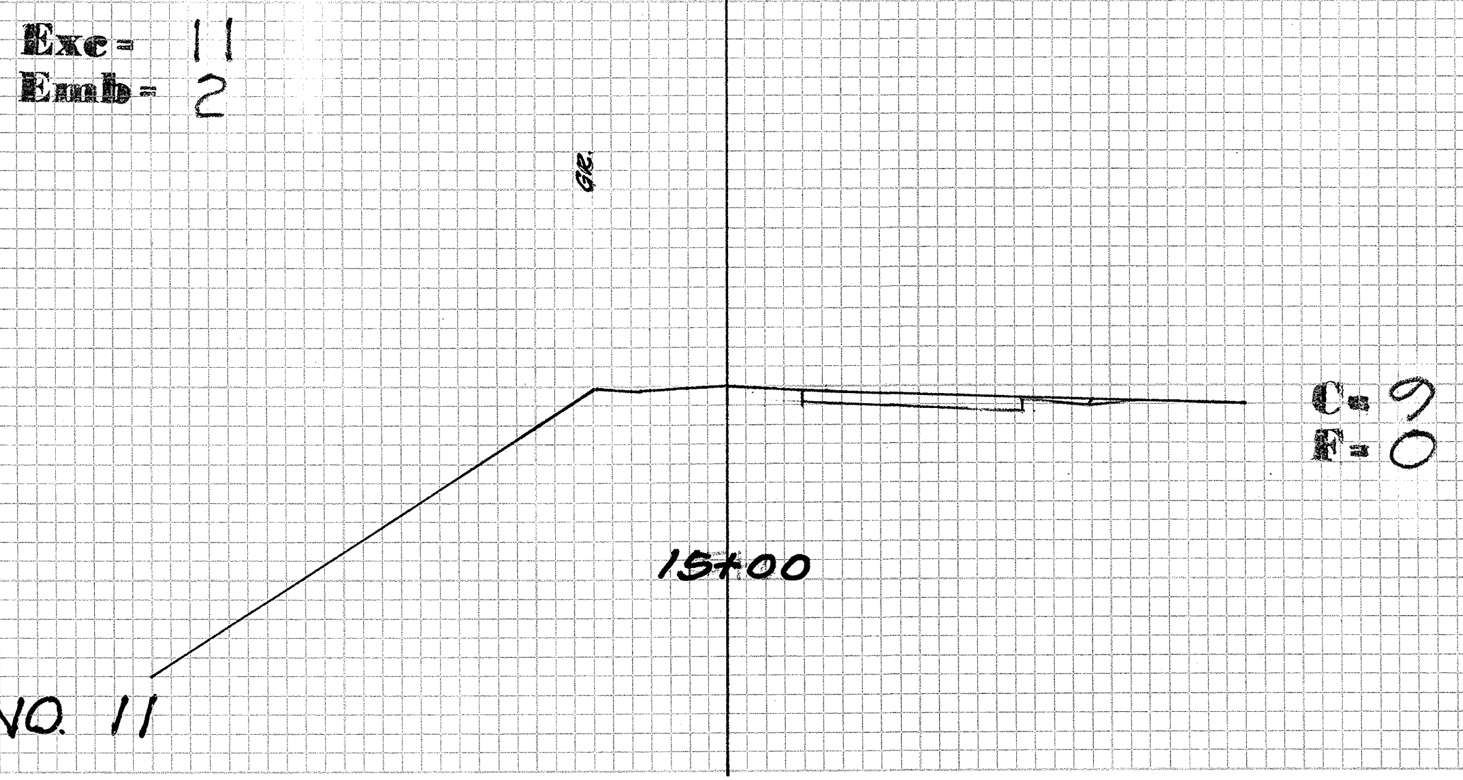

Exc = 8
Emb = 84
C = 5
F = 69
12+50

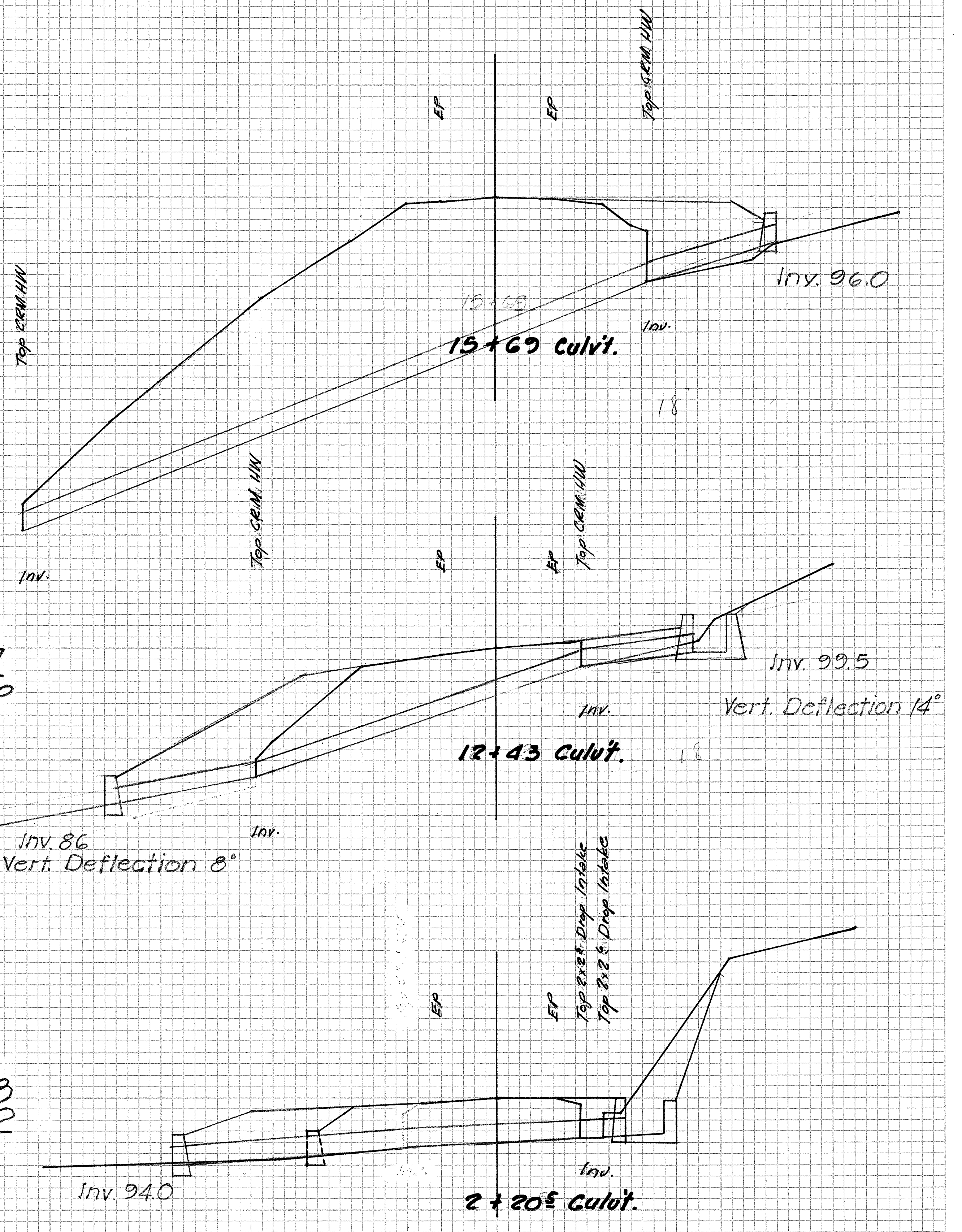

Exc = 7
Emb = 0
G.R.
E.P.
C = 5
F = 0
17+09.50

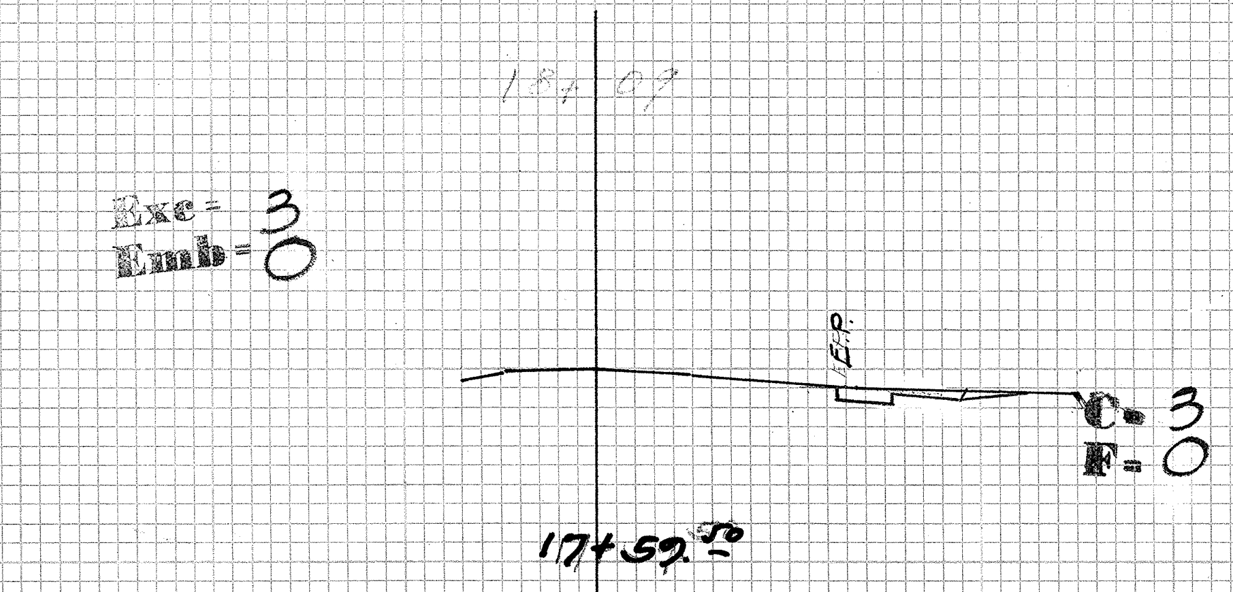

Exc = 11
Emb = 0
G.R.
E.P.
C = 7
F = 0
16+59.50


Exc = 15
Emb = 6
G.R.
E.P.
C = 7
F = 6
16+00


Exc = 9
Emb = 7
G.R.
C = 3
E = 2
15+50


Exc = 11
Emb = 2
G.R.
C = 9
F = 0
15+00


Top CRM HW
EP
EP
Top CRM HW
15+69
Inv. 96.0
Inv.
15+69 Culvt.
18
Inv.
Top CRM HW
EP
EP
Top CRM HW
Inv. 99.5
Inv.
Vert. Deflection 14°
12+43 Culv't.
18
Inv. 86
Inv.
Vert. Deflection 8°
EP
EP
Top 2x2 S Drop Intake
Top 2x2 S Drop Intake
Inv.
Inv. 94.0
2+20S Culv't.


Exc = 3
Emb = 0
E.P.
C = 3
F = 0
17+59.50

IMPROVEMENT NO. 11

PLATE 3 CROSS SECTION O. P. R. & R. E. STANDARD
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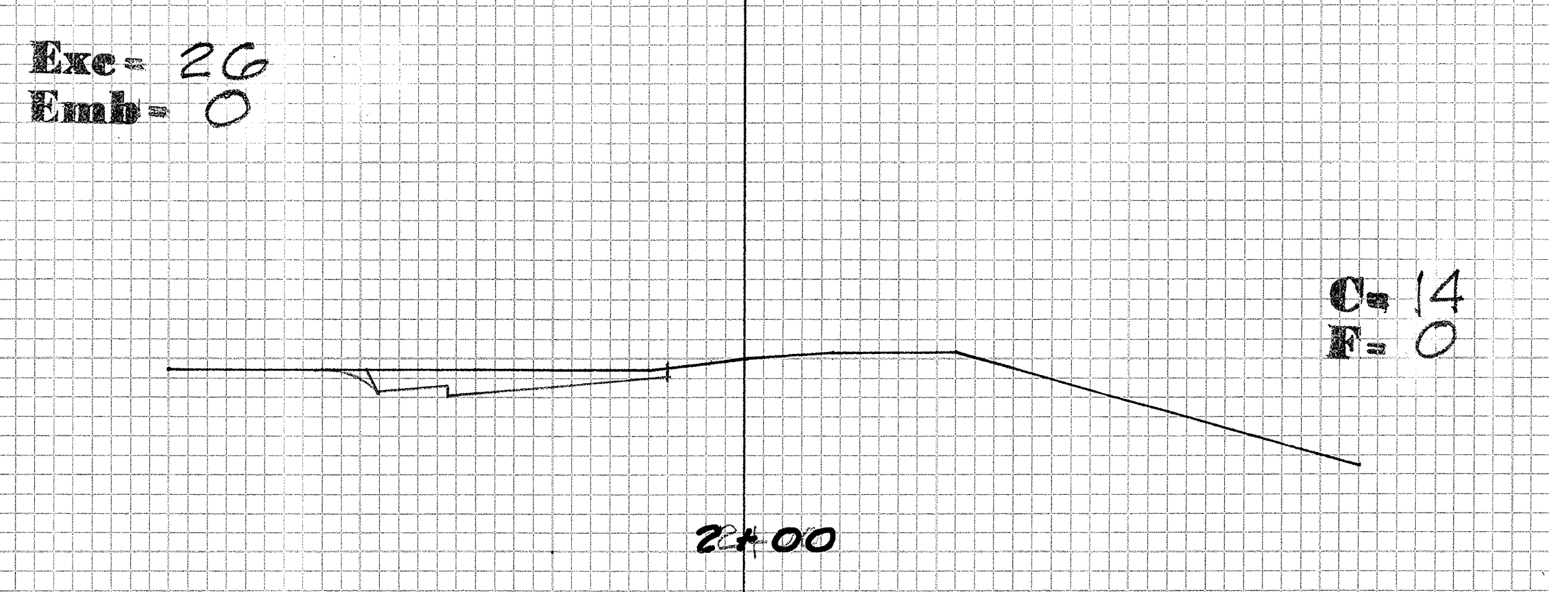
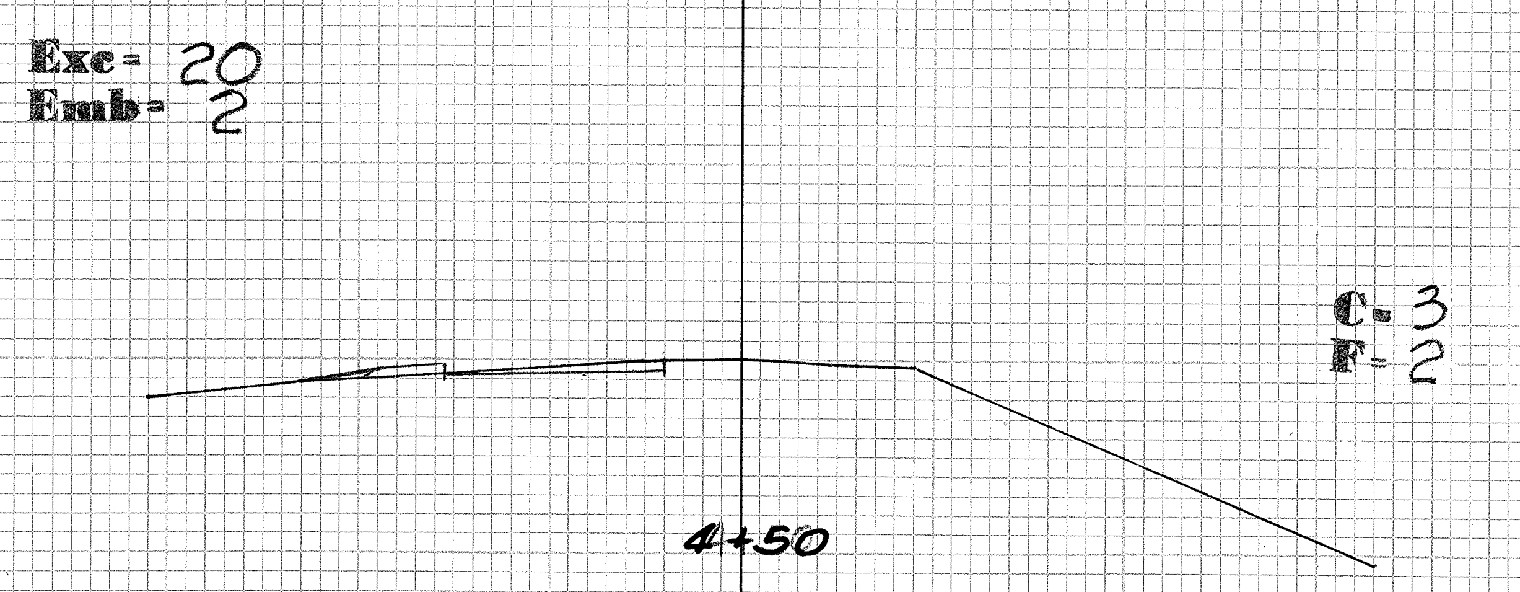
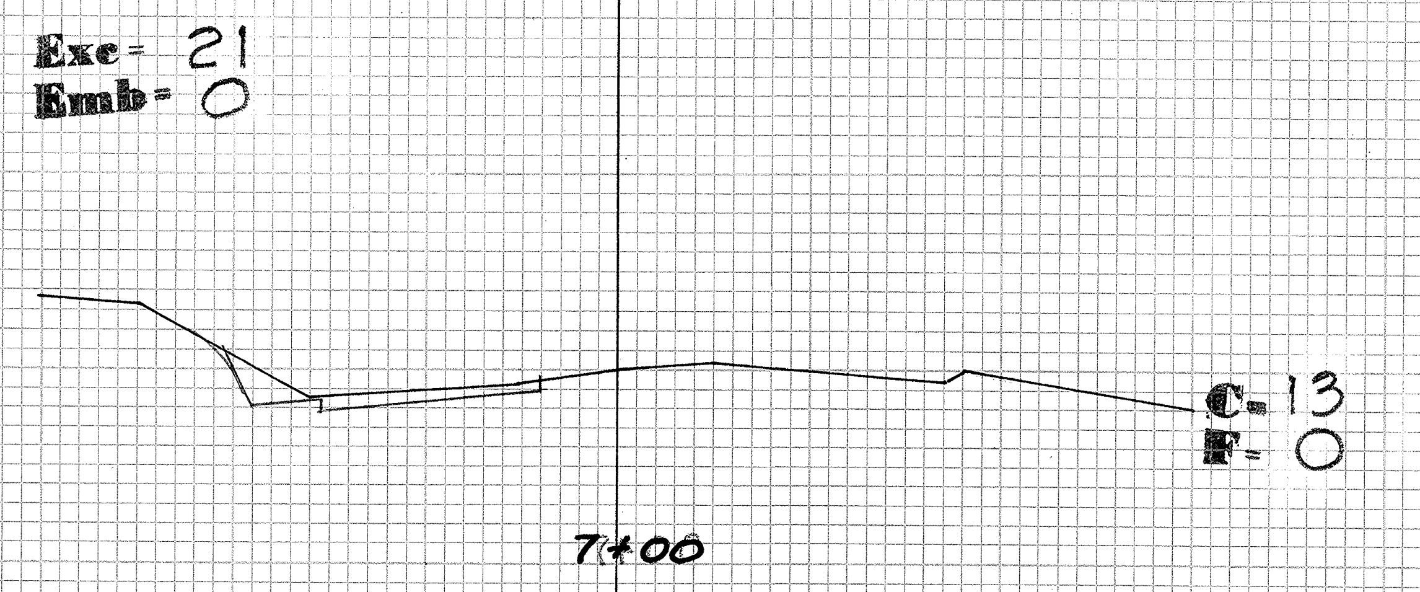
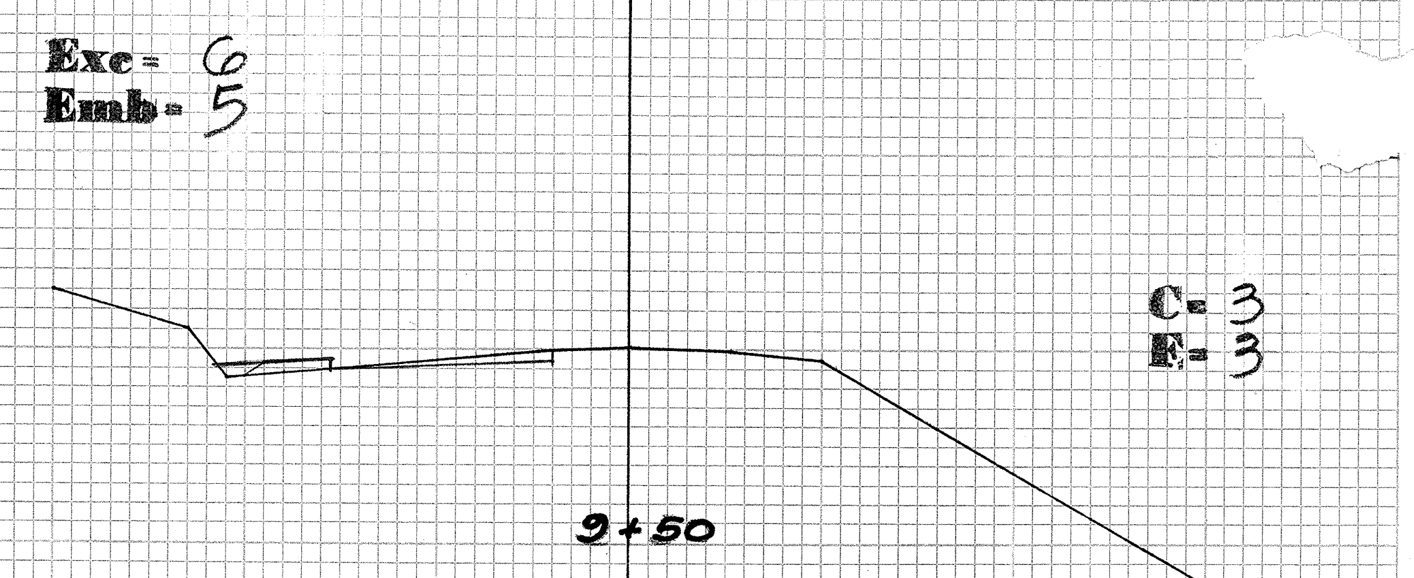
EUGENE DIETZGEN CO.

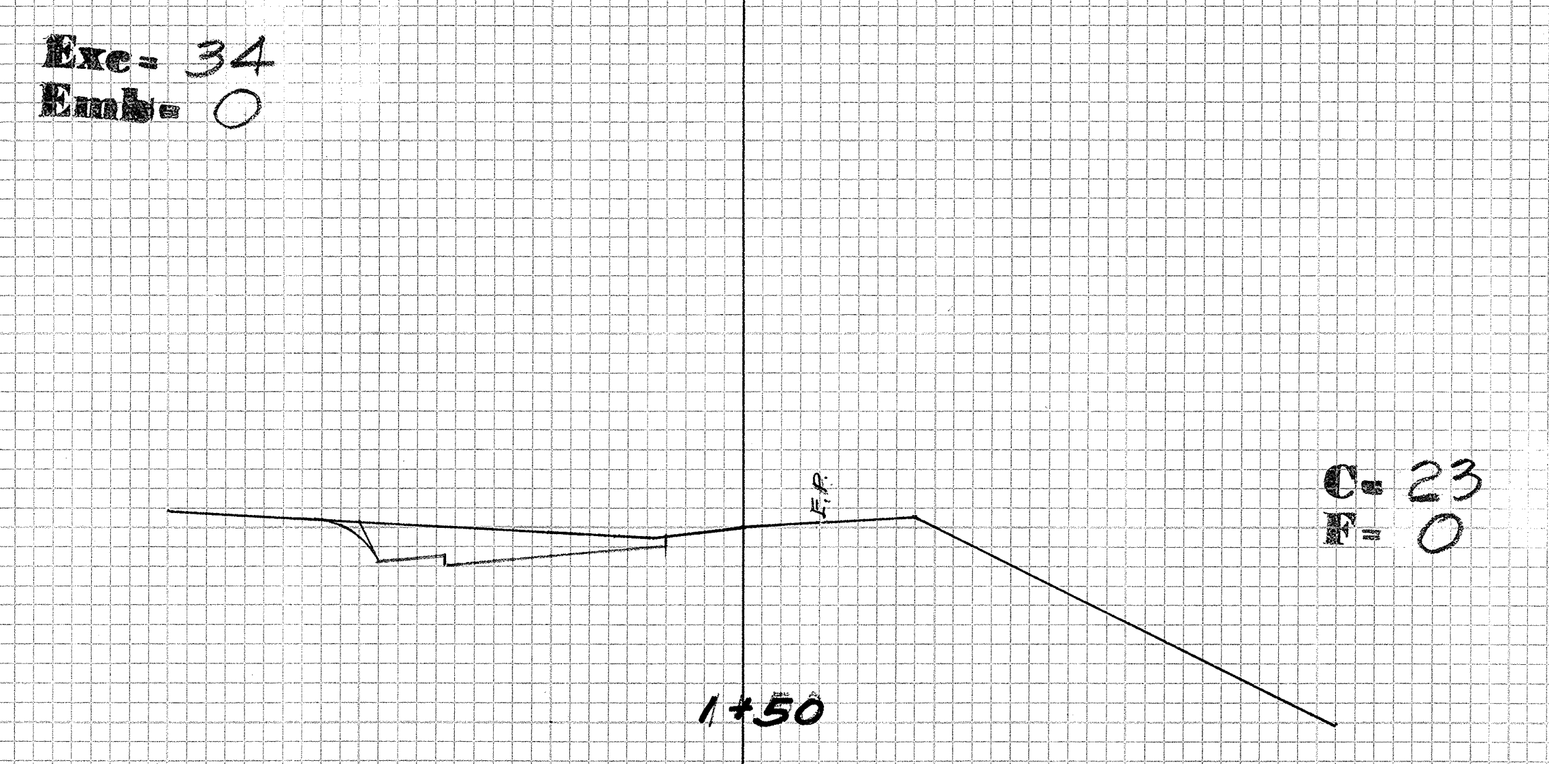
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	378A-03-68	1967	16	25

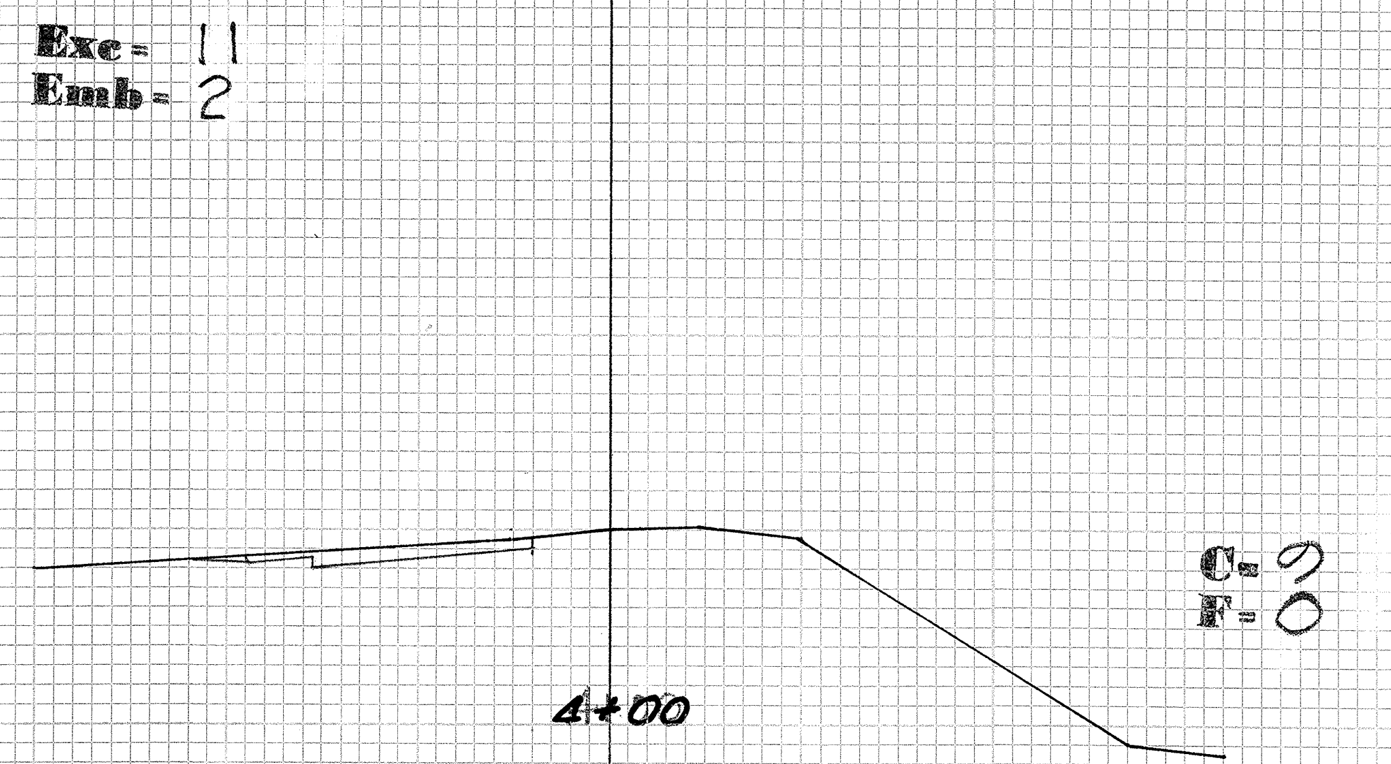

Exc= 26
Emb= 0
C= 14
F= 0
2+00

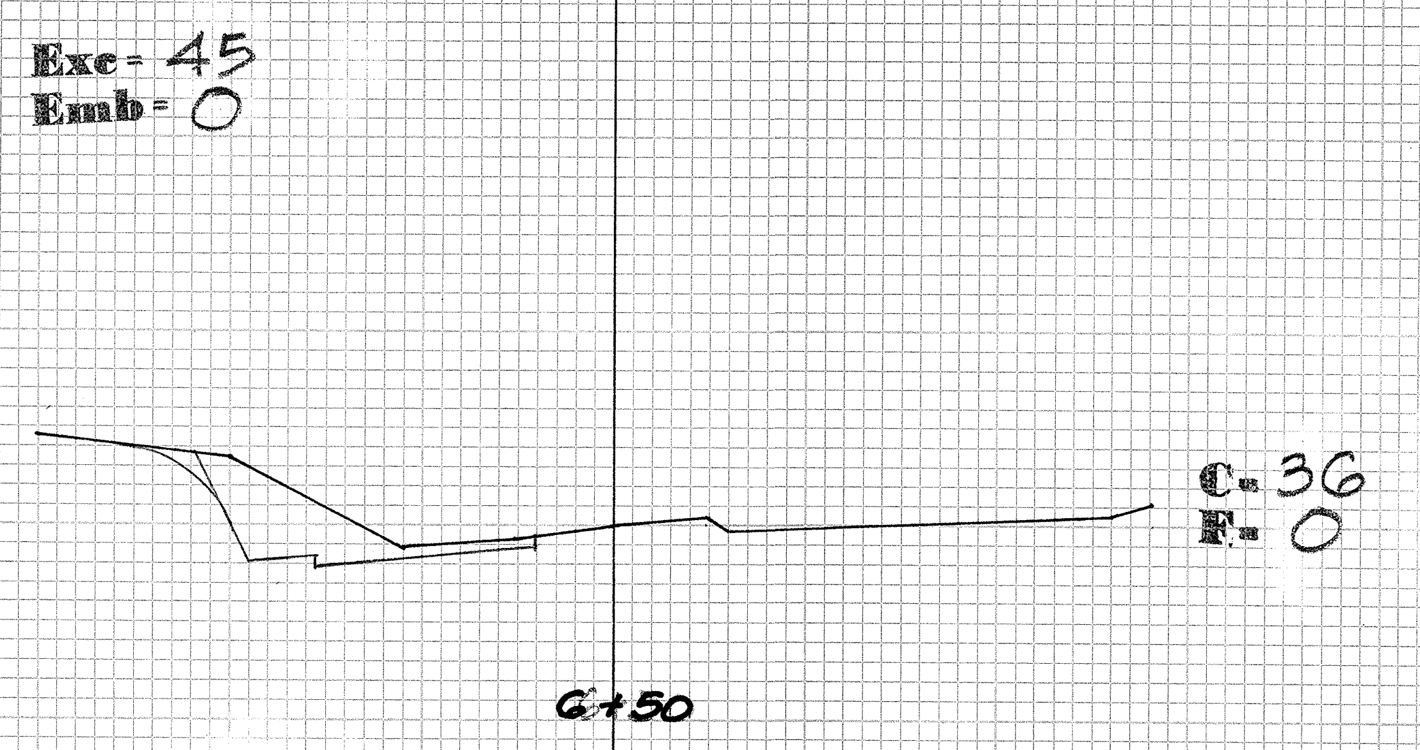

Exc= 20
Emb= 2
C= 3
F= 2
4+50

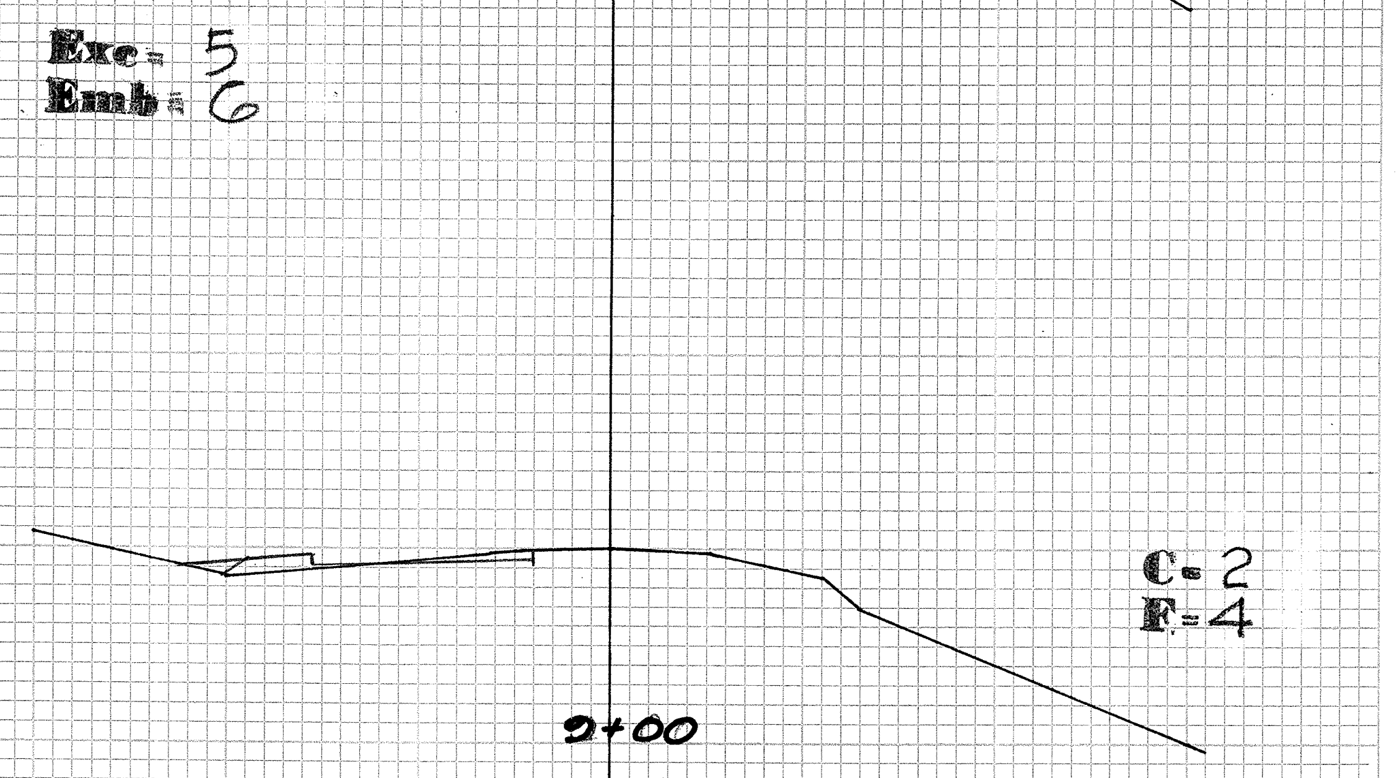

Exc= 21
Emb= 0
C= 13
F= 0
7+00

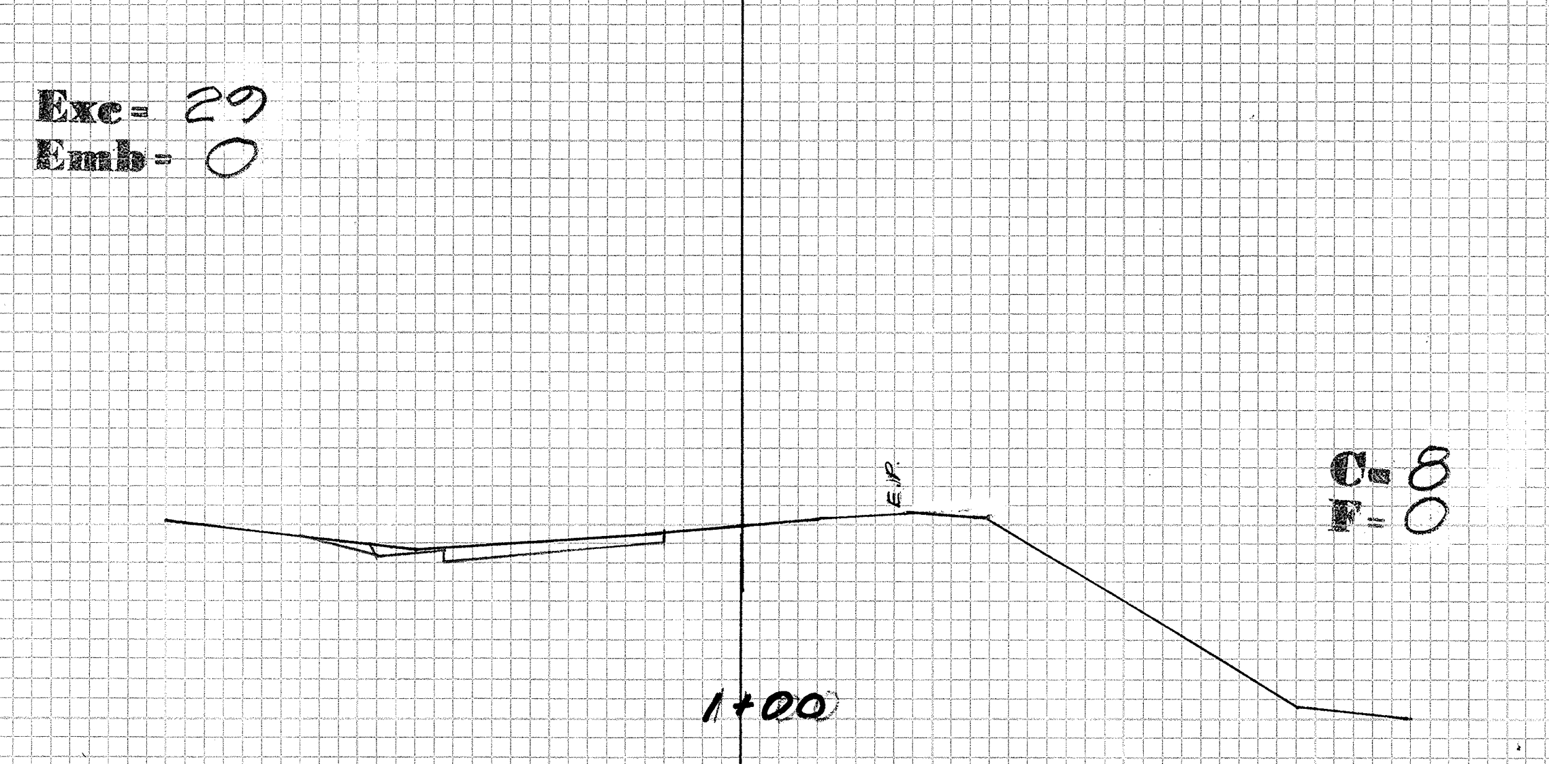

Exc= 6
Emb= 5
C= 3
F= 3
9+50

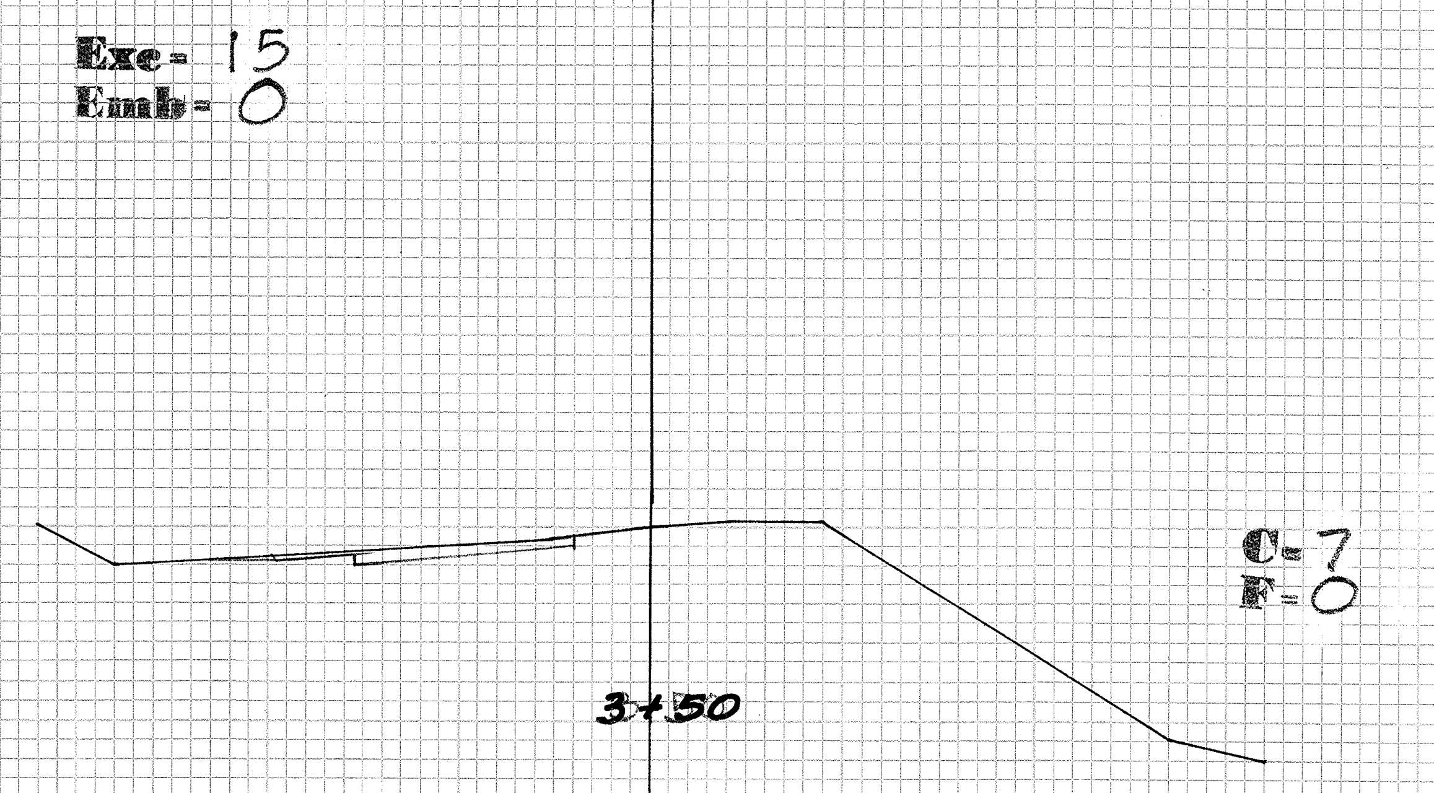

Exc= 34
Emb= 0
E.P.
C= 23
F= 0
1+50

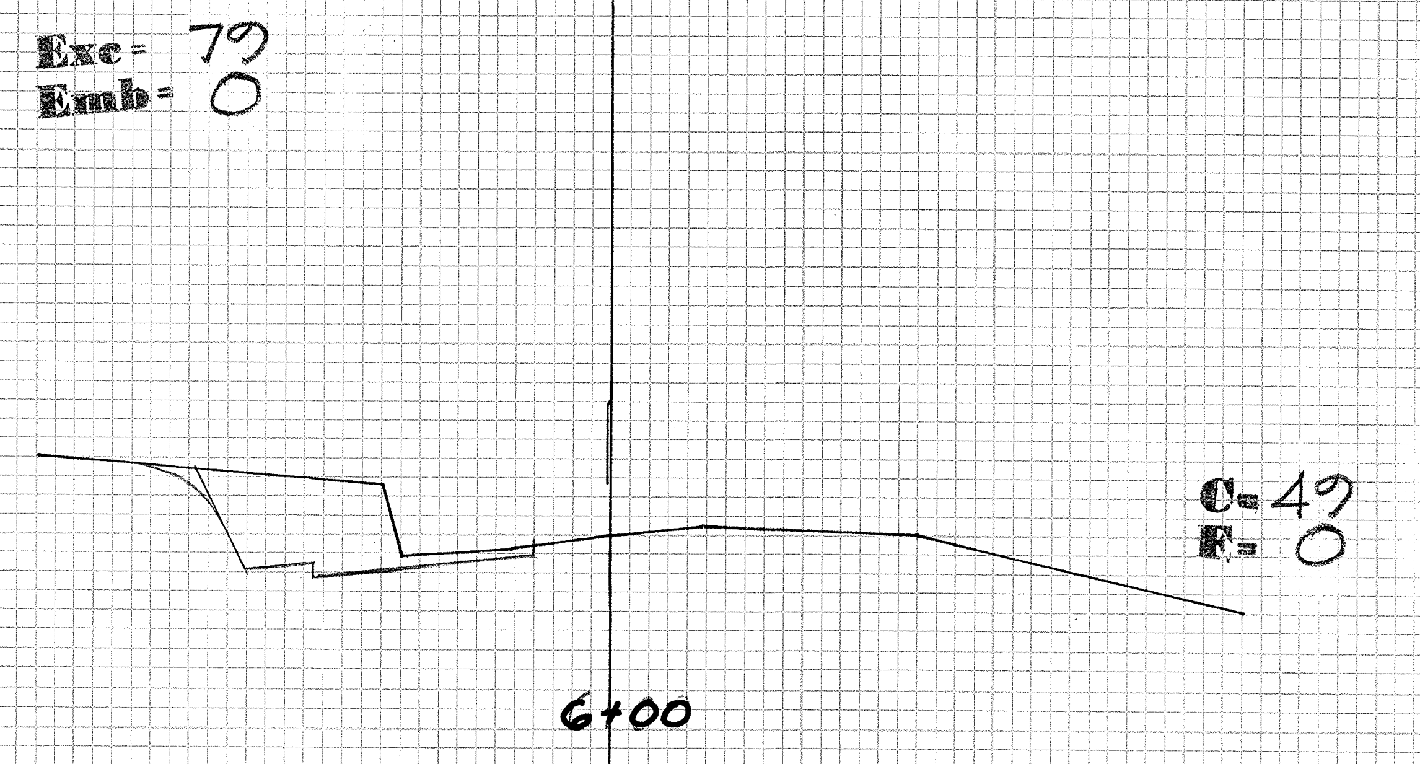

Exc= 11
Emb= 2
C= 9
F= 0
4+00

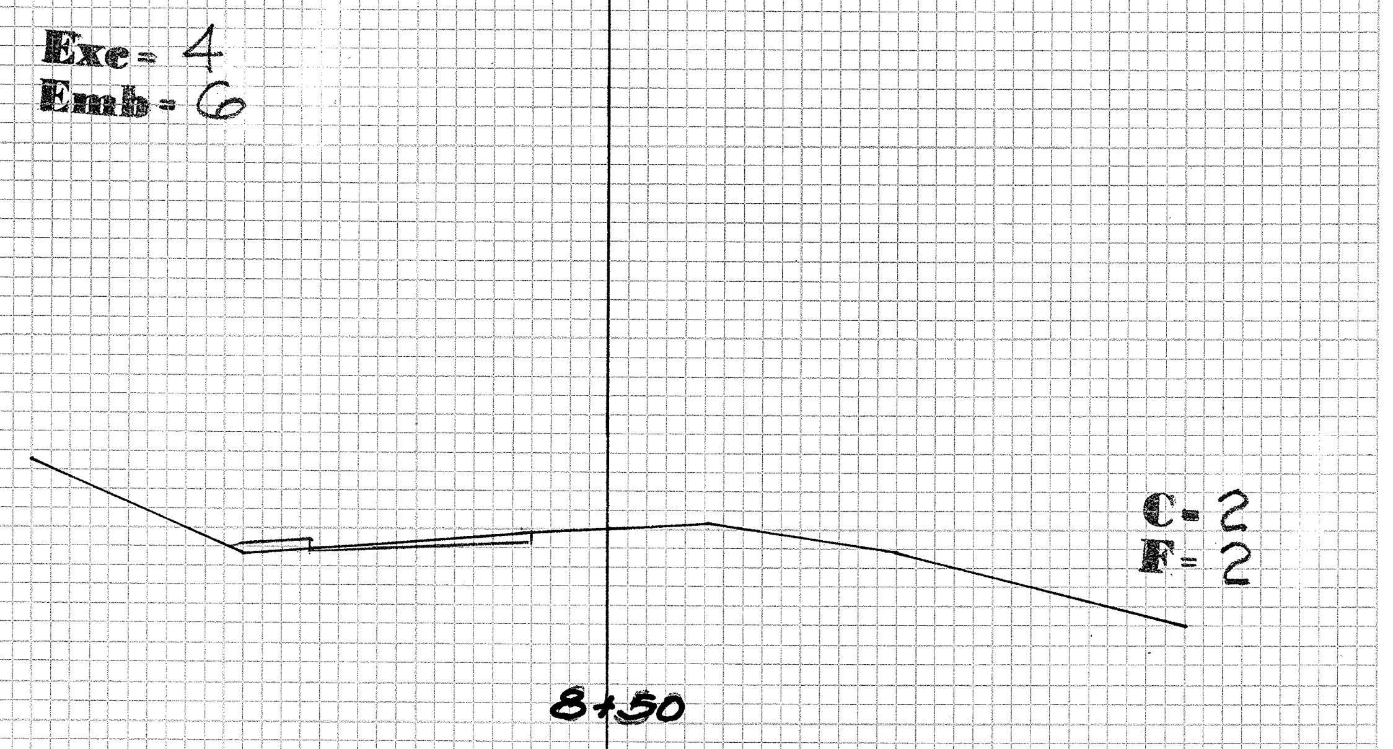

Exc= 45
Emb= 0
C= 36
F= 0
6+50

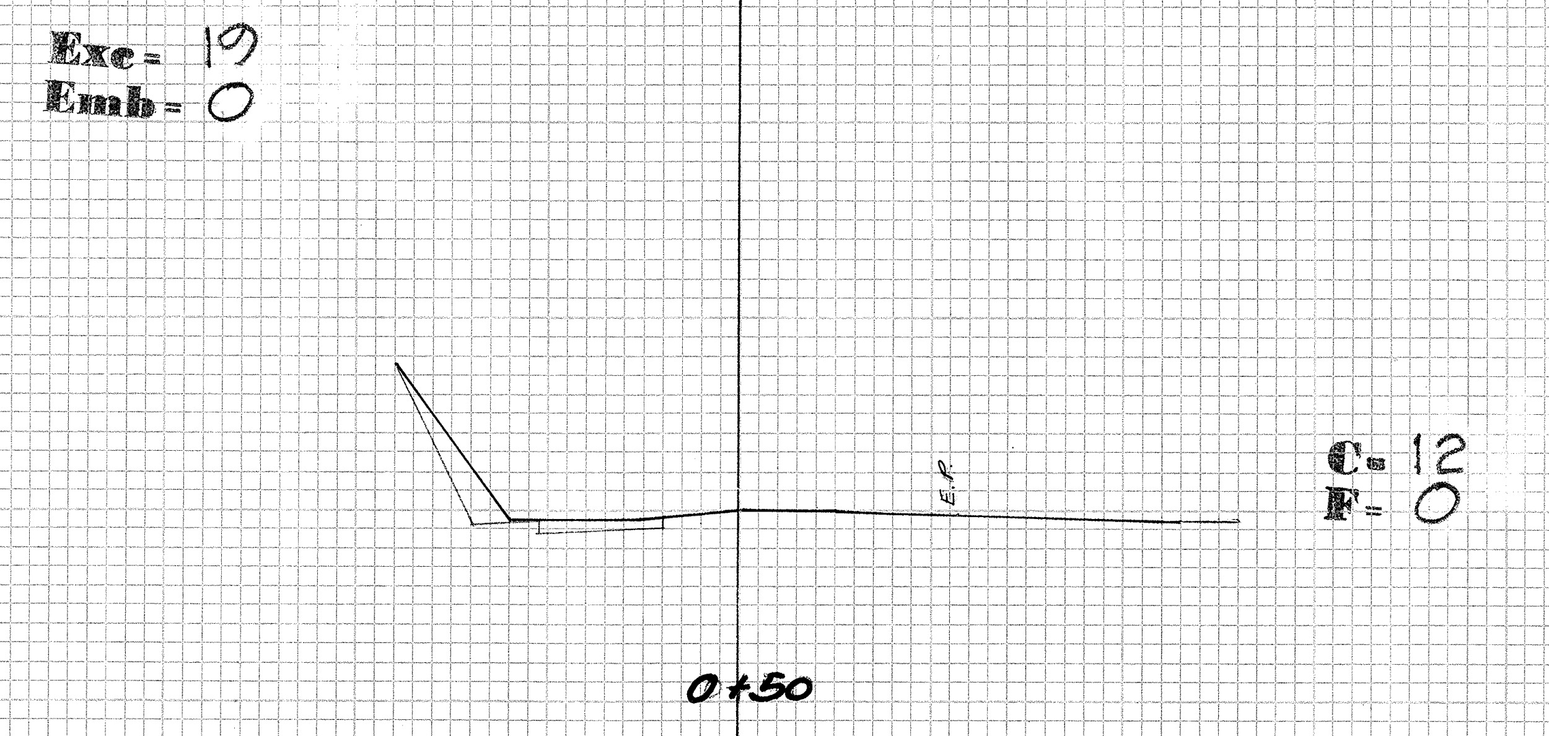

Exc= 5
Emb= 6
C= 2
F= 4
9+00

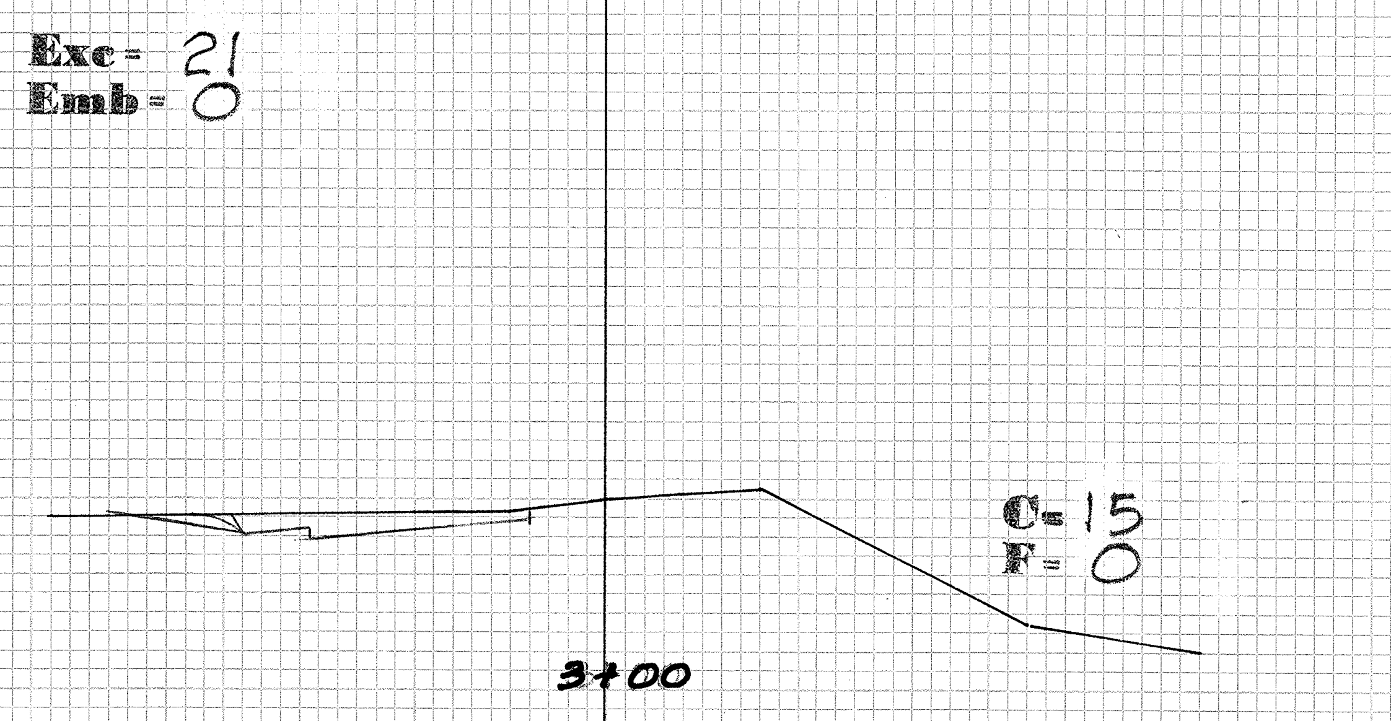

Exc= 29
Emb= 0
E.P.
C= 8
F= 0
1+00

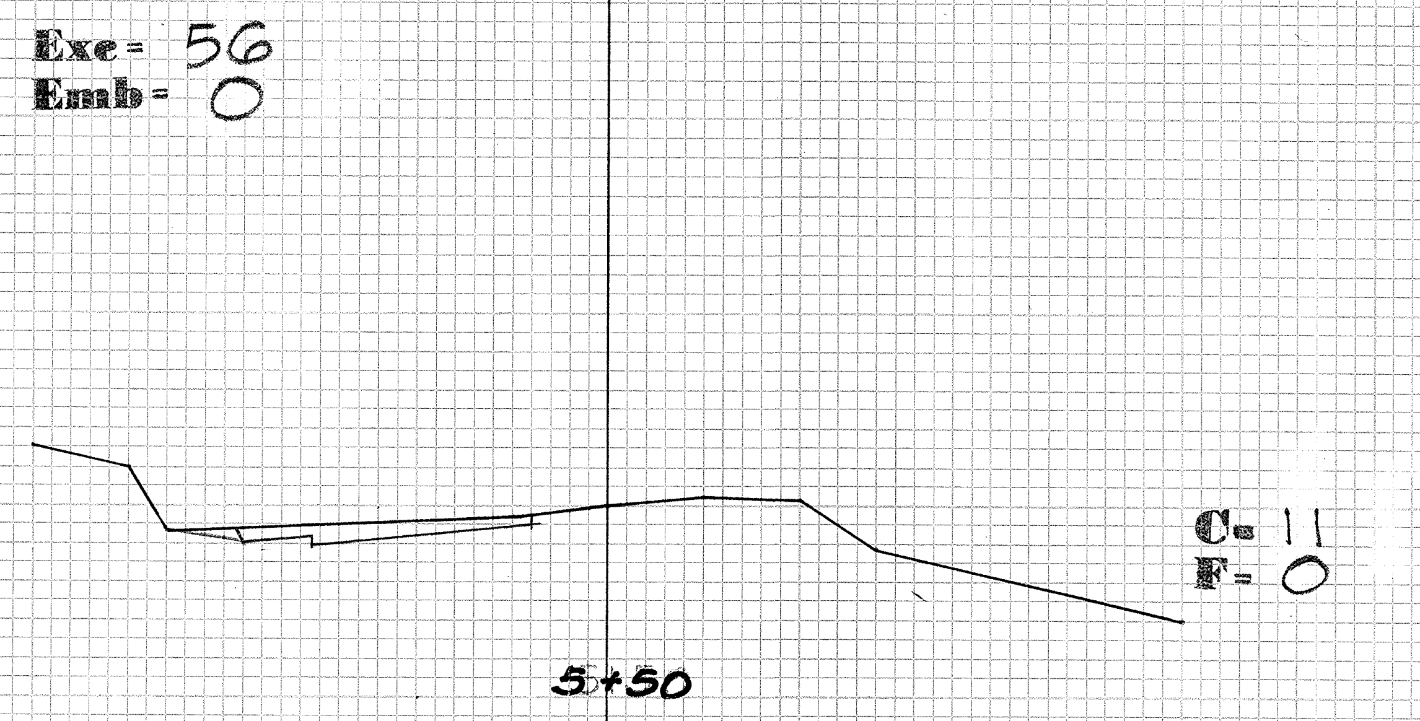

Exc= 15
Emb= 0
C= 7
F= 0
3+50

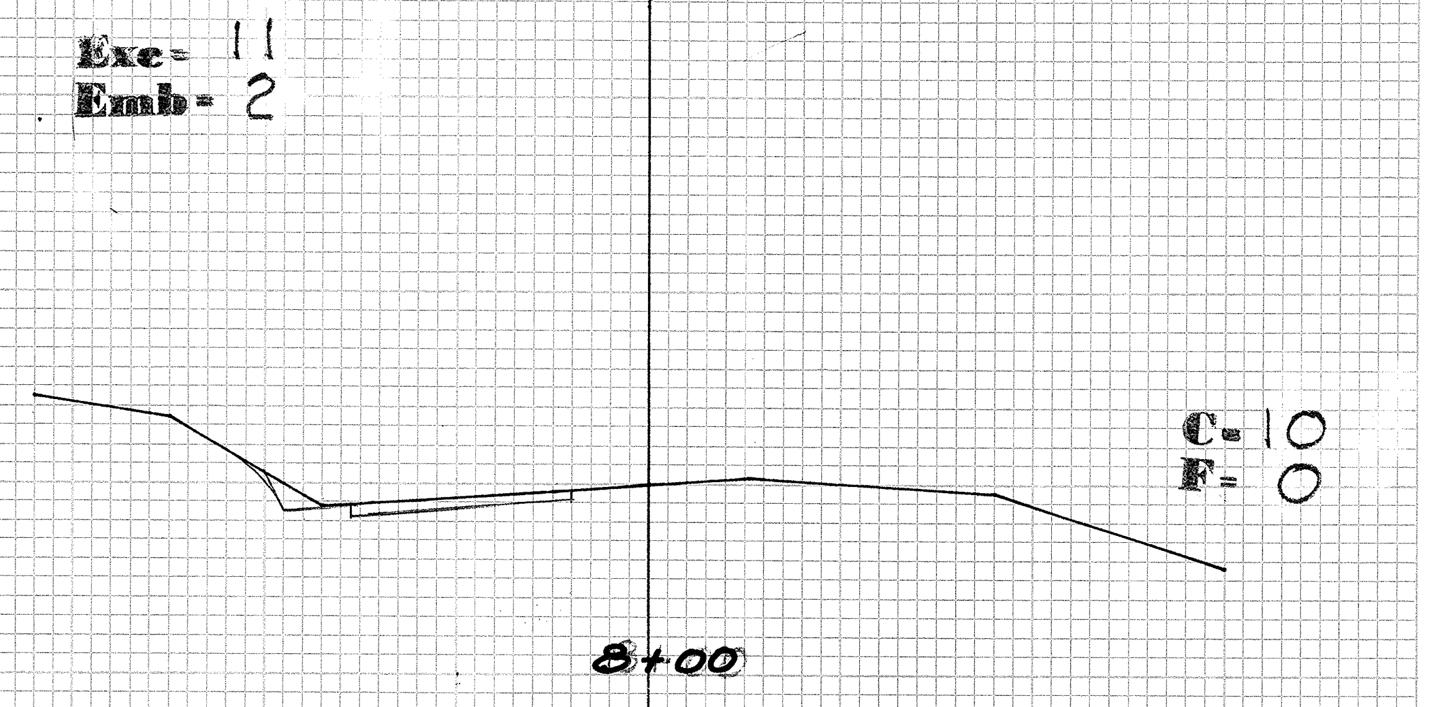

Exc= 79
Emb= 0
C= 49
F= 0
6+00

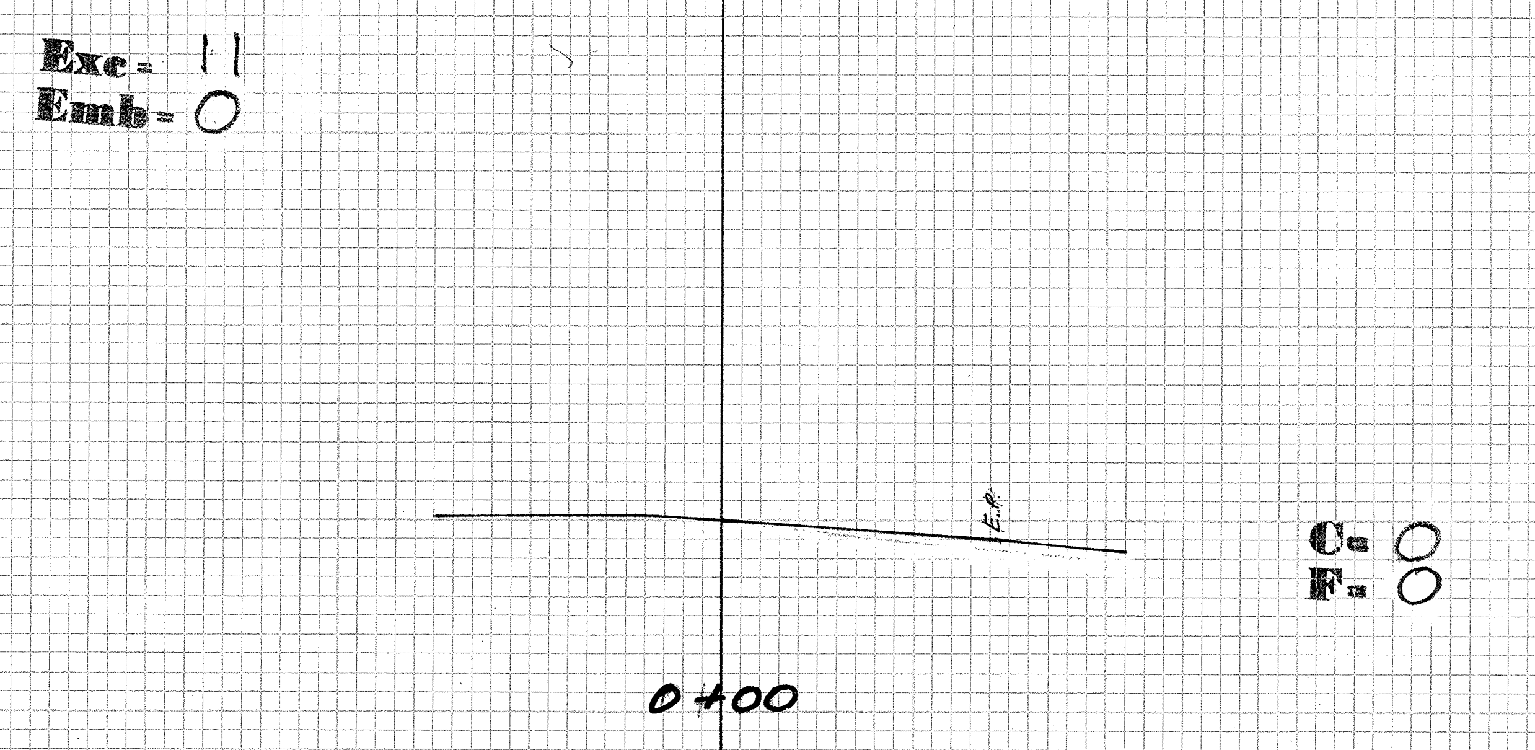

Exc= 4
Emb= 6
C= 2
F= 2
8+50

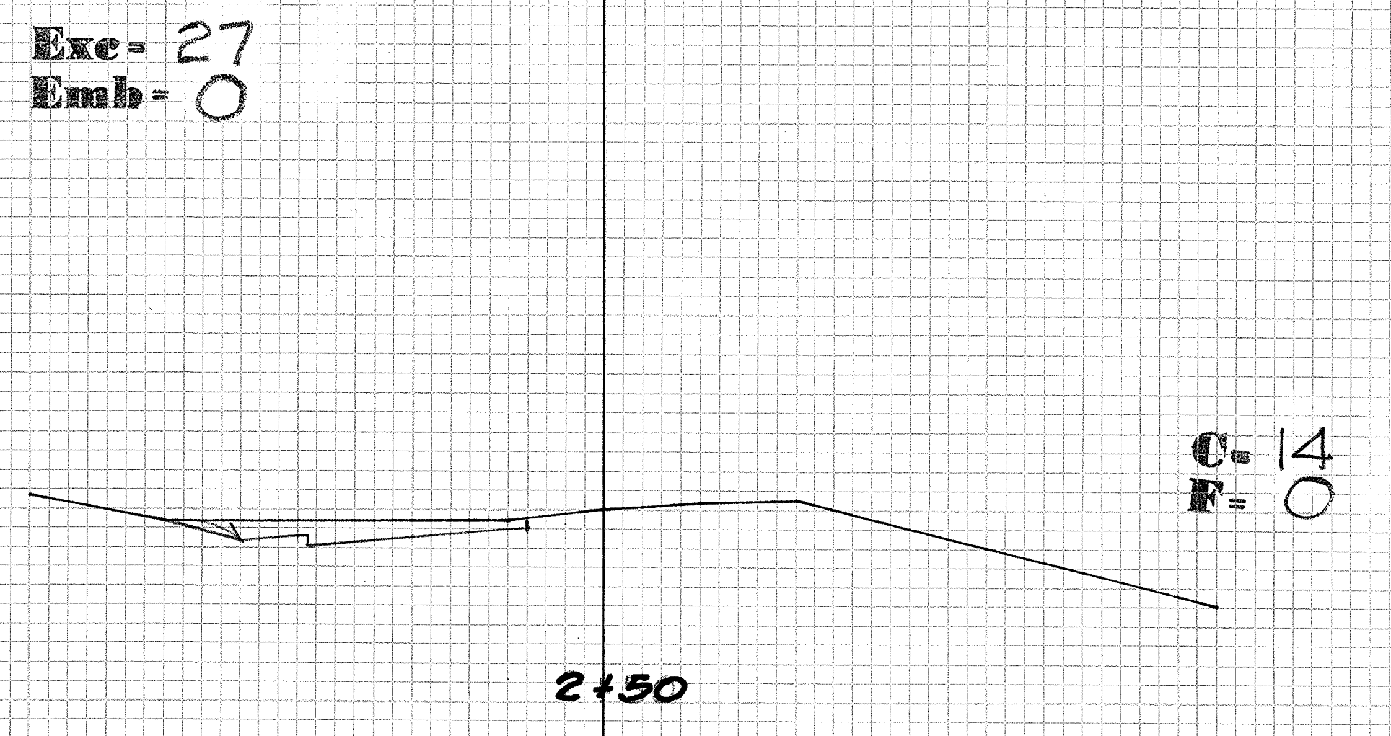

Exc= 19
Emb= 0
E.P.
C= 12
F= 0
0+50

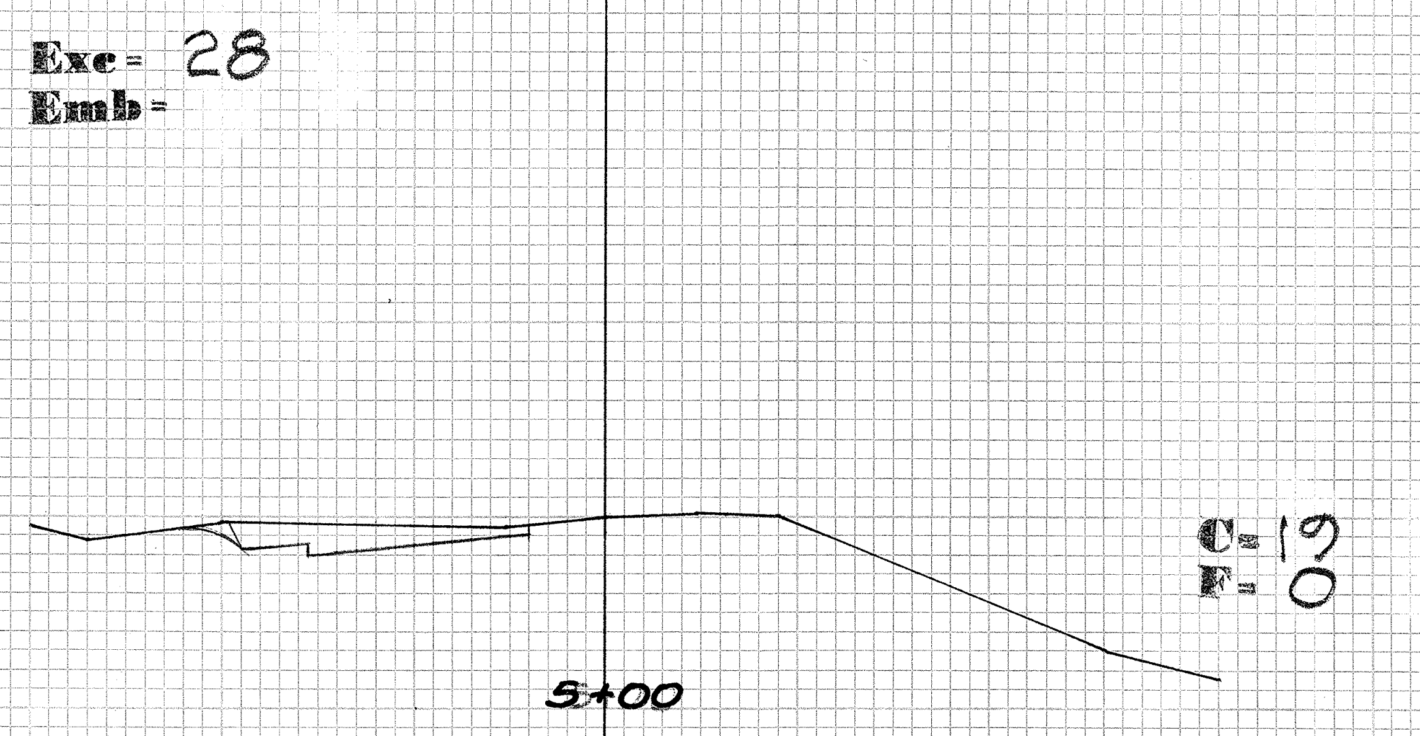

Exc= 21
Emb= 0
C= 15
F= 0
3+00

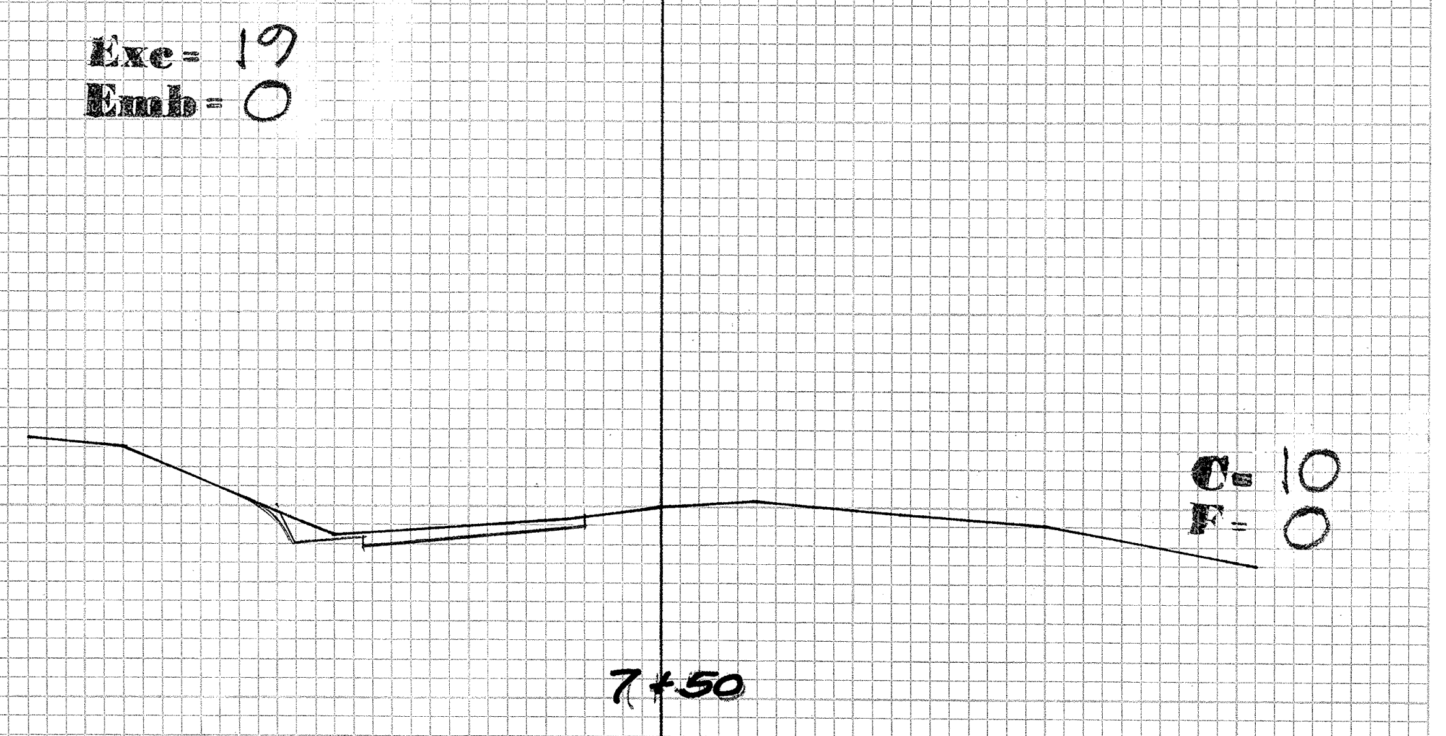

Exc= 56
Emb= 0
C= 11
F= 0
5+50


Exc= 11
Emb= 2
C= 10
F= 0
8+00


Exc= 11
Emb= 0
E.P.
C= 0
F= 0
0+00


Exc= 27
Emb= 0
C= 14
F= 0
2+50


Exc= 28
Emb=
C= 19
F= 0
5+00


Exc= 19
Emb= 0
C= 10
F= 0
7+50

FINAL SURVEY
SURVEYED
PLOTTED
TEMPLATE
AREAS
AREAS CHECKED
NOTE BOOK
NO.
BY
DATE

ORIGINAL SURVEY
SURVEYED
PLOTTED
TEMPLATE
AREAS
AREAS CHECKED
NOTE BOOK
NO.
BY
DATE

IMPROVEMENT NO. 12

PLATE 3 CROSS SECTION D. P. R. & S. E. STANDARD
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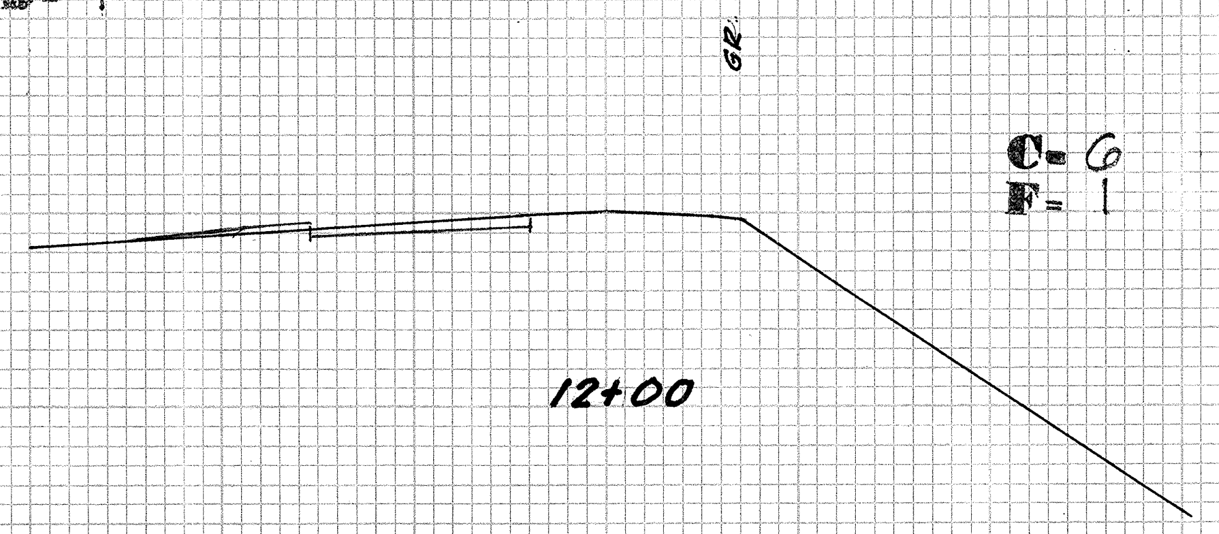
EUGENE DIETZGEN CO.

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	378A-03-68	1967	17	25

FINAL SURVEY
NOTE BOOK
NO.
SURVEYED
PLOTTED
TEMPLATE
AREAS
AREAS CHECKED
BY
DATE

ORIGINAL SURVEY
NOTE BOOK
NO.
SURVEYED E. Ecge 11-7-1966
PLOTTED
TEMPLATE
AREAS
AREAS CHECKED
BY
DATE

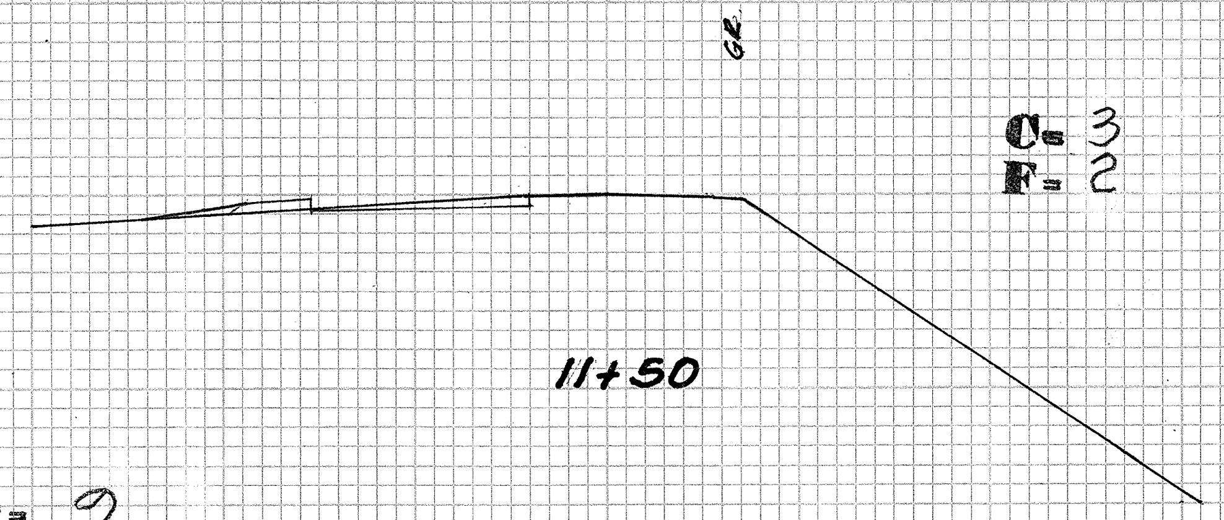
Exc = 8
Emb = 1



C = 6
F = 1

12+00

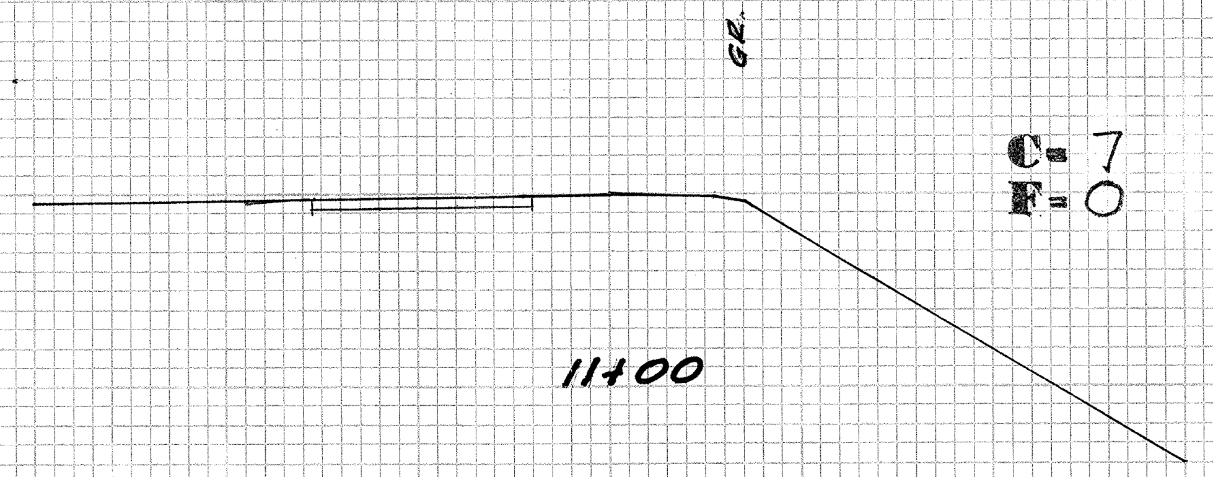
Exc = 83
Emb = 3



C = 3
F = 2

11+50

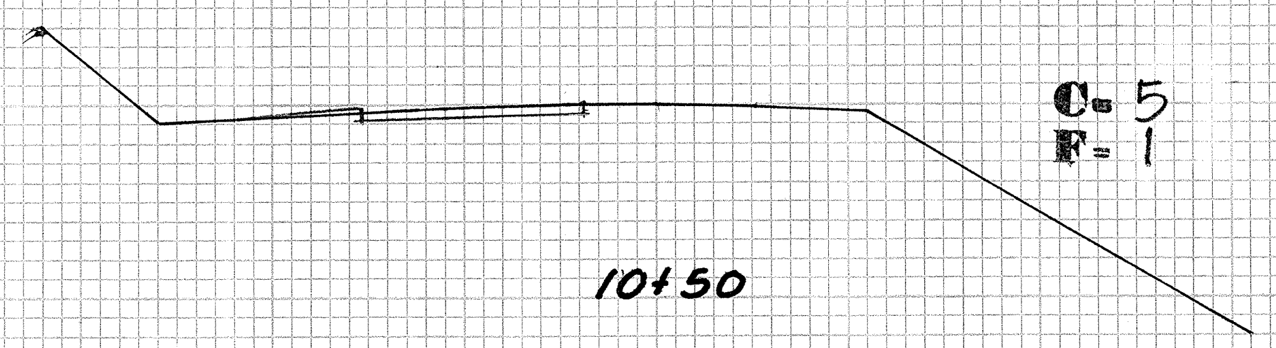
Exc = 9
Emb = 2



C = 7
F = 0

11+00

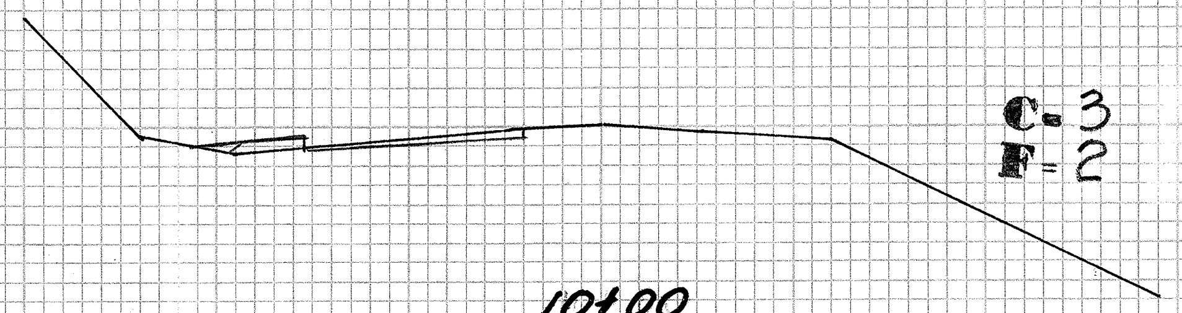
Exc = 11
Emb = 1



C = 5
F = 1

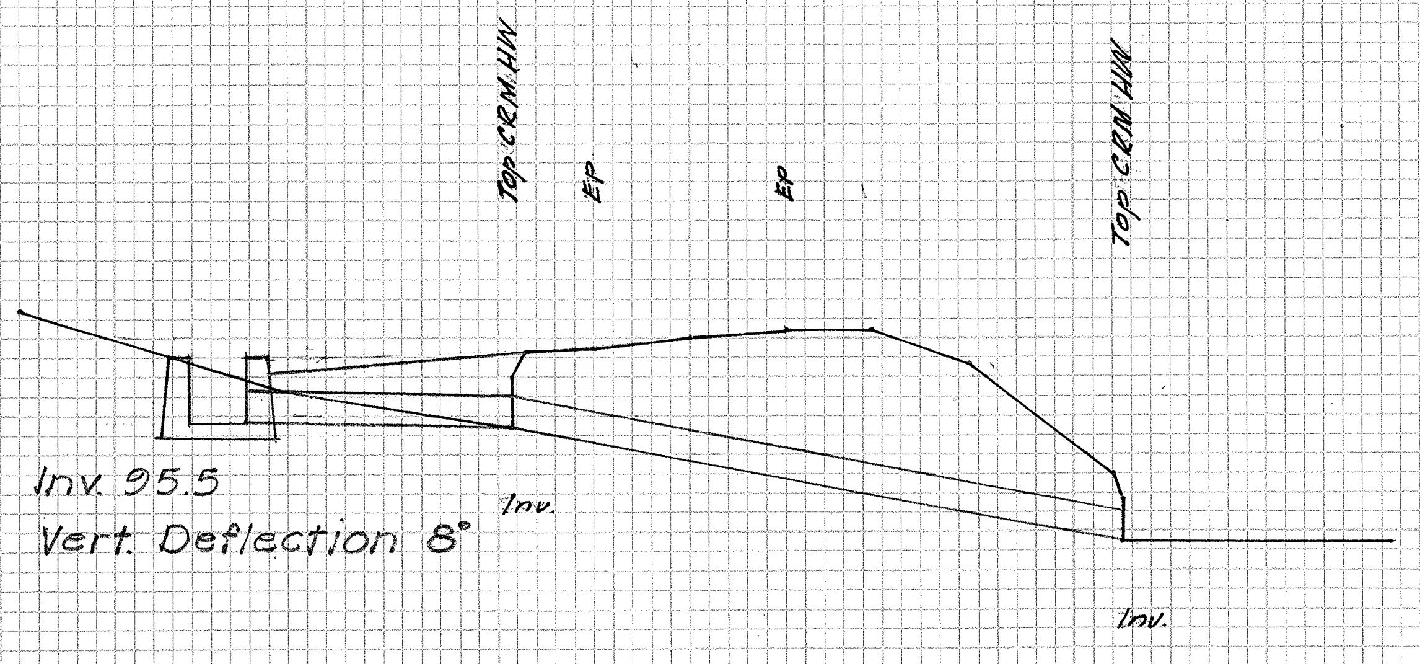
10+50

Exc = 7
Emb = 3



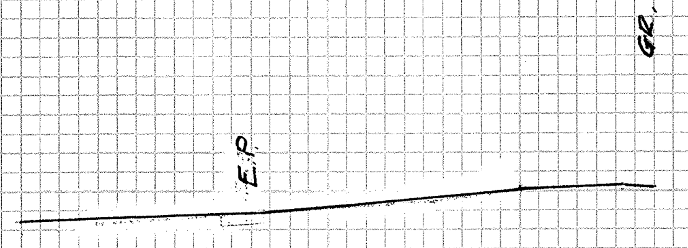
C = 3
F = 2

10+00



Inv. 95.5
Vert. Deflection 8°

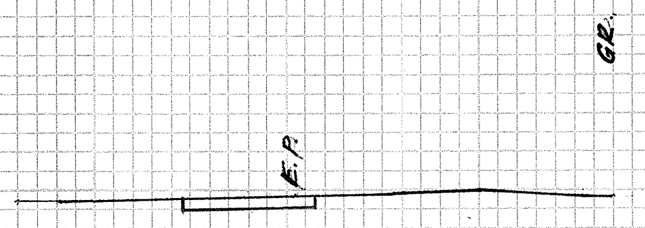
1+09 Culv't.



C = 0
F = 0

$13+82^{40}$

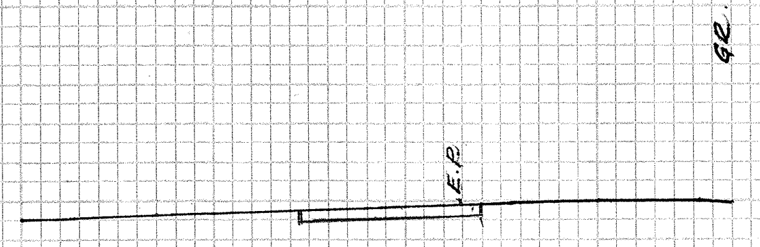
Exc = 5
Emb = 0



C = 5
F = 0

$13+32.^{40}$

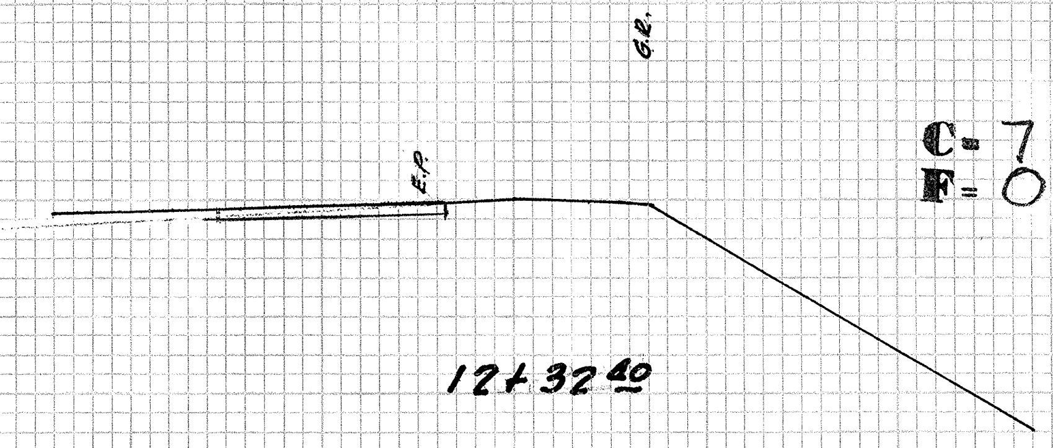
Exc = 10
Emb = 0



C = 6
F = 0

$12+82^{40}$

Exc = 12
Emb = 0



C = 7
F = 0

$12+32^{40}$

IMPROVEMENT NO. 12

℄ ℄

PLATE 3 CROSS SECTION O. P. R. & R. E. STANDARD
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EUGENE DIETZGEN CO.

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	378A-03-68	1967	18	25

Exc= 7
Emb= 57
C= 6
F= 17
2+50
Exc= 11
Emb= 60
C= 6
F= 48
2+00
Exc= 18
Emb= 47
E.P.
C= 13
F= 3
1+50
Exc= 19
Emb= 6
E.P.
C= 3
F= 3
1+00
Exc= 10
Emb= 3
E.P.
C= 3
F= 0
0+50
Exc= 3
Emb= 0
E.P.
C= 0
F= 0
0+00
Exc= 50
Emb= 4
C= 32
F= 2
5+50
Exc= 60
Emb= 3
C= 33
F= 1
5+00
Exc= 56
Emb= 2
C= 27
F= 1
4+50
Exc= 28
Emb= 2
C= 13
F= 1
4+00
Exc= 6
Emb= 23
C= 3
F= 24
3+50
Exc= 5
Emb= 73
C= 2
F= 55
3+00
Exc= 32
Emb= 0
C= 11
F= 0
8+50
Exc= 24
Emb= 0
C= 15
F= 0
8+00
Exc= 19
Emb= 0
C= 6
F= 1
7+50
Exc= 14
Emb= 1
C= 9
F= 0
7+00
Exc= 69
Emb= 0
C= 65
F= 0
6+50
Exc= 81
Emb= 2
C= 22
F= 2
6+00
Exc= 5
Emb= 42
C= 3
F= 5
11+00
C= 8
F= 2
10+50
Exc= 10
Emb= 6
Exc= 15
Emb= 2
C= 8
F= 0
10+00
Exc= 18
Emb= 0
C= 11
F= 0
9+50
Exc= 32
Emb= 0
C= 24
F= 0
9+00

IMPROVEMENT NO. 13

FINAL SURVEY | BY | DATE
NOTE BOOK NO. | SURVEYED | PLOTTED | TEMPLATE | AREAS | AREAS CHECKED

ORIGINAL SURVEY | BY | DATE
NOTE BOOK NO.
SURVEYED
PLOTTED S. Bega 11-7-1966
TEMPLATE
AREAS
AREAS CHECKED

K+E PLATE 3, CROSS SECTION KEUFFEL & ESSER CO.

18

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	378A-03-68	1967	19	25

Exc = 194
Emb = 0
13+50
C = 109
F = 0
Exc = 294
Emb = 0
13+00
C = 208
F = 0
Exc = 244
Emb = 0
12+50
C = 55
F = 0
Exc = 56
Emb = 0
12+00
C = 6
F = 0
Exc = 7
Emb = 24
11+50
C = 2
F = 40
Exc = 14
Emb = 23
GR
16+00
C = 12
F = 0
Exc = 19
Emb = 0
15+50
C = 8
F = 0
Exc = 10
Emb = 23
15+00
C = 3
F = 25
Exc = 35
Emb = 23
14+50
C = 35
F = 0
Exc = 125
Emb = 0
14+00
C = 100
F = 0
Exc = 10
Emb = 1
GR
EP
18+23^{2}
C = 7
F = 1
Exc = 14
Emb = 1
GR
EP
17+73^{2}
C = 7
F = 0
Exc = 8
Emb = 0
GR
17+50
C = 11
F = 0
Exc = 13
Emb = 56
GR
17+00
C = 3
F = 61
Exc = 6
Emb = 80
GR
16+50
C = 3
F = 25
Top CRM HW
EP
EP
Top CRM HW
Inv.
Inv.
18+18^{2} Culv't.
C =
F =
Top CRM HW
EP
EP
Top CRM HW
Inv. 97.3
Inv.
Inv.
14+96 Culv't.
C =
F =
Top CRM HW
EP
EP
Top CRM HW
Inv. 96.7
Inv
Inv.
11+57 Culv't.
C =
F =
Top CRM HW
EP
EP
Top CRM HW
Inv. 96.5
Inv.
Inv.
Vert. Deflection 9°
Remove 4' of exist.
culvert to make conn.
7+32 Culv't.
C =
F =
Exc = 3
Emb = 0
GR
19+23^{2}
EP
EP
18+73^{2}
C = 3
F = 0
℄
℄
℄
℄

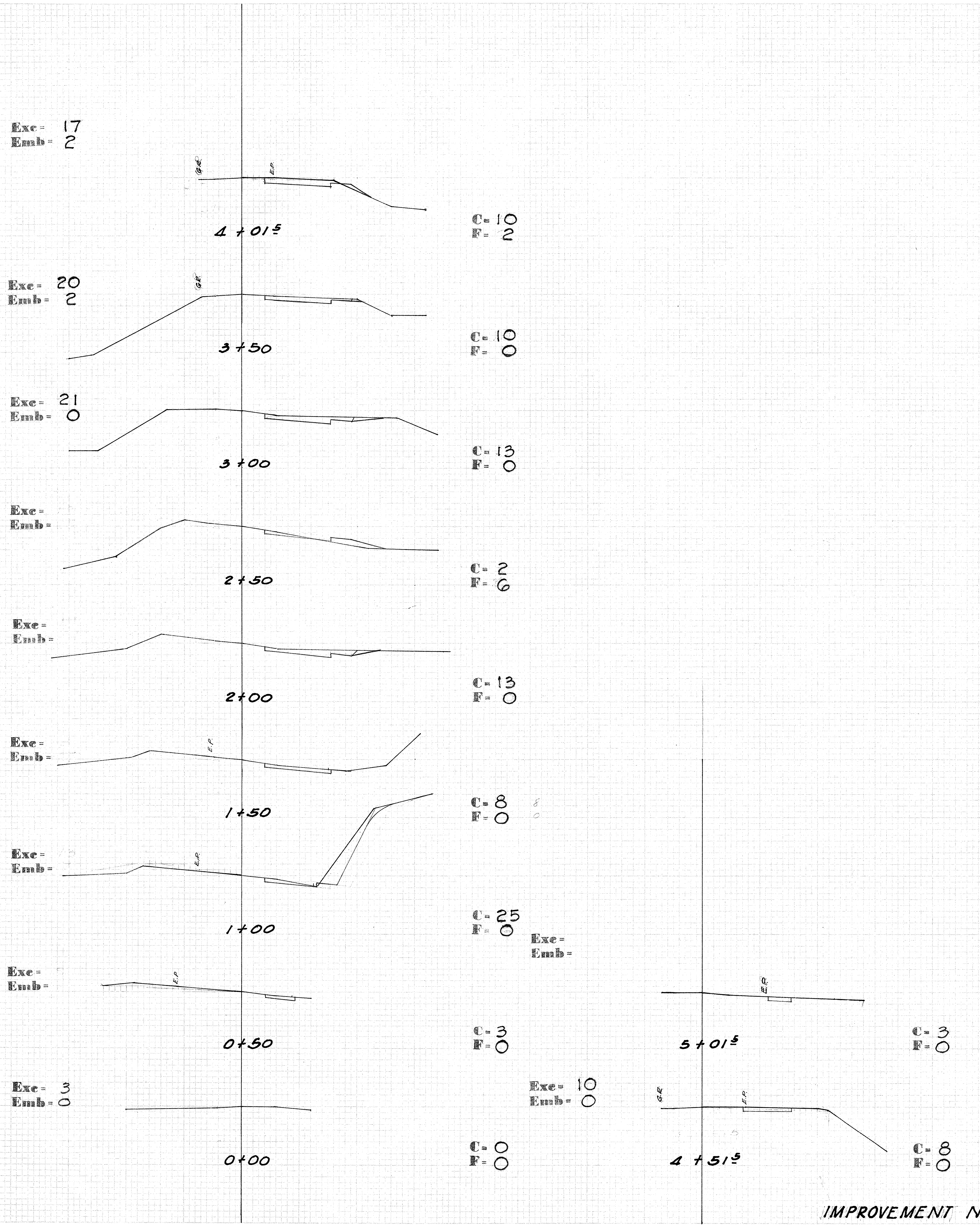
IMPROVEMENT NO. 13

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	378A-03-68	1967	20	25

Exc = 21 Emb = 0 4+00 C = 15 F = 0
Exc = 16 Emb = 62 3+50 C = 2 F = 67
H.W.
Inv.
Exc = 12 Emb = 62 3+00 C = 11 F = 0
Exc = 18 Emb = 11 2+50 C = 8 F = 12
Exc = 11 Emb = 40 2+00 C = 4 F = 31
Exc = 6 Emb = 116 1+50 C = 2 F = 94
Exc = 7 Emb = 114 1+00 C = 5 F = 29
E.P.
Exc = 7 Emb = 27 0+50 C = 3 F = 0
E.P.
Exc = 3 Emb = 0 0+00 C = 0 F = 0
E.P.
Exc = 15 Emb = 44 8+50 C = 9 F = 1
Exc = 17 Emb = 3 8+00 C = 9 F = 0
Exc = 92 Emb = 3 7+50 C = 90 F = 3
Exc = 164 Emb = 3 7+00 C = 87 F = 0
Exc = 124 Emb = 0 6+50 C = 47 F = 0
Exc = 51 Emb = 0 6+00 C = 9 F = 0
Exc = 13 Emb = 2 5+50 C = 5 F = 2
Exc = 9 Emb = 4 5+00 C = 5 F = 2
Exc = 12 Emb = 2 4+50 C = 8 F = 0
Exc = 13 Emb = 3 13+00 C = 12 F = 0
GR
Exc = 20 Emb = 0 12+50 C = 10 F = 0
GR
Exc = 17 Emb = 0 12+00 C = 8 F = 0
Exc = 15 Emb = 1 11+50 C = 8 F = 1
Exc = 17 Emb = 1 11+00 C = 10 F = 0
Exc = 67 Emb = 0 10+50 C = 62 F = 0
Exc = 65 Emb = 0 10+00 C = 8 F = 1
Exc = 14 Emb = 6 9+50 C = 6 F = 11
Exc = 12 Emb = 47 9+00 C = 7 F = 46
Top of D.I.
Top of D.I. 2"x2 1/2"
E.P.
E.P.
Top of CRM H.W.
Inv.
Inv.
Inv. 91.3
17+93
18"
Vert. Deflection 15°
Top of CRM H.W.
E.S.
E.P.
E.P.
Top of CRM H.W.
Inv. 88.0
Inv.
3+36
24"
Inv.
Top of D.I.
Top of D.I. 2"x2 1/2"
E.P.
E.P.
E.S.
Top of CRM H.W.
Inv.
Inv.
0+69
Exc = 3 Emb = 0 15+50 C = 0 F = 0
E.P. GR
Exc = 3 Emb = 0 15+00 C = 3 F = 0
E.P. GR
Exc = 8 Emb = 0 14+50 C = 6 F = 0
E.P. GR
Exc = 13 Emb = 0 14+00 C = 8 F = 0
E.P. GR
Exc = 9 Emb = 3 13+50 C = 2 F = 6

IMPROVEMENT NO. 14

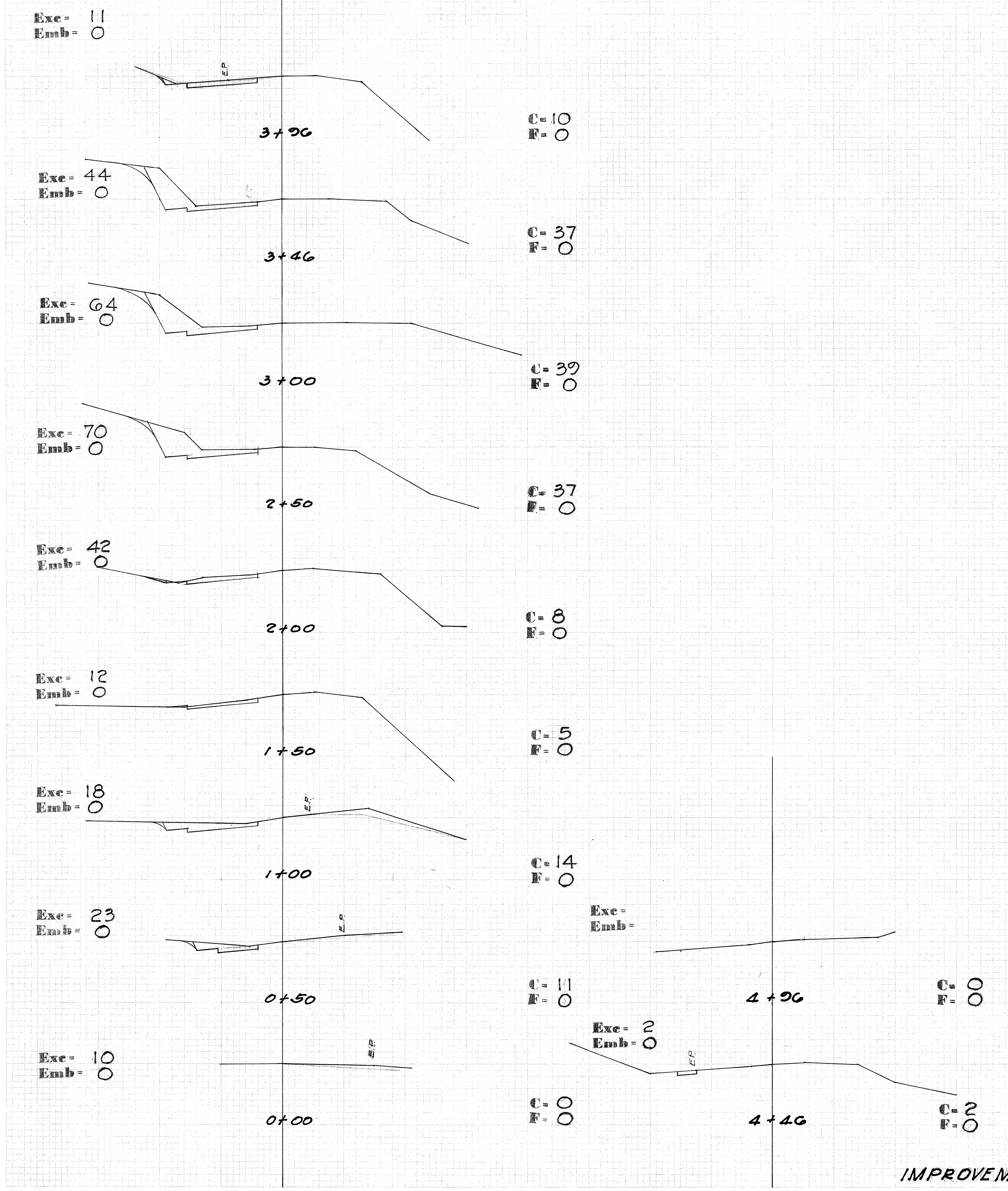
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	378A-03-68	1967	21	25



Exc = 17
Emb = 2
G.R.
E.P.
4 + 01.5
C = 10
F = 2
Exc = 20
Emb = 2
G.R.
3 + 50
C = 10
F = 0
Exc = 21
Emb = 0
3 + 00
C = 13
F = 0
Exc =
Emb =
2 + 50
C = 2
F = 6
Exc =
Emb =
2 + 00
C = 13
F = 0
Exc =
Emb =
E.P.
1 + 50
C = 8
F = 0
Exc =
Emb =
E.P.
1 + 00
C = 25
F = 0
Exc =
Emb =
E.P.
0 + 50
C = 3
F = 0
Exc = 3
Emb = 0
0 + 00
C = 0
F = 0
Exc =
Emb =
E.P.
5 + 01.5
C = 3
F = 0
Exc = 10
Emb = 0
G.R.
E.P.
4 + 51.5
C = 8
F = 0

IMPROVEMENT NO. 15

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	378A-03-68	1967	22	25


Exc= 11
Emb= 0
E.P.
3+96
C= 10
F= 0
Exc= 44
Emb= 0
3+46
C= 37
F= 0
Exc= 64
Emb= 0
3+00
C= 39
F= 0
Exc= 70
Emb= 0
2+50
C= 37
F= 0
Exc= 42
Emb= 0
2+00
C= 8
F= 0
Exc= 12
Emb= 0
1+50
C= 5
F= 0
Exc= 18
Emb= 0
E.P.
1+00
C= 14
F= 0
Exc= 23
Emb= 0
E.P.
0+50
C= 11
F= 0
Exc= 10
Emb= 0
E.P.
0+00
C= 0
F= 0
Exc=
Emb=
4+96
C= 0
F= 0
Exc= 2
Emb= 0
E.P.
4+46
C= 2
F= 0

IMPROVEMENT NO. 166

22

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	378A-03-68	1967	23	25

Exc = 24
Emb = 0
4+00
C = 15
F = 0
Exc = 32
Emb = 0
3+50
C = 20
F = 0
Exc = 56
Emb = 0
3+00
C = 41
F = 0
Exc = 71
Emb = 0
2+50
C = 36
F = 0
Exc = 71
Emb = 0
2+00
C = 41
F = 0
Exc = 46
Emb = 15
E.P.
1+50
C = 9
F = 16
Exc = 17
Emb = 0
E.P.
1+00
C = 10
F = 0
Exc = 12
Emb = 1
E.P.
0+50
C = 3
F = 1
Exc = 3
Emb = 1
E.P.
0+00
C = 0
F = 0
Exc = 130
Emb = 0
8+50
C = 85
F = 0
Exc = 122
Emb = 0
8+00
C = 47
F = 0
Exc = 129
Emb = 0
7+50
C = 92
F = 0
Exc = 194
Emb = 0
7+00
C = 118
F = 0
Exc = 139
Emb = 0
6+50
C = 32
F = 0
Exc = 39
Emb = 0
6+00
C = 10
F = 0
Exc = 17
Emb = 0
5+50
C = 8
F = 0
Exc = 17
Emb = 0
5+00
C = 10
F = 0
Exc = 19
Emb = 0
4+50
C = 11
F = 0
Exc = 12
Emb = 4
13+10
C = 10
F = 0
Exc = 24
Emb = 0
12+50
C = 12
F = 0
Exc = 20
Emb = 1
12+00
C = 10
F = 1
Exc = 18
Emb = 1
11+50
C = 10
F = 0
Exc = 34
Emb = 0
11+00
C = 27
F = 0
Exc = 72
Emb = 0
10+50
C = 51
F = 0
Exc = 84
Emb = 0
10+00
C = 40
F =
Exc = 93
Emb = 0
9+50
C = 60
F =
Exc = 107
Emb = 0
9+00
C = 55
F = 0
Top of CRM H.W.
INV.
E.S.
E.P.
E.P.
E.S.
11+75
Top of CRM H.W.
INV.
Exc =
Emb =
E.P.
14+60
C = 3
F = 0
Exc = 7
Emb = 6
E.P.
14+10
C = 4
F = 6
Exc = 7
Emb = 9
E.P.
13+60
C = 3
F = 4

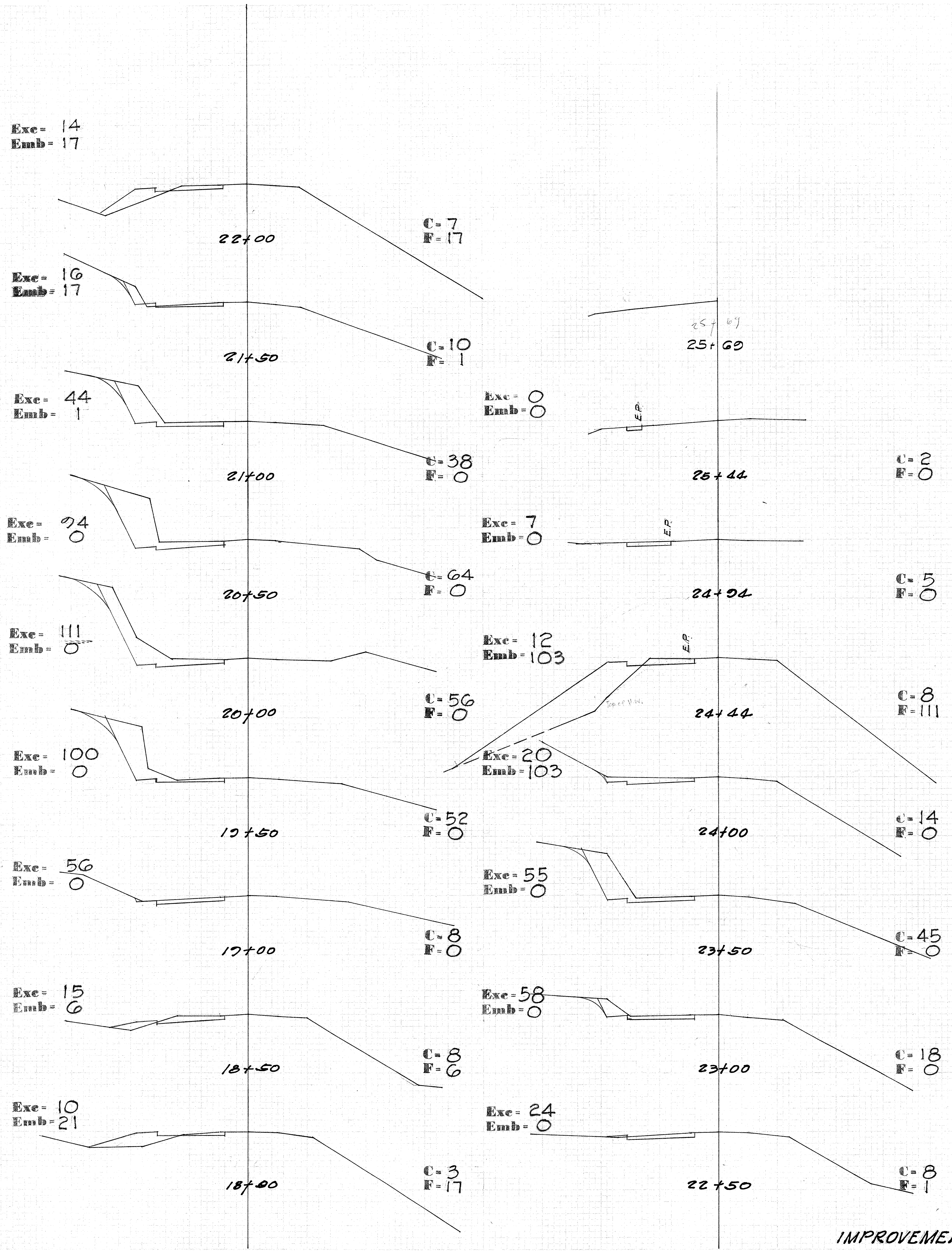
IMPROVEMENT NO. 17

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	378A-03-68	1967	24	25

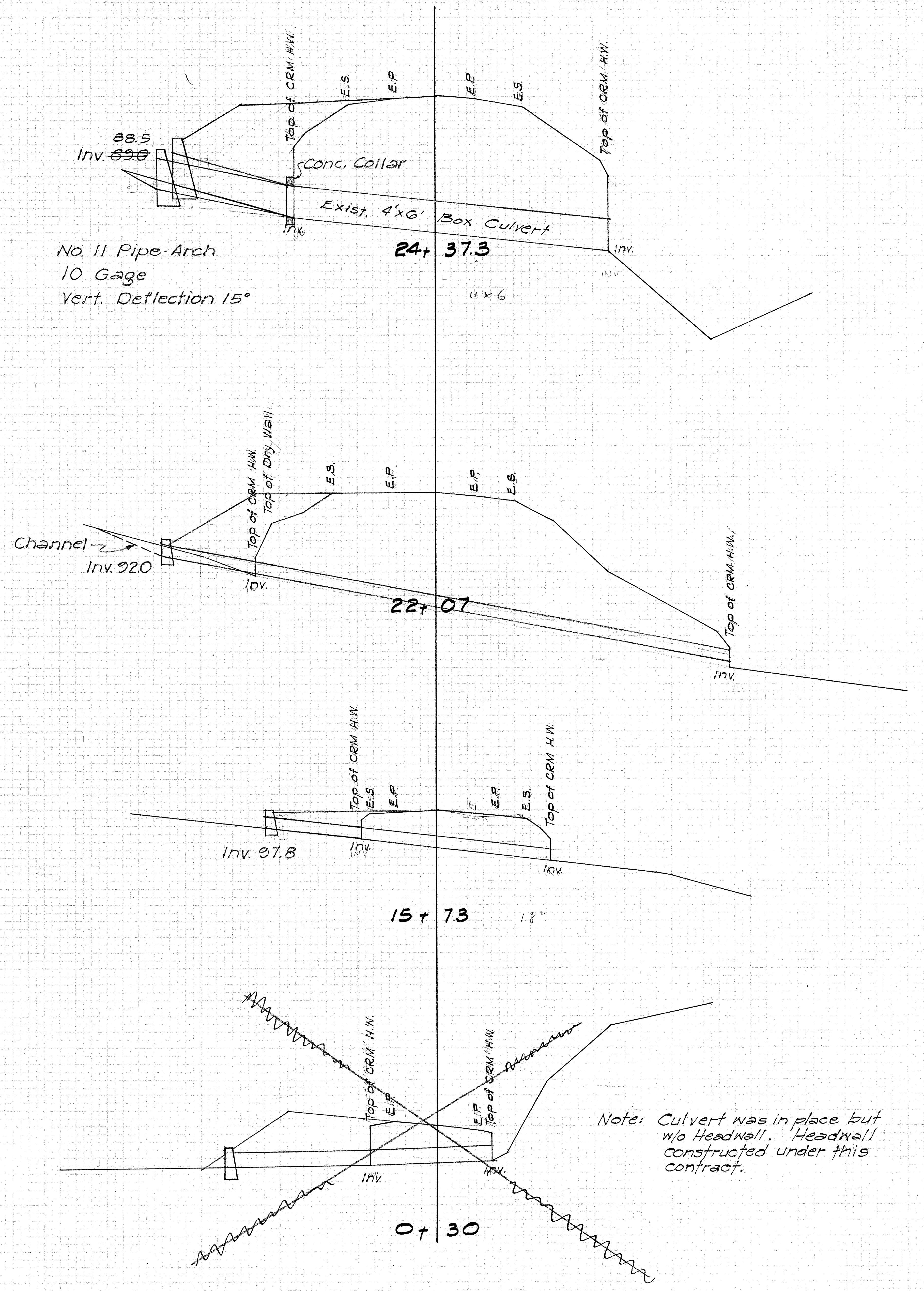
Exc= 78
Emb= 0
4+00
C= 43
F= 0
Exc= 46
Emb= 1
3+50
C= 7
F= 1
Exc= 9
Emb= 5
3+00
C= 3
F= 4
Exc= 13
Emb= 4
E.P.
2+50
C= 11
F= 0
Exc= 19
Emb= 0
E.P.
2+00
C= 10
F= 0
Exc= 17
Emb= 0
E.P.
1+50
C= 8
F= 0
Exc= 11
Emb= 1
E.P.
1+00
C= 3
F= 1
Exc= 5
Emb= 3
E.P.
0+50
C= 2
F= 3
Exc= 2
Emb= 0
E.P.
0+00
C= 8
F= 0
Exc= 21
Emb= 0
8+50
C= 11
F= 0
Exc= 20
Emb= 0
8+00
C= 11
F= 0
Exc= 20
Emb= 0
7+50
C= 11
F= 0
Exc= 19
Emb= 0
7+00
C= 10
F= 0
Exc= 17
Emb= 0
6+50
C= 8
F= 0
Exc= 18
Emb= 1
6+00
C= 11
F= 0
Exc= 17
Emb= 2
5+50
C= 7
F= 1
Exc= 15
Emb= 2
5+00
C= 9
F= 1
Exc= 46
Emb= 1
4+50
C= 41
F= 0
Exc= 39
Emb= 0
13+00
C= 23
F= 0
Exc= 44
Emb= 0
12+50
C= 25
F= 0
Exc= 31
Emb= 3
12+00
C= 8
F= 3
Exc= 13
Emb= 5
11+50
C= 6
F= 2
Exc= 16
Emb= 2
11+00
C= 11
F= 0
Exc= 21
Emb= 0
10+50
C= 12
F= 0
Exc= 22
Emb= 0
10+00
C= 12
F= 0
Exc= 23
Emb= 0
9+50
C= 13
F= 0
Exc= 23
Emb= 0
9+00
C= 12
F= 0
Exc= 12
Emb= 16
17+50
C= 10
F= 0
Exc= 25
Emb= 0
17+00
C= 17
F= 0
Exc= 27
Emb= 0
16+50
C= 12
F= 0
Exc= 16
Emb= 3
16+00
C= 5
F= 3
Exc= 15
Emb= 3
15+50
C= 11
F= 0
Exc= 24
Emb= 0
15+00
C= 15
F= 0
Exc= 28
Emb= 0
14+50
C= 15
F= 0
Exc= 27
Emb= 0
14+00
C= 14
F= 0
Exc= 31
Emb= 0
13+50
C= 19
F= 0

IMPROVEMENT NO. 18

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	378A-03-68	1967	25	25


Exc= 14
Emb= 17
22+00
C= 7
F= 17
Exc= 16
Emb= 17
21+50
C= 10
F= 1
Exc= 44
Emb= 1
21+00
C= 38
F= 0
Exc= 94
Emb= 0
20+50
C= 64
F= 0
Exc= 111
Emb= 0
20+00
C= 56
F= 0
Exc= 100
Emb= 0
19+50
C= 52
F= 0
Exc= 56
Emb= 0
19+00
C= 8
F= 0
Exc= 15
Emb= 6
18+50
C= 8
F= 6
Exc= 10
Emb= 21
18+00
C= 3
F= 17
25+69
25+69
Exc= 0
Emb= 0
E.P.
25+44
C= 2
F= 0
Exc= 7
Emb= 0
E.P.
24+94
C= 5
F= 0
Exc= 12
Emb= 103
E.P.
24+44
C= 8
F= 111
Exc= 20
Emb= 103
24+00
C= 14
F= 0
Exc= 55
Emb= 0
23+50
C= 45
F= 0
Exc= 58
Emb= 0
23+00
C= 18
F= 0
Exc= 24
Emb= 0
22+50
C= 8
F= 1

Note: ℄ Culvert Sta. Elevation is 100.00 (Assumed)


88.5
Inv. ~~89.0~~
Top of CRM H.W.
E.S.
E.P.
E.P.
E.S.
Top of CRM H.W.
Conc. Collar
Exist. 4'x6' Box Culvert
Inv.
Inv.
24+37.3
4x6
Channel
Inv. 92.0
Top of CRM H.W.
Top of Dry Wall
E.S.
E.P.
E.P.
E.S.
Inv.
22+07
Top of CRM H.W.
Inv.
Top of CRM H.W.
E.S.
E.P.
E.P.
E.S.
Top of CRM H.W.
Inv. 97.8
Inv.
Inv.
15+73
18"
Top of CRM H.W.
E.S.
E.P.
Top of CRM H.W.
Inv.
Inv.
0+30

No. 11 Pipe-Arch
10 Gage
Vert. Deflection 15°

Note: Culvert was in place but w/o Headwall. Headwall constructed under this contract.

IMPROVEMENT NO. 18