05/08/99

TIP PROJECT: B-4252

CONTRACT:

ROCKINGHAM COUNTY
X-SECTIONS X-1 THRU X-32

SHEETS

X-1

X-2 THRU X-18

X-19 THRU X-26

X-27 THRU X-29

X-30 THRU X-31

X-32

INDEX OF SHEETS

CROSS SUMMARY SHEET

-L- (US 311)

-Y- (RELOCATED SR 1138)

-Y1- (SR 1169)

-Y4- (SR 1138)

-DR1-

KO & ASSOCIATES, P.C.
Consulting Engineers
5121 KINGDOM WAY, SUITE 100
RALEIGH, N.C. 27607
(919) 851-6066

2/12/2008
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Ko & Associates, P.C.

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PROJ. REFERENCE NO.	SHEET NO.
B-4252	X-1

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CROSS-SECTION SUMMARY

Approximate quantities only. Shoulder borrow, fine grading, clearing and grubbing and removal of existing pavement will be paid for at the lump sum price for "Grading".

NOTE: EMBANKMENT COLUMN INCLUDES BACKFILL FOR UNDERCUT

Station L	Uncl. Exc. (cu. yd.)	Undercut (cu. yd.)	Embt (cu. yd.)
12+75.00	0		0
13+00.00	38		0
13+50.00	115		4
14+00.00	94		14
14+50.00	110		12
15+00.00	138		3
15+50.00	198		2
16+00.00	313	107	113
16+50.00	463	281	291
17+00.00	499	250	257
17+50.00	471	133	142
18+00.00	539	120	132
18+50.00	699	123	133
19+00.00	952	60	73
19+50.00	1144		12
20+00.00	1179		11
20+50.00	1172		10
21+00.00	1075		9
21+50.00	899		4
22+00.00	711		3
22+50.00	556		19
23+00.00	394		40
23+50.00	201		45
24+00.00	130		37
24+50.00	131		28
25+00.00	78		46
25+50.00	28		120
26+00.00	16		234
26+50.00	16		372
27+00.00	24		525
27+19.00	6		389
SKIP STATION RANGE = 27+19.00 to 28+19.00			
28+19.00	32		189
28+50.00	59		339
29+00.00	101		455
29+50.00	113		187
30+00.00	119		299
30+50.00	116		608
31+00.00	111		619
31+11.50	50		286
SKIP STATION RANGE = 31+11.50 to 32+11.50			
32+11.50	22		177
32+50.00	64		514
33+00.00	80		688
33+50.00	76		714
34+00.00	79		681
34+50.00	81		642
35+00.00	74		629
35+50.00	53		666
36+00.00	36		546
36+50.00	48		217
37+00.00	62		41
37+50.00	203		17

Station L	Uncl. Exc. (cu. yd.)	Undercut (cu. yd.)	Embt (cu. yd.)
38+00.00	484		6
38+50.00	734		4
39+00.00	875		2
39+50.00	922		2
40+00.00	934		2
40+50.00	888		1
41+00.00	769		0
41+50.00	412		1
42+00.00	65		1

Station Y	Uncl. Exc. (cu. yd.)	Undercut (cu. yd.)	Embt (cu. yd.)
13+15.00	0		0
13+50.00	13		1
14+00.00	35		6
14+50.00	31		13
15+00.00	15		40
15+50.00	1		243
16+00.00	0		675
16+50.00	0		785
17+00.00	0		467
17+50.00	23		155
18+00.00	374		9
18+50.00	1008		0
19+00.00	1606		0
19+50.00	2146		0
20+00.00	2709	101	101
20+50.00	3160	202	202
21+00.00	3465	202	202
21+50.00	3670	101	101
22+00.00	3396		0
22+50.00	2614		0
23+00.00	1827	60	60
23+50.00	1288	171	171
24+00.00	960	230	230
24+50.00	785	244	244
25+00.00	715	257	257
25+50.00	723	267	267
26+00.00	744	273	273

Station Y1	Uncl. Exc. (cu. yd.)	Undercut (cu. yd.)	Embt (cu. yd.)
10+50.00	0		0
11+00.00	4		254
11+50.00	2		165
12+00.00	1		171
12+50.00	3		162
13+00.00	10		153
13+50.00	25		118
14+00.00	33		79
14+50.00	40		58
15+00.00	23		25
11+00.00	382		0
11+25.00	299		0
11+50.00	199		0
11+75.00	100		0
11+98.68	27		0

Station Y4	Uncl. Exc. (cu. yd.)	Undercut (cu. yd.)	Embt (cu. yd.)
10+50.00	0		0
11+00.00	61		271
11+50.00	100		311
12+00.00	88		177
12+50.00	59		63
13+00.00	28		17

Station DR1	Uncl. Exc. (cu. yd.)	Undercut (cu. yd.)	Embt (cu. yd.)
10+20.00	0		0
10+50.00	213		0
10+75.00	350		0
11+00.00	317		0
11+25.00	252		0
11+50.00	168		0
11+75.00	87		0
11+98.68	24		0

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0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	B-4252	X-2

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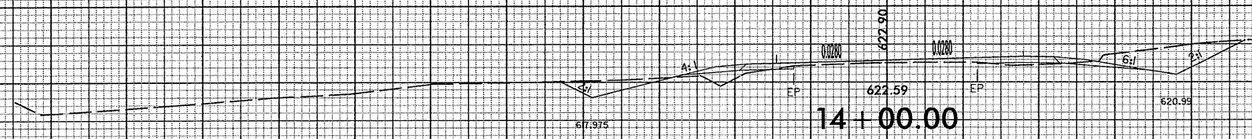

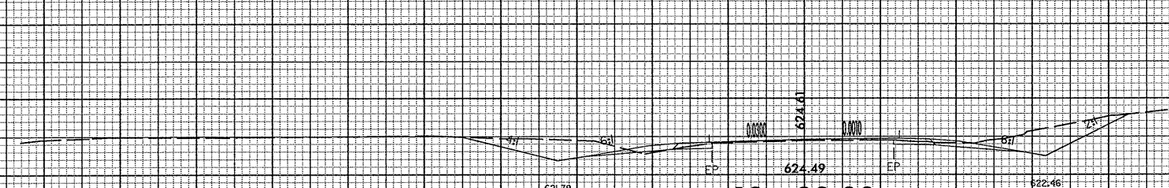

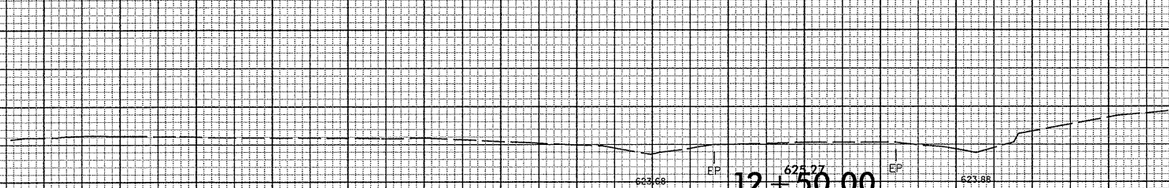

Note: Approximate quantities only. Shoulder Borrow, Fine Grading, Clearing and Grubbing, and Removal of Existing Pavement will be paid for at the contract lump sum price for "Grading."

2/12/2008
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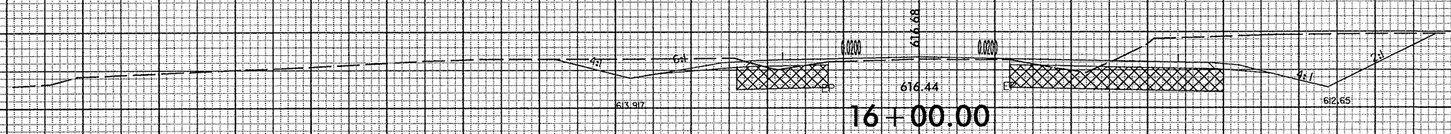

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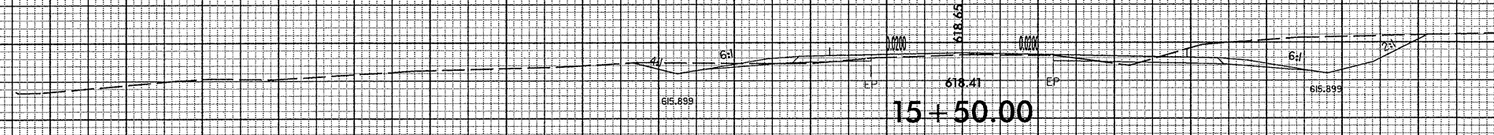

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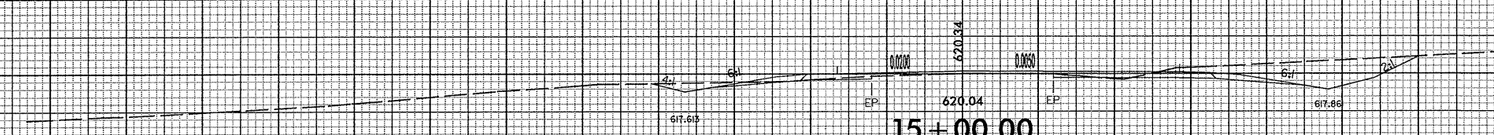

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14+50.00

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	B-4252	X-4

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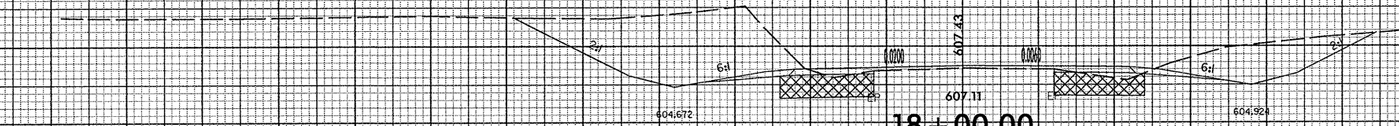

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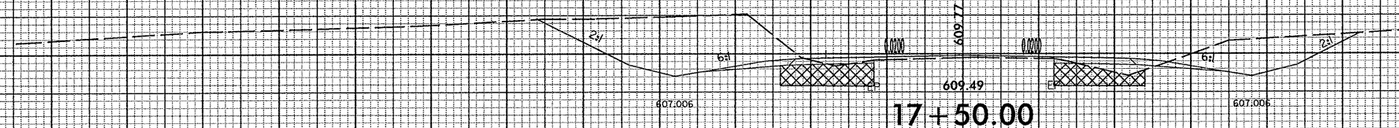

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630 620 610 600

630 620 610 600

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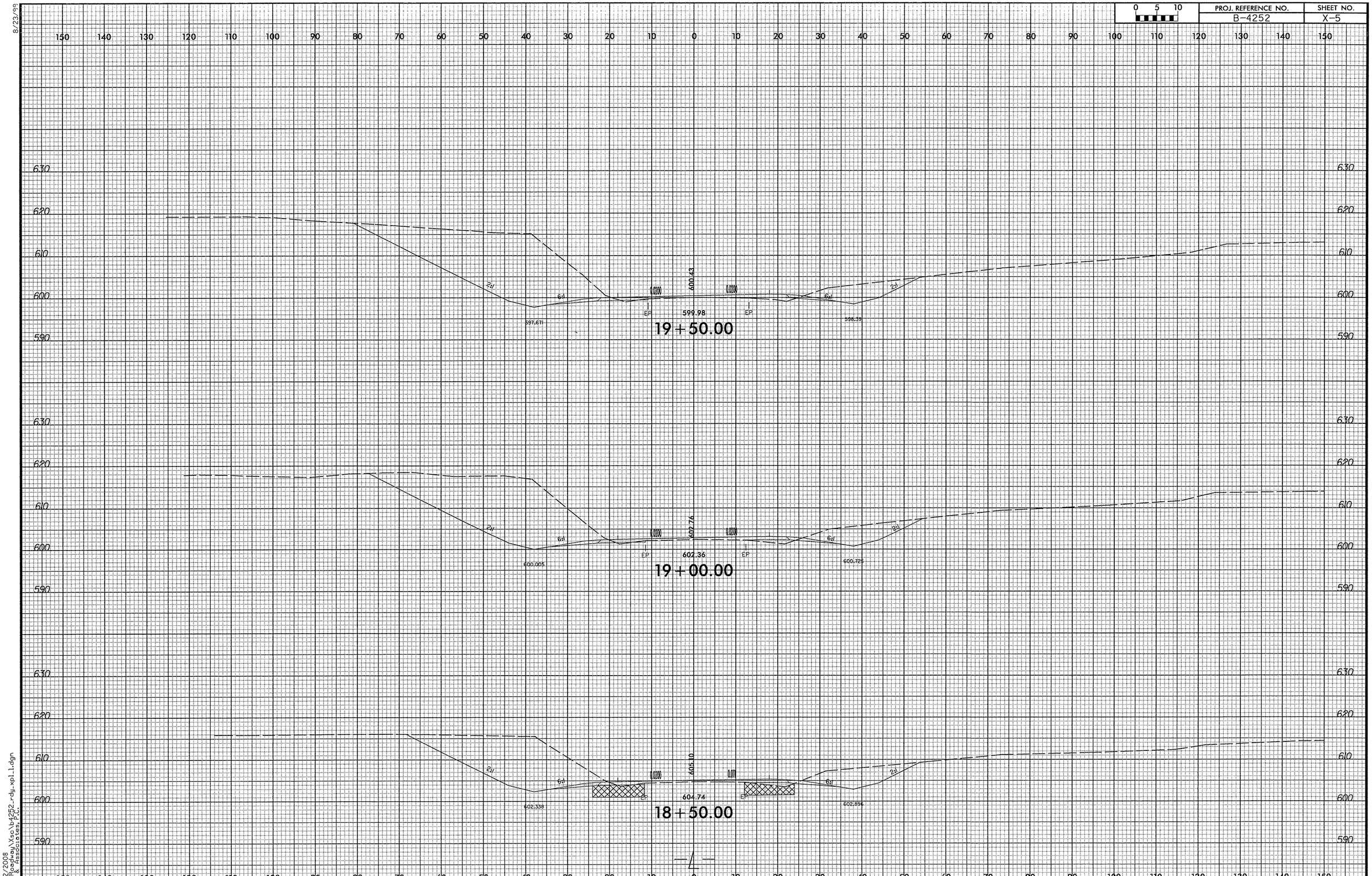
Ko & Associates, P.C.



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	B-4252	X-6

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620 610 600 590 580

2:1 6:1 2:1

593.43

EP 592.93 EP

590.671 591.391

21+00.00

620 610 600 590

2:1 6:1 2:1

595.76

EP 595.27 EP

593.004 593.724

20+50.00

630 620 610 600 590

2:1 6:1 2:1

598.10

EP 594.61 EP

595.336 596.058

20+00.00

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

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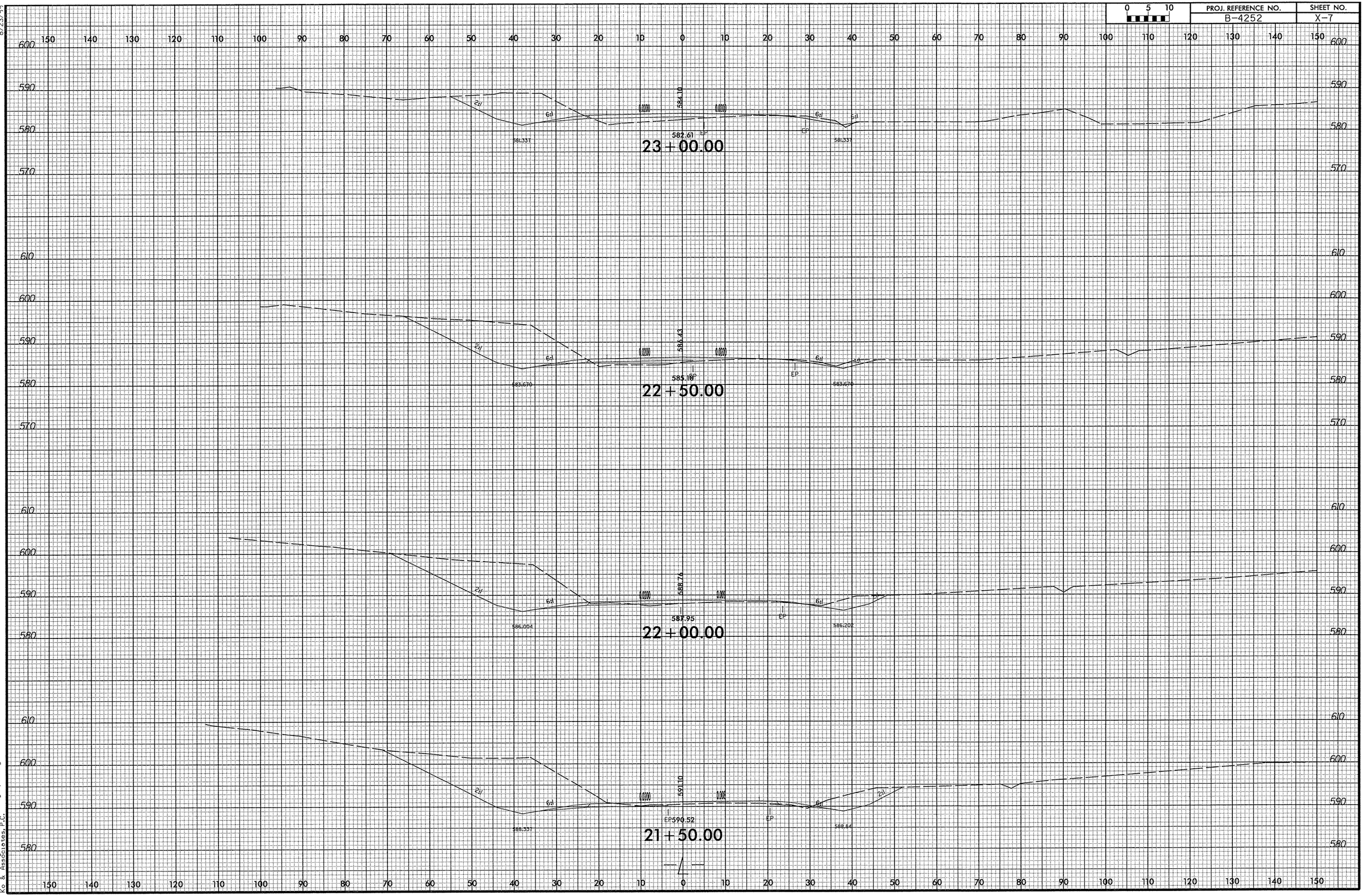

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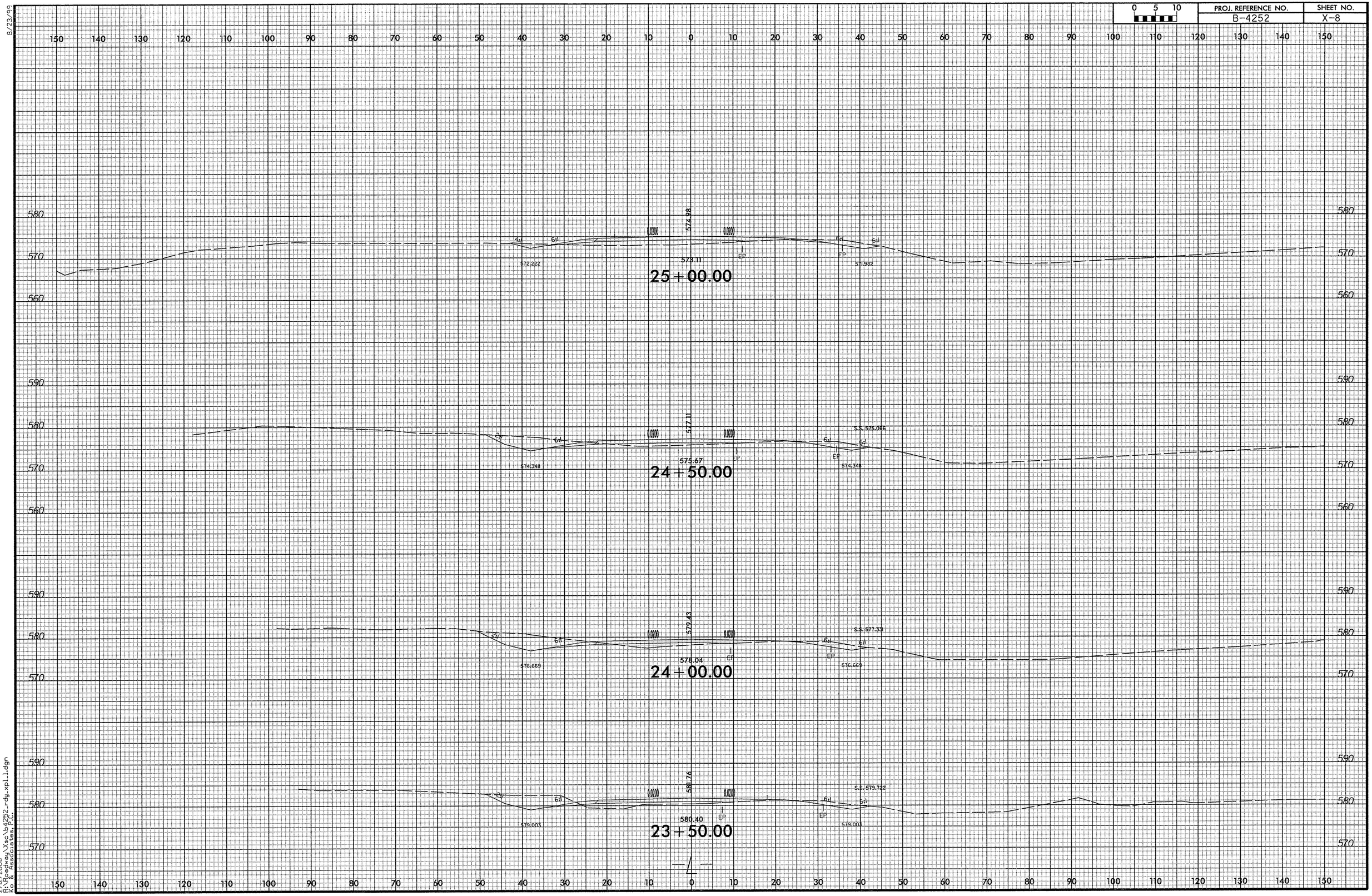
PROJ. REFERENCE NO.	SHEET NO.
B-4252	X-8



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0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	B-4252	X-9

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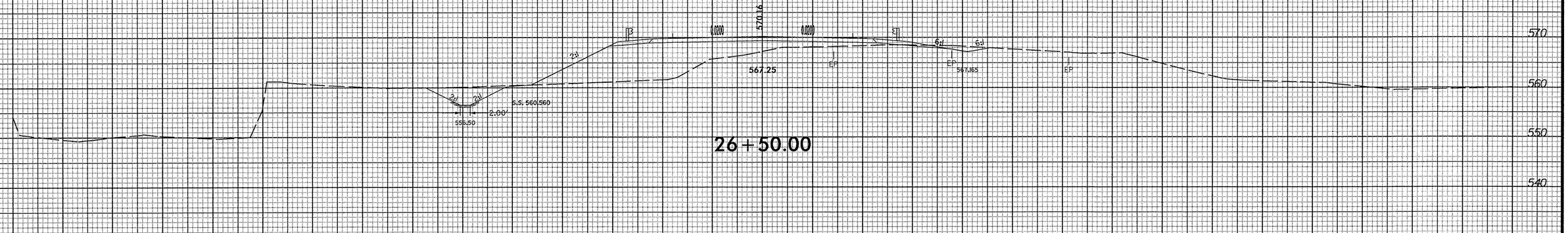

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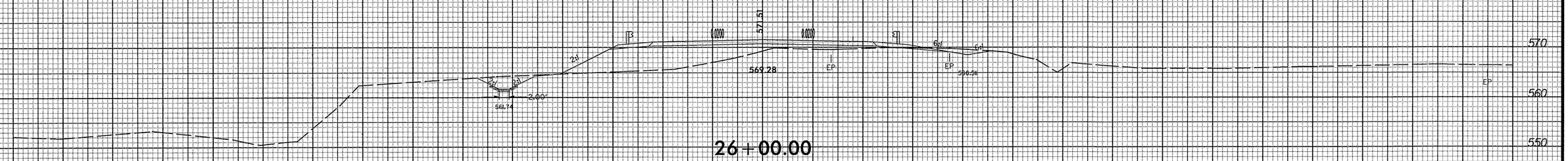

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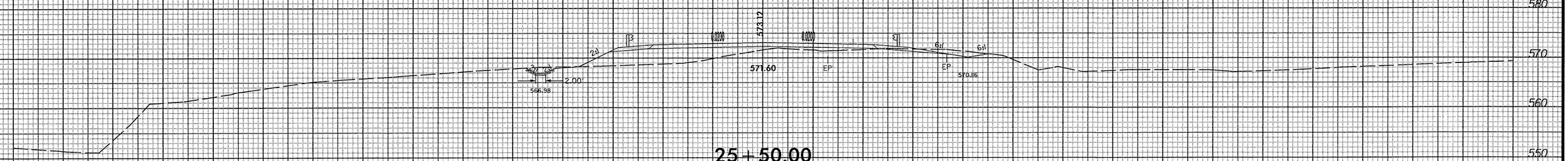

25+50.00

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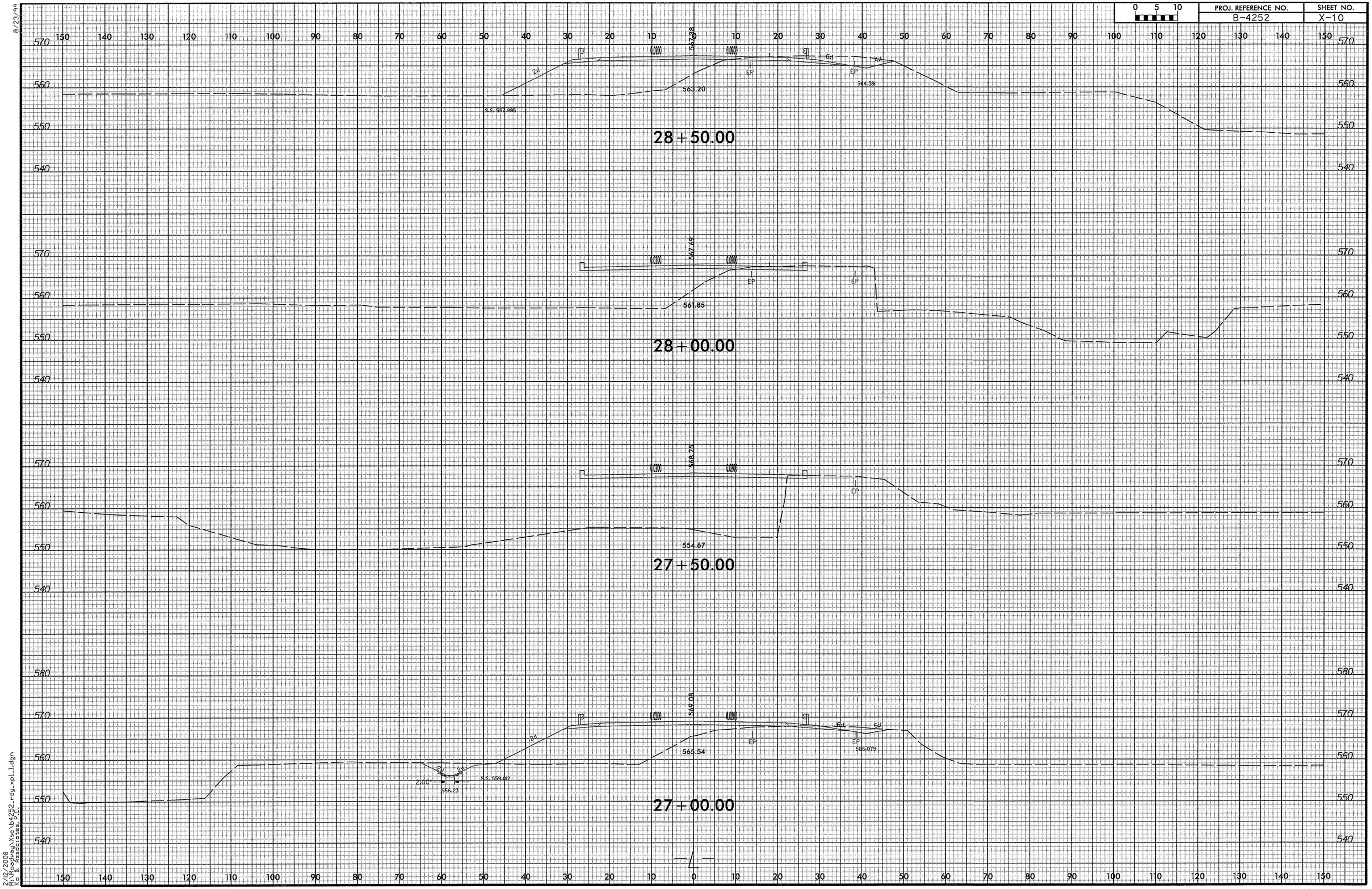

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Ko & Associates, P.C.

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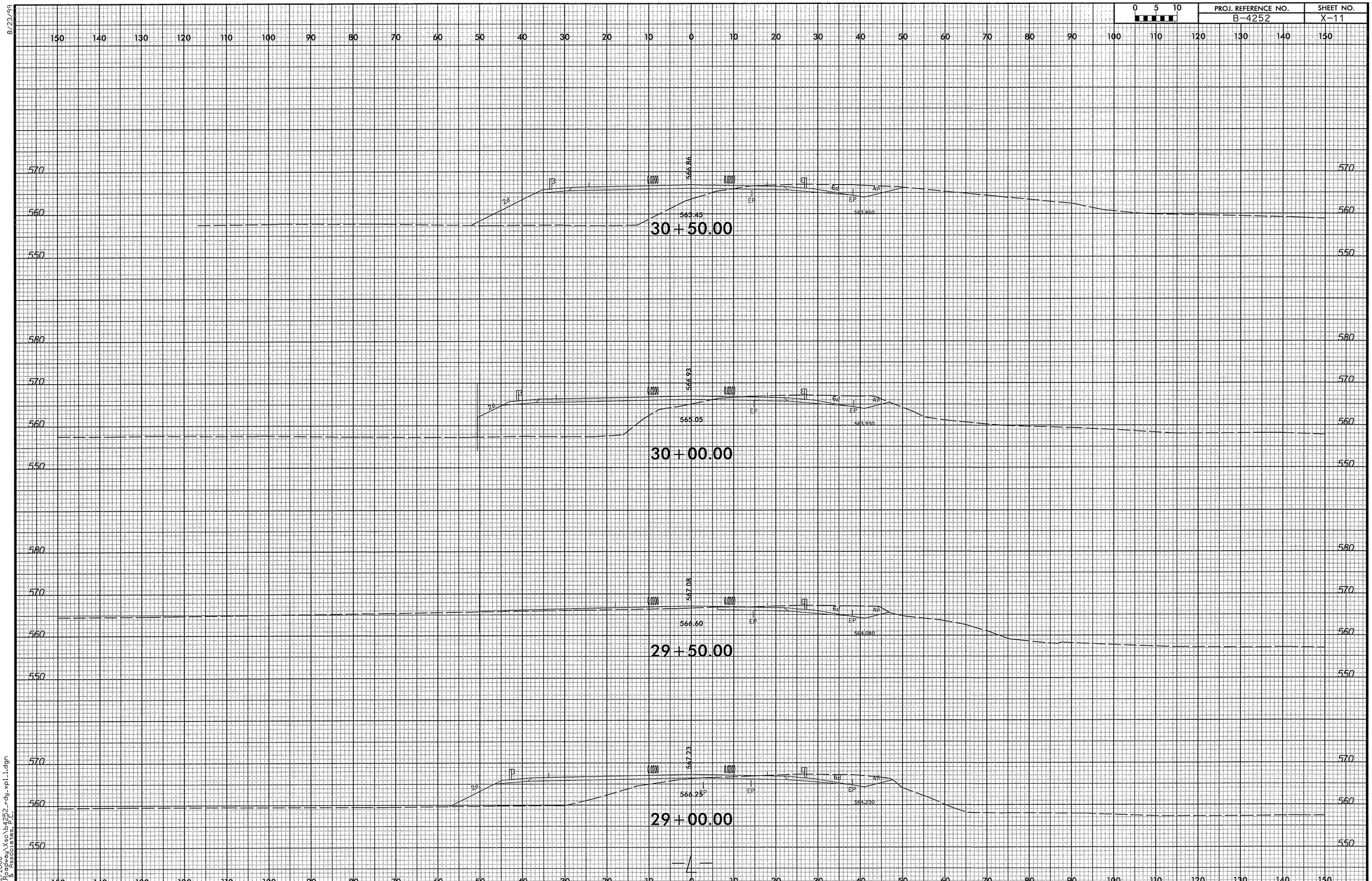

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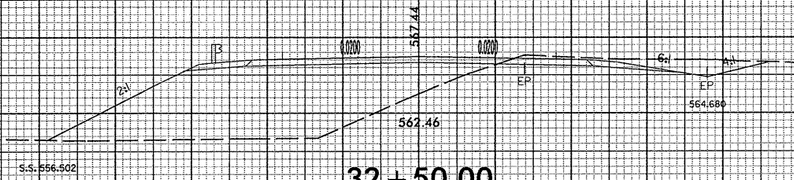

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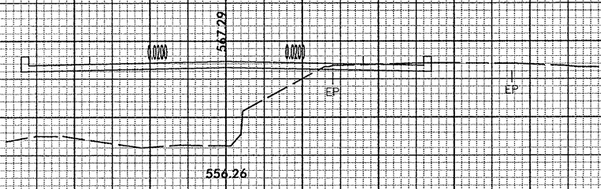

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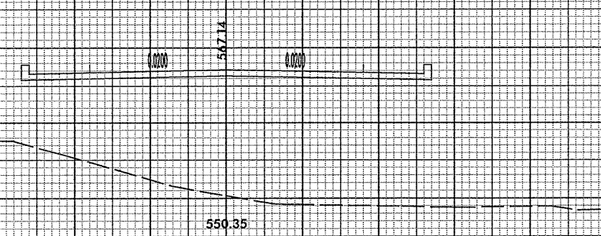

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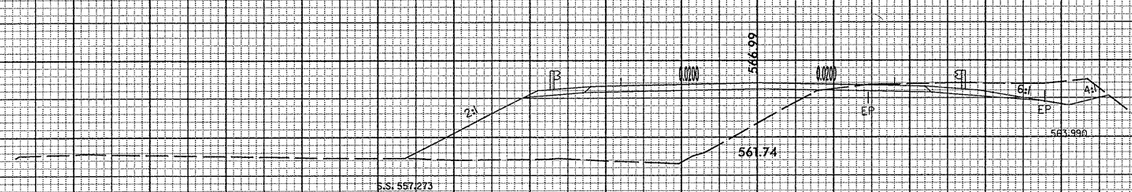

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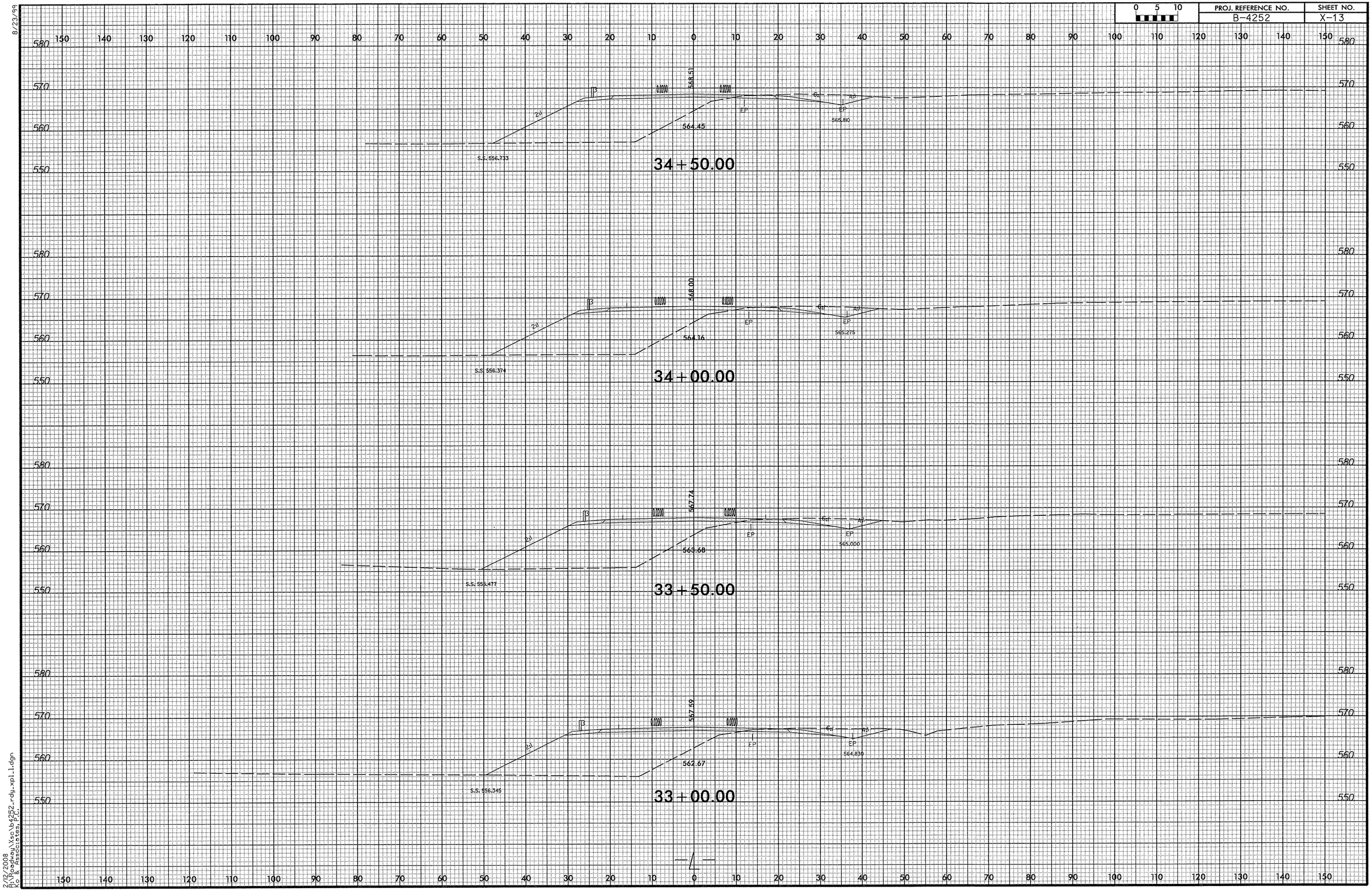

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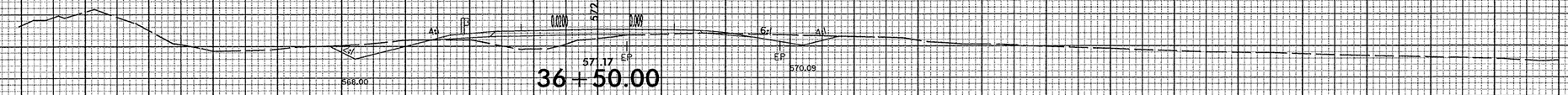

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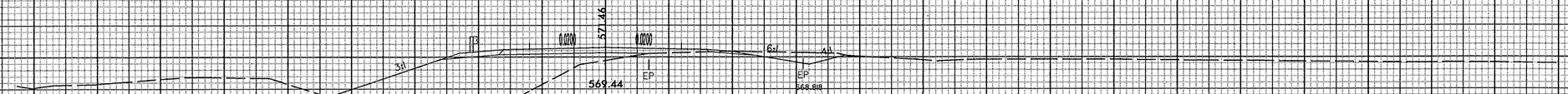

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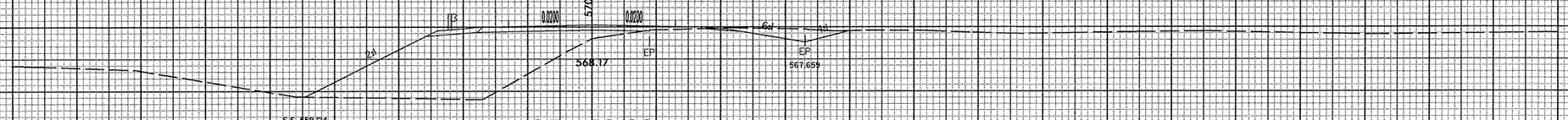

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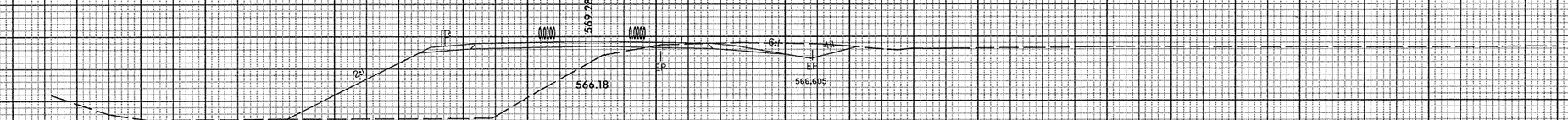

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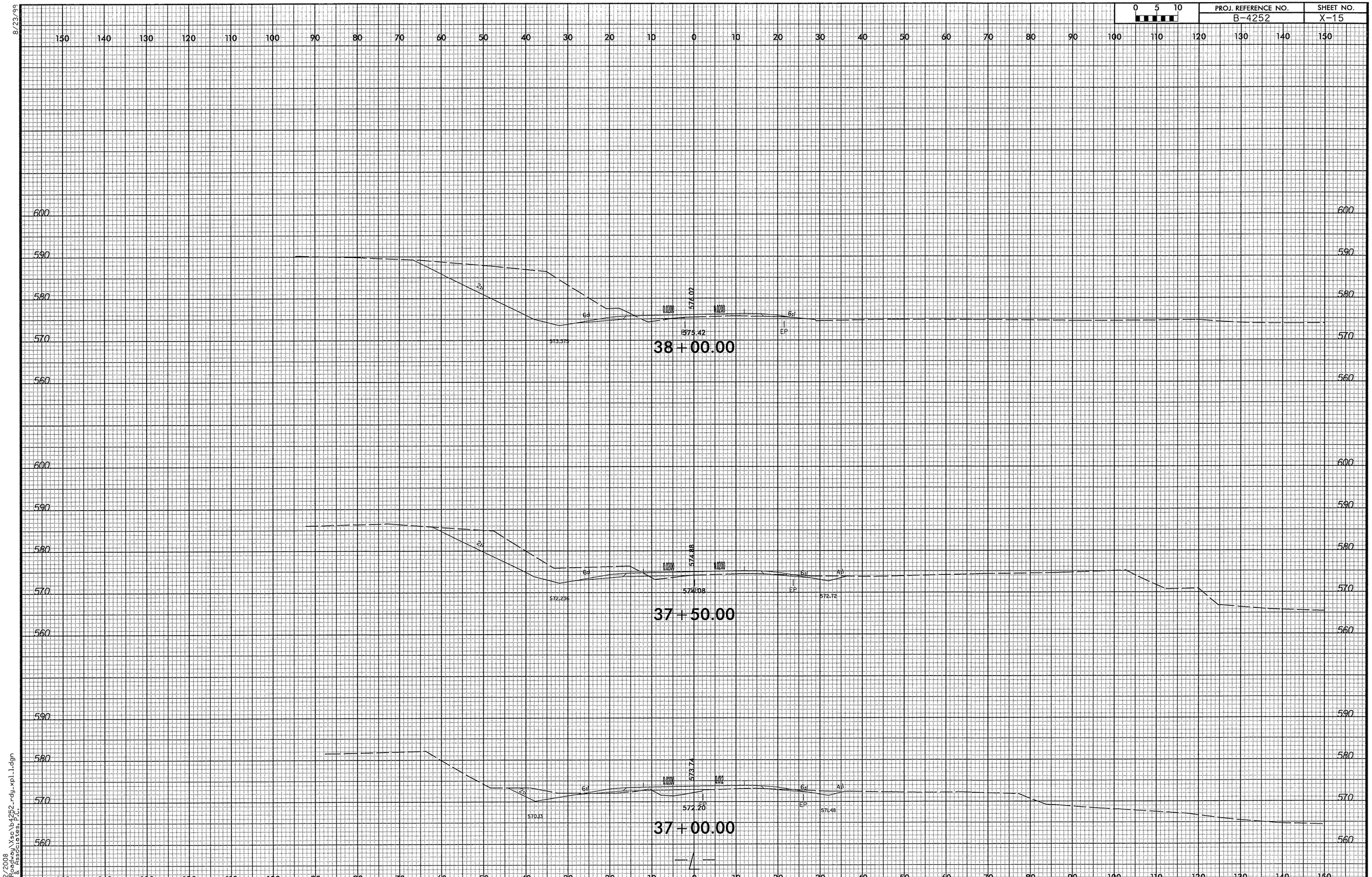
B-4252	X-15



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8/23/99

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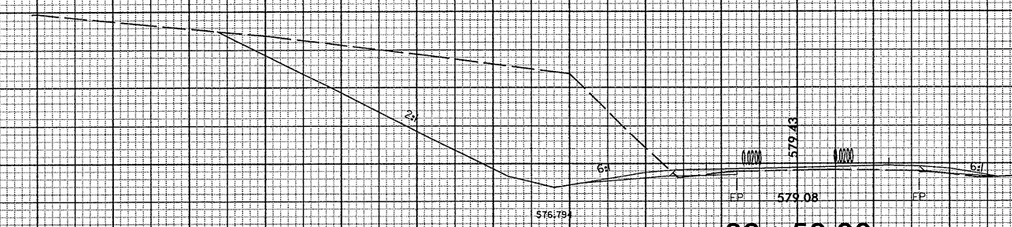

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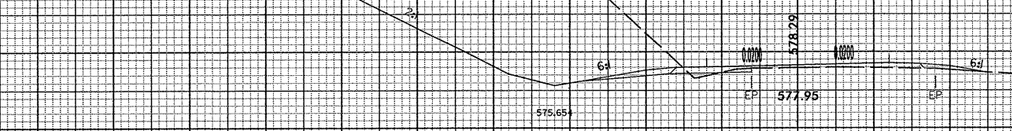

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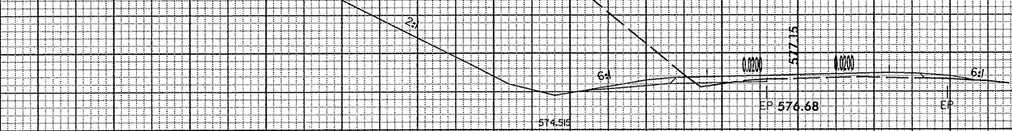

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Ko & Associates, P.C.

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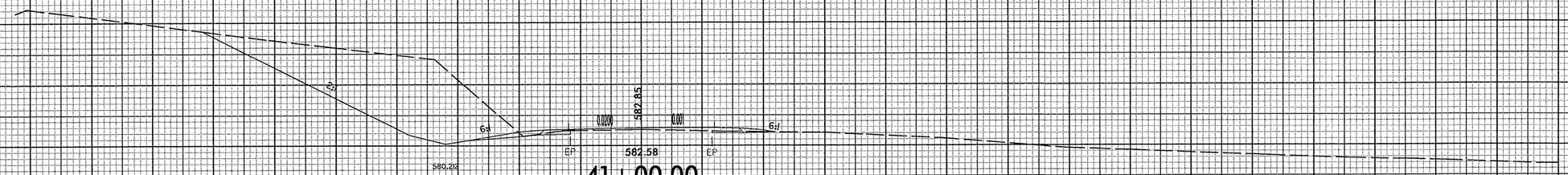
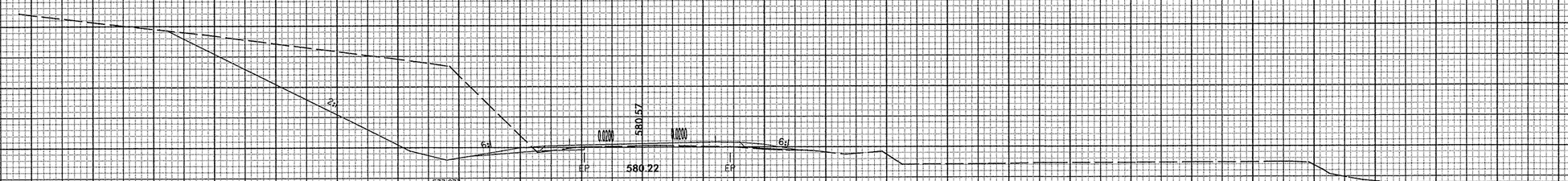


41 + 00.00

40 + 50.00



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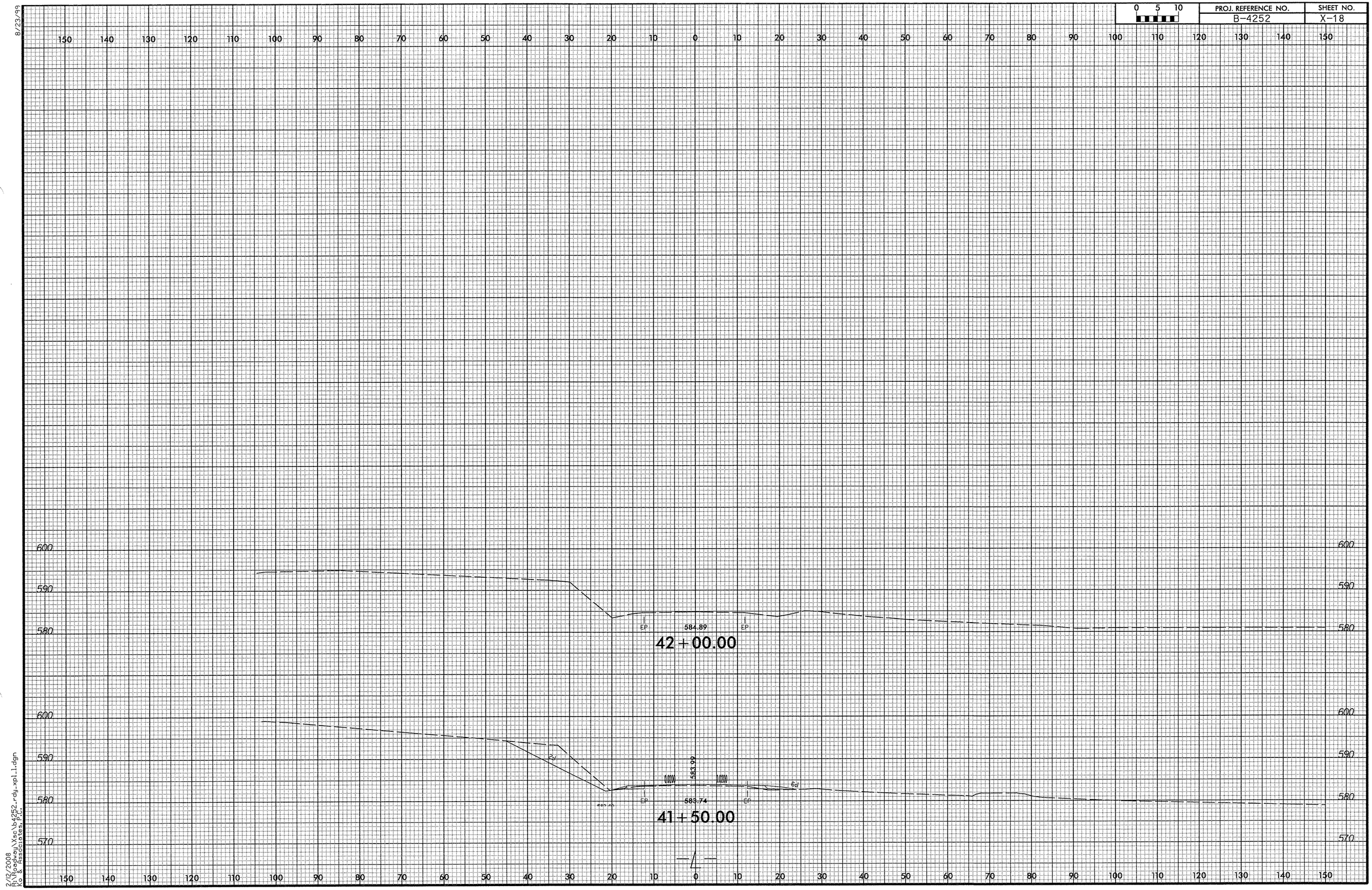

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0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	B-4252	X-19

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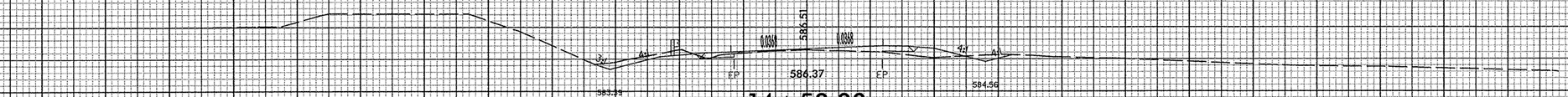
600 590 580 570



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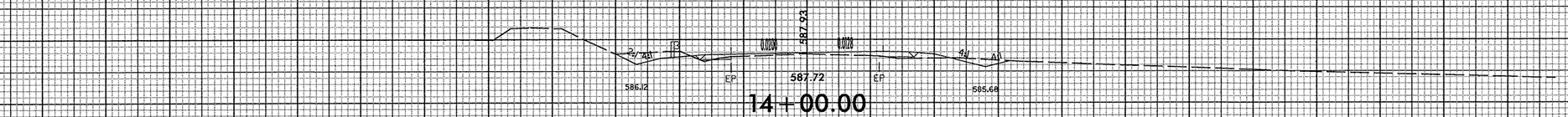

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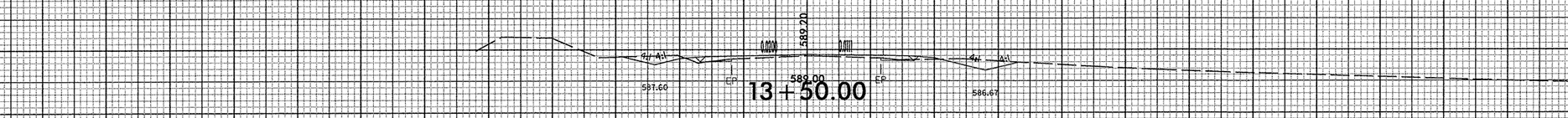

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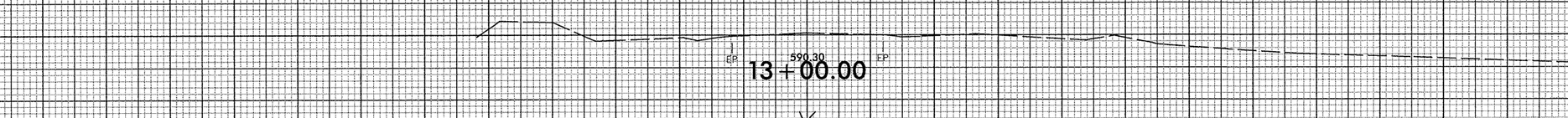

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Ko & Associates, P.C.

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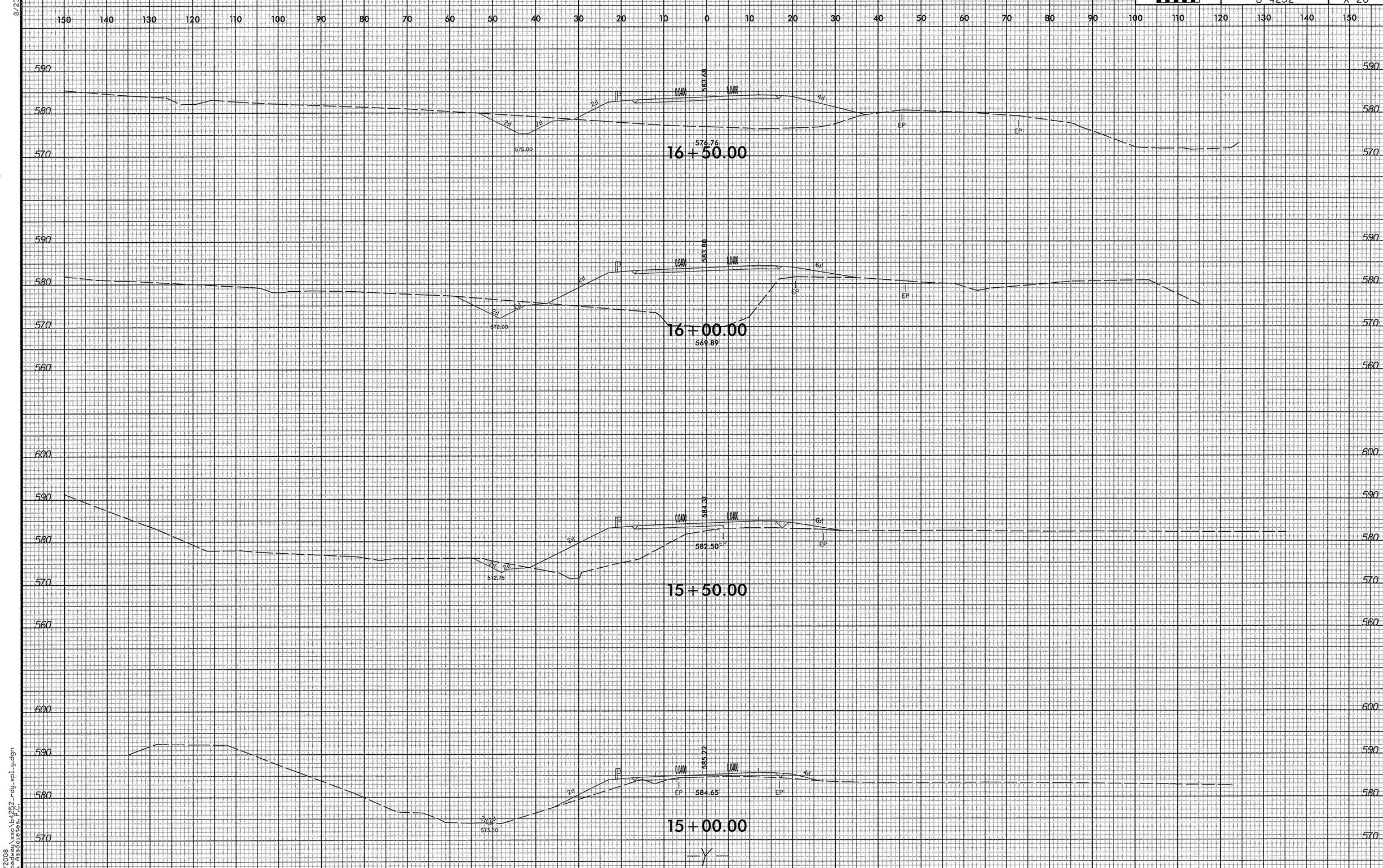
B-4252	X-20



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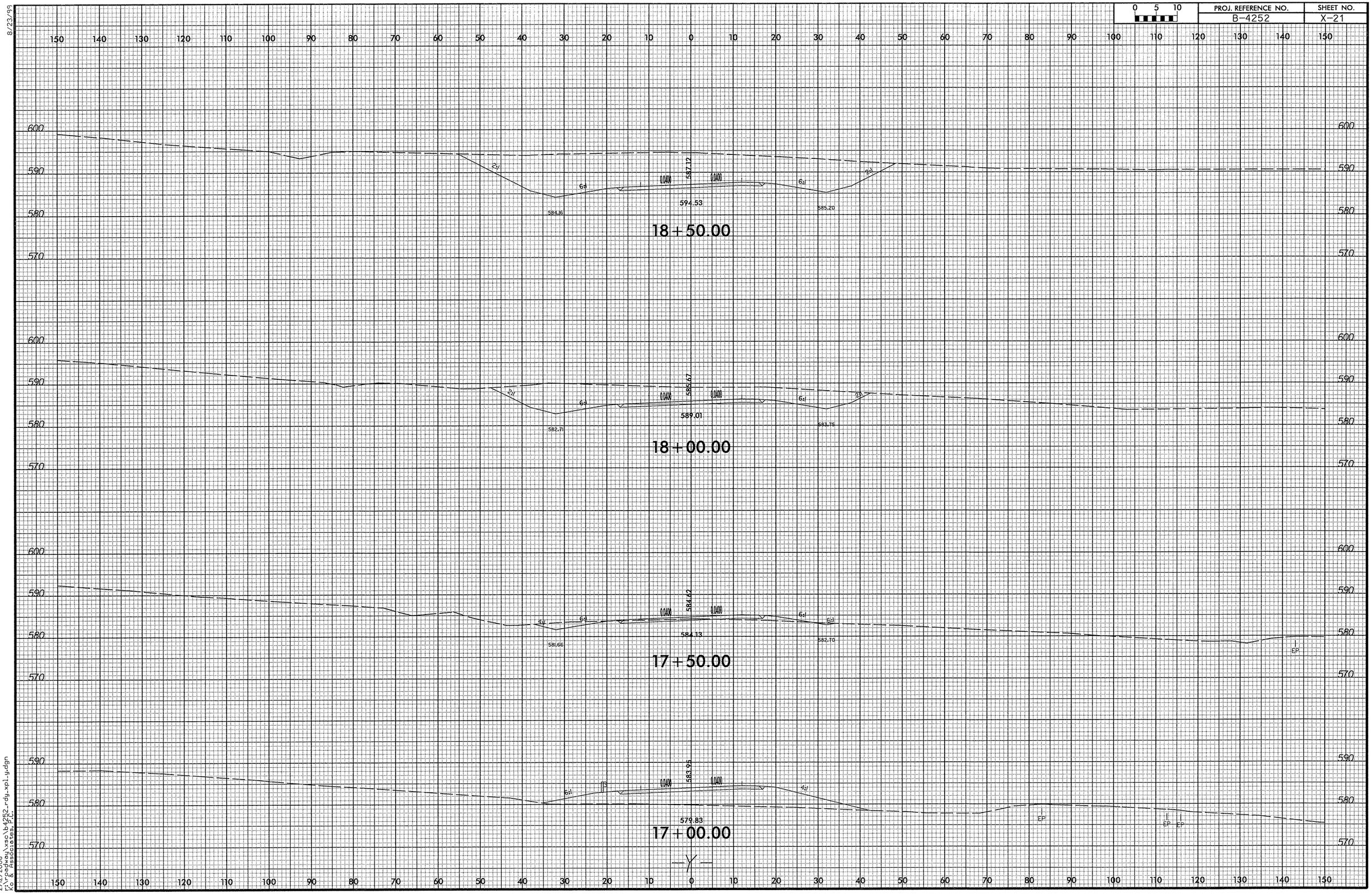
Ko & Associates, P.C.



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Ko & Associates, P.C.

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0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	B-4252	X-22

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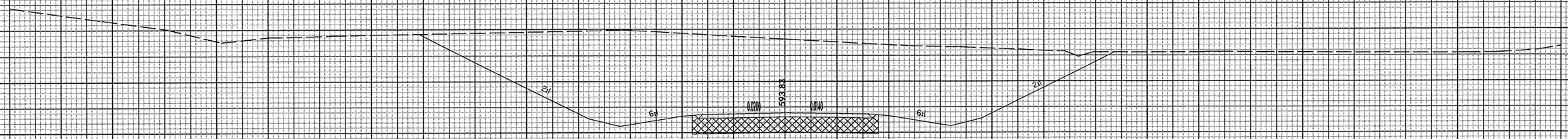
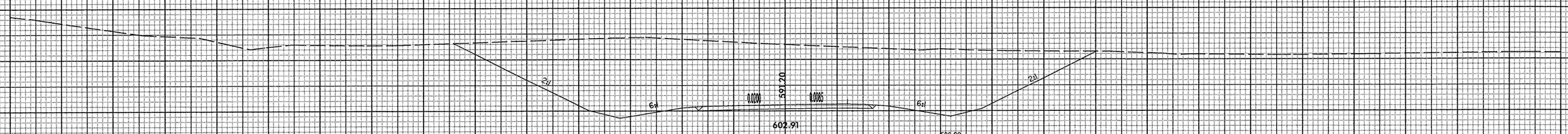
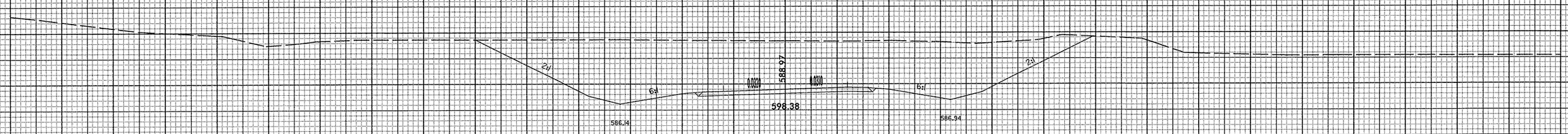
620 610 600 590 580



20+00.00



19+50.00



19+00.00

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150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

610 600 590 580 570

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K & Associates, P.C.

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0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	B-4252	X-23

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

630 620 610 600 590

2:1 6:1 2:1 603.69 619.93 601.05 601.05

21+50.00

630 620 610 600 590

2:1 6:1 2:1 600.24 0.0200 0.0000 616.22 597.60 597.60

21+00.00

620 610 600 590 580

2:1 6:1 2:1 596.85 0.0200 0.0000 611.81 594.21 594.21

20+50.00

—Y—

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

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Ko & Associates, P.C.

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0 5 10	PROJ. REFERENCE NO.	SHEET NO.
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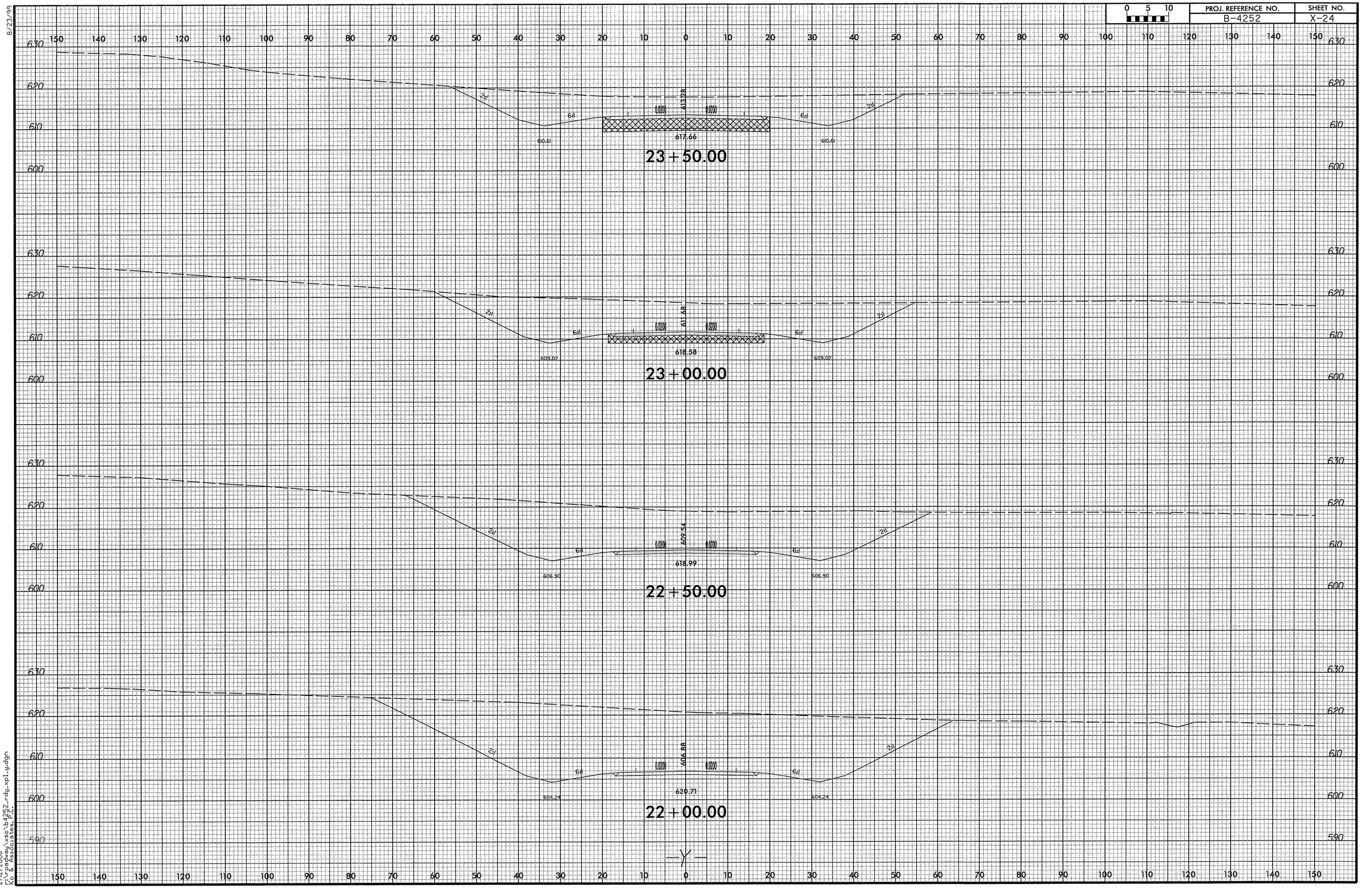

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Ko & Associates, P.C.

8/23/99

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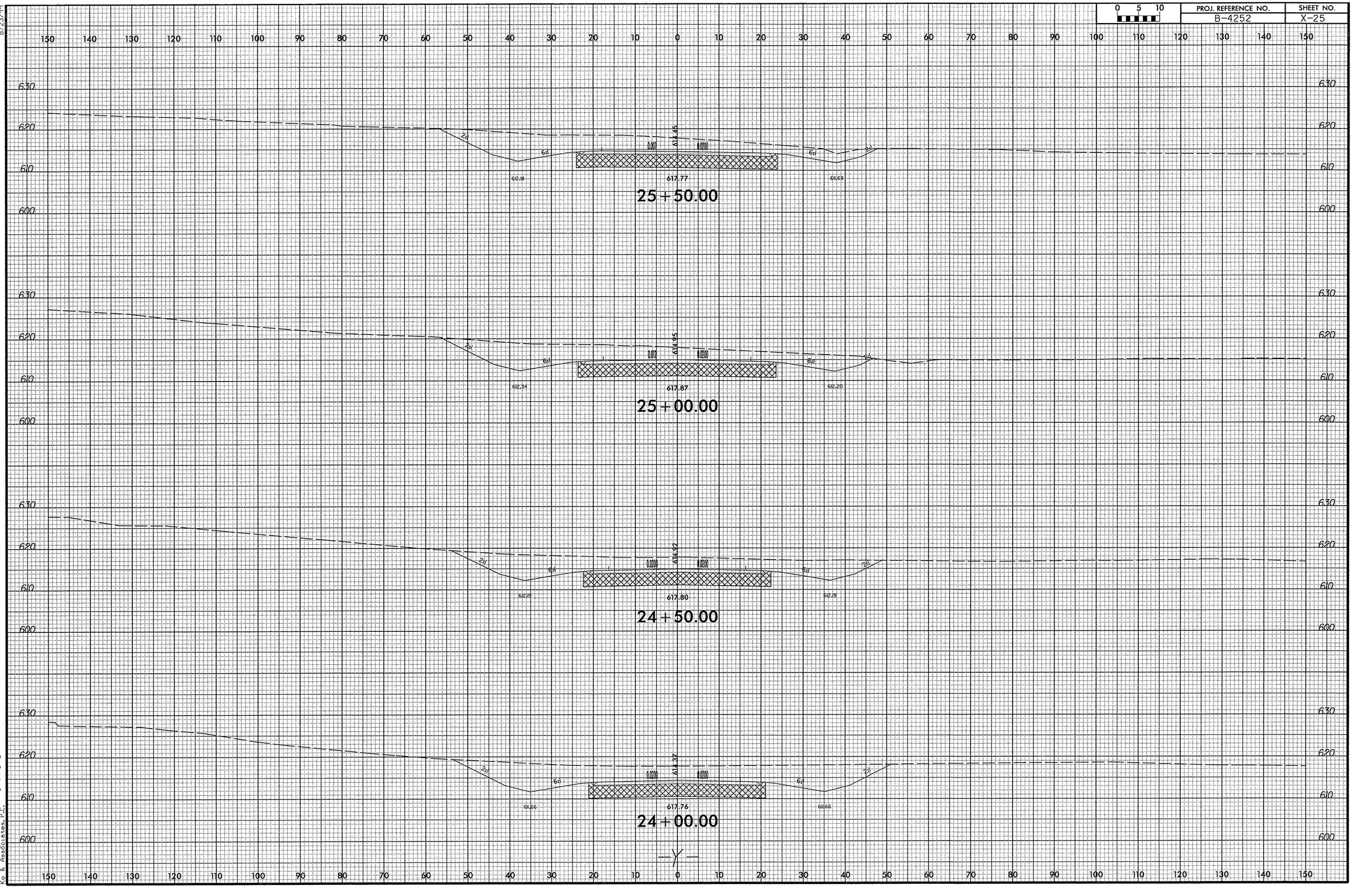

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Ko & Associates, P.C.

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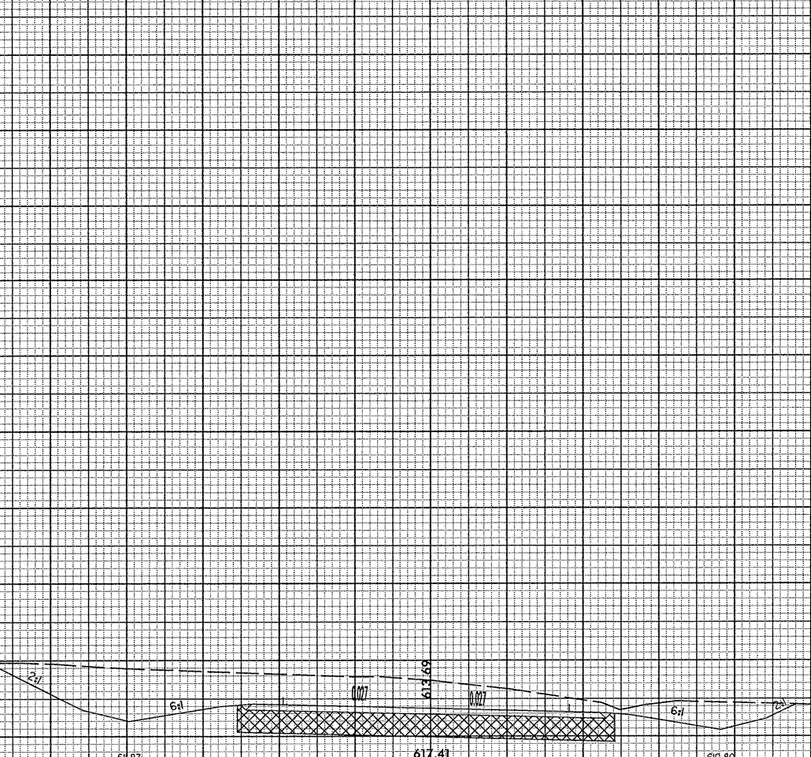
630
620
610
600



26+00.00

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Ko & Associates, P.C.

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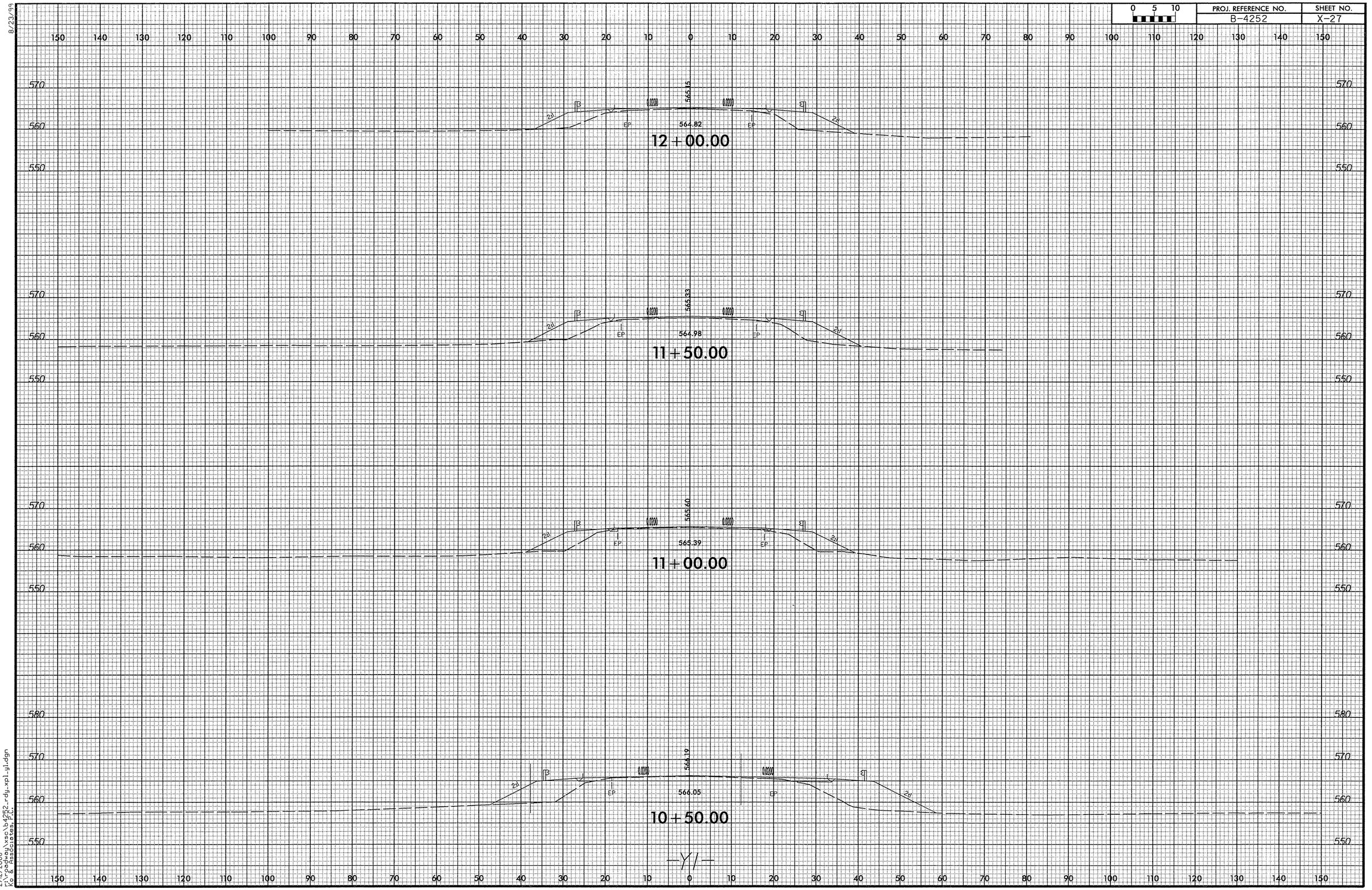
0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	B-4252	X-27



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Ko & Associates, P.C.

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0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	B-4252	X-28

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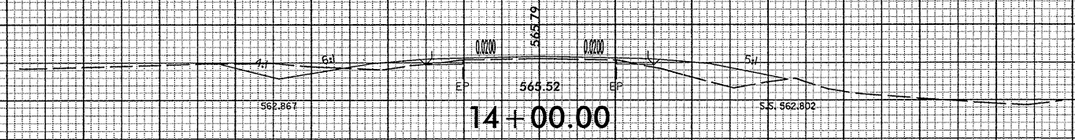
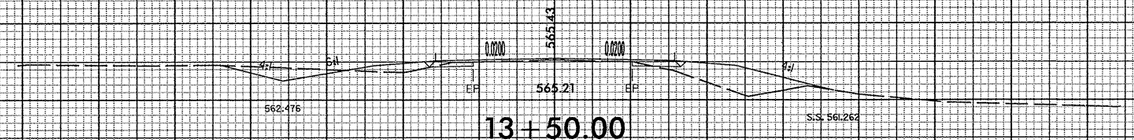
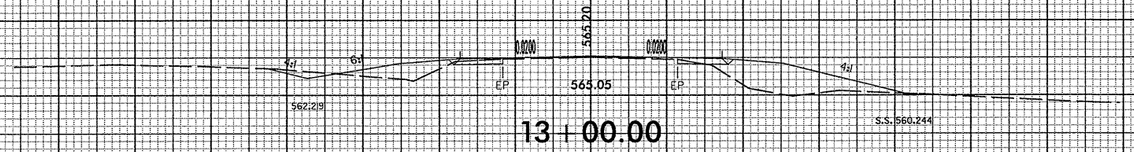
570 560 550



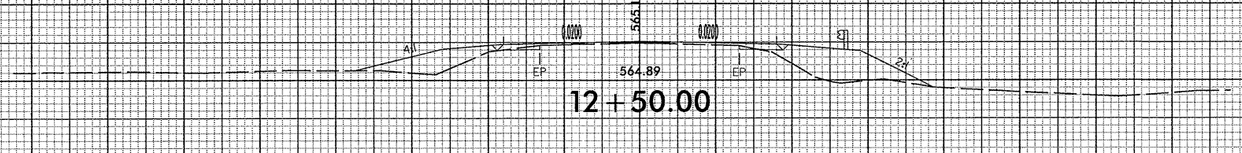
14+00.00



13+50.00



13+00.00



12+50.00

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150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

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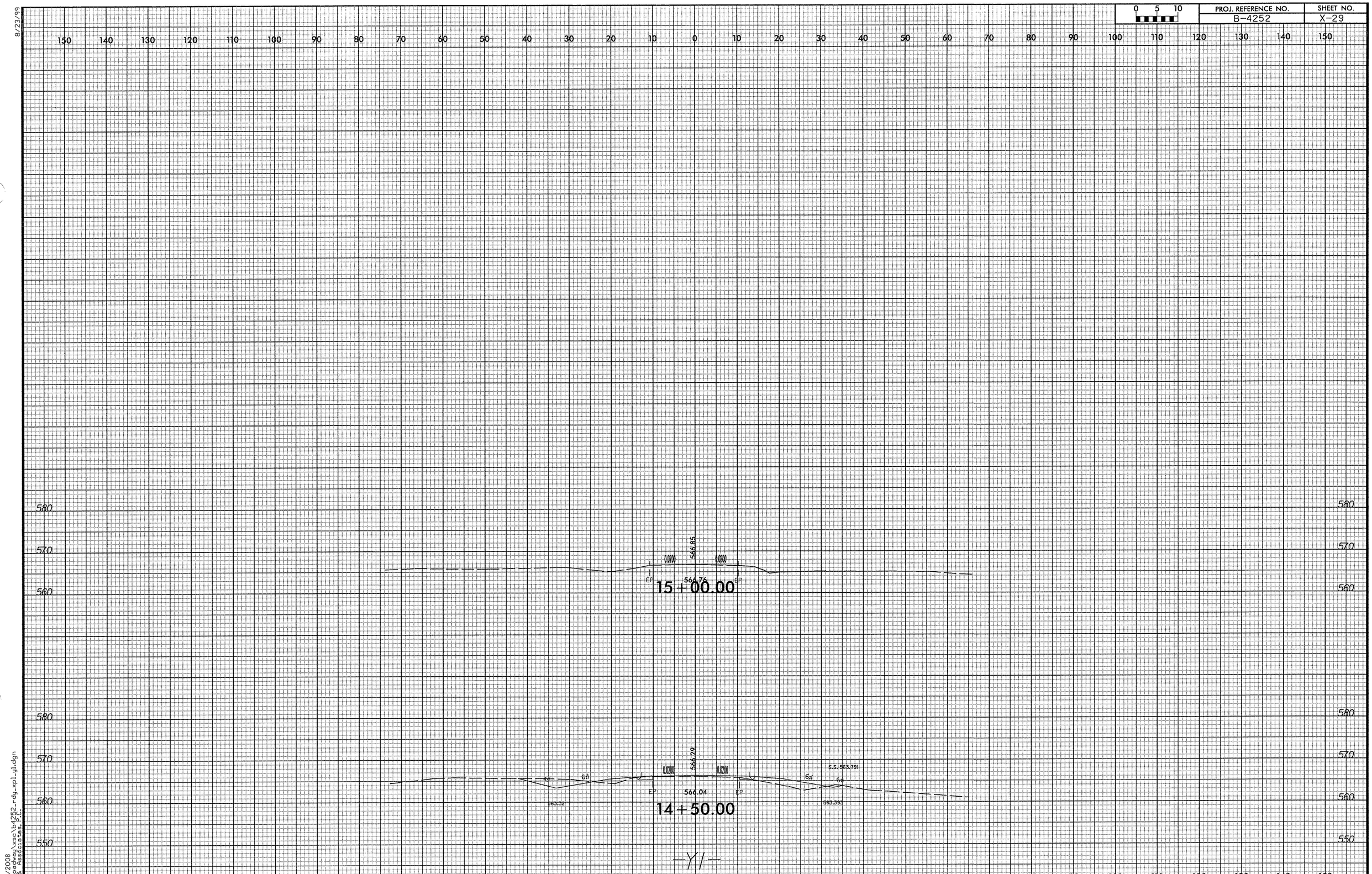
Ko & Associates, P.C.



0 5 10
PROJ. REFERENCE NO.
B-4252
SHEET NO.
X-29
8/23/99
15+00.00
566.85
566.76
14+50.00
566.29
566.04
S.S. 563.791
563.32
563.393
-Y1-
2/12/2008
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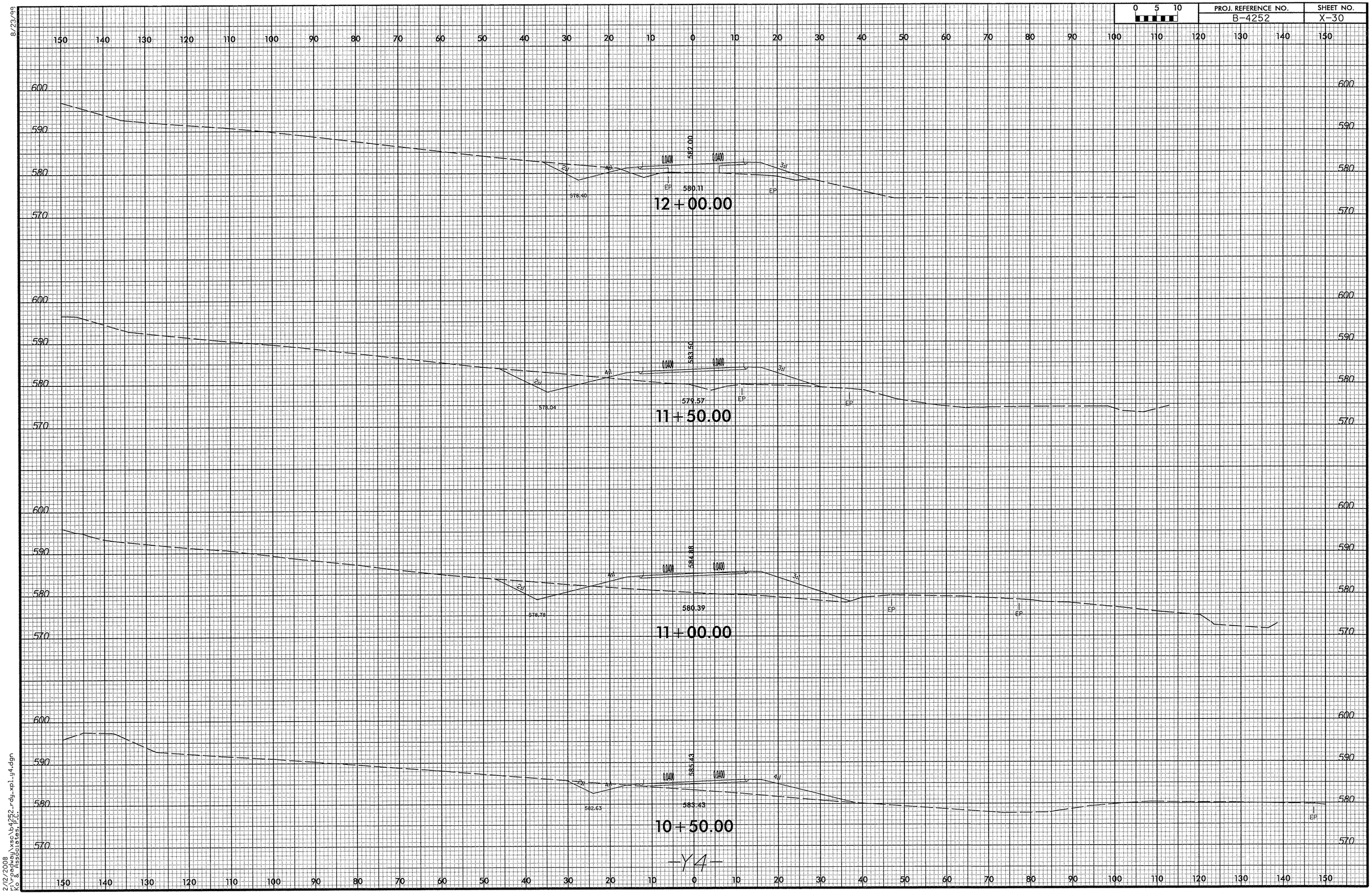
Ko & Associates, P.C.

PROJ. REFERENCE NO.	SHEET NO.
B-4252	X-30



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Ko & Associates, P.C.

8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	B-4252	X-31

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

600
590
580
570

EP 582.50 EP

13+50.00

600
590
580
570

581.70

EP 581.66 EP

13+00.00

600
590
580
570

581.40

578.75 EP 580.71 EP

12+50.00

-Y4-

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

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Ko & Associates, P.C.

8/23/99

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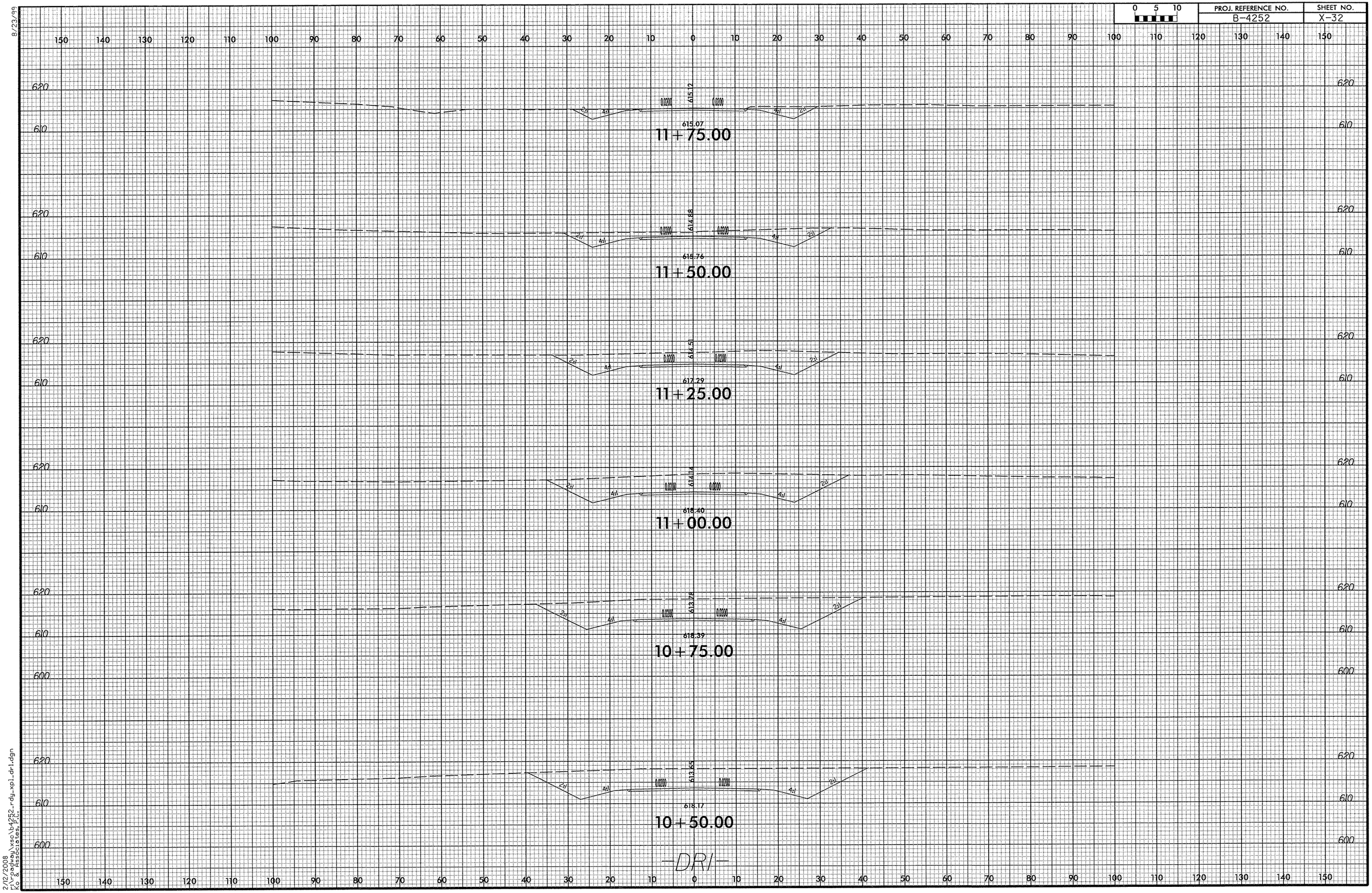

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Ko & Associates, P.C.