

AIRPORTS COMPANY SOUTH AFRICA SOC LIMITED



REHABILITATION OF RUNWAY 0220 AND TAXIWAYS AT BRAM FISCHER INTERNATIONAL AIRPORT

TENDER No.: BFN7839/2025/RFP

JULY 2024

VOLUME 4 - BOOK OF DRAWINGS

CLIENT:
AIRPORTS COMPANY SOUTH AFRICA SOC LIMITED
BRAM FISCHER INTERNATIONAL AIRPORT
N8 OLD THABA NCHU ROAD
BLOEMFONTEIN
9300

CONSULTING ENGINEER:



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301695-CIV-CP-001

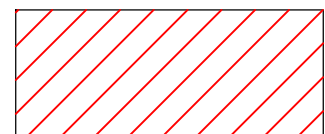
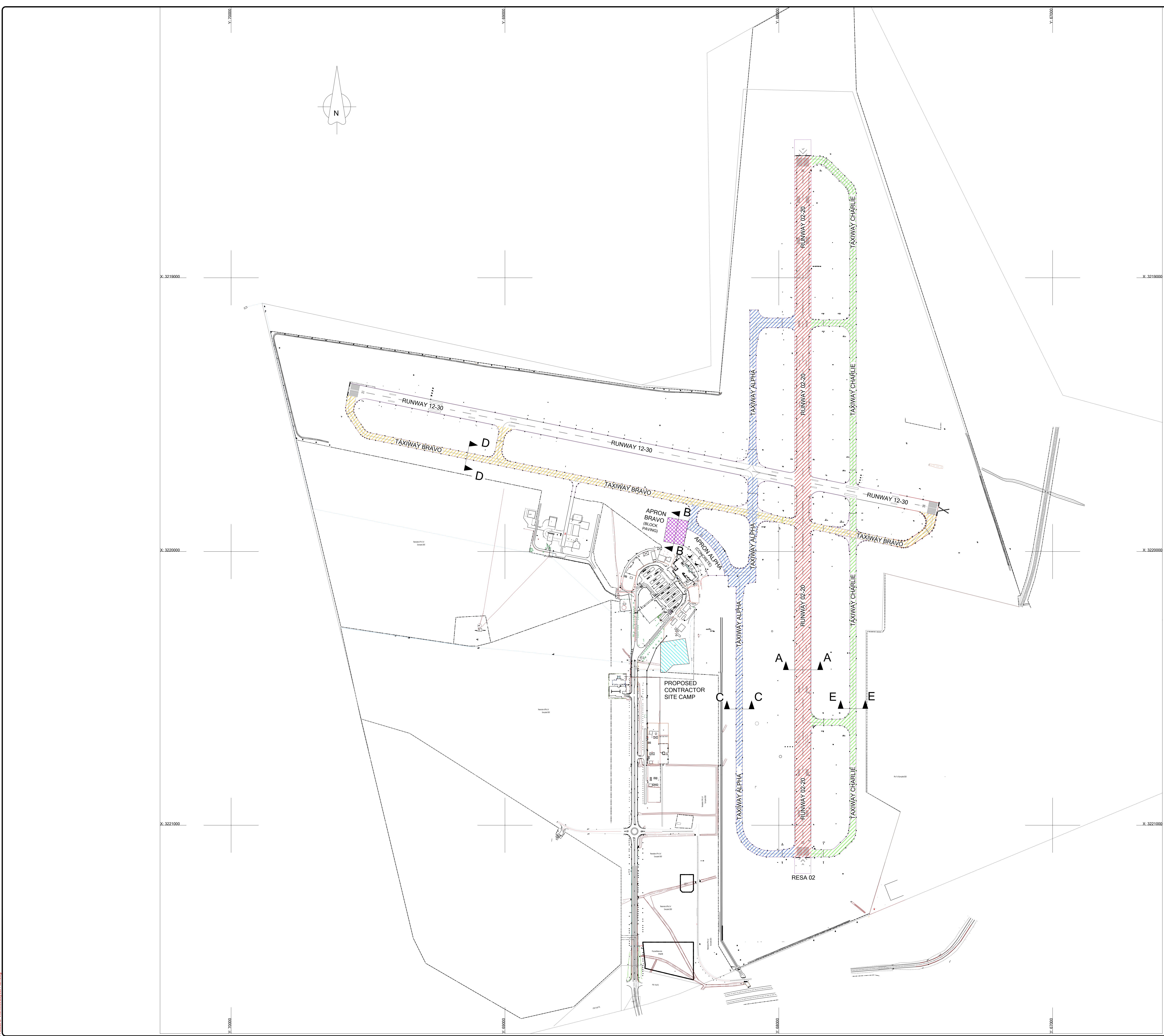
AIRPORTS COMPANY SOUTH AFRICA SOC LIMITED



REHABILITATION OF RUNWAY 0220 AND TAXIWAYS AT BRAM FISCHER INTERNATIONAL AIRPORT

LIST OF DRAWINGS

<u>DRAWING No.</u>	<u>DESCRIPTION</u>	<u>DRAWING No.</u>	<u>DESCRIPTION</u>
301695-CIV-CP-001	COVER PAGE	301695-CIV-LL-007-01	TAXIWAY BRAVO : LAYOUT AND LONGSECTION (CH 00 - 1000)
301695-CIV-DL-002	DRAWING LIST	301695-CIV-LL-007-02	TAXIWAY BRAVO : LAYOUT AND LONGSECTION (CH 1000 - 2000)
301695-CIV-LA-003	SITE LAYOUT PLAN	301695-CIV-LL-007-03	TAXIWAY BRAVO : LAYOUT AND LONGSECTION (CH 2000 - 2335)
301695-CIV-TX-004-01	TYPICAL CROSS SECTION SHEET 1 OF 2	301695-CIV-CS-007-04	TAXIWAY BRAVO : CROSS SECTIONS (CH 00 - 1240)
301695-CIV-TX-004-02	TYPICAL CROSS SECTION SHEET 2 OF 2	301695-CIV-CS-007-05	TAXIWAY BRAVO : CROSS SECTIONS (CH 1260 - 2335)
301695-CIV-LL-005-01	RUNWAY 02-20 : LAYOUT AND LONGSECTION (CH 00 - 1000)	301695-CIV-LL-008-01	TAXIWAY CHARLIE : LAYOUT AND LONGSECTION (CH 00 - 1000)
301695-CIV-LL-005-02	RUNWAY 02-20 : LAYOUT AND LONGSECTION (CH 1000 - 2000)	301695-CIV-LL-008-02	TAXIWAY CHARLIE : LAYOUT AND LONGSECTION (CH 1000 - 2000)
301695-CIV-LL-005-03	RUNWAY 02-20 : LAYOUT AND LONGSECTION (CH 2000 - 2560)	301695-CIV-LL-008-03	TAXIWAY CHARLIE : LAYOUT AND LONGSECTION (CH 2000 - 2733)
301695-CIV-CS-005-04	RUNWAY 02-20 : CROSS SECTIONS (CH 00 - 700)	301695-CIV-CS-008-04	TAXIWAY CHARLIE : CROSS SECTIONS (CH 00 - 1380)
301695-CIV-CS-005-05	RUNWAY 02-20 : CROSS SECTIONS (CH 720 - 1420)	301695-CIV-CS-008-05	TAXIWAY CHARLIE : CROSS SECTIONS (CH 1400 - 2733)
301695-CIV-CS-005-06	RUNWAY 02-20 : CROSS SECTIONS (CH 1440 - 2140)	301695-CIV-PM-009	PAINT MARKING DETAILS
301695-CIV-CS-005-07	RUNWAY 02-20 : CROSS SECTIONS (CH 2160 - 2560)	301695-CIV-DP-010	SUBSURFACE DRAINAGE LAYOUT PLAN AND DETAIL
301695-CIV-LL-006-01	TAXIWAY ALPHA (S1) : LAYOUT AND LONGSECTION (CH 00 - 1000)	301695-CIV-TD-011	TYPICAL DRAINAGE AND SETTING OUT DETAILS
301695-CIV-LL-006-02	TAXIWAY ALPHA (S1) : LAYOUT AND LONGSECTION (CH 1000 - 1132)	301695-CIV-PP-012	INDICATIVE CONSTRUCTION PHASING PLAN AND TEMPORARY TRAFFIC CONTROL MEASURES
301695-CIV-CS-006-03	TAXIWAY ALPHA (S1) : CROSS SECTIONS (CH 00 - 1132)	301695-CIV-RS-013	CONTRACT NAMEBOARD
301695-CIV-LL-006-04	TAXIWAY ALPHA (S2) : LAYOUT AND LONGSECTION (CH 00- 930)		
301695-CIV-CS-006-05	TAXIWAY ALPHA (S2) : CROSS SECTIONS (CH 00 - 930)		



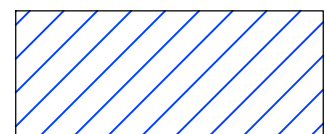
**RUNWAY 02 - 20 : SECTION A
(DRAWING 301695-CIV-TX-001)**

1. MILLING OF EXISTING 60mm ASPHALT SURFACE, STOCKPILE FOR USE AS RECLAIMED ASPHALT (RA).
2. ASPHALT SCRATCH CORRECTIVE LAYER MAXIMUM 50mm. AS PART OF THE GRADE/SLOPE IMPROVEMENTS.
3. SURFACING OF 45mm CONTINUOUSLY GRADED ASPHALT (WITH UP TO 20% RA).
4. OVERLAY 15mm BITUMEN RUBBER ULTRA THIN FRICTION COURSE (BRUTFC).
5. REINSTATE RUNWAY PAINT MARKINGS.



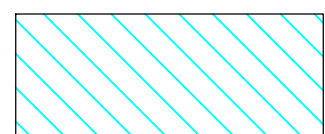
**APRON BRAVO : SECTION B
(DRAWING 301695-CIV-TX-001)**

1. REMOVE EXISTING 60mm INTERLOCKING PAVING BLOCKS
2. REMOVE AND STOCKPILE EXISTING BASE LAYER 150mm (TO BE USED AS NEW SUBBASE)
3. REMOVE AND SPOIL EXISTING SUBBASE LAYER 150mm
4. RECONSTRUCT SUBBASE LAYER 150mm (USING EXISTING BASE LAYER FROM STOCKPILE)
5. CONSTRUCT 150mm C4 BASE LAYER
6. 20mm SAND BEDDING LAYER
7. 80mm INTERLOCKING BLOCK PAVING
8. REINSTATE APRON PAINT MARKINGS



**TAXIWAYS, ALPHA, BRAVO, CHARLIE : SECTION C, D, E
(DRAWING 301695-CIV-TX-002)**

1. MILLING OF EXISTING 45mm ASPHALT SURFACE, STOCKPILE FOR USE AS RECLAIMED ASPHALT (RA).
2. IN-SITU RECYCLING OF EXISTING BASE 300mm, TO FORM BITUMEN STABILISED MATERIALS (BSM1)
3. ASPHALT SCRATCH CORRECTIVE LAYER MAXIMUM 50mm. AS PART OF THE GRADE/SLOPE IMPROVEMENTS.
4. SURFACING OF 45mm CONTINUOUSLY GRADED ASPHALT (WITH UP TO 20% RA).
5. REINSTATE TAXIWAY PAINT MARKINGS.



**PROPOSED CONTRACTOR SITE CAMP, WITH
PRIVATE ACCESS**

RUNWAY STRIPS AND RESA 02 EARTHWORKS :

1. CERTAIN AREAS REQUIRE GRADING AND RESHAPING TO IMPROVE SURFACE DRAINAGE AND ERADICATE LOW POINTS OR PONDING.
2. NOTED AREA - SOUTH OF RESA 02
3. NOTED AREA - GRADED SHOULDER AT INTERSECTION OF RUNWAYS 02-20 AND 12-30.

NOTES

FOR DISCUSSION

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NO	DATE	DESCRIPTION	DRW	CHK
A	05/10/22	DETAIL DESIGN DRAWING	BI	CC
B	01/03/23	INCLUDED CONTRACTORS CAMP	BI	CC

CONSULTING ENGINEER

SIGNATURE	PR No	DATE

CONSULTANT

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Eastwood Office Park (Protea House) | 270 Lynwood Service Road
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CLIENT

AIRPORTS COMPANY
SOUTH AFRICA

PROJECT

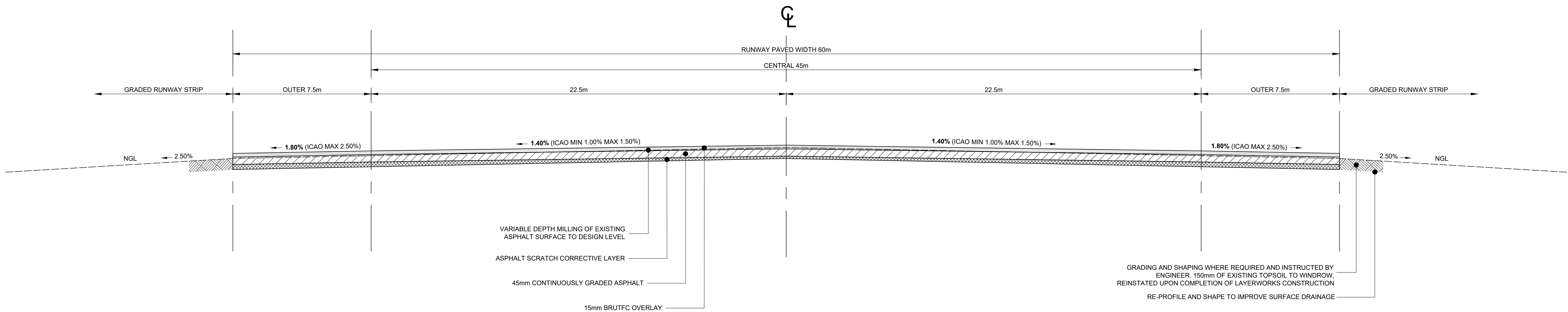
REHABILITATION OF RUNWAY
0220 AND TAXIWAYS AT BRAM
FISCHER INTERNATIONAL
AIRPORT

DRAWING DESCRIPTION

SITE LAYOUT PLAN

SCALE FOR REDUCED PLAN

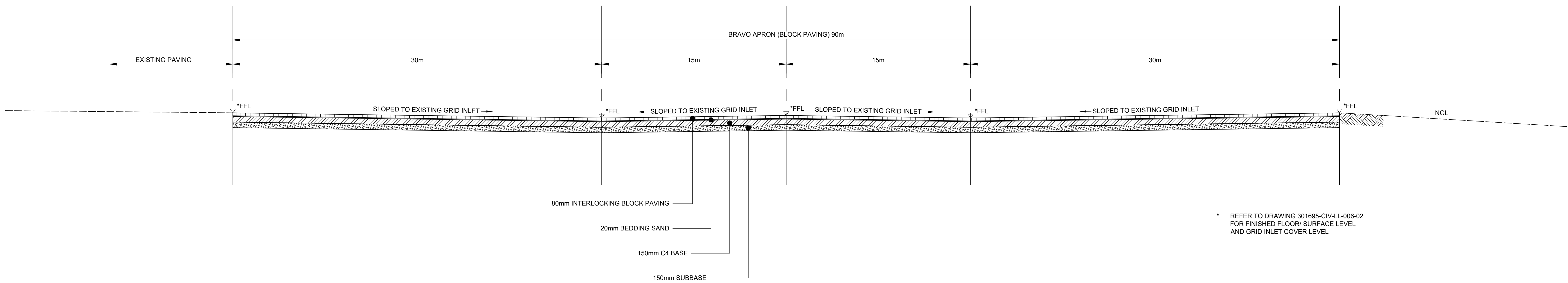
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TYPICAL CROSS SECTION A-A : RUNWAY 02 - 20
N.T.S

REHABILITATION PROCESS (RUNWAY 02 - 20):

1. MILLING OF EXISTING 60mm ASPHALT SURFACE, STOCKPILE FOR USE AS RECLAIMED ASPHALT (RA).
2. ASPHALT SCRATCH CORRECTIVE LAYER MAXIMUM 50mm. AS PART OF THE GRADE/SLOPE IMPROVEMENTS.
3. SURFACING OF 45mm CONTINUOUSLY GRADED ASPHALT (WITH UP TO 20% RA).
4. OVERLAY 15mm BITUMEN RUBBER ULTRA THIN FRICTION COURSE (BRUTFC).



TYPICAL CROSS SECTION B-B : APRON BRAVO (BLOCK PAVING)
N.T.S

REHABILITATION PROCESS (APRON BRAVO):

1. REMOVE EXISTING 60mm INTERLOCKING PAVING BLOCKS
2. REMOVE AND STOCKPILE EXISTING BASE LAYER 150mm (TO BE USED AS NEW SUBBASE)
3. REMOVE AND SPOIL EXISTING SUBBASE LAYER 150mm
4. RECONSTRUCT SUBBASE LAYER 150mm (USING EXISTING BASE LAYER FROM STOCKPILE)
5. CONSTRUCT 150mm C4 BASE LAYER
6. 20mm SAND BEDDING LAYER
7. 80mm INTERLOCKING BLOCK PAVING

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B	15/11/22	ELEVATION REFERENCE	BI	CC	

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SIGNATURE	DATE	
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AIRPORTS COMPANY

SOUTH AFRICA

PROJECT

REHABILITATION OF RUNWAY 0220 AND TAXIWAYS AT BRAM FISCHER INTERNATIONAL AIRPORT

DRAWING DESCRIPTION

TYPICAL CROSS SECTION SHEET 1 OF 2

SCALE FOR REDUCED PLAN

DATE

2022/10/05

SCALE

AS SHOWN

ORIGINAL SIZE

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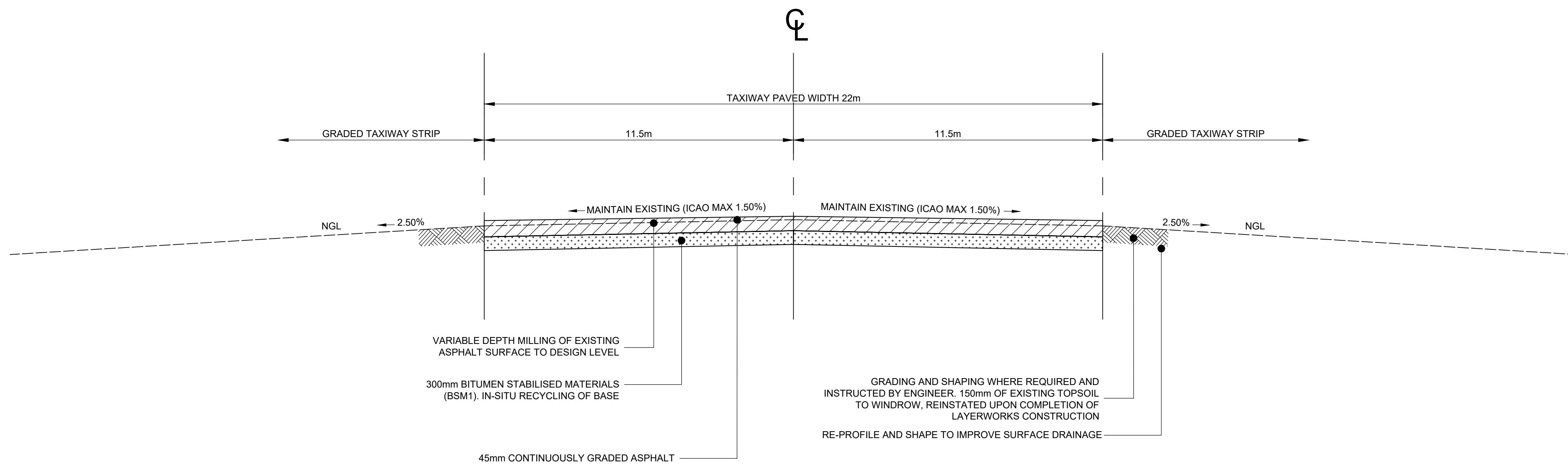
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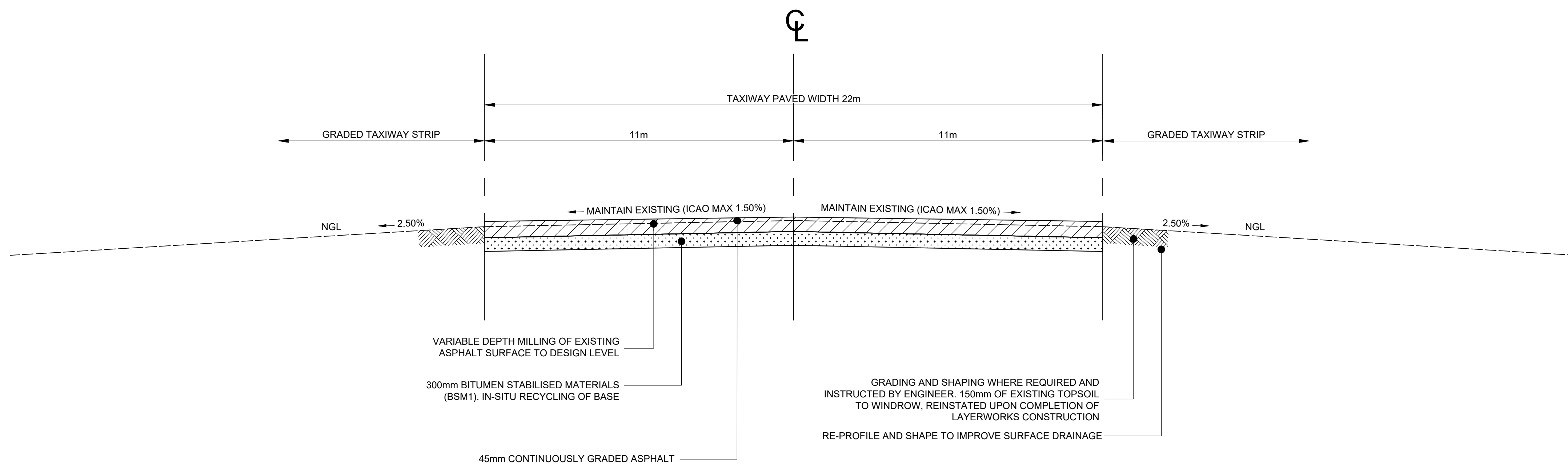
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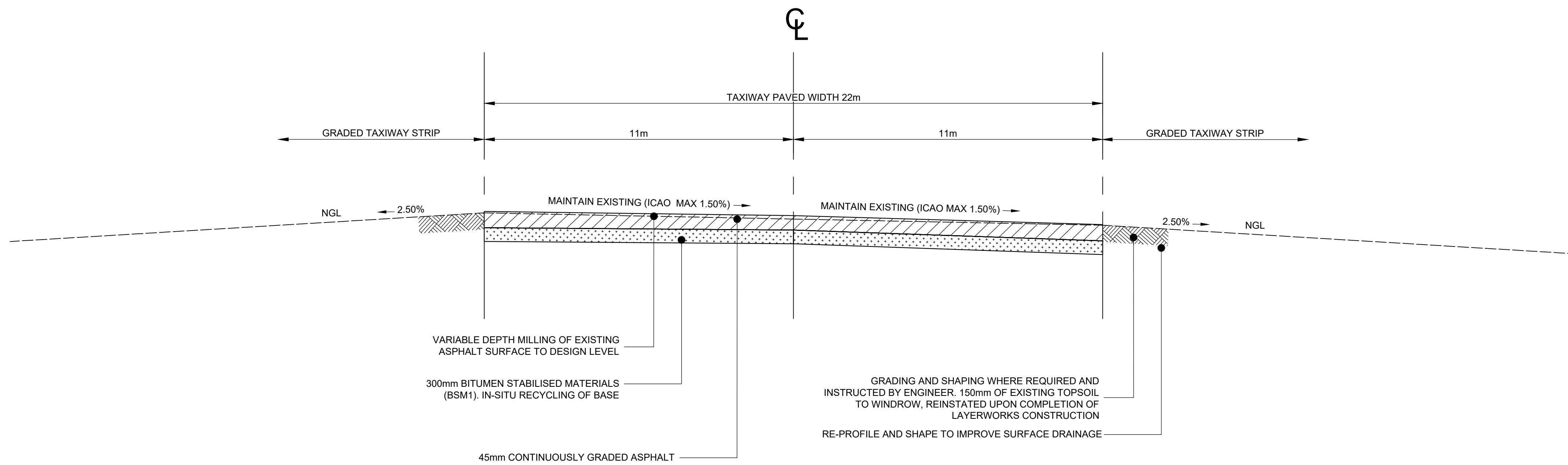
TYPICAL CROSS SECTION C-C : TAXIWAY ALPHA

N.T.S



TYPICAL CROSS SECTION D-D : TAXIWAY BRAVO

N.T.S



TYPICAL CROSS SECTION E-E : TAXIWAY CHARLIE

N.T.S

REHABILITATION PROCESS (TAXIWAYS):

1. MILLING OF EXISTING 45mm ASPHALT SURFACE, STOCKPILE FOR USE AS RECLAIMED ASPHALT (RA).
2. IN-SITU RECYCLING OF EXISTING BASE 300mm, TO FORM BITUMEN STABILISED MATERIALS (BSM1)
3. SURFACING OF 45mm CONTINUOUSLY GRADED ASPHALT (WITH UP TO 20% RA).

NOTES

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REVISION SCHEDULE

NO	DATE	DESCRIPTION	DRW	CHK
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B	10/10/22	REMOVED CORRECTION LAYER	BI	CC

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SIGNATURE	PR No	DATE

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SOUTH AFRICA

PROJECT

REHABILITATION OF RUNWAY
0220 AND TAXIWAYS AT BRAM
FISCHER INTERNATIONAL
AIRPORT

DRAWING DESCRIPTION

TYPICAL CROSS SECTION
SHEET 2 OF 2

SCALE FOR REDUCED PLAN



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DRAWING NUMBER 301695-CIV-TX-004-02		REV B

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RESA 02

TAXIWAY CHARLIE

LONGITUDINAL
SECTION
HOR SCALE 1:1000
VER SCALE 1:100



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CONSULTING ENGINEER

SIGNATURE

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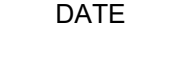
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REHABILITATION OF RUNWAY 0220 AND TAXIWAYS AT BRAM FISCHER INTERNATIONAL AIRPORT

RUNWAY 02-20 : LAYOUT AND LONGSECTION (CH 00 - 1000)



2022/10/10

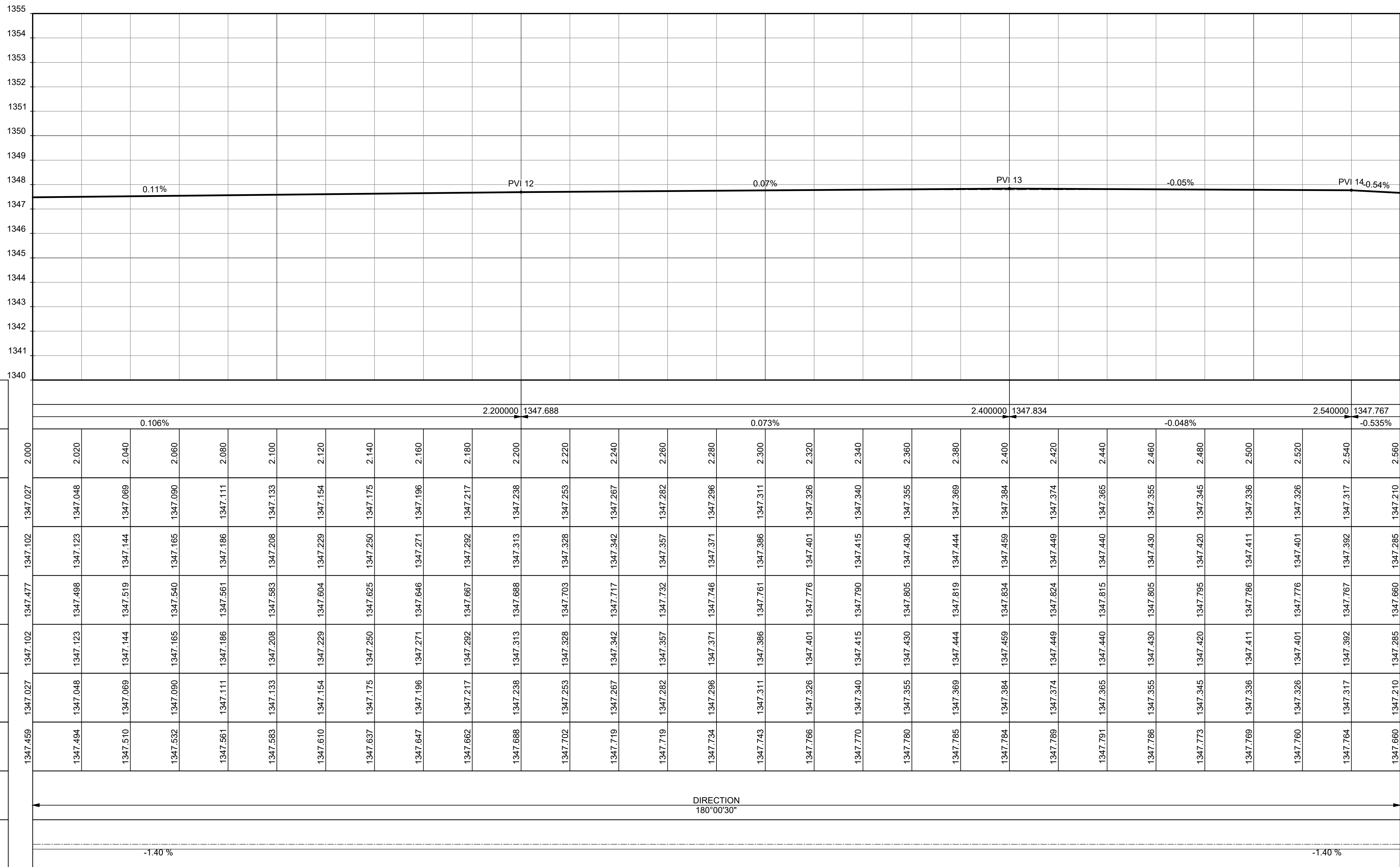
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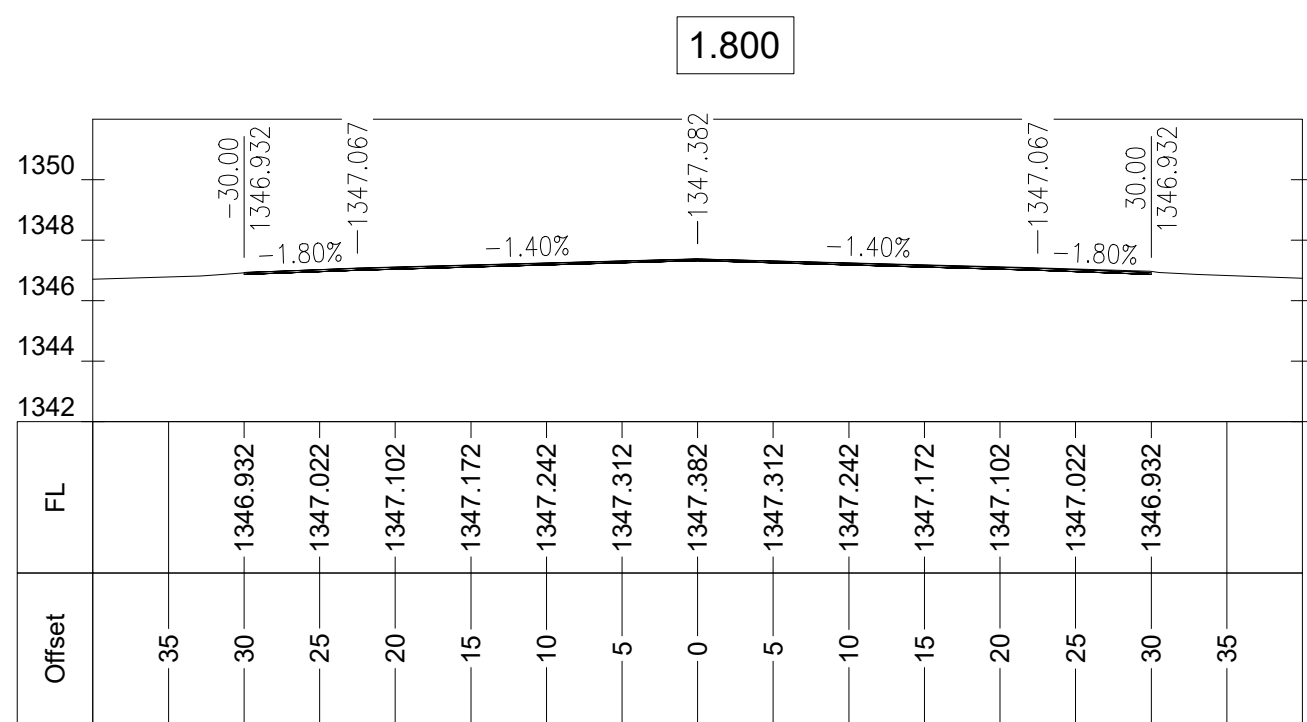
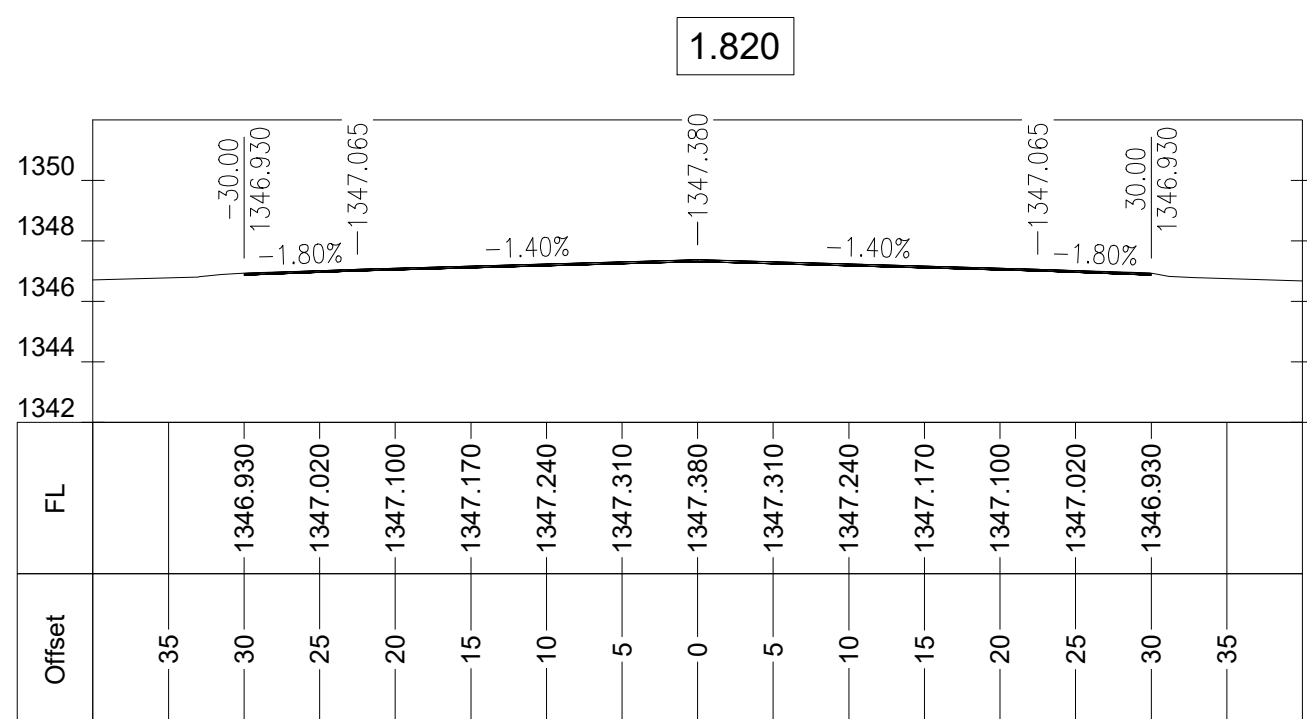
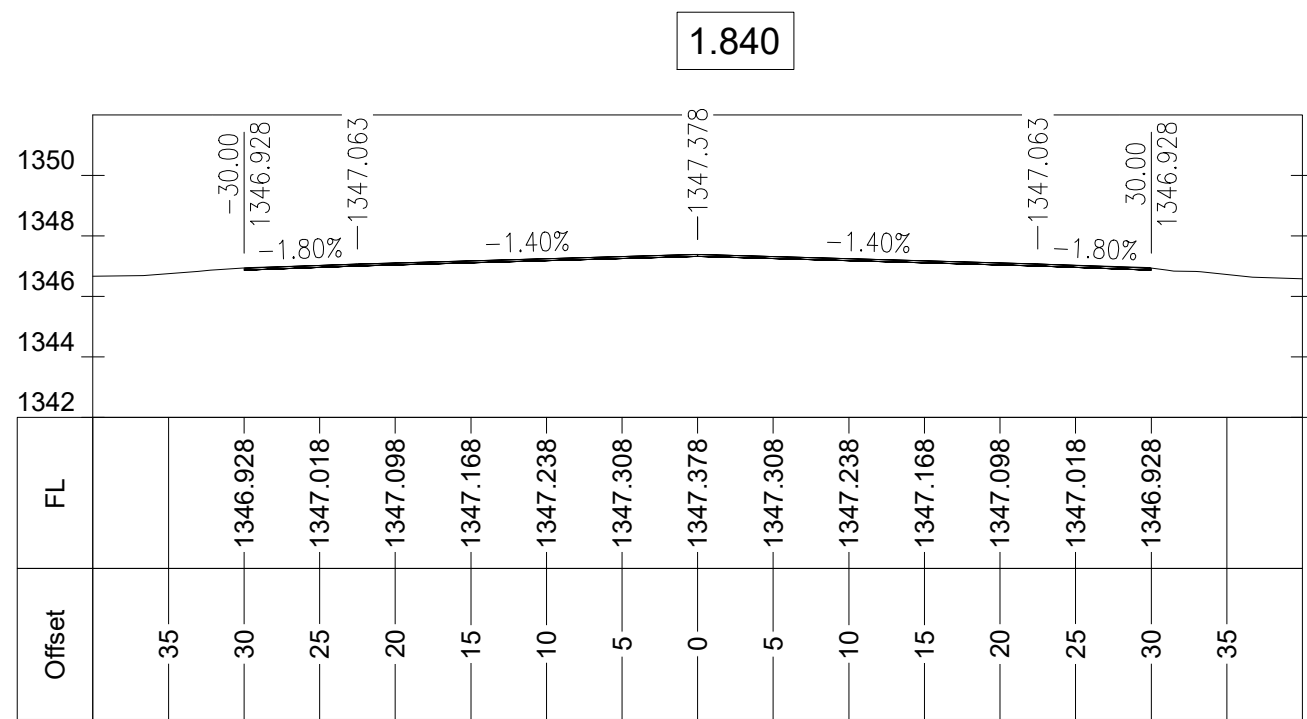
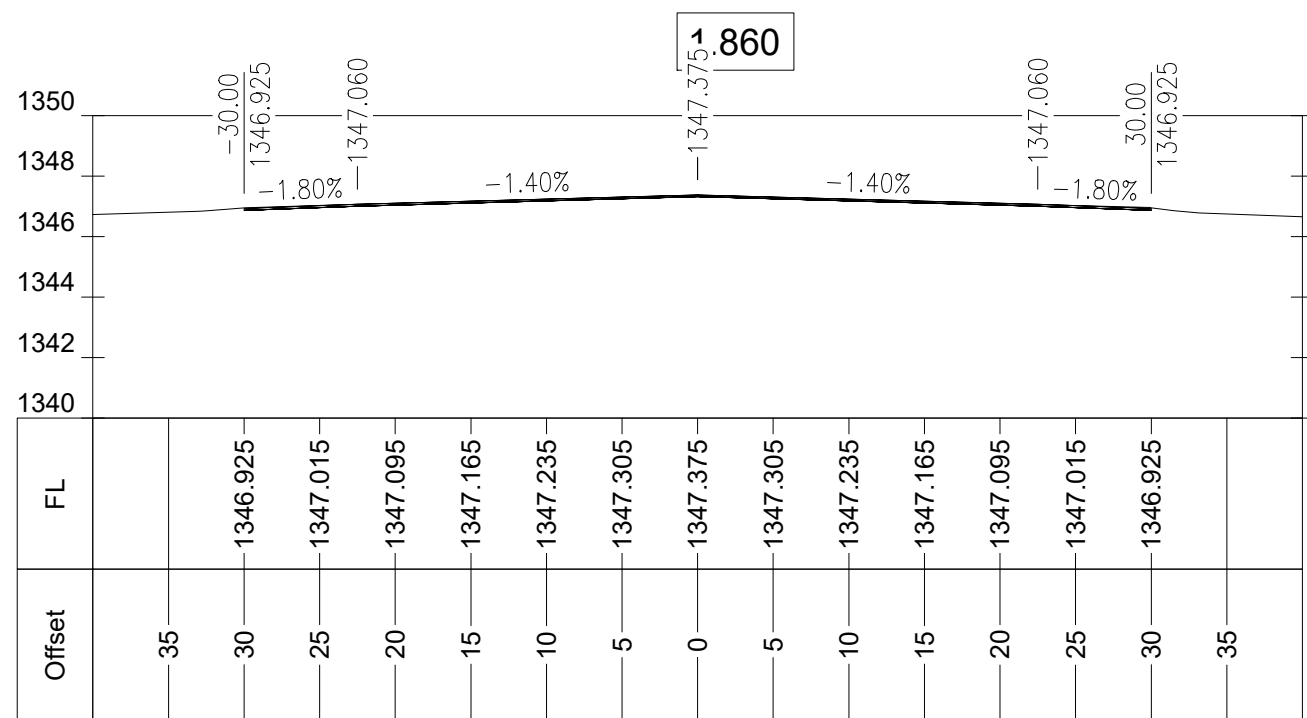
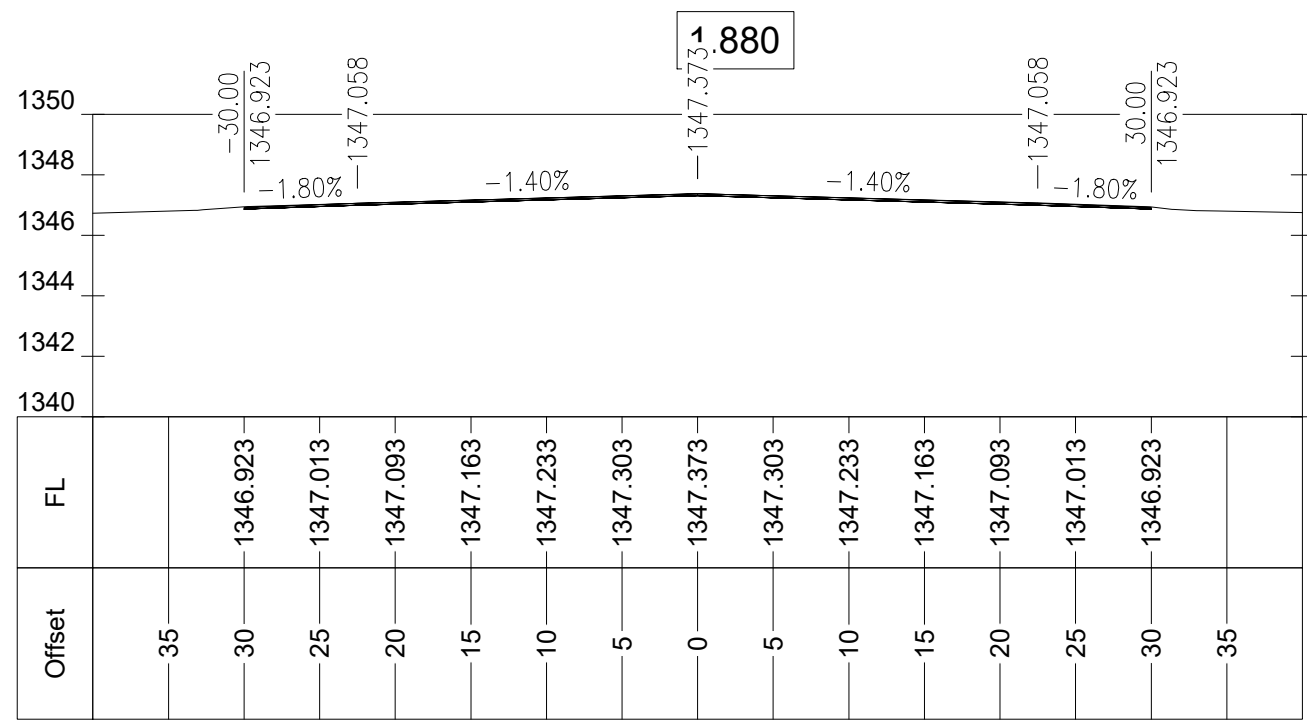
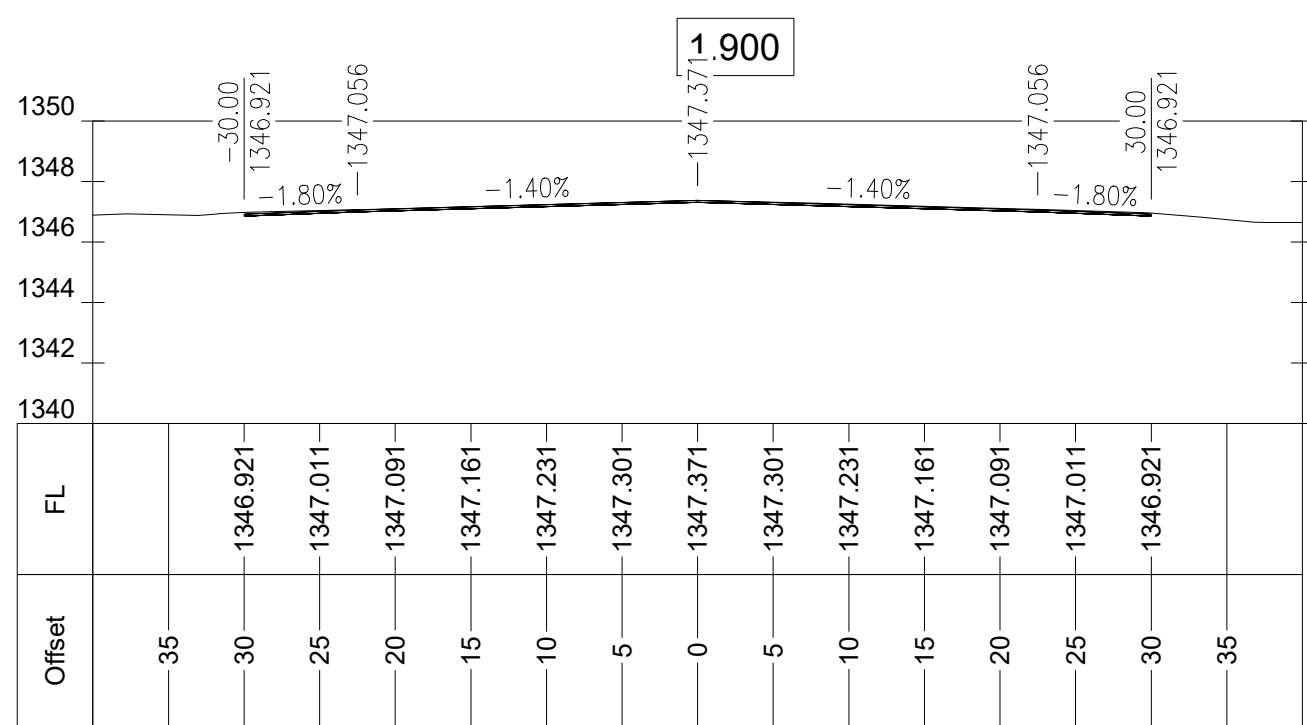
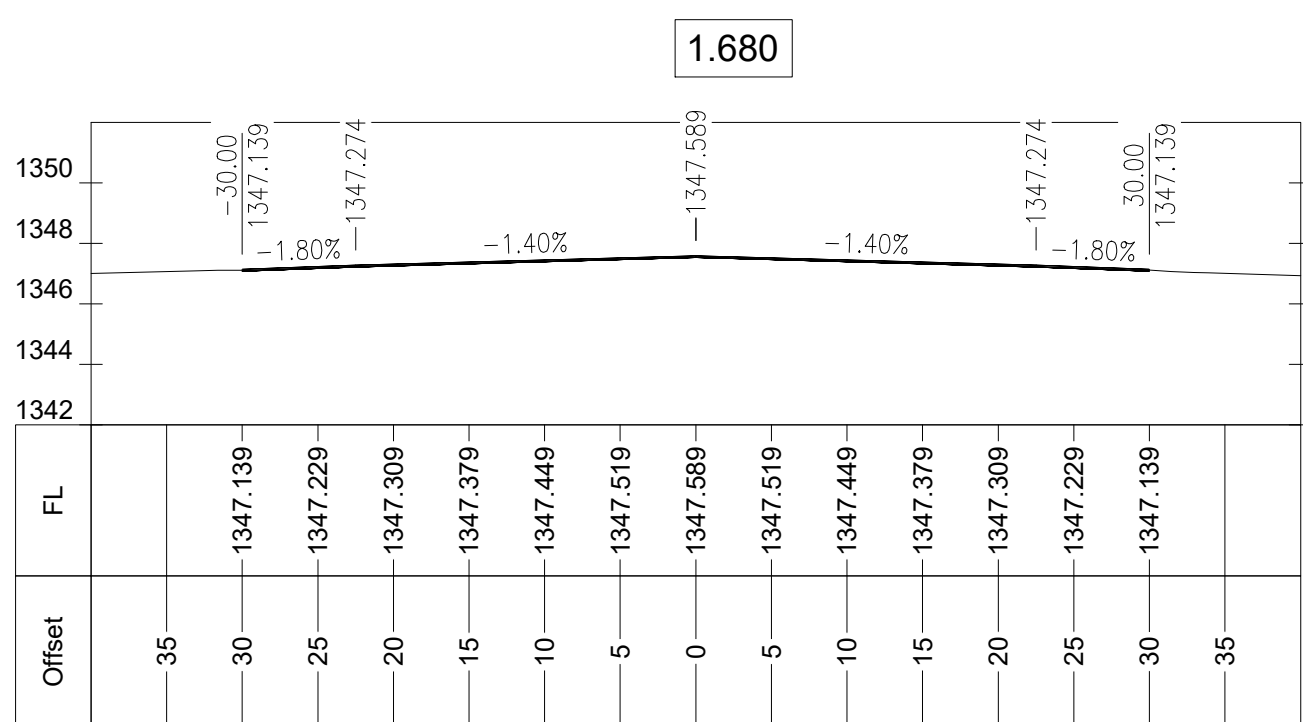
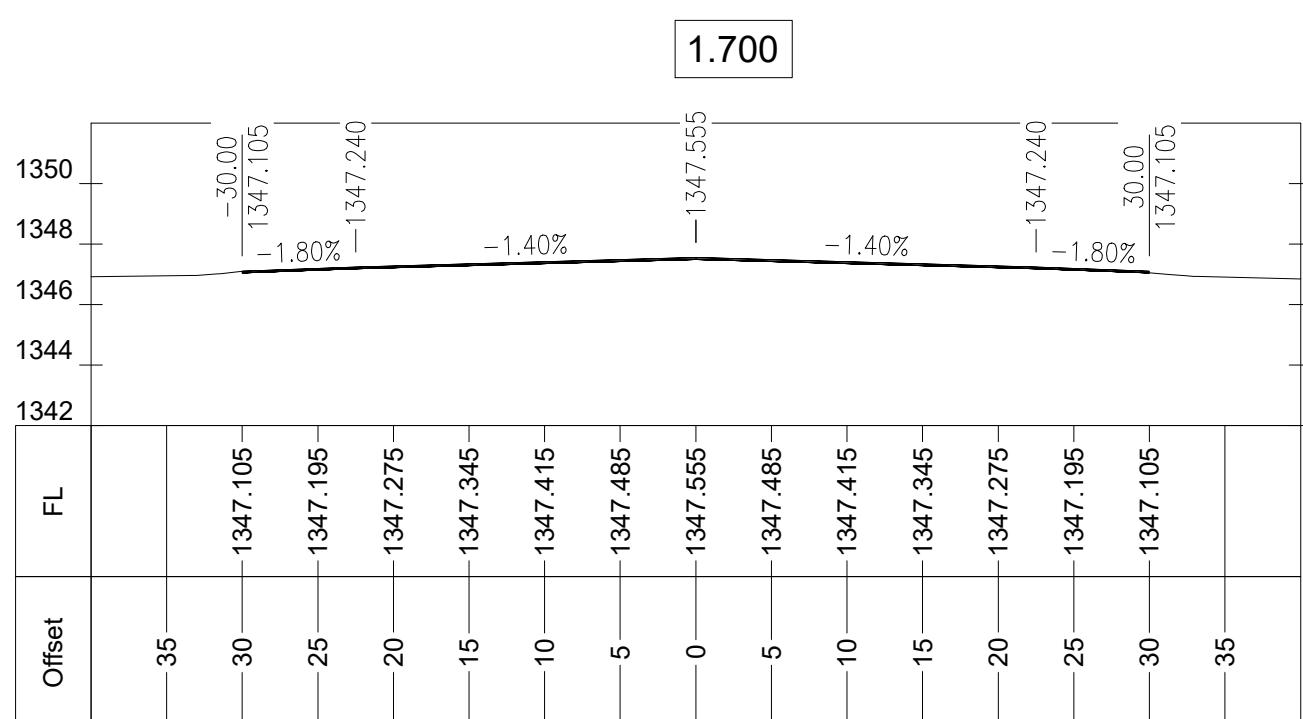
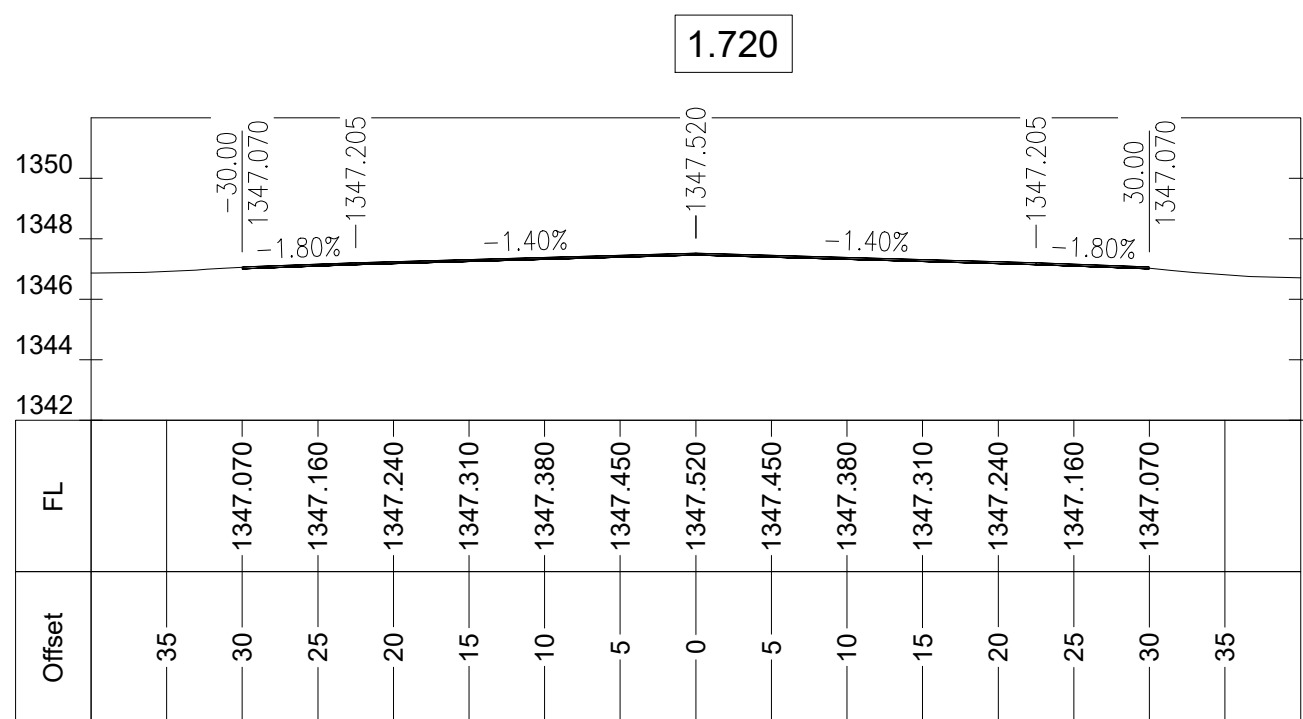
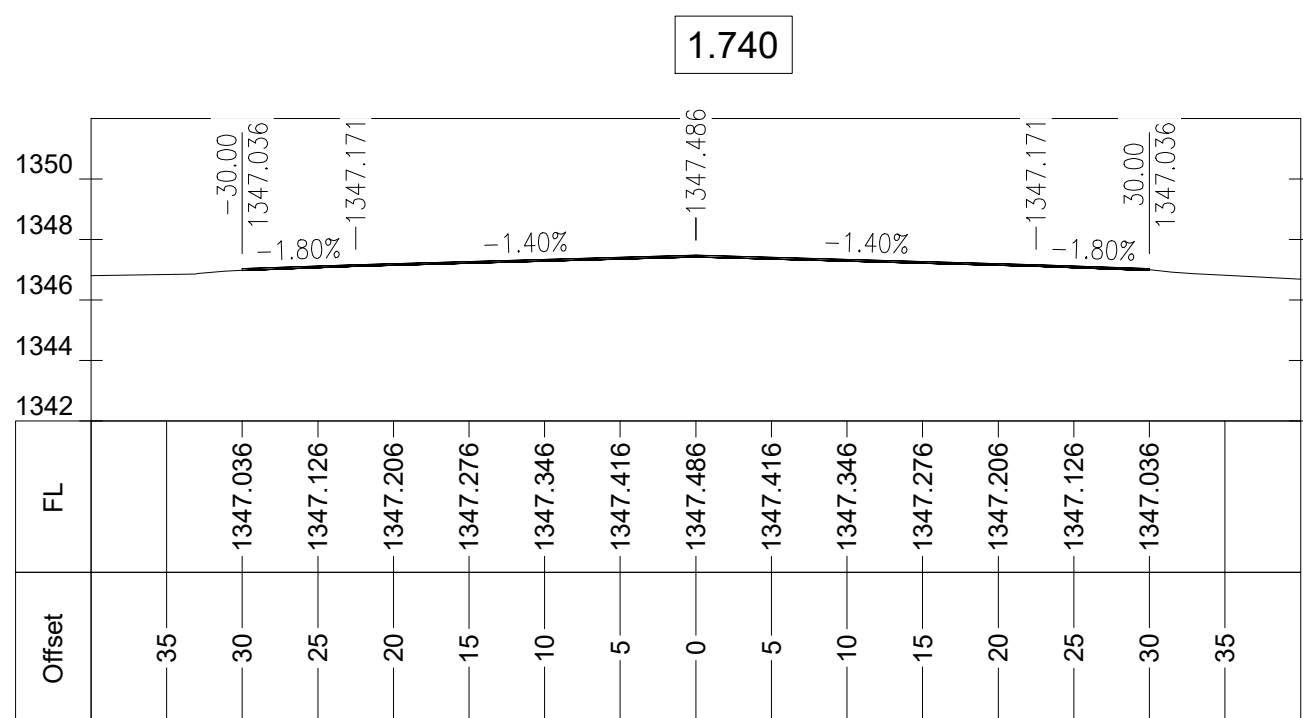
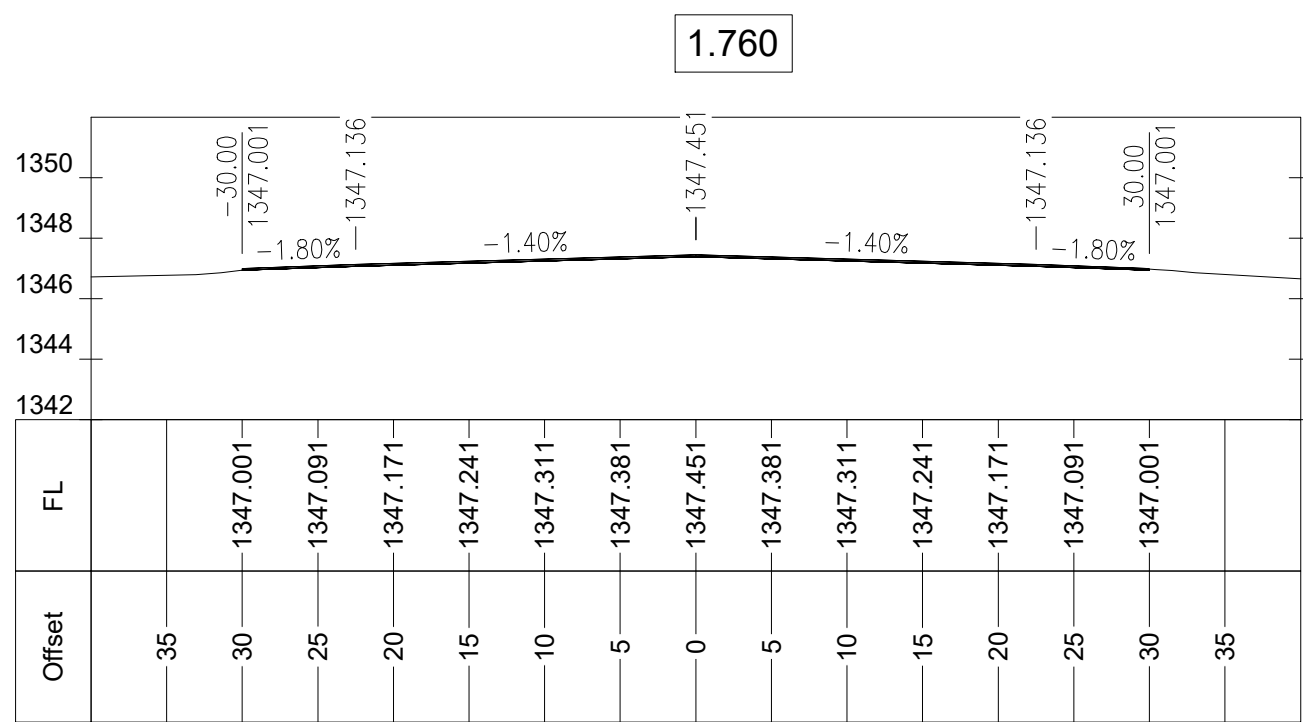
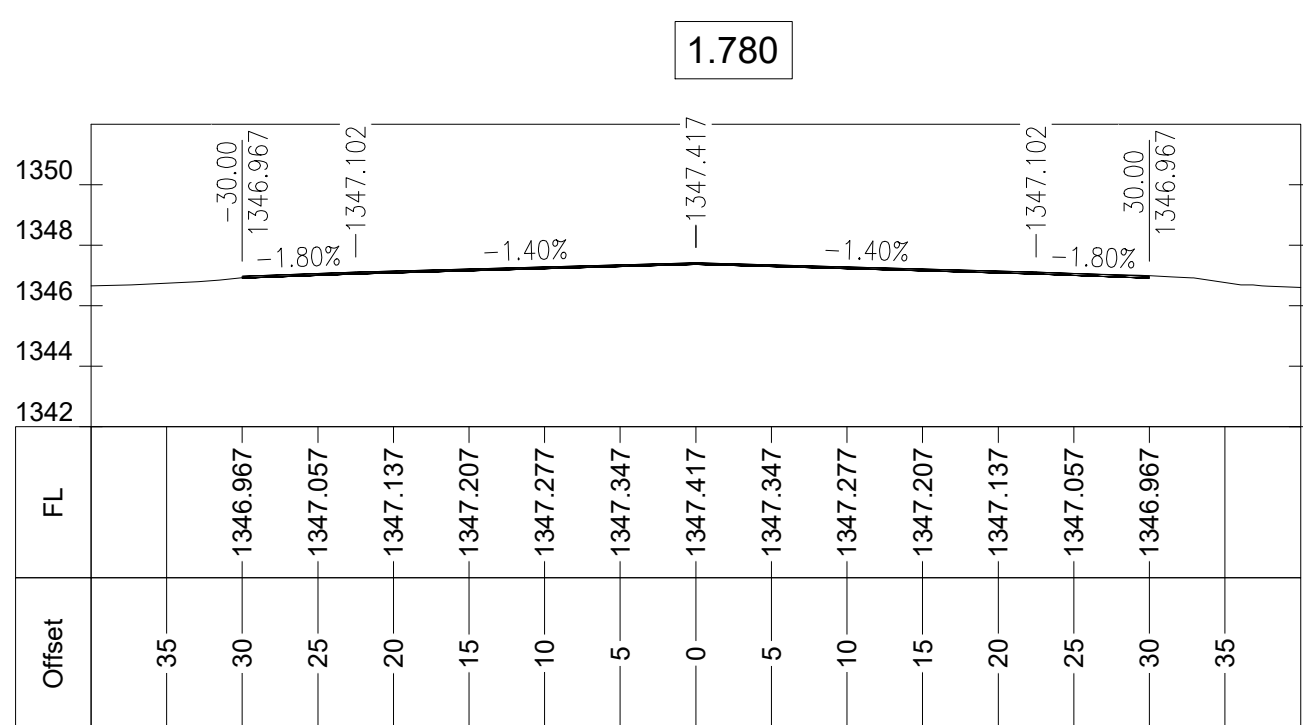
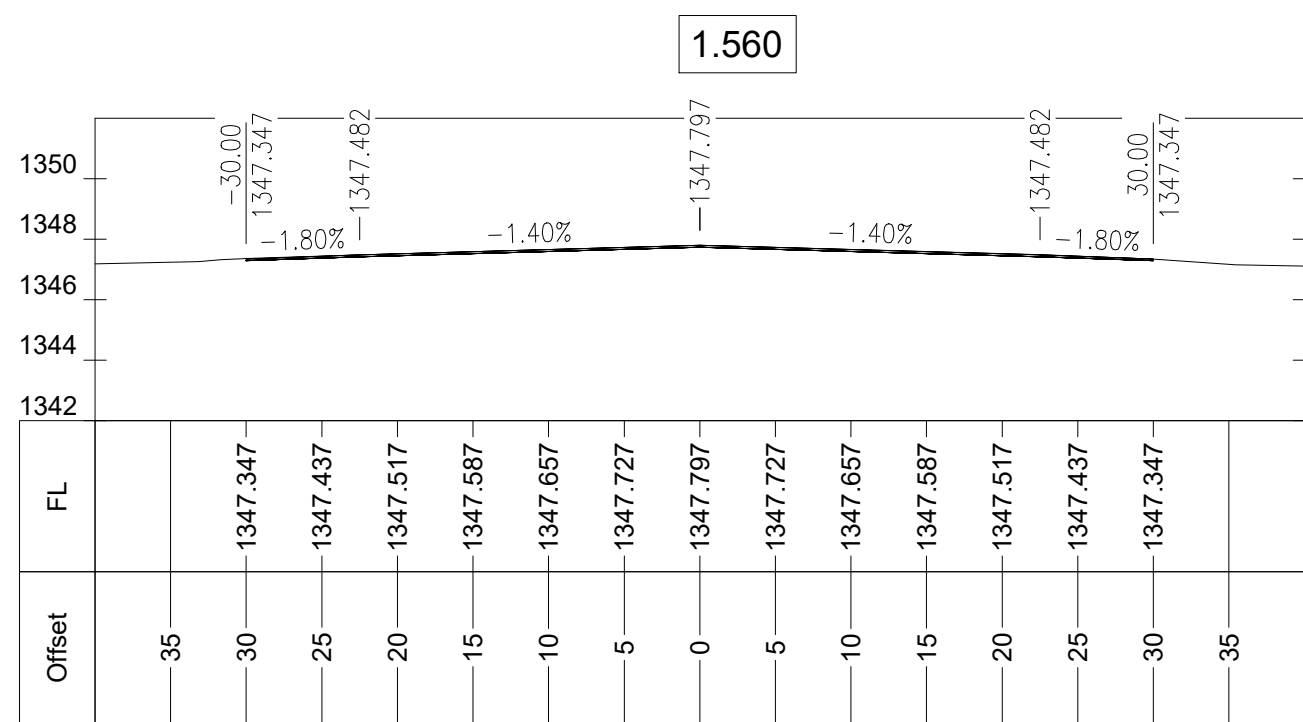
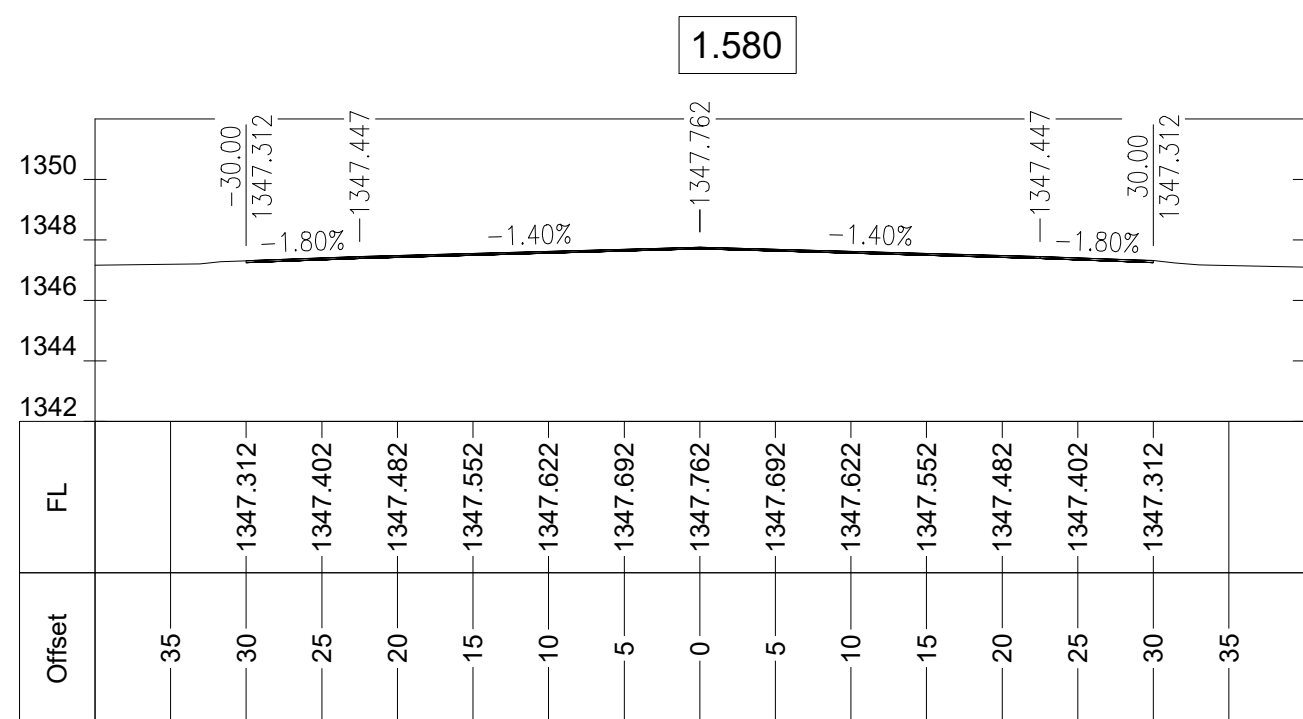
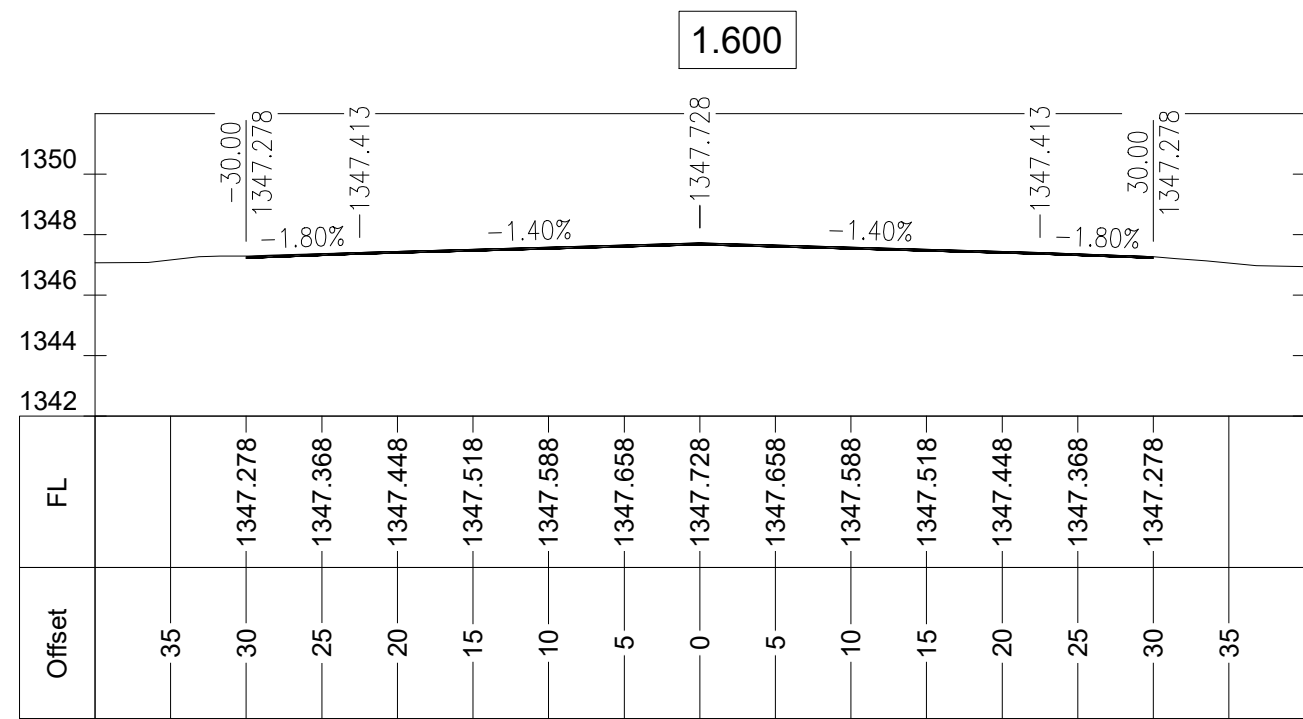
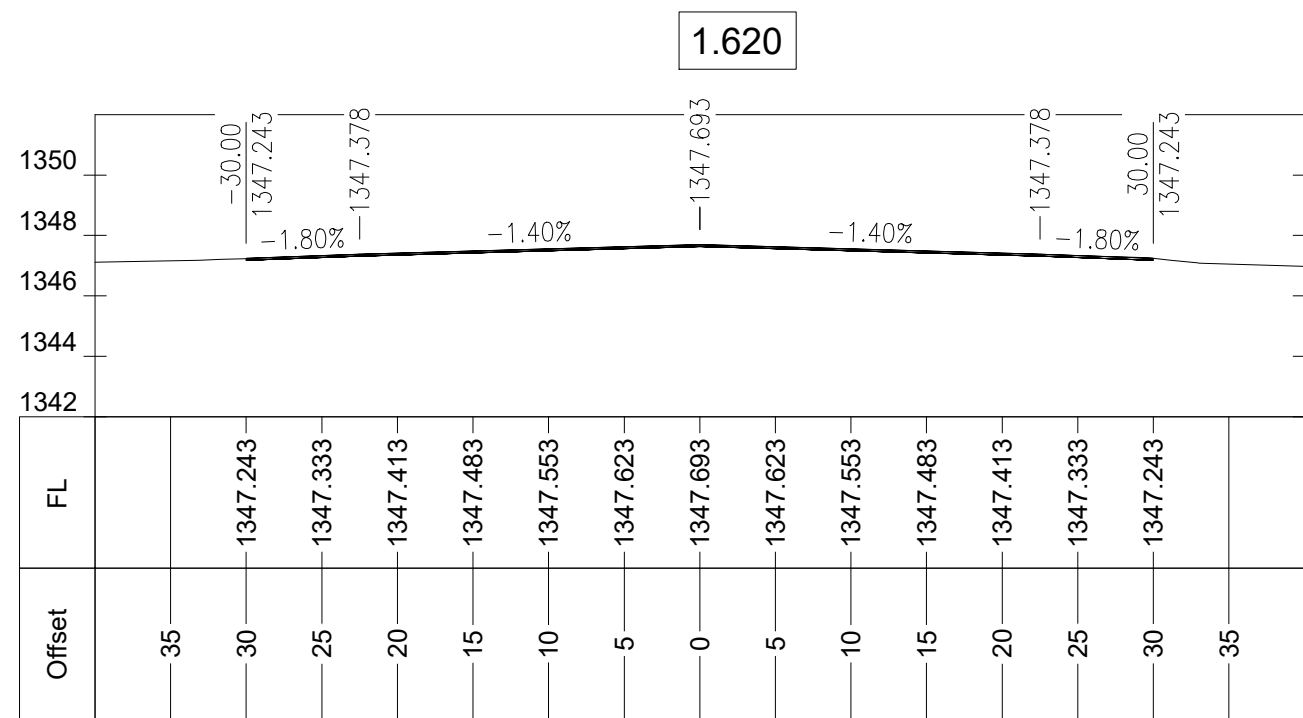
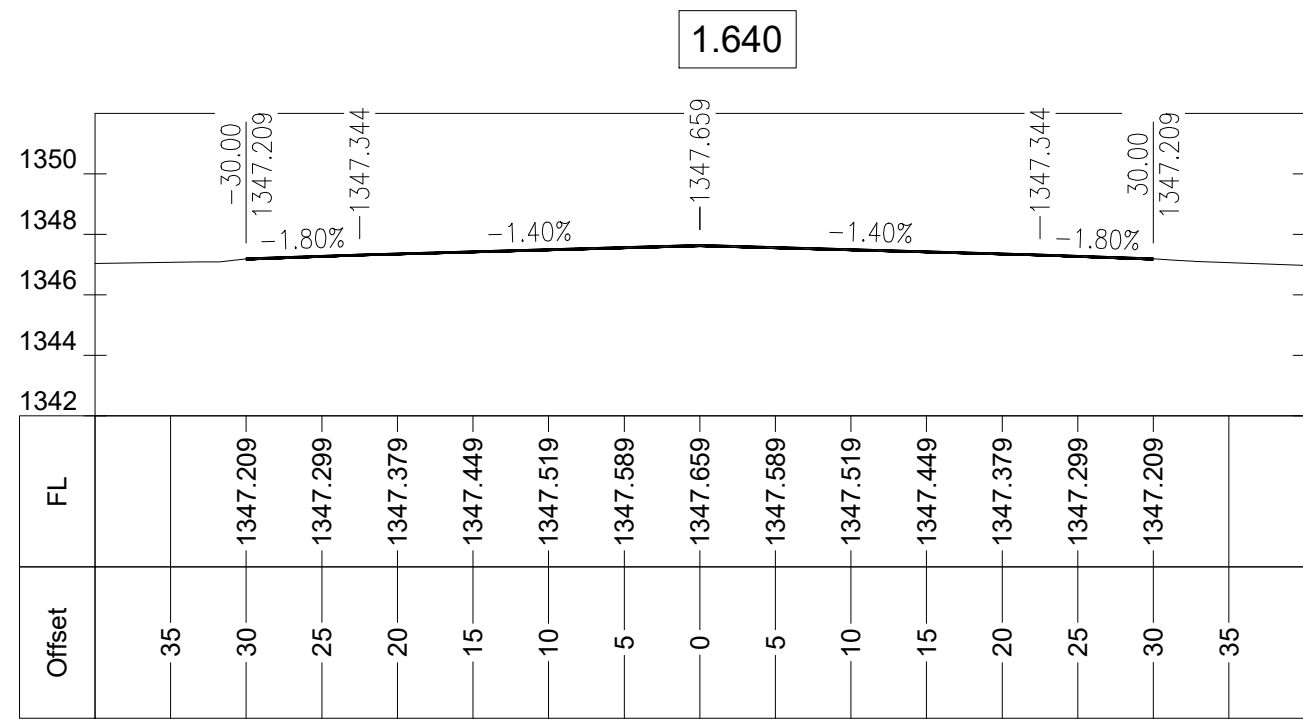
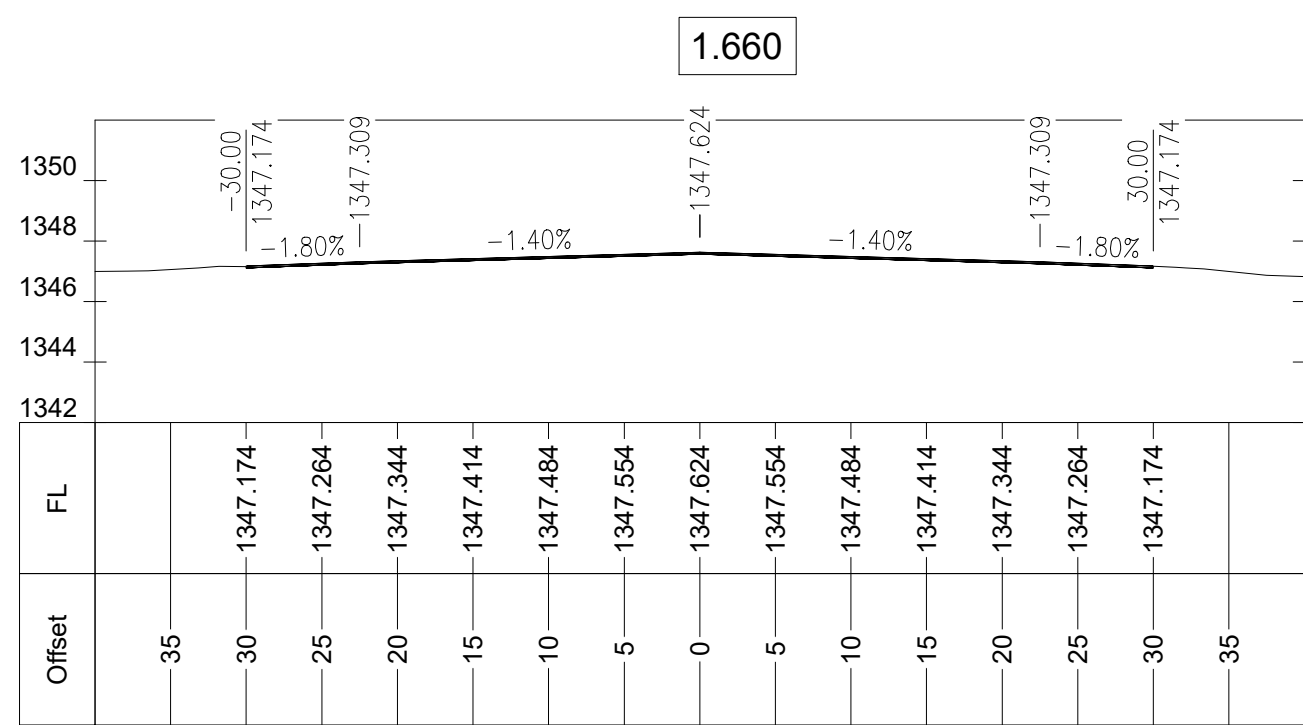
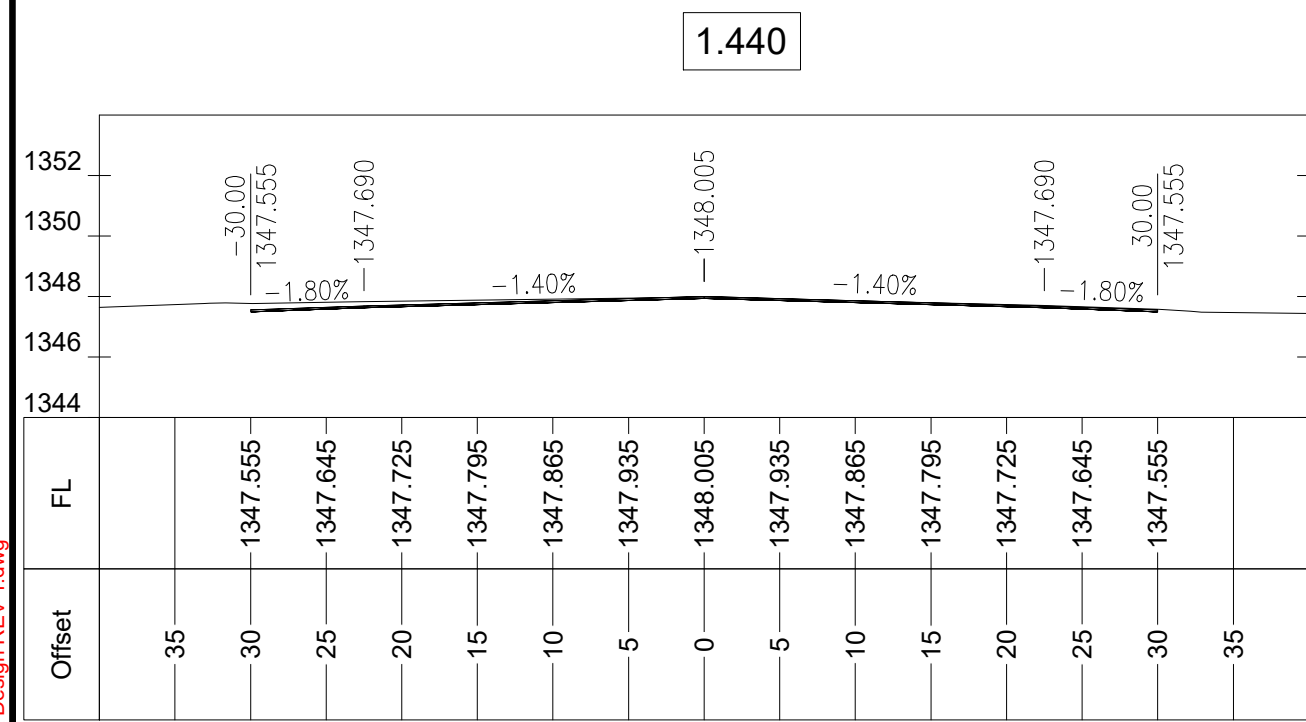
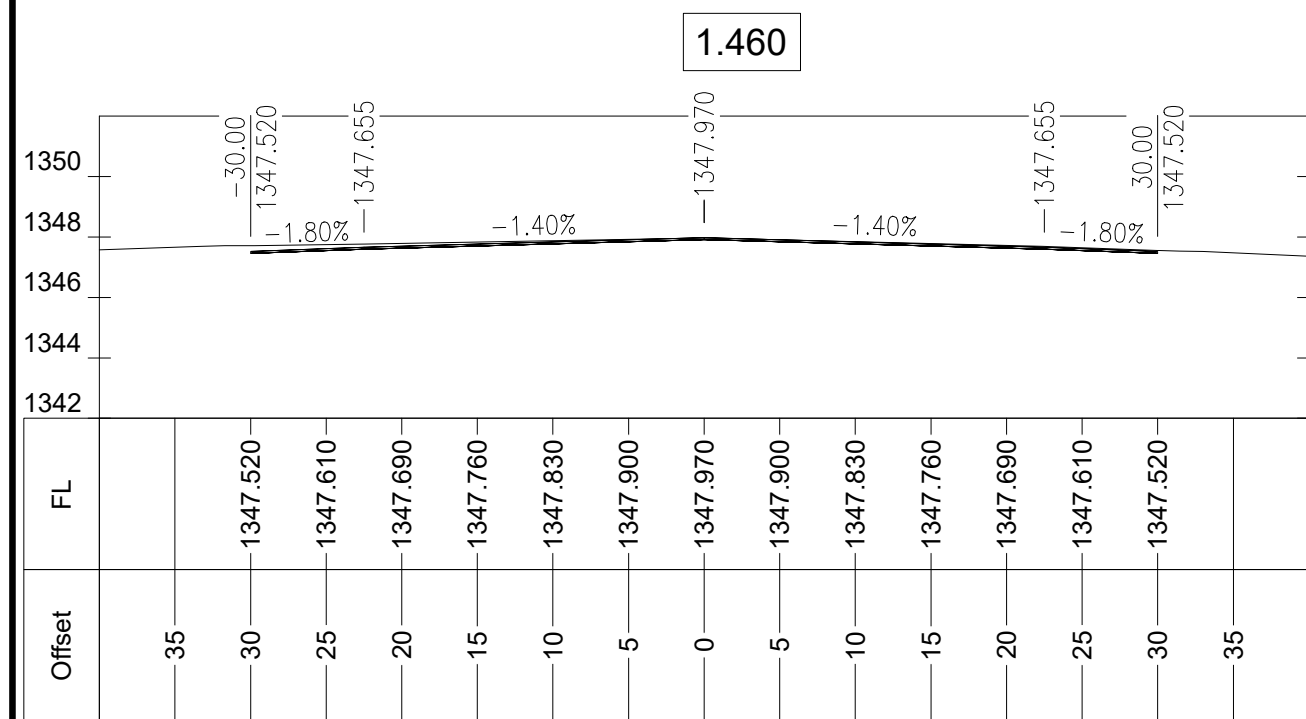
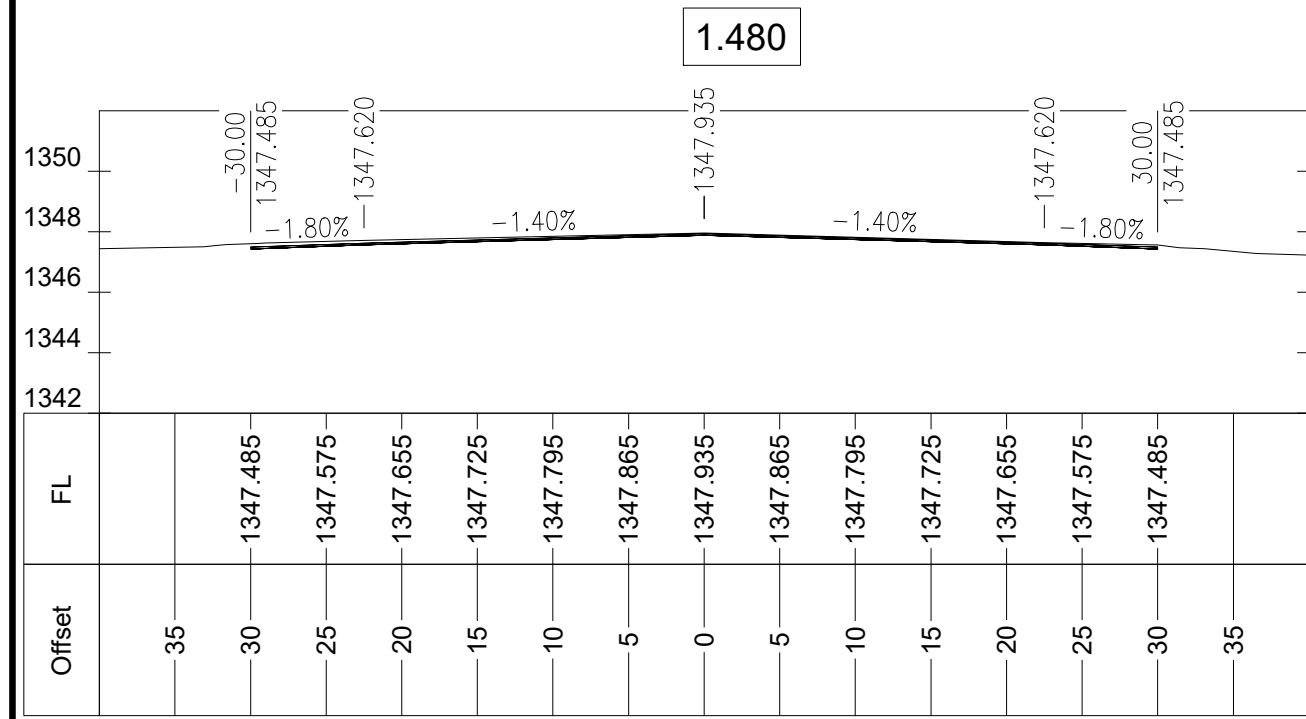
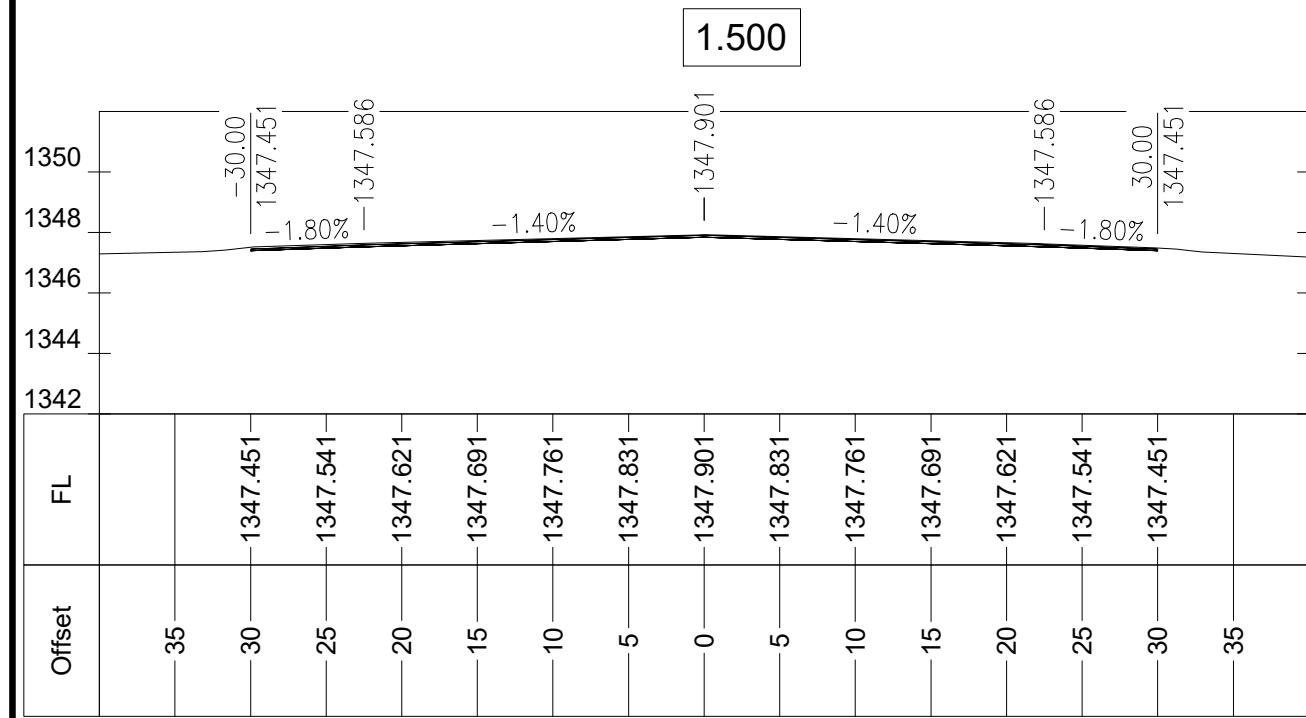
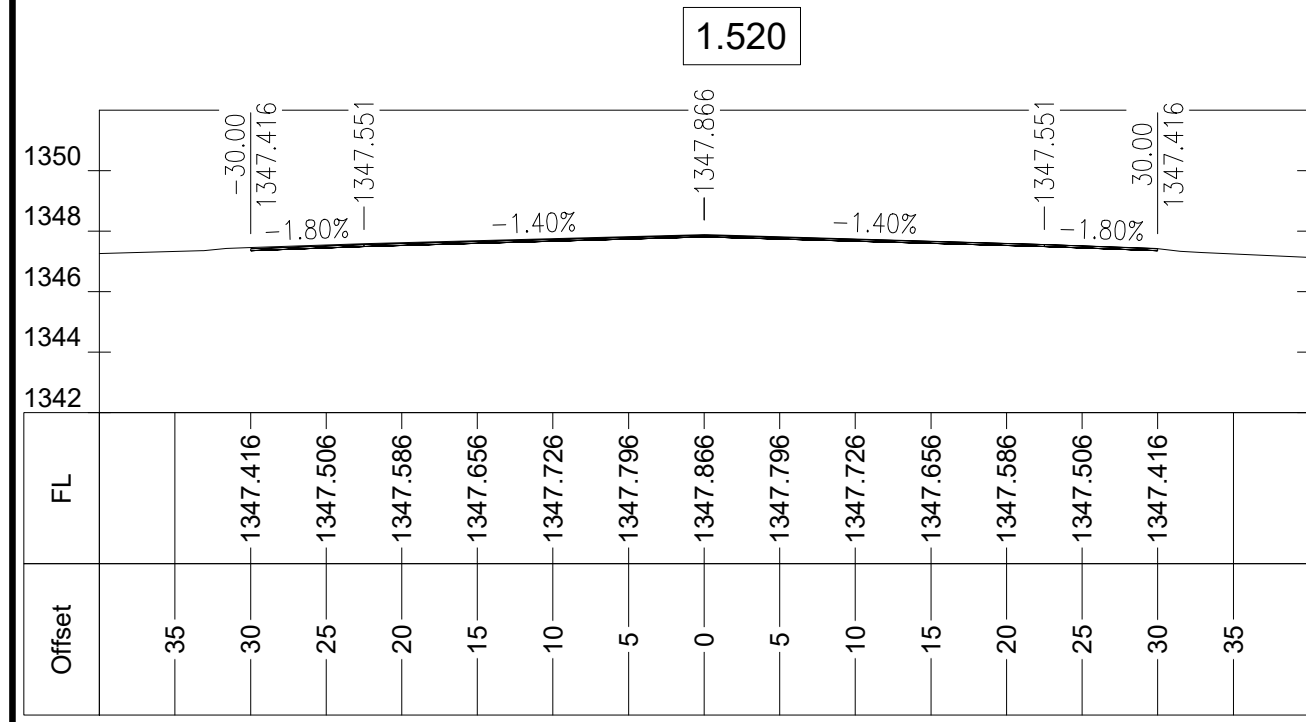
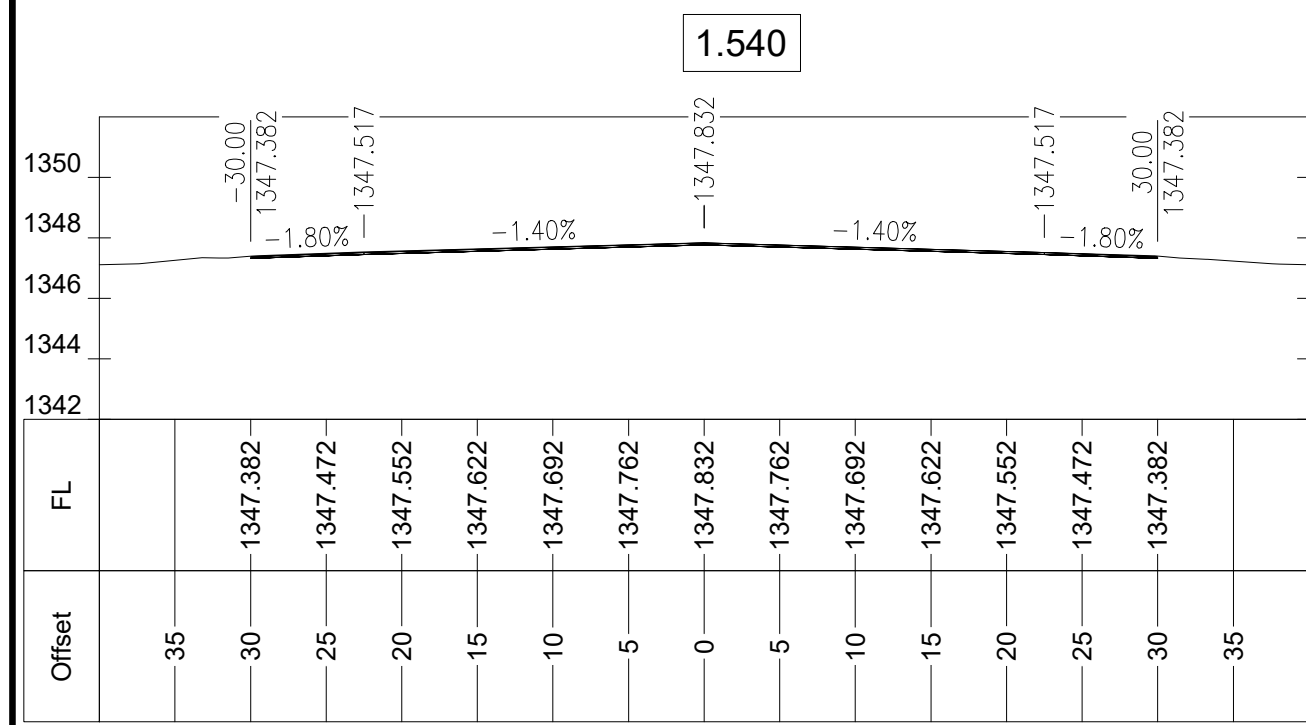


PLAN LAYOUT

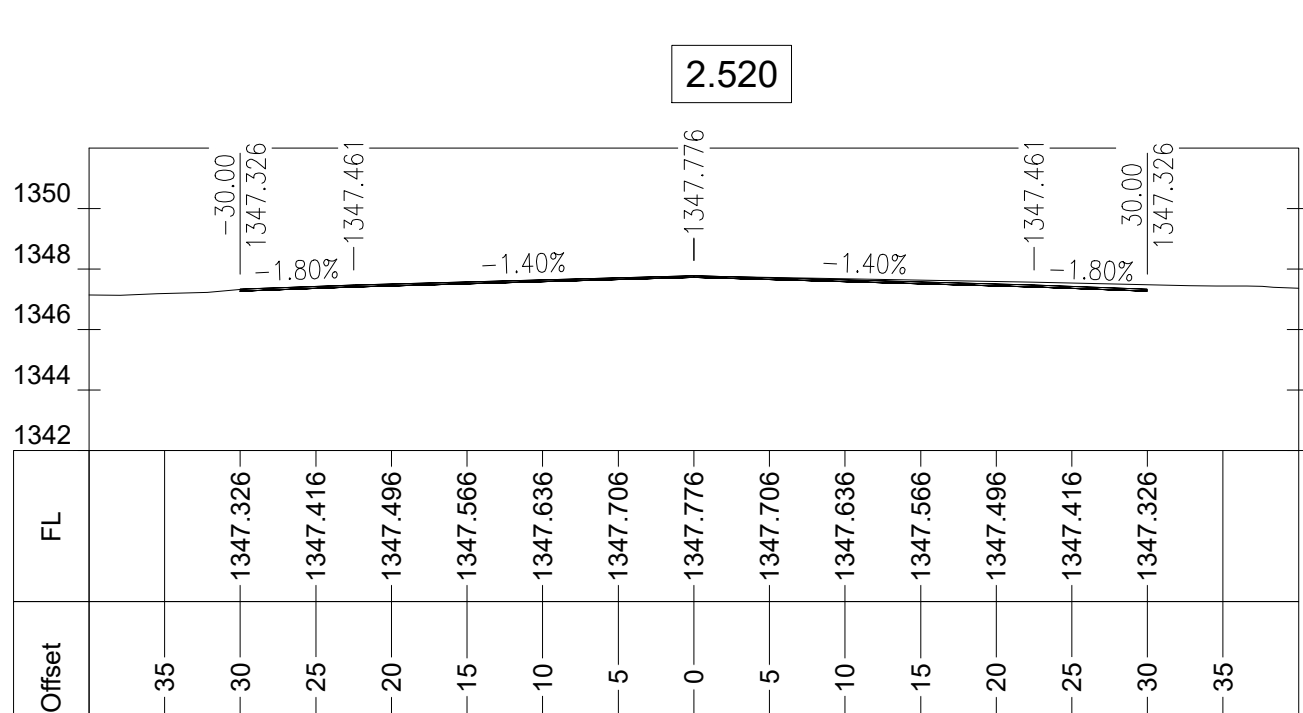
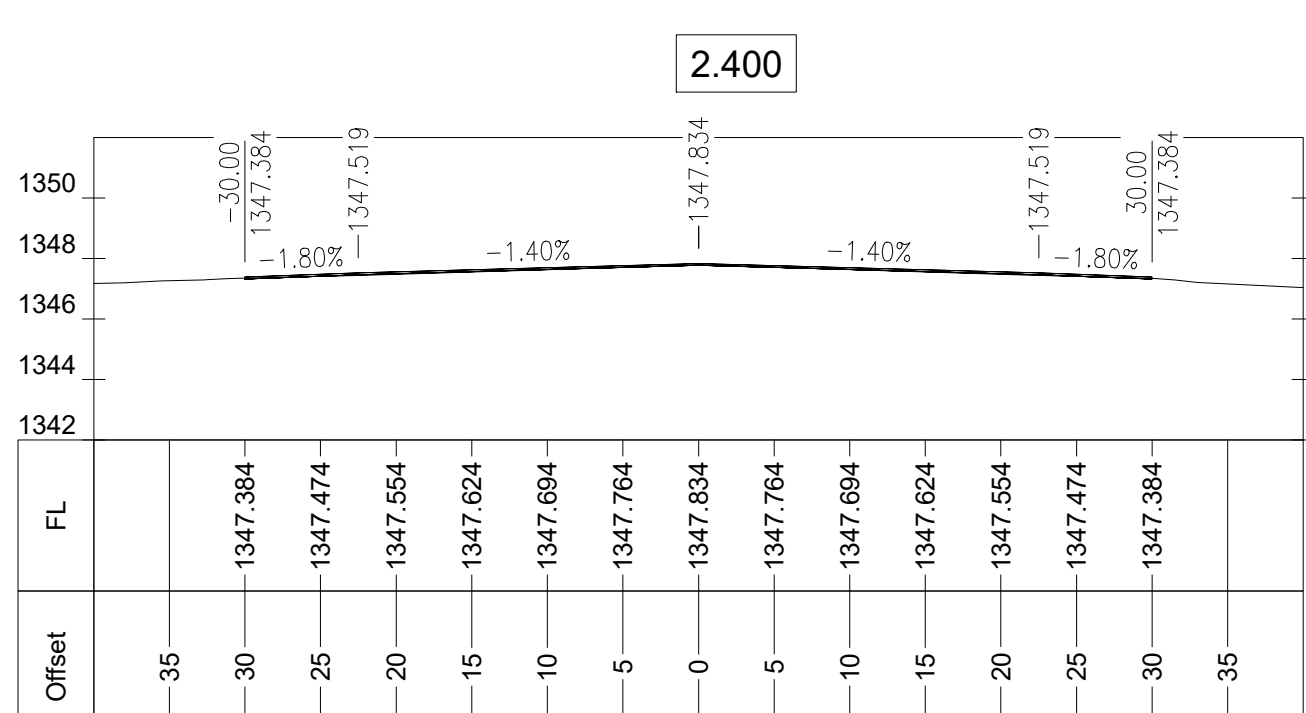
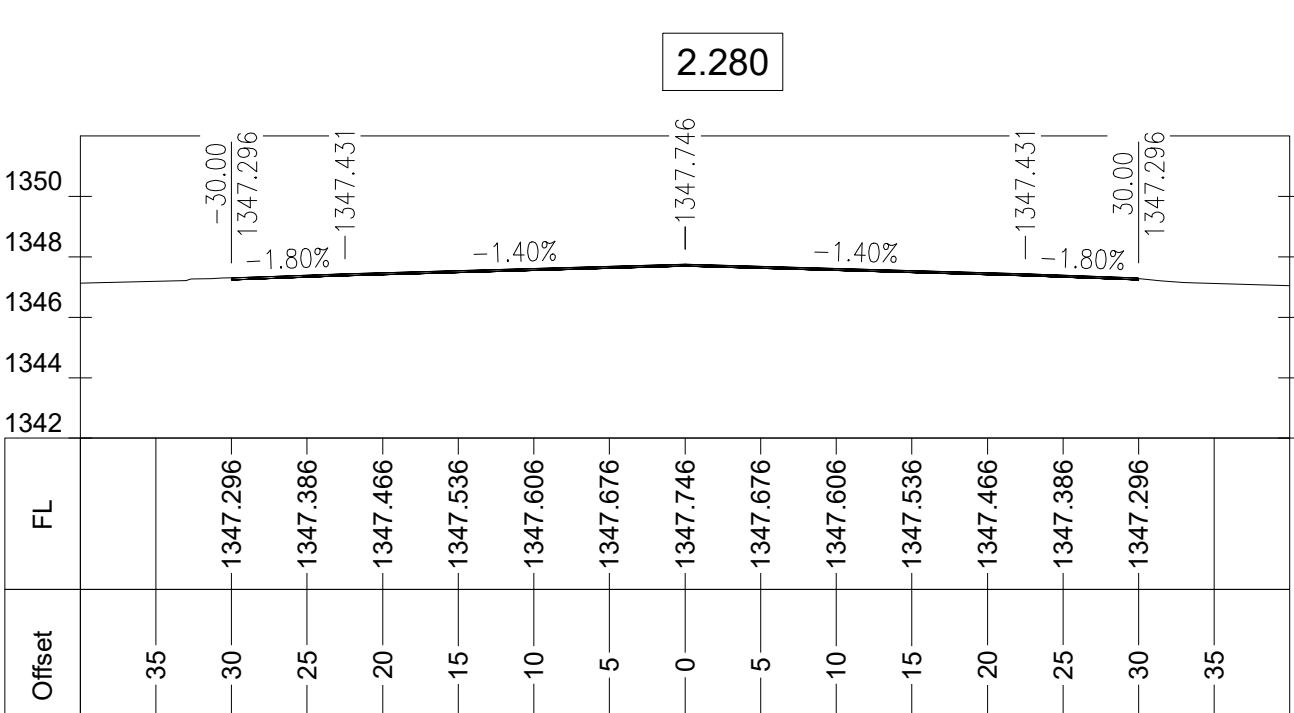
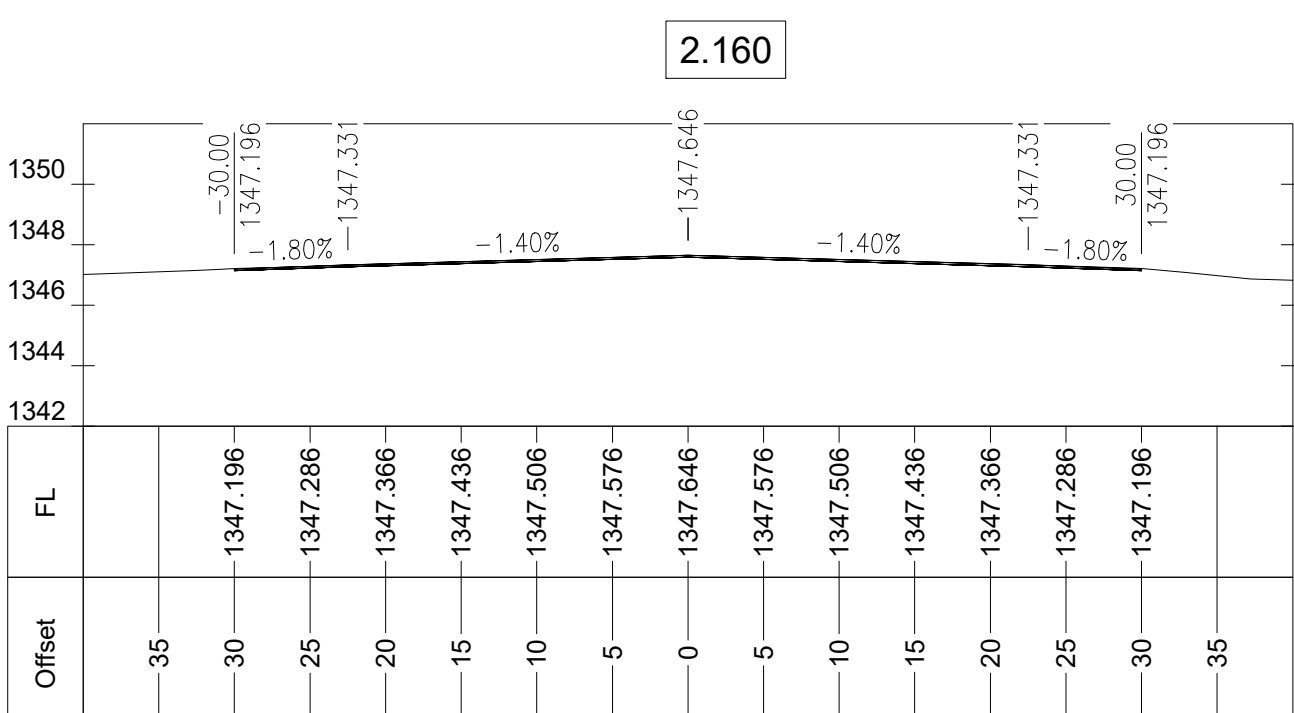
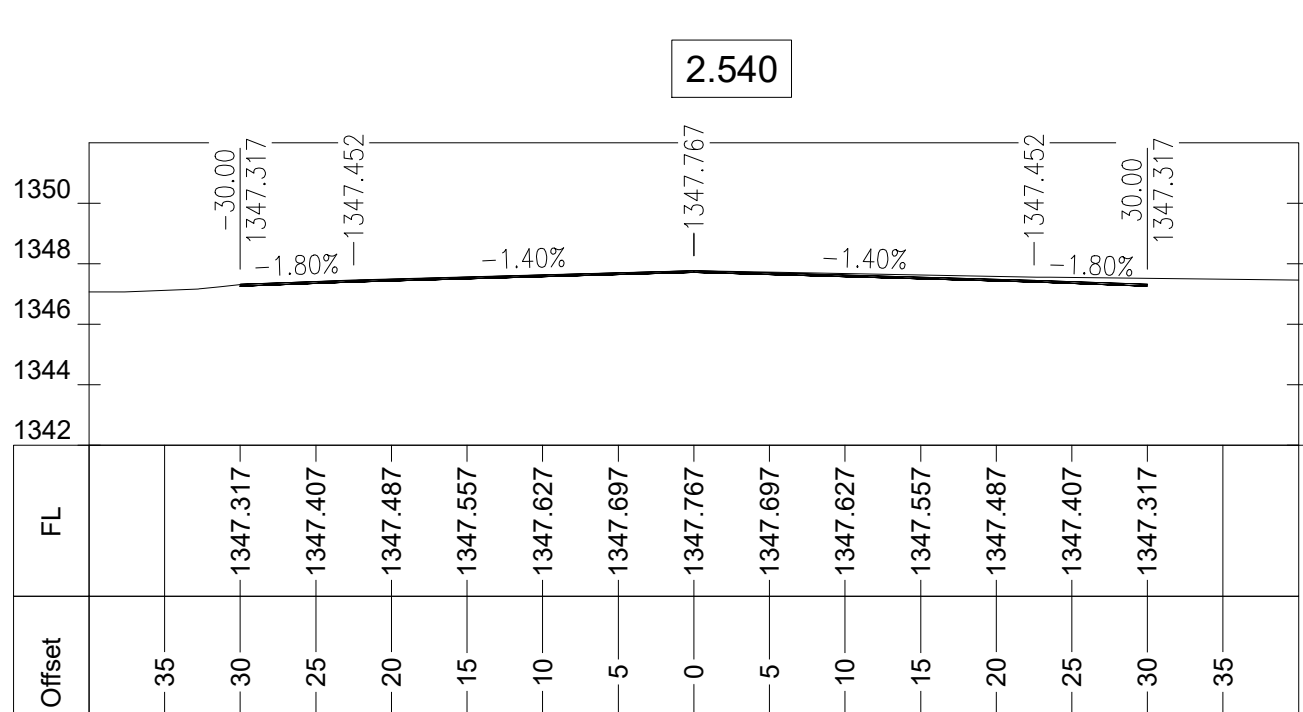
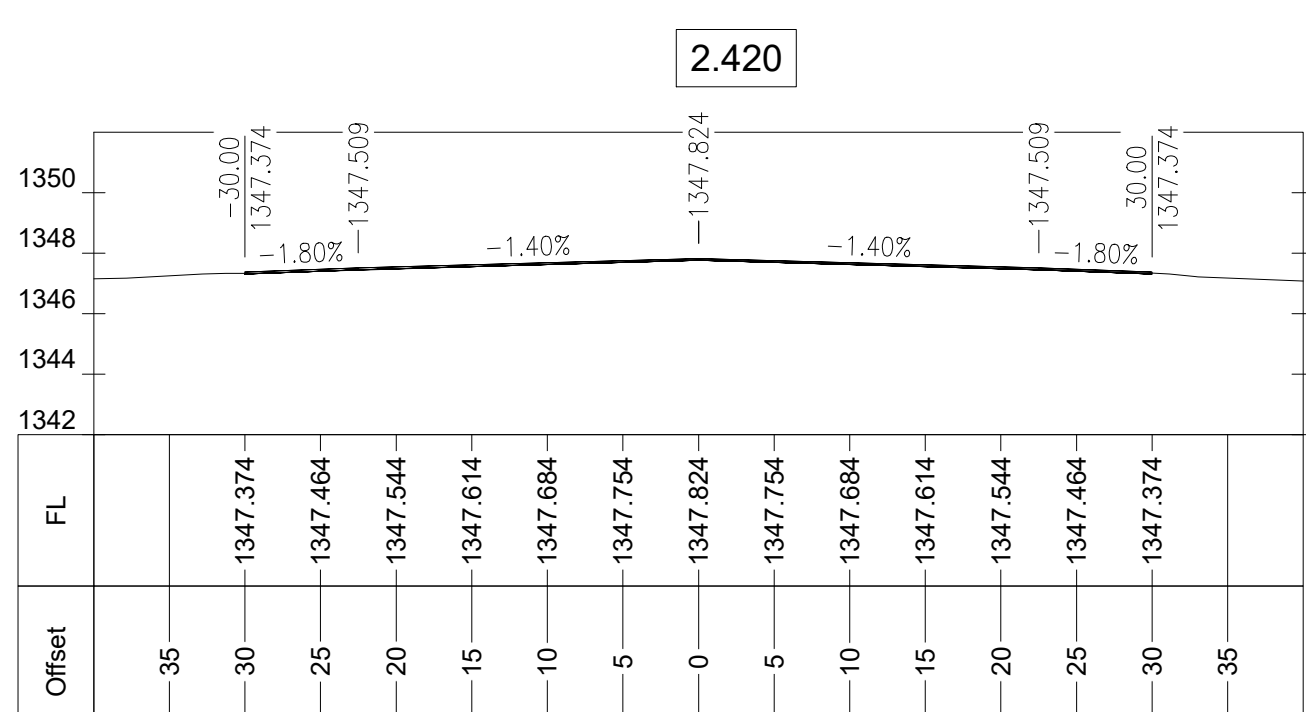
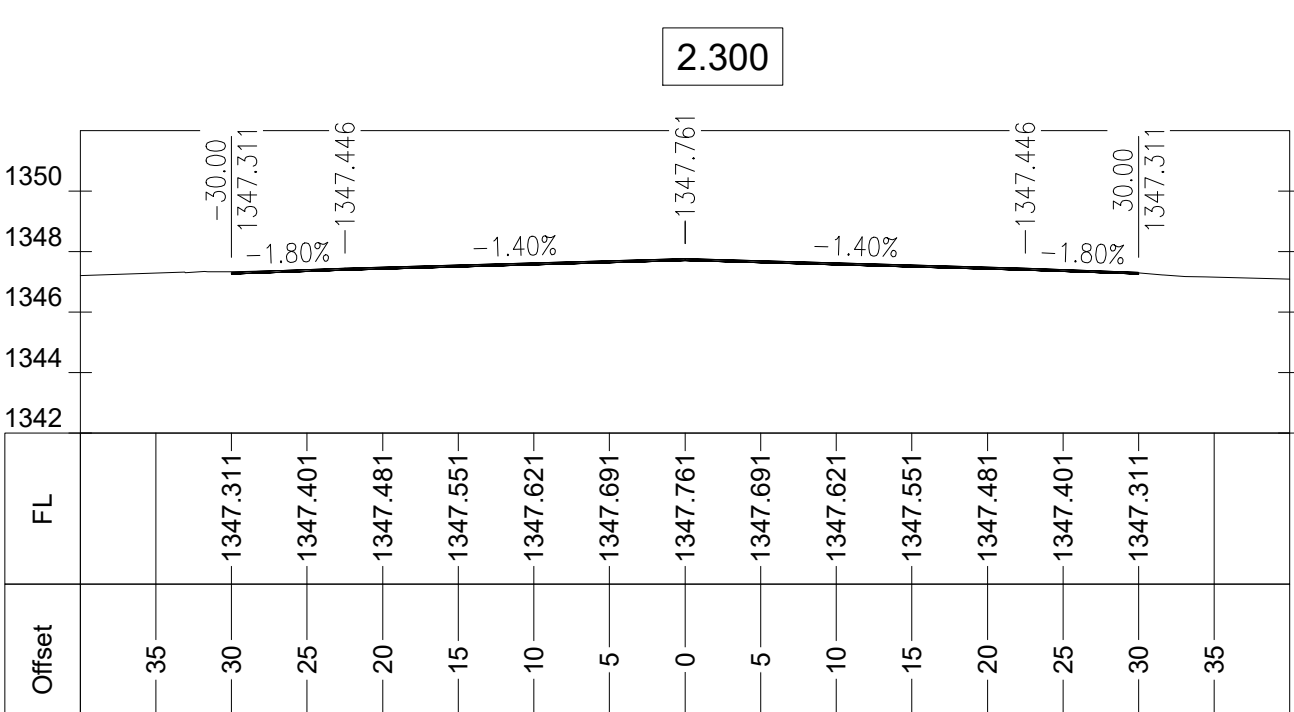
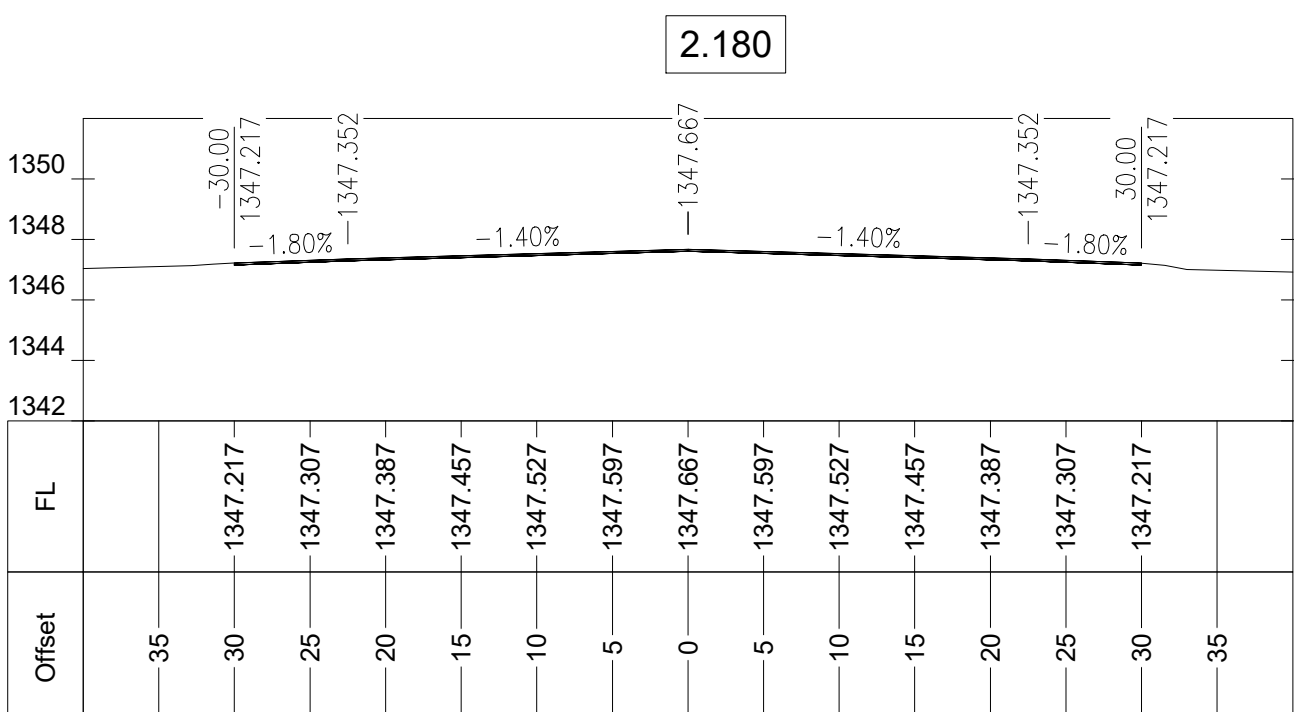
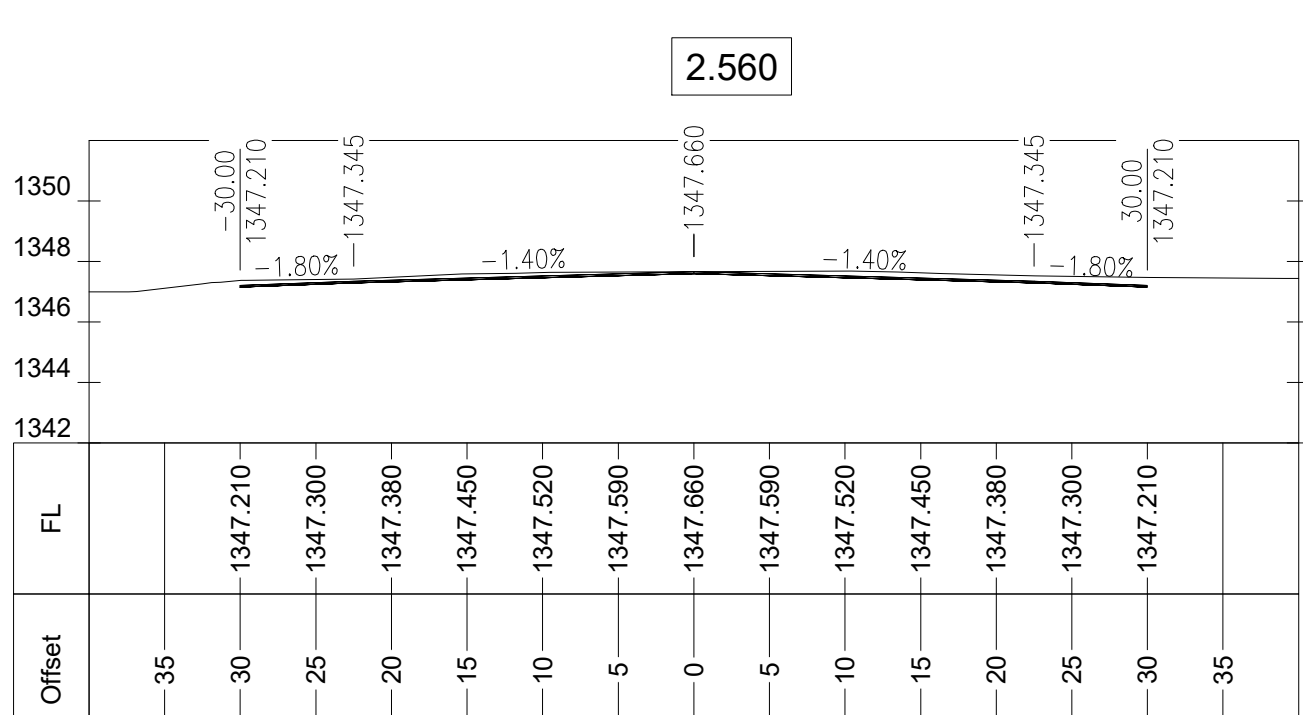
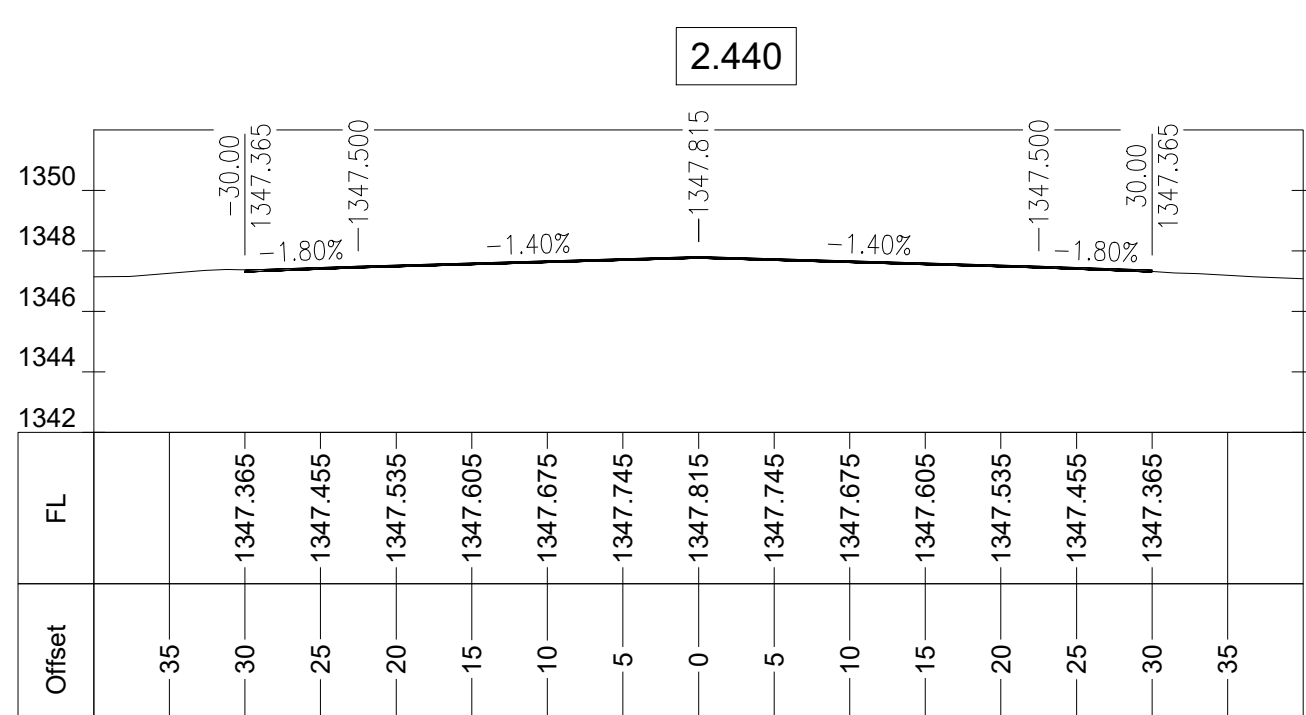
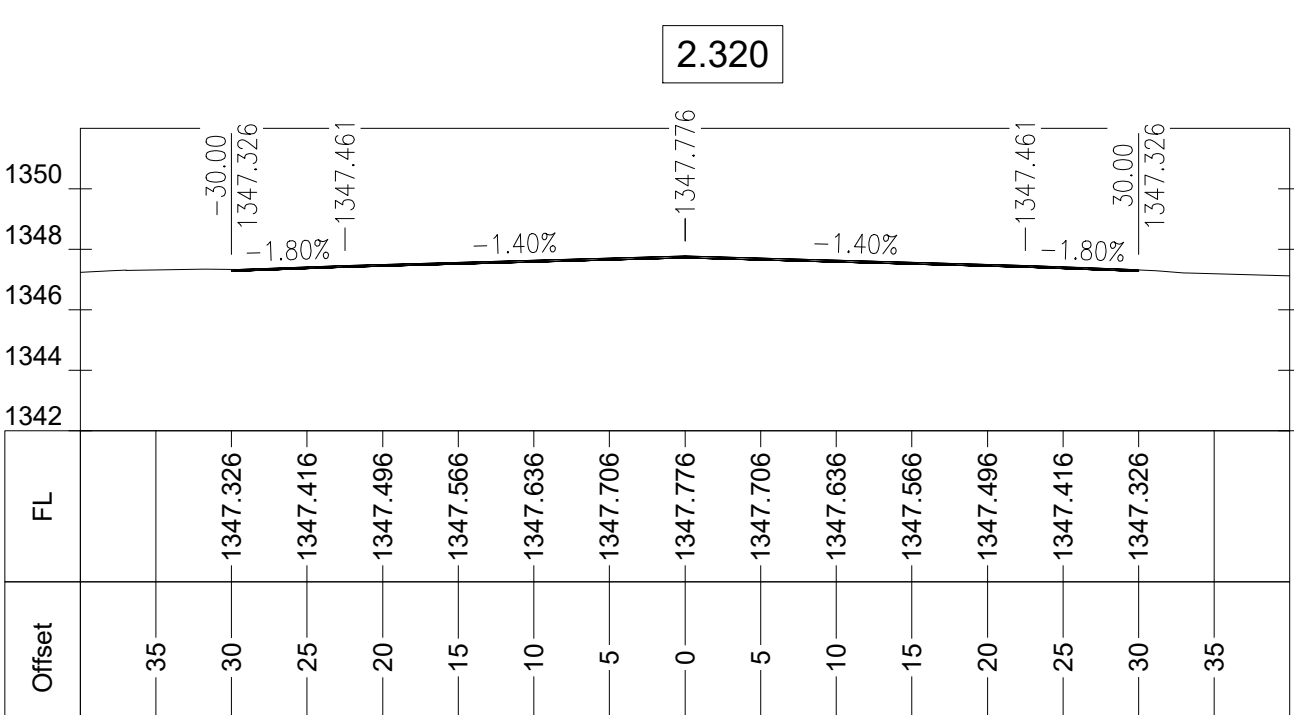
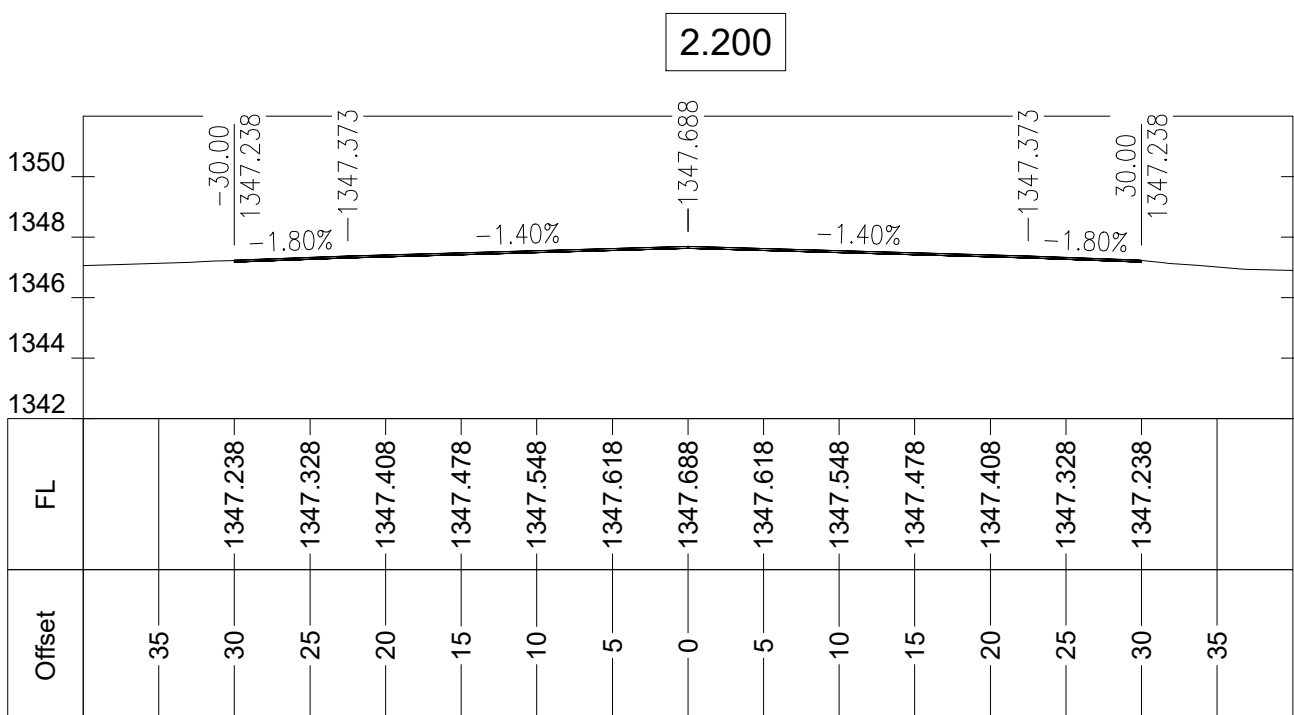
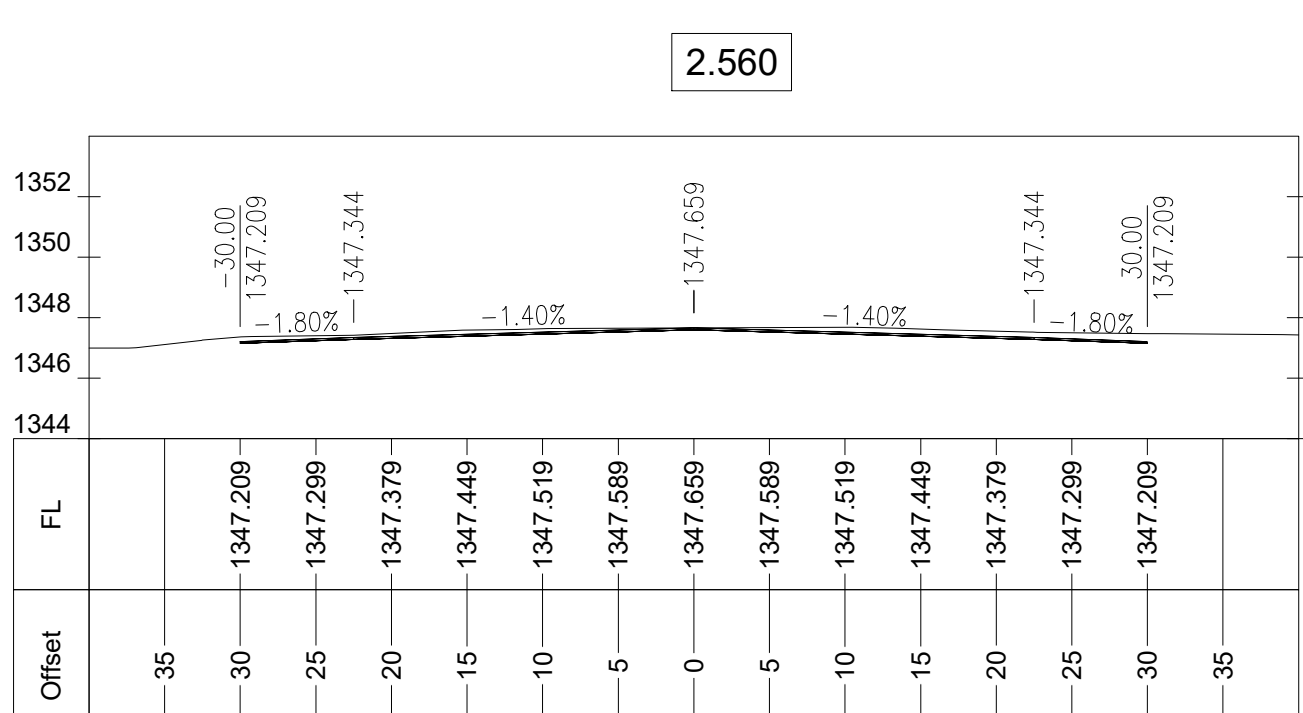
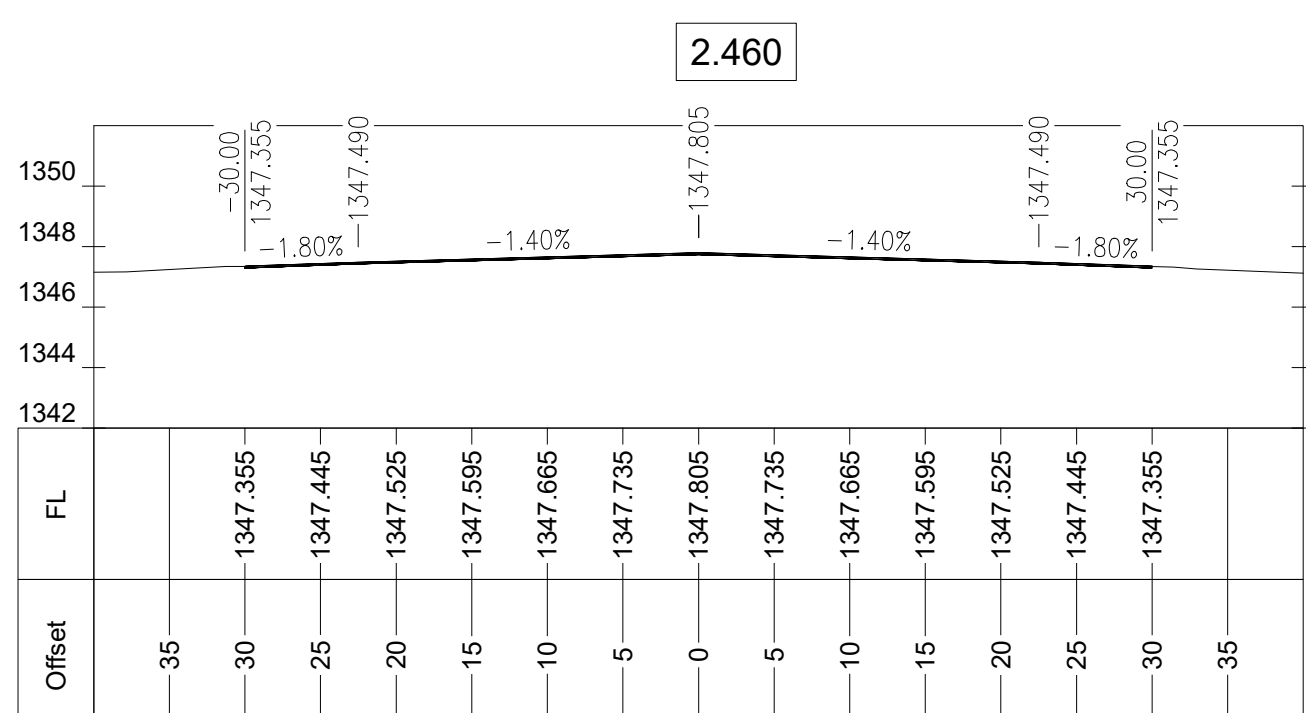
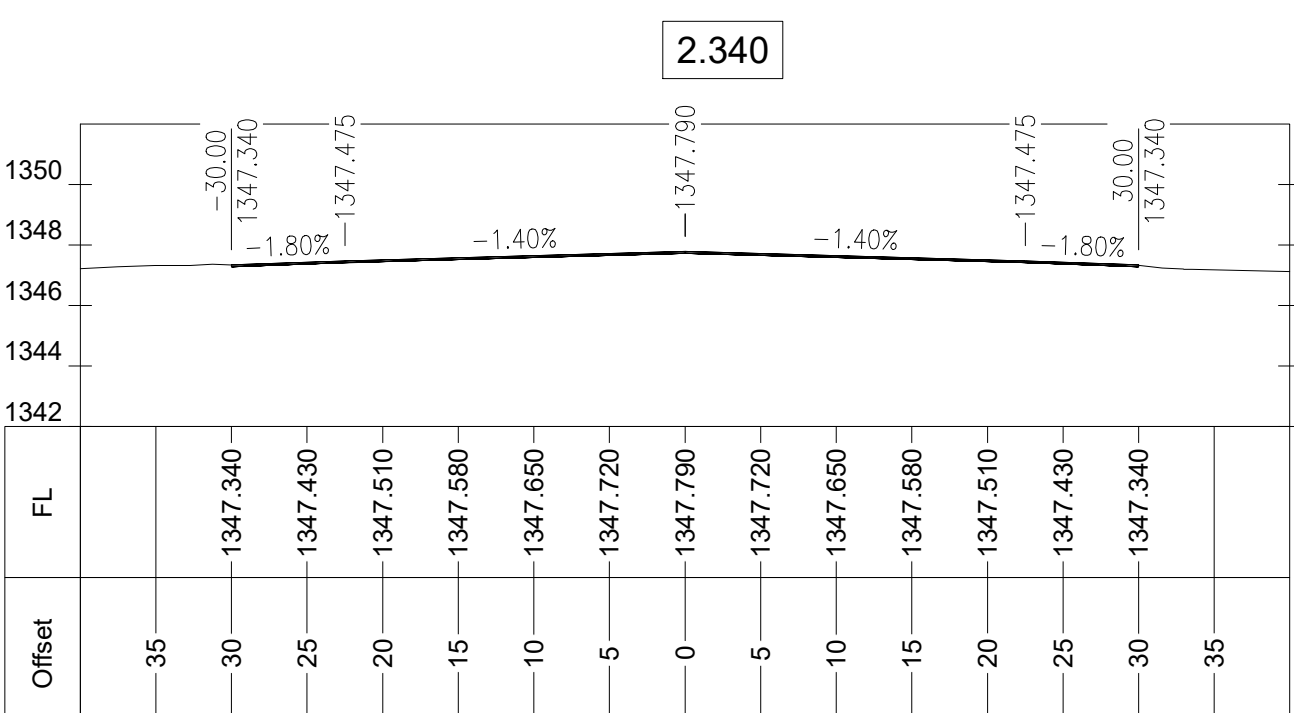
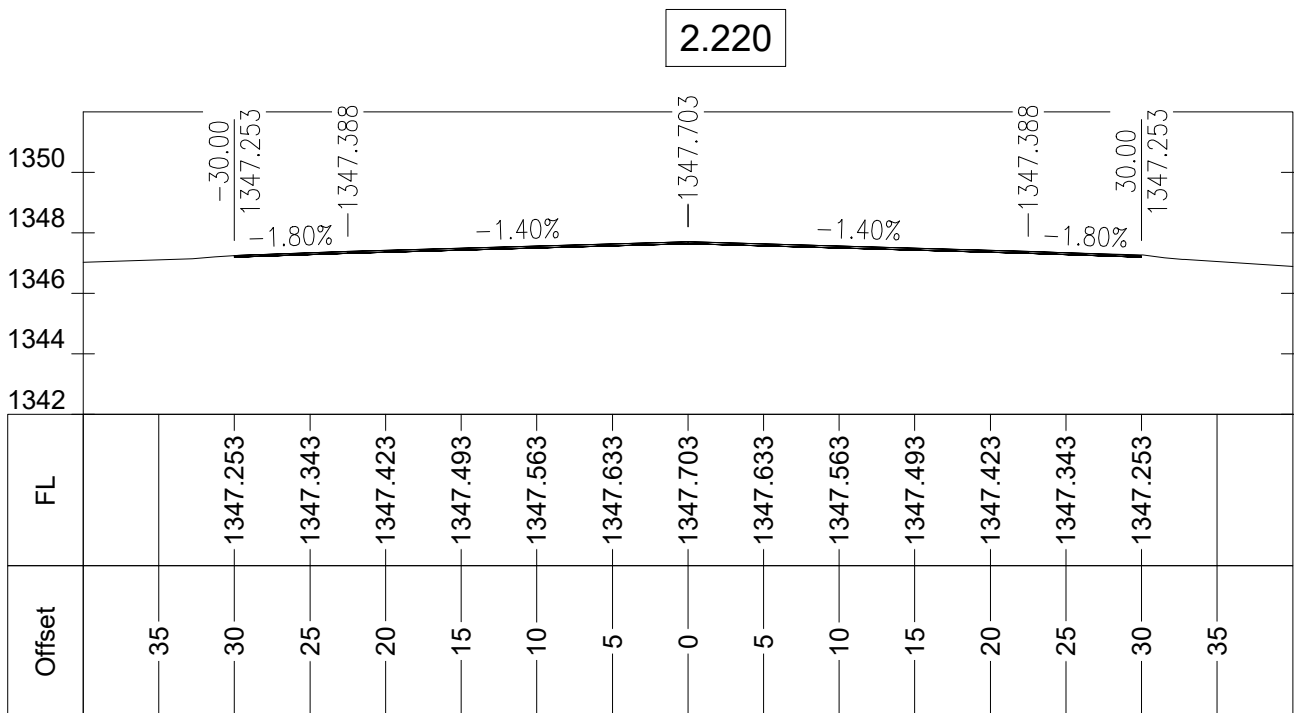
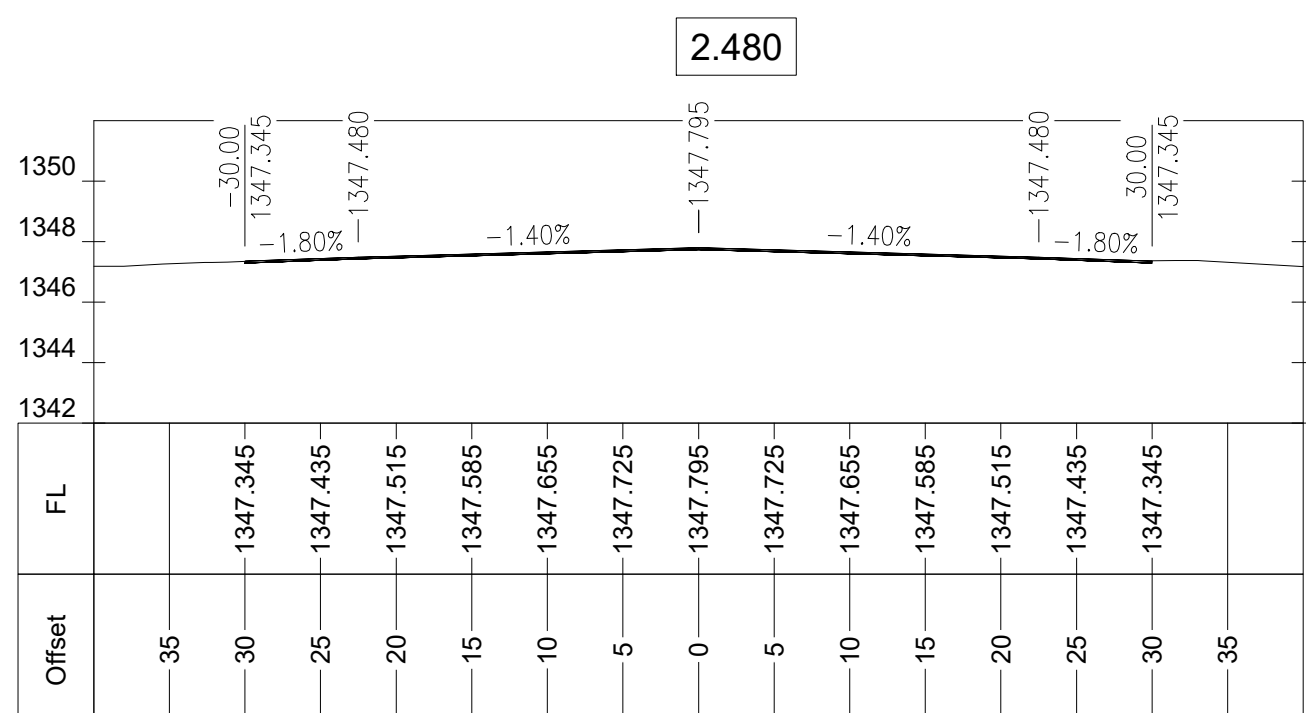
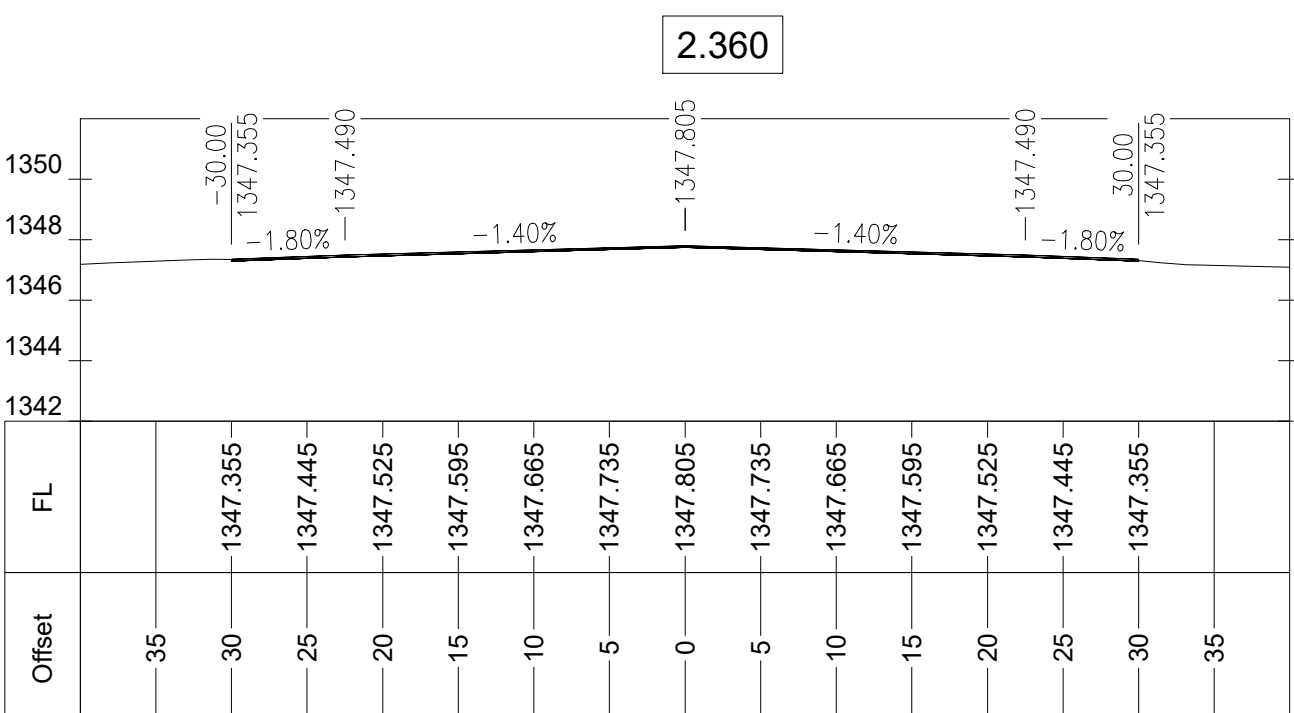
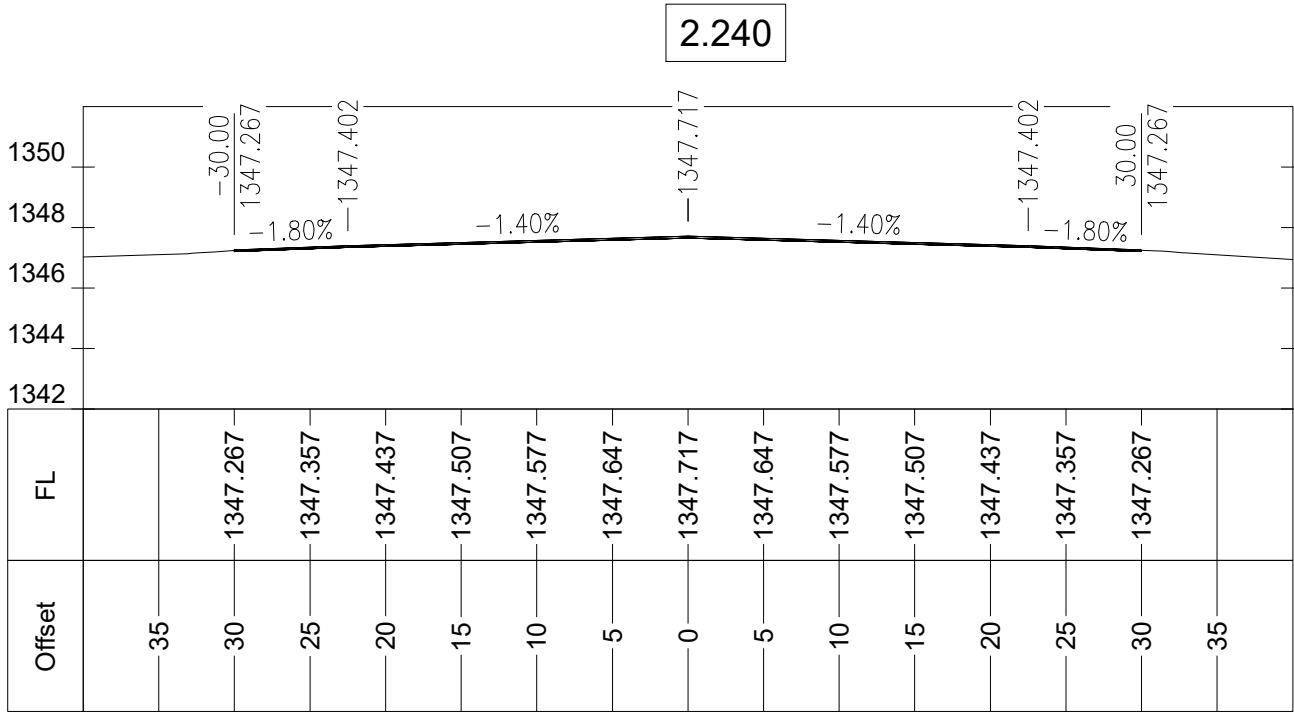
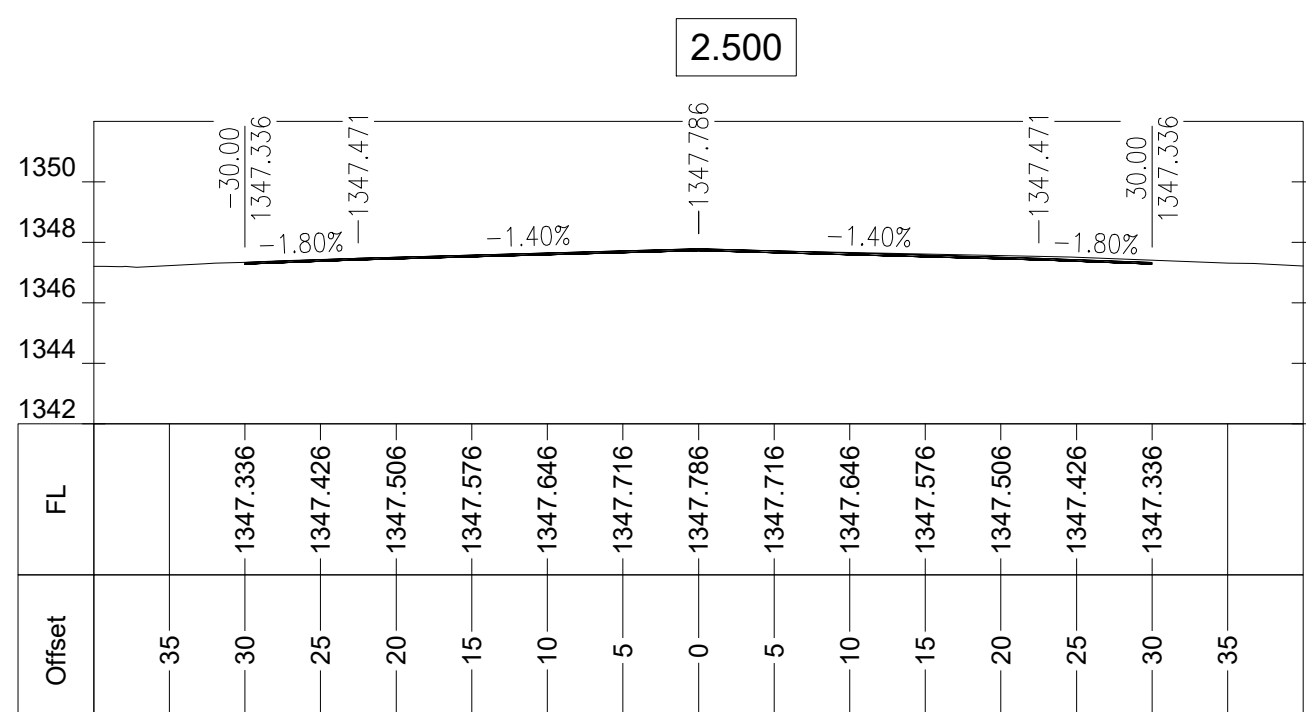
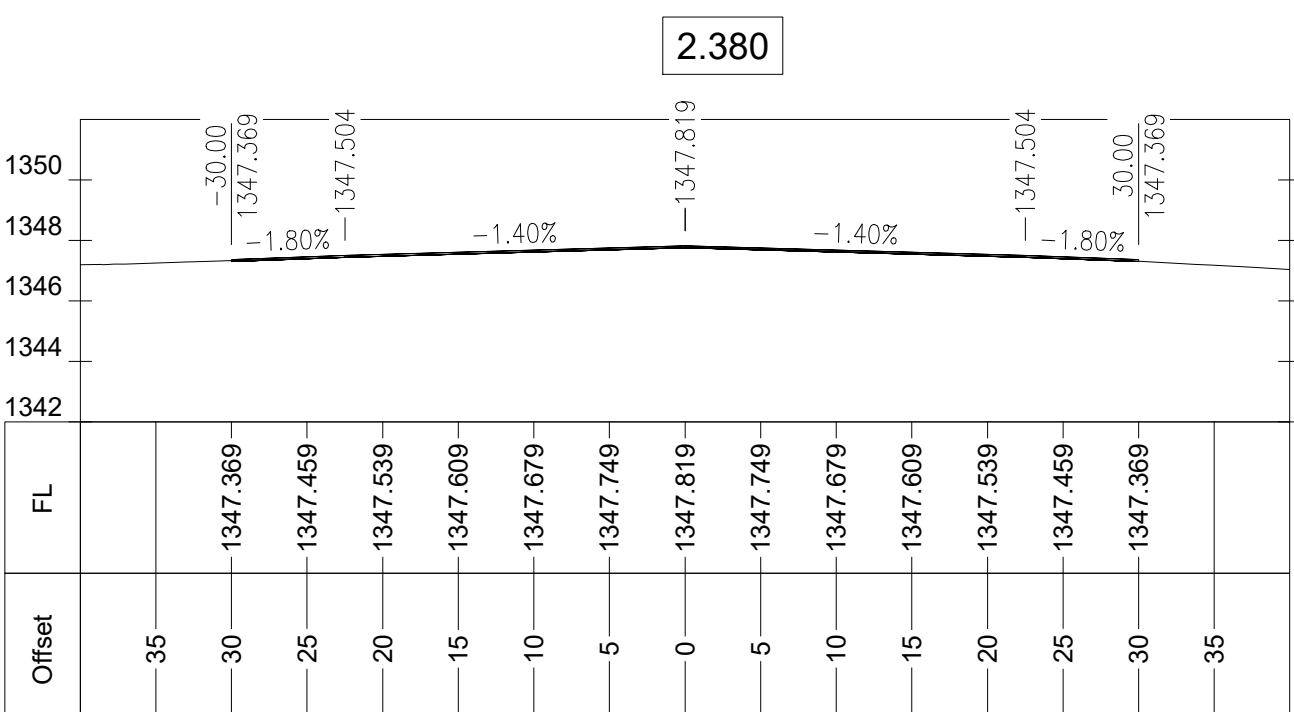
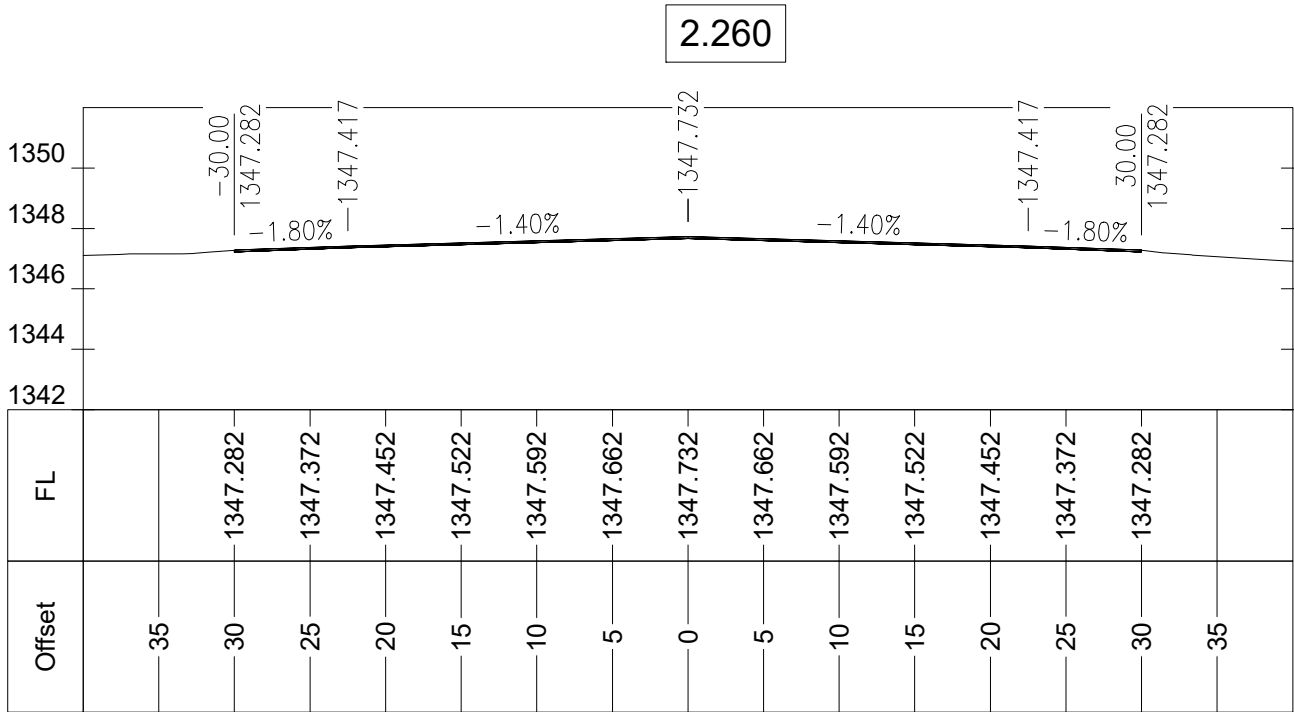


DRAWING NUMBER	REVISION
301695-CIV-LL-005-03	A

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Z:\201605 Ram Road\06 Working & Design\4. Road\3. Work\Road\A Design REV1.dwg



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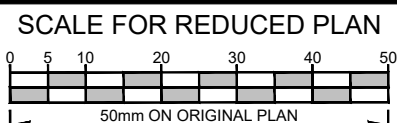
AIRPORTS COMPANY
SOUTH AFRICA

PROJECT

REHABILITATION OF RUNWAY
0220 AND TAXIWAYS AT BRAM
FISCHER INTERNATIONAL
AIRPORT

DRAWING DESCRIPTION

RUNWAY 02-20 : CROSS
SECTIONS (CH 2160 - 2560)

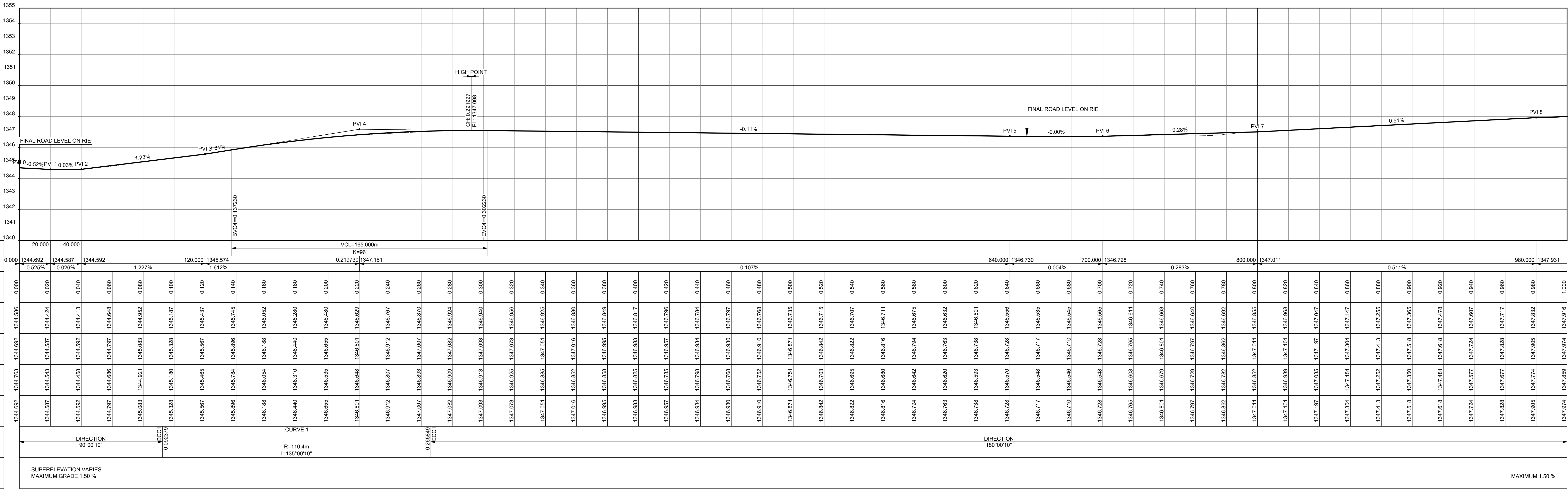


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DRAWING NUMBER		REV
301695-CIV-CS-005-07		A



RESA 02

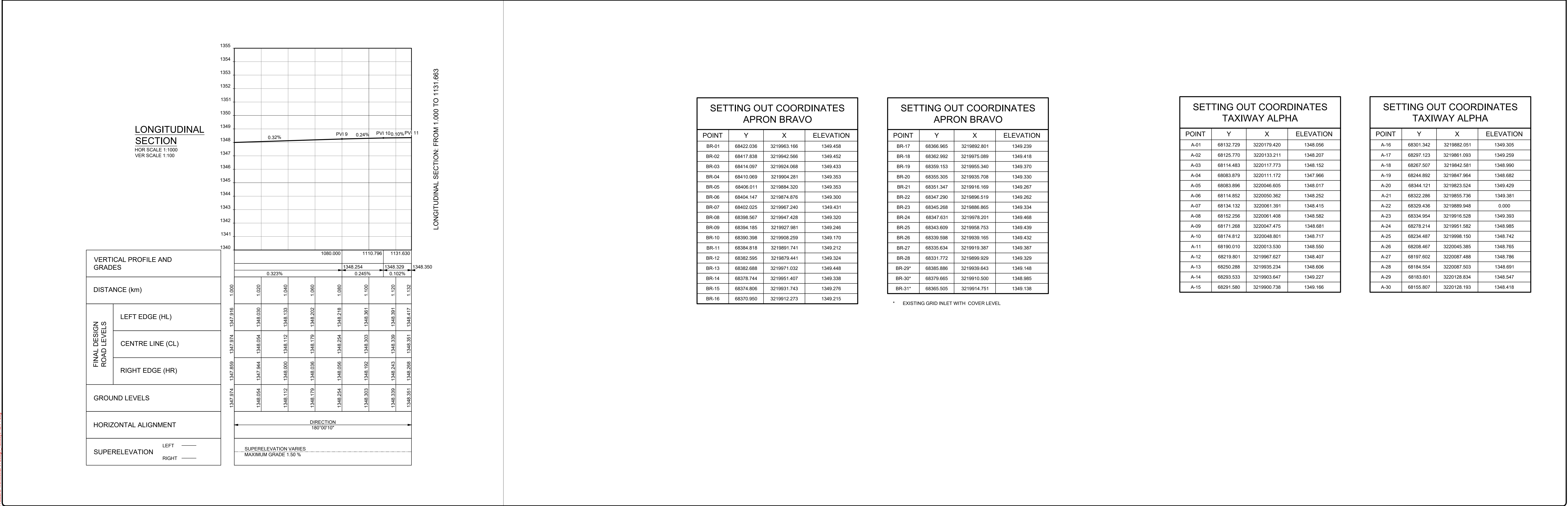
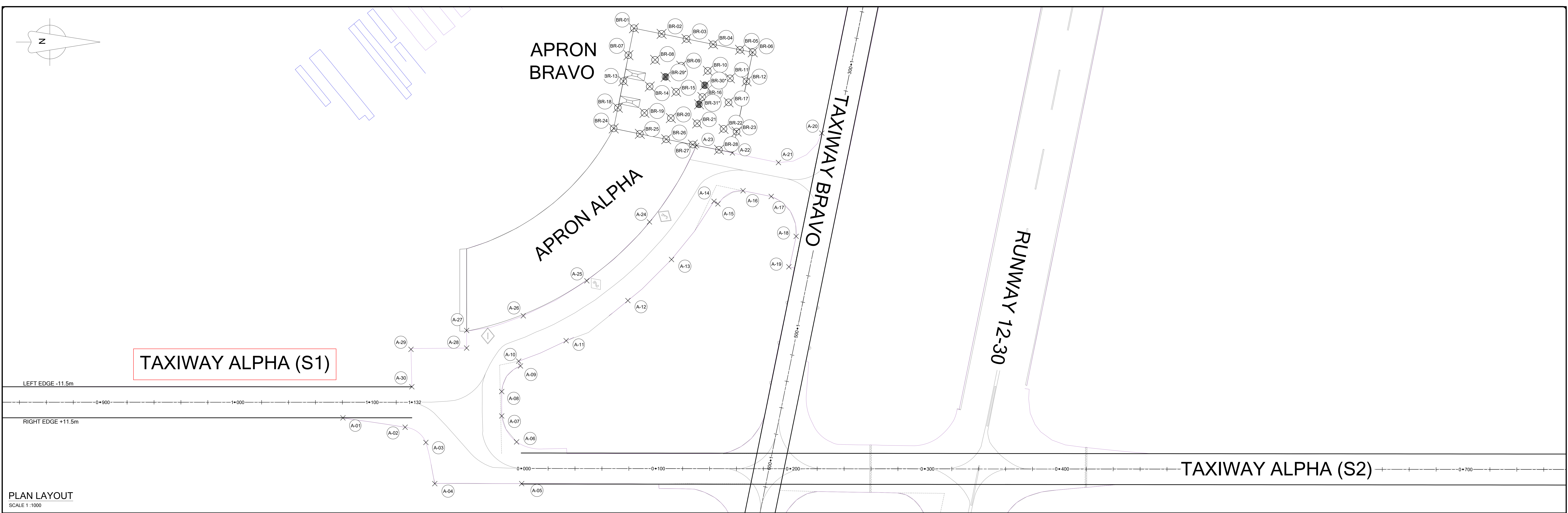
RUNWAY 02-20



LONGITUDINAL SECTION: FROM 0.000 TO 1000.000

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<p>0 5 10 20 30 50m ON ORIGINAL PLAN</p>		
DATE	SCALE	ORIGINAL SIZE
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DRAWING NUMBER		REV
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B	15/11/22	INCLUDES BRAVO APRON POINTS	BI	CC

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SOUTH AFRICA

PROJECT

REHABILITATION OF RUNWAY 0220 AND TAXIWAYS AT BRAM FISCHER INTERNATIONAL AIRPORT

DRAWING DESCRIPTION

TAXIWAY ALPHA (S1) : LAYOUT AND LONGSECTION (CH 1000 - 1132)

SCALE FOR REDUCED PLAN

DATE

SCALE

ORIGINAL SIZE

2022/10/10

AS SHOWN

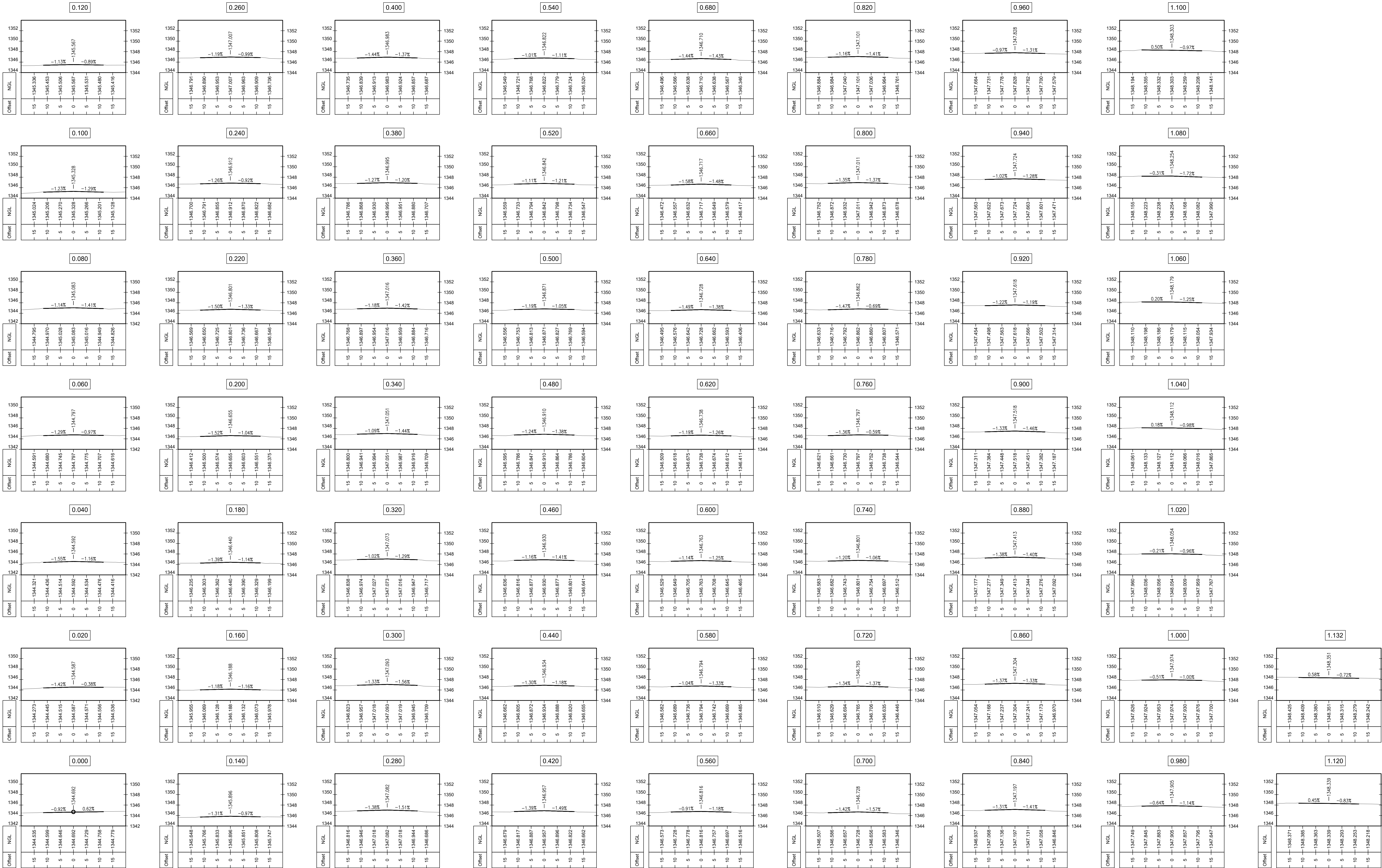
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**REHABILITATION OF RUNWAY
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FISCHER INTERNATIONAL
AIRPORT**

DRAWING DESCRIPTION

**TAXIWAY ALPHA (S1): CROSS
SECTIONS (CH 00 - 1132)**

DATE

2022/10/10

SCALE

AS SHOWN

ORIGINAL SIZE

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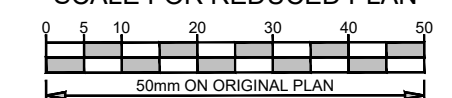
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301695-CIV-CS-006-03

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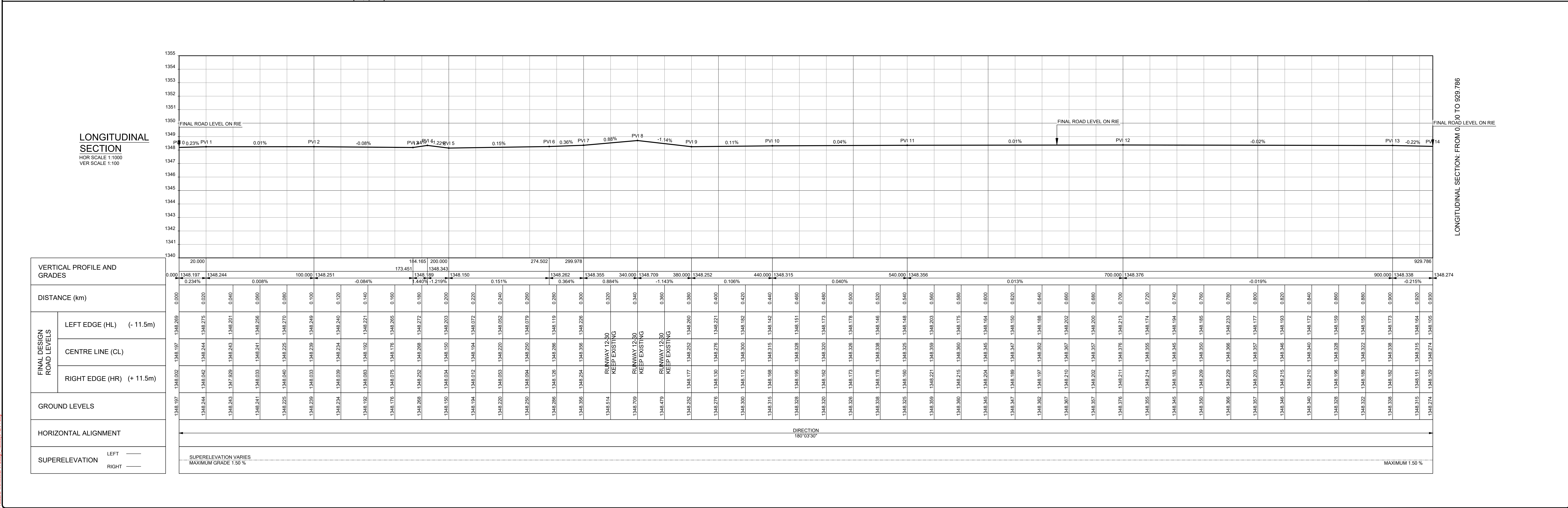
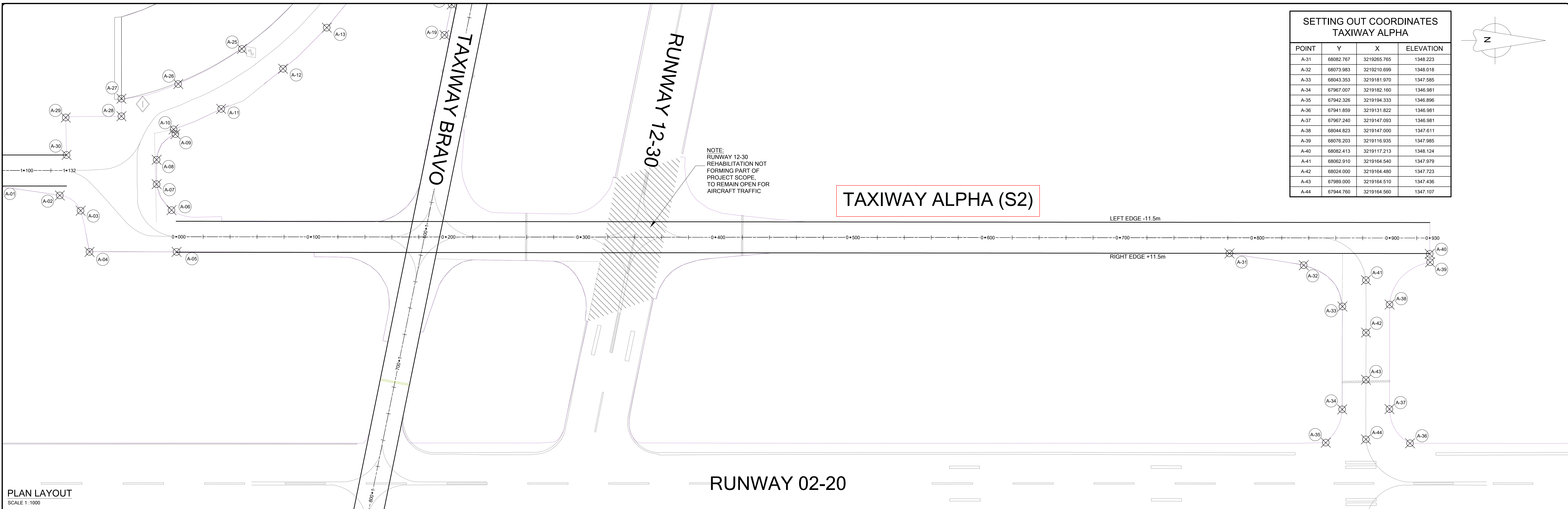
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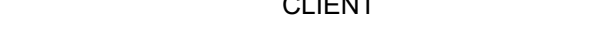
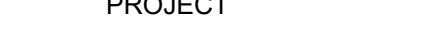

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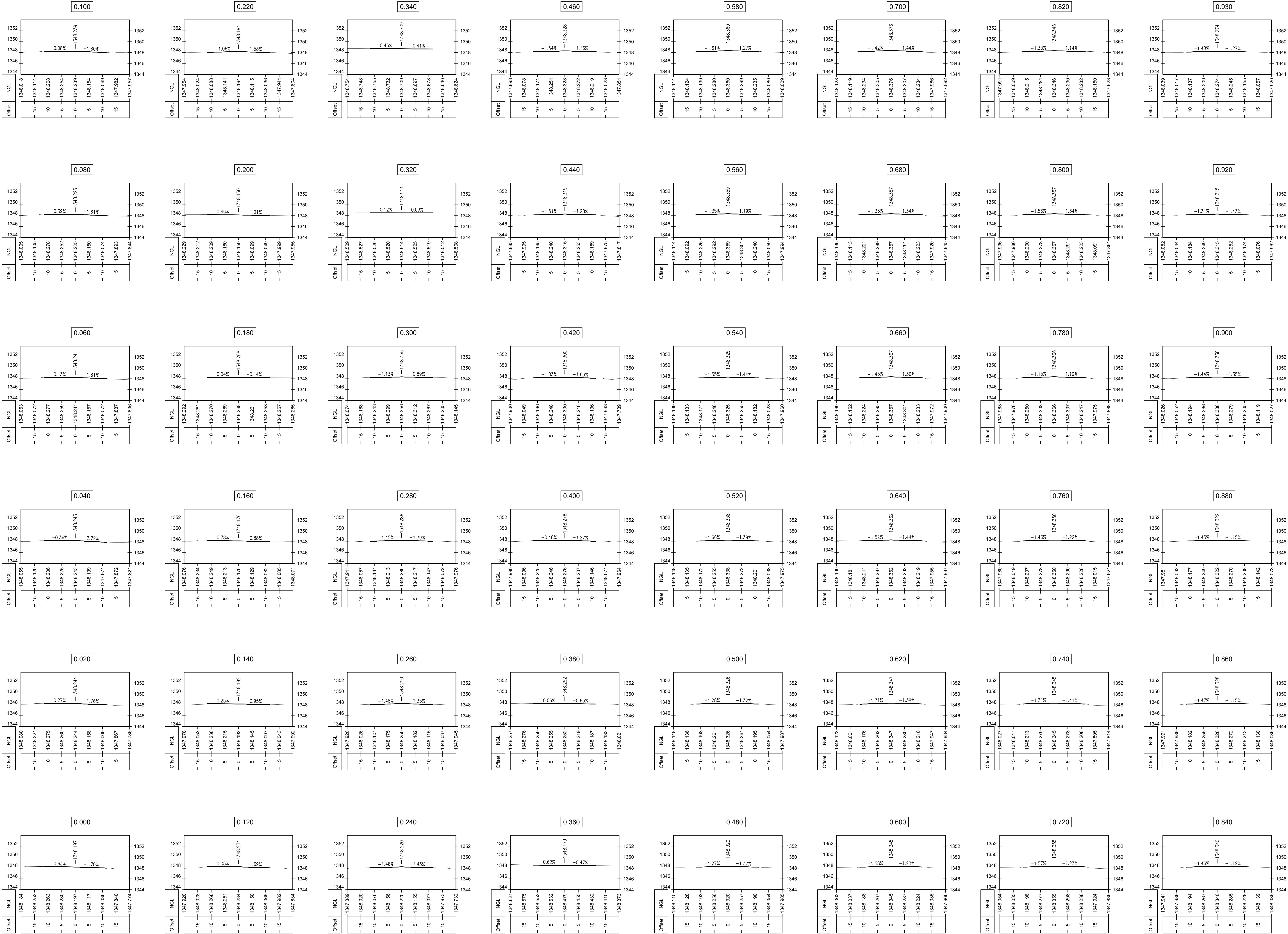
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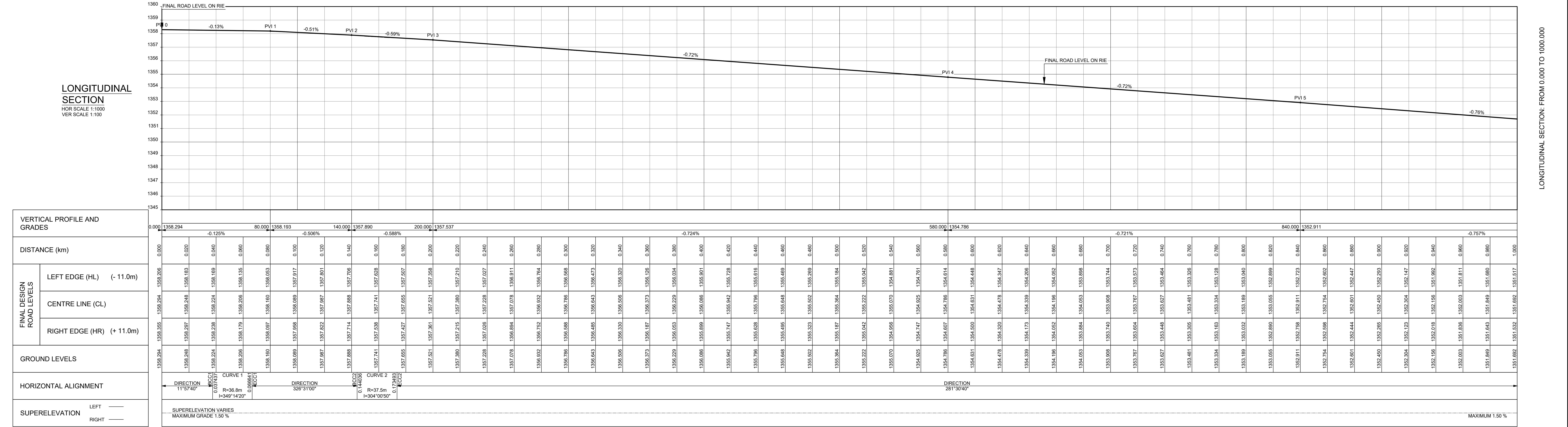
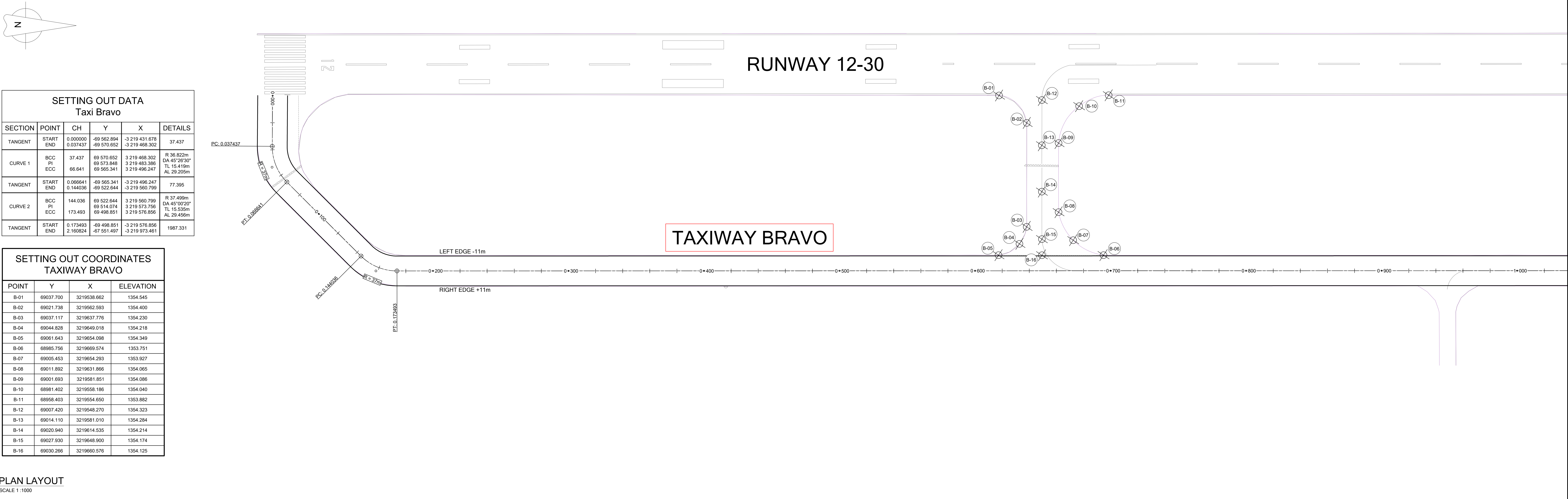
REHABILITATION OF RUNWAY
0220 AND TAXIWAYS AT BRAM
FISCHER INTERNATIONAL
AIRPORT

DRAWING DESCRIPTION

TAXIWAY ALPHA (S2): CROSS
SECTIONS (CH 00 - 930)

SCALE FOR REDUCED PLAN

DATE	SCALE	ORIGINAL SIZE
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DRAWING NUMBER		REV
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REHABILITATION OF RUNWAY 0220 AND TAXIWAYS AT BRAM FISCHER INTERNATIONAL AIRPORT

DRAWING DESCRIPTION

TAXIWAY BRAVO : LAYOUT AND LONGSECTION (CH 00 - 1000)

SCALE FOR REDUCED PLAN

DATE

2022/10/10

SCALE

AS SHOWN

ORIGINAL SIZE

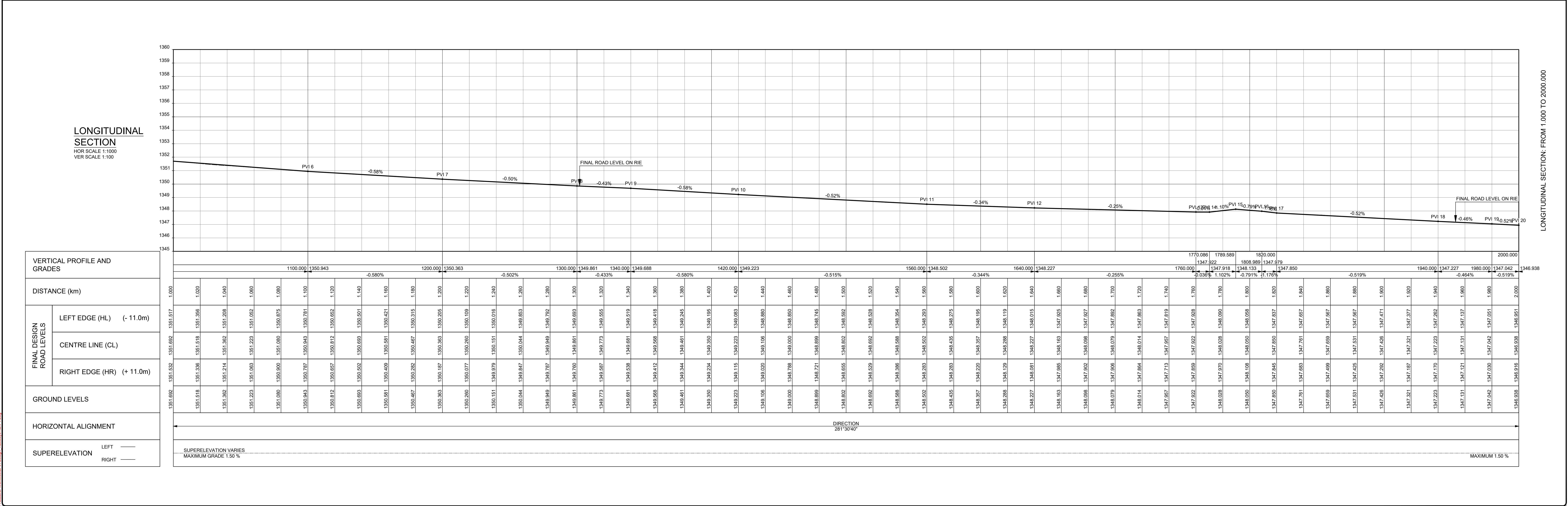
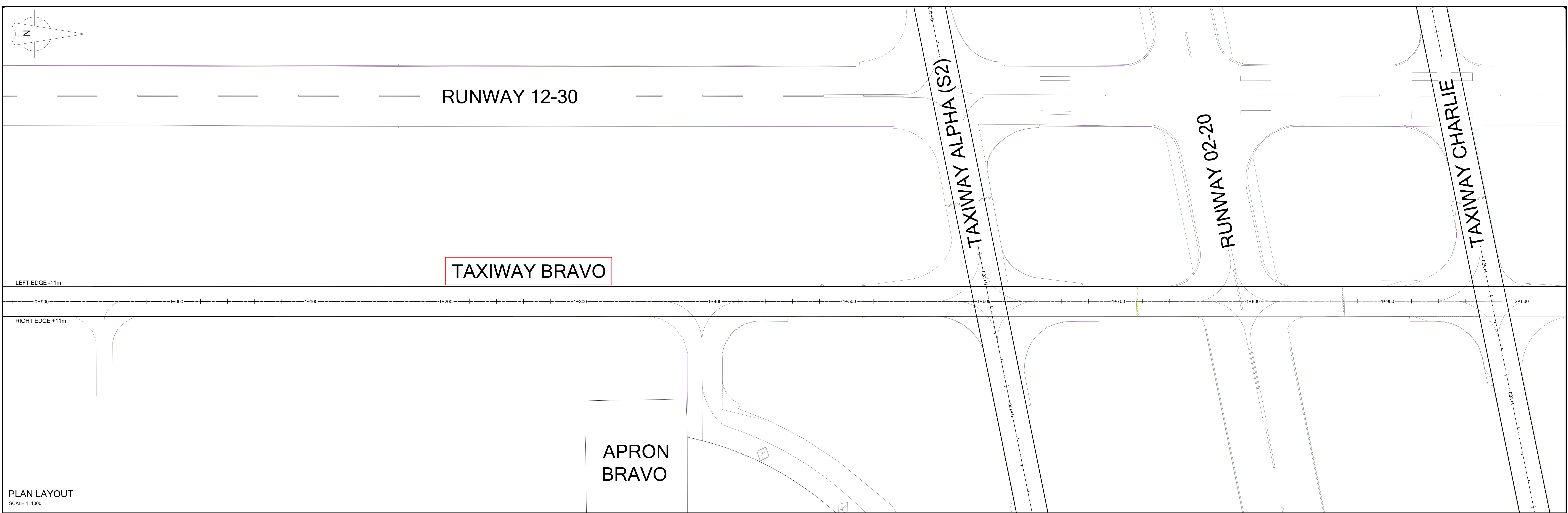
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REHABILITATION OF RUNWAY 0220 AND TAXIWAYS AT BRAM FISCHER INTERNATIONAL AIRPORT

DRAWING DESCRIPTION

TAXIWAY BRAVO : LAYOUT AND LONGSECTION (CH 1000 - 2000)

SCALE FOR REDUCED PLAN

DATE

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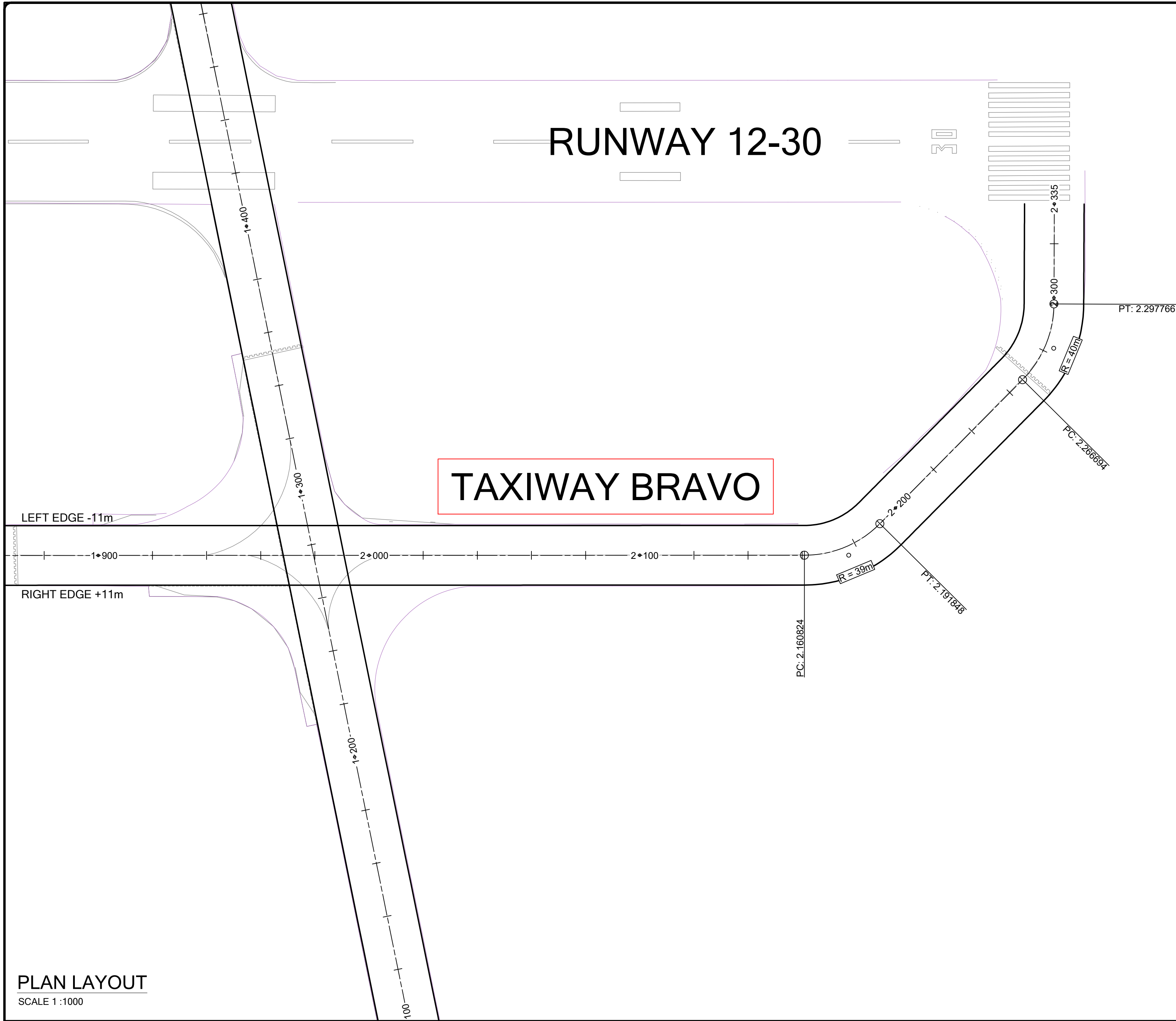
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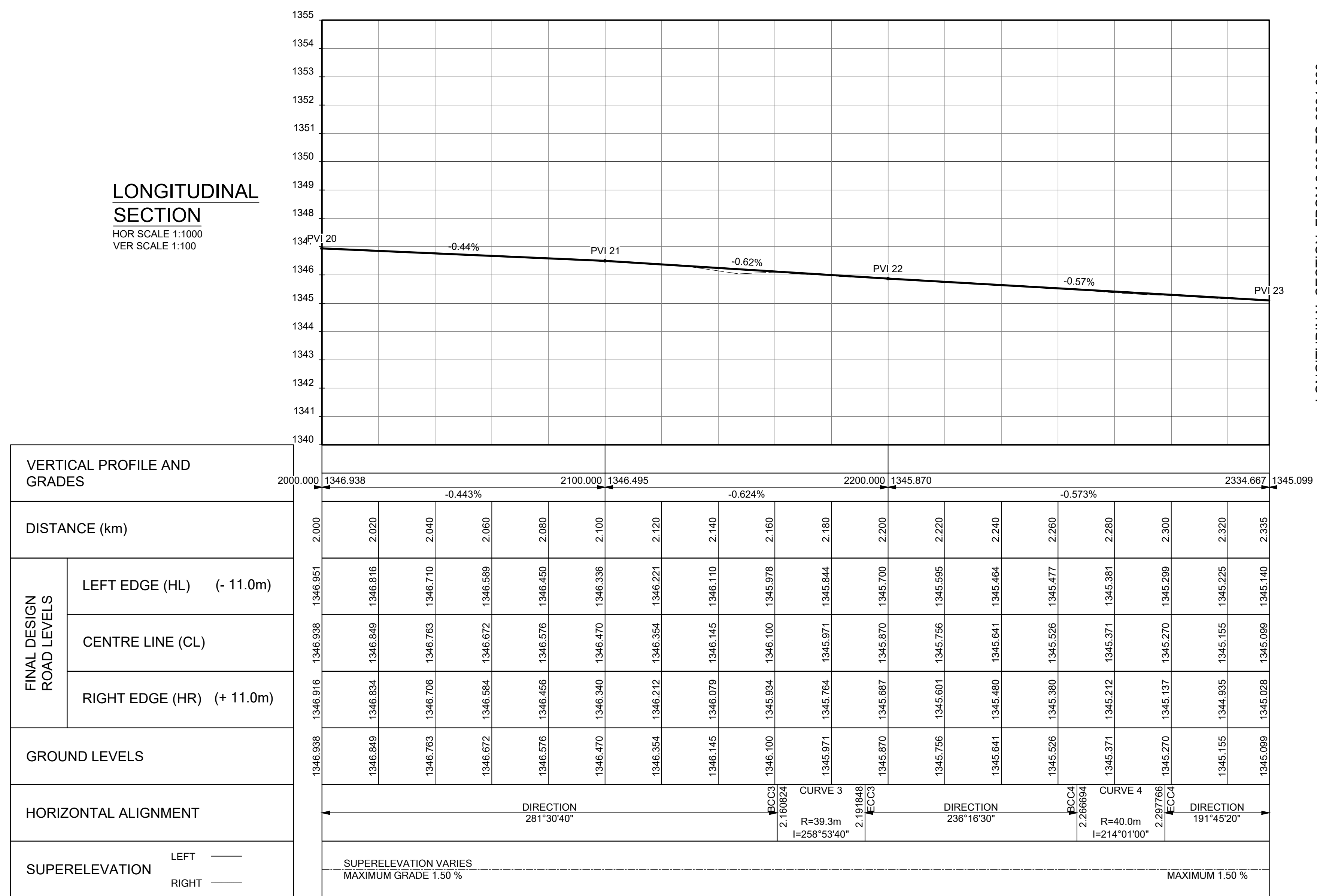
REV

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SETTING OUT DATA					
Taxi Bravo					
SECTION	POINT	CH	Y	X	DETAILS
CURVE 3	BCC PI	2160.824	67 551 497	3 219 973 461	R 39.294m OS 45° 14'10"
	ECC	2191.848	67 535 455 67 521 838	3 219 976 728 3 219 967 638	TL 16.371m SL 31.024m
TANGENT	START END	2.191848 2.266094	67 521 838 67 459 588	3 219 967 638 3 219 926 084	74.846
CURVE 4	BCC PI	2266.694	67 459 588	3 219 926 084	R 39.900m DA 44° 3'10"
	ECC	2297.766	67 445 974 67 442 639	3 219 916 996 3 219 900 971	TL 16.368m SL 31.073m
TANGENT	START END	2.297766 2.334668	67 442 639 67 435 121	3 219 900 971 3 219 984 874	36.901



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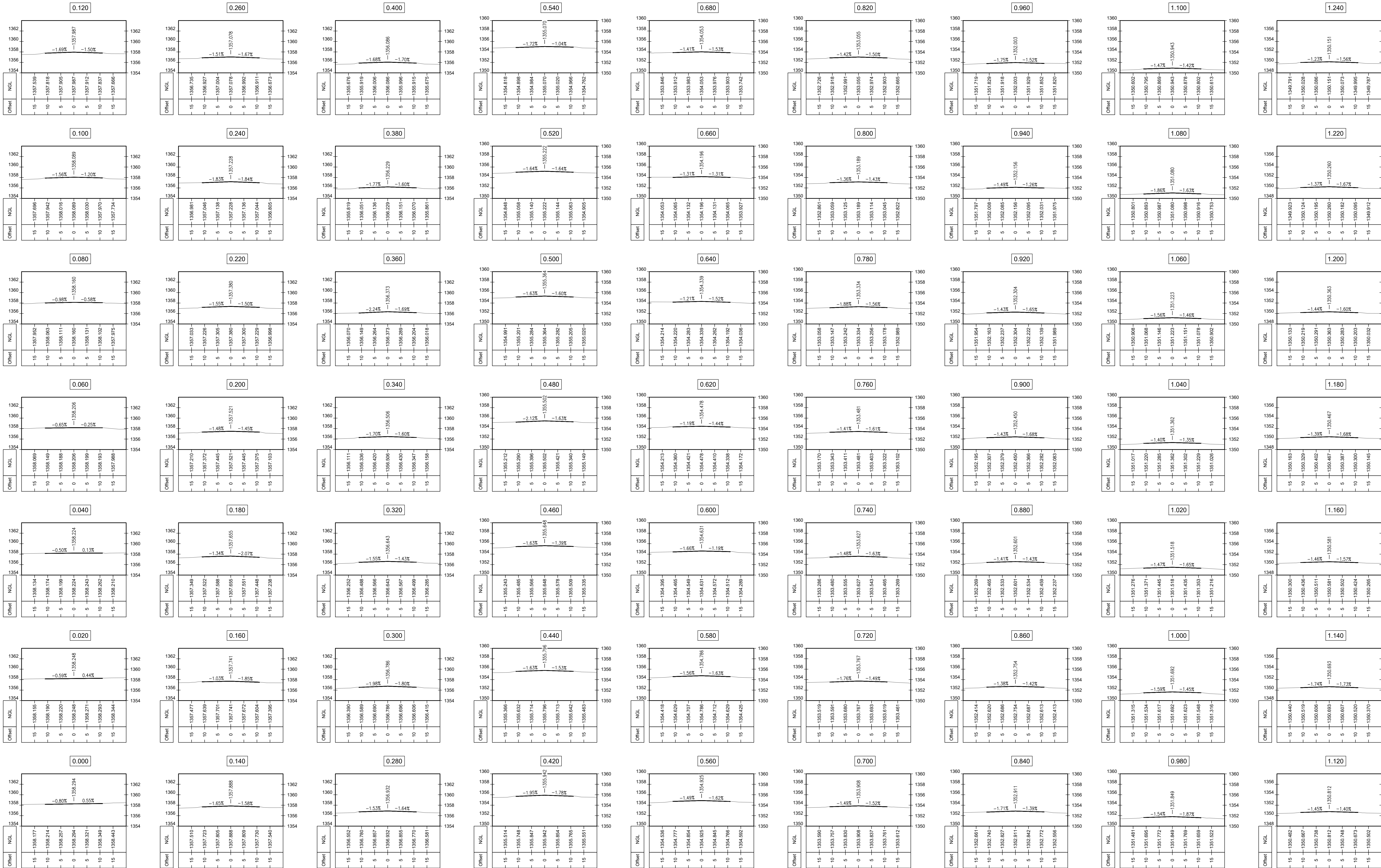
PROJECT

REHABILITATION OF RUNWAY
0220 AND TAXIWAYS AT BRAM
FISCHER INTERNATIONAL
AIRPORT

DRAWING DESCRIPTION

TAXIWAY BRAVO : LAYOUT AND
LONGSECTION (CH 2000 - 2335)

<p align="center">SCALE FOR REDUCED PLAN</p>			
DATE	SCALE	ORIGINAL SIZE	
2022/10/10	AS SHOWN	A0	
DRAWING NUMBER			REV
301695-CIV-LL-007-03			A



NOTES

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NO	DATE	DESCRIPTION	DRW	CHK
A	10/10/22	DETAIL DESIGN DRAWING	BI	CC

CONSULTING ENGINEER

SIGNATURE	PR No	DATE

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PROJECT

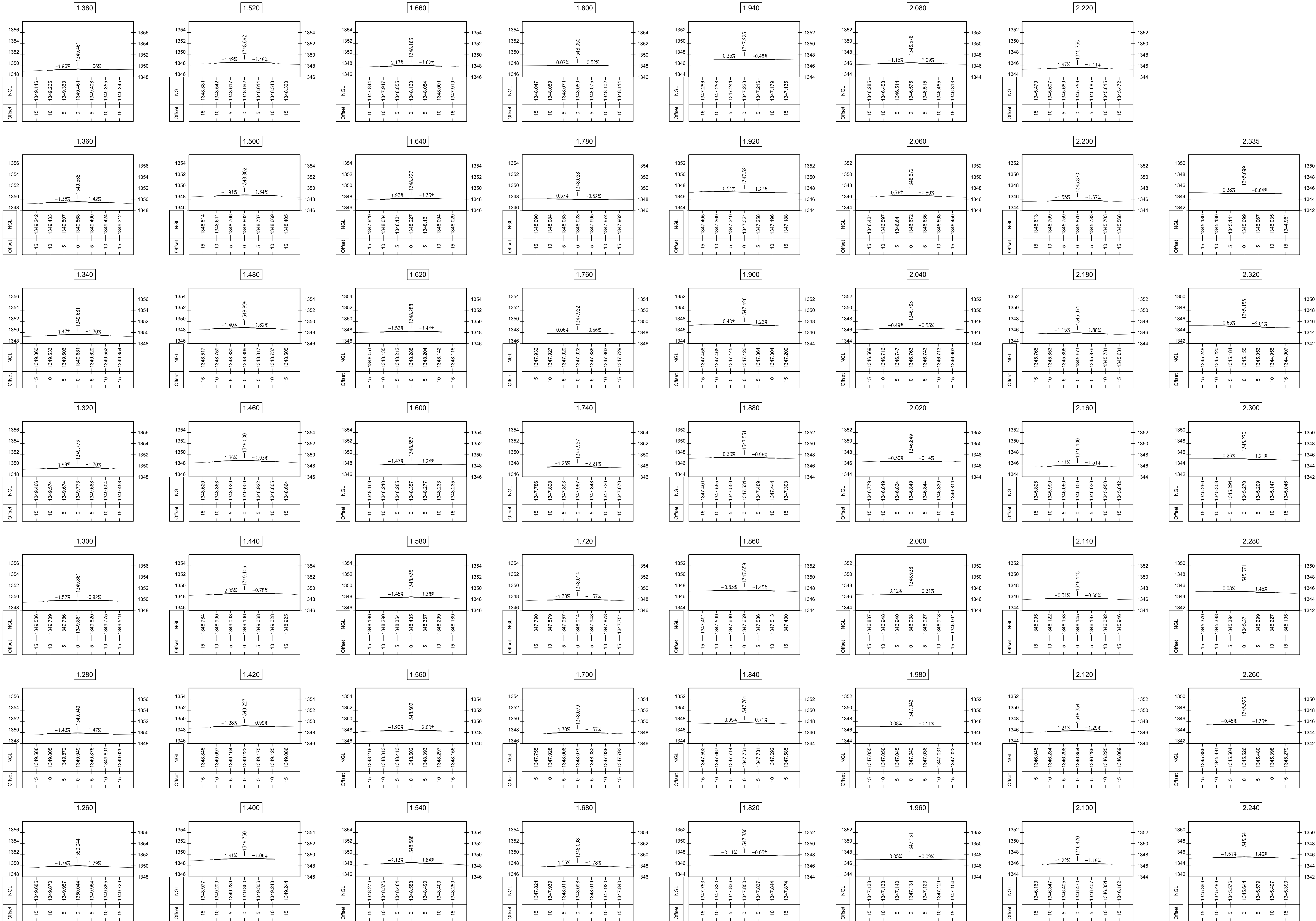
REHABILITATION OF RUNWAY
0220 AND TAXIWAYS AT BRAM
FISCHER INTERNATIONAL
AIRPORT

DRAWING DESCRIPTION

TAXIWAY BRAVO: CROSS
SECTIONS (CH 00 - 1240)

SCALE FOR REDUCED PLAN

DATE	SCALE	ORIGINAL SIZE
2022/10/10	AS SHOWN	A0
DRAWING NUMBER		REV
301695-CIV-CS-007-04		A



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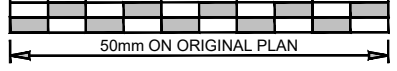
PROJECT

REHABILITATION OF RUNWAY
0220 AND TAXIWAYS AT BRAM
FISCHER INTERNATIONAL
AIRPORT

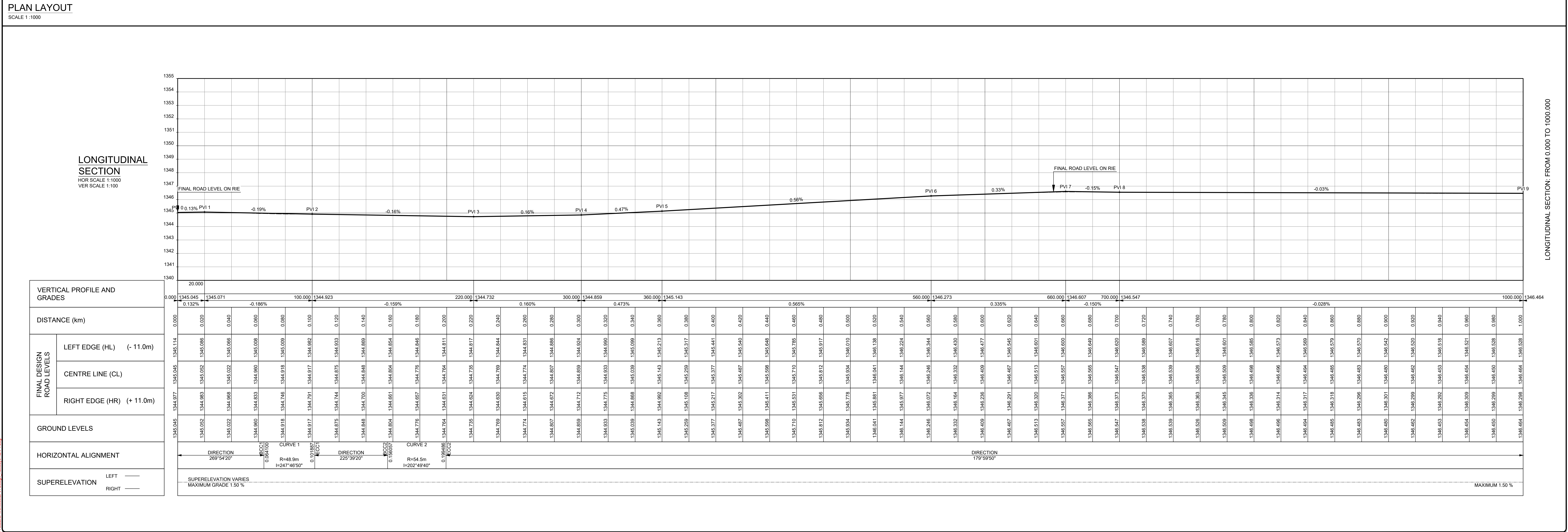
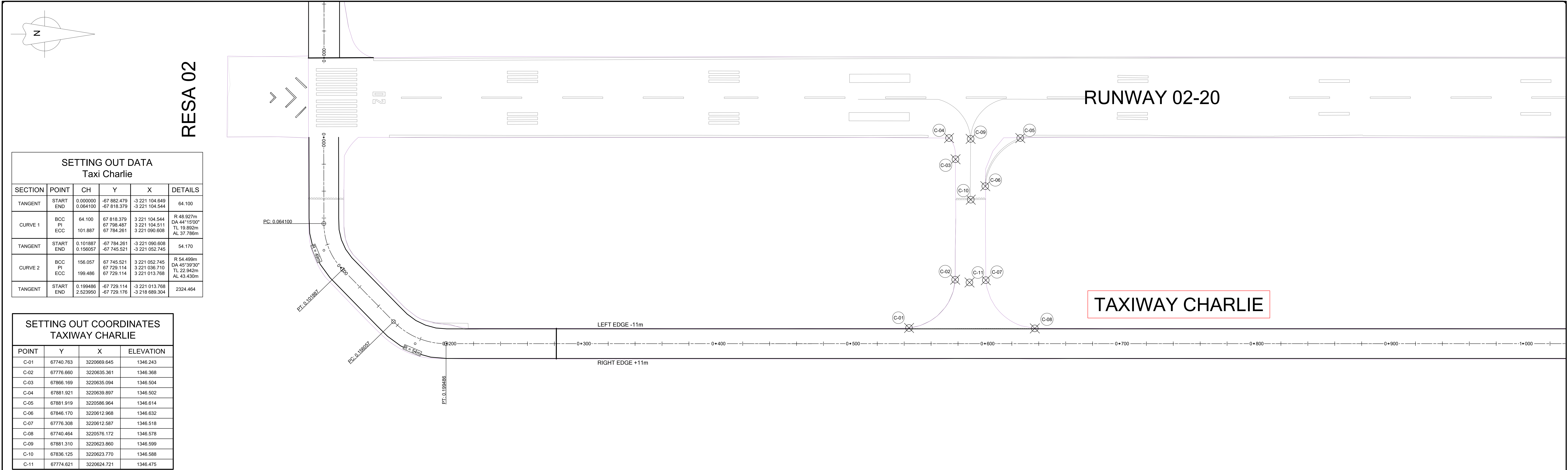
DRAWING DESCRIPTION

TAXIWAY BRAVO: CROSS
SECTIONS (CH 1260 - 2335)

SCALE FOR REDUCED PLAN



DATE	SCALE	ORIGINAL SIZE
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DATE

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DATE

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PROJECT

REHABILITATION OF RUNWAY 0220 AND TAXIWAYS AT BRAM FISCHER INTERNATIONAL AIRPORT

DRAWING DESCRIPTION

TAXIWAY CHARLIE : LAYOUT AND LONGSECTION (CH 00 - 1000)

SCALE FOR REDUCED PLAN

DATE

2022/10/10

SCALE

AS SHOWN

ORIGINAL SIZE

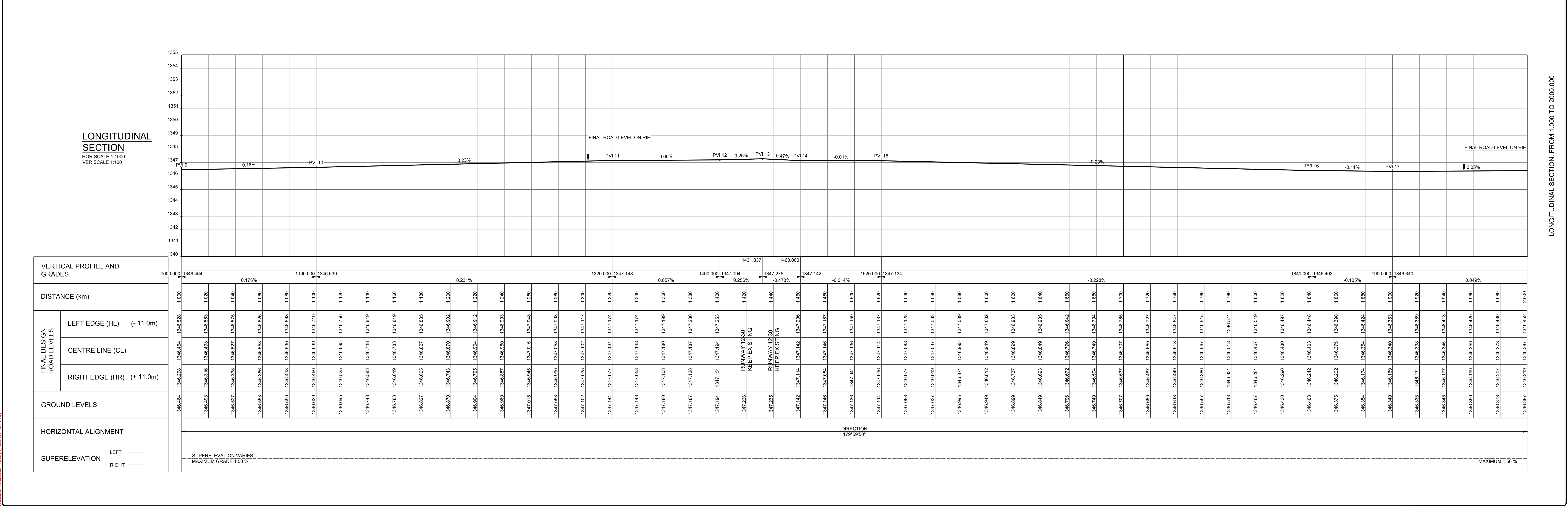
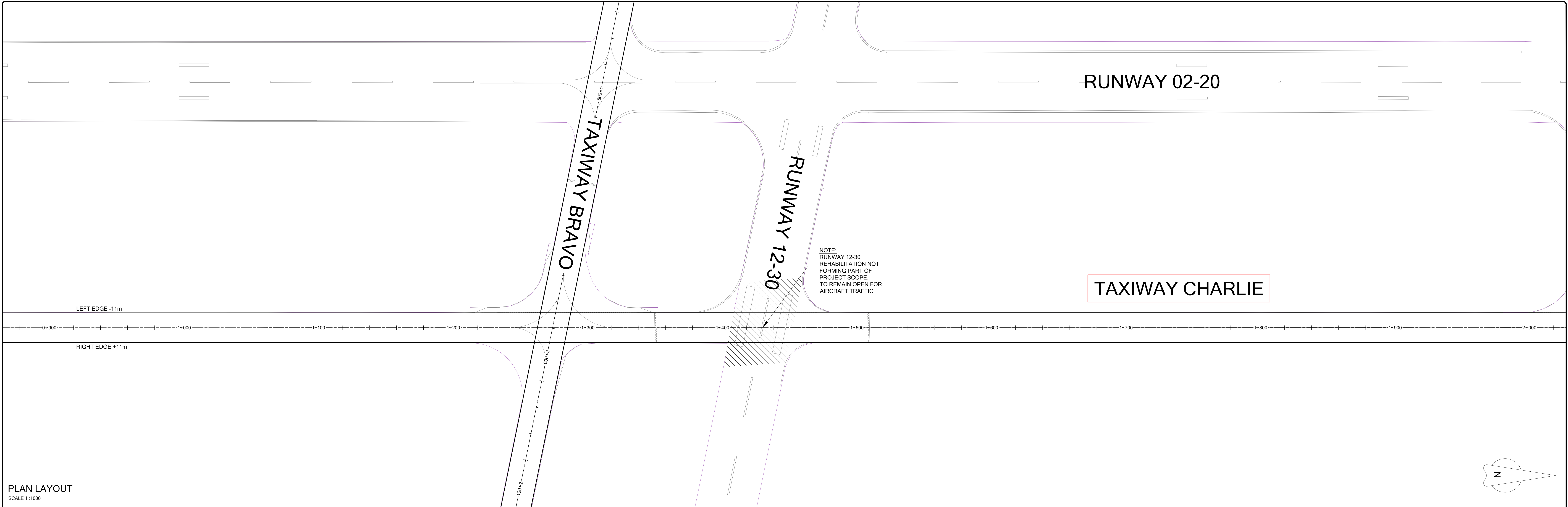
A0

DRAWING NUMBER

301695-CIV-LL-008-01

REV

A





SETTING OUT COORDINATES TAXIWAY CHARLIE			
POINT	Y	X	ELEVATION
C-12	677440.426	3219122.505	1346.544
C-13	67753.684	3219185.943	1346.518
C-14	67775.938	3219176.753	1346.589
C-15	67855.500	3219176.260	1346.887
C-16	67881.432	3219189.915	1347.002
C-17	67882.035	3219149.834	1347.063
C-18	67864.191	3219153.831	1346.998
C-19	67763.303	3219153.902	1346.609
C-20	67748.899	3219148.466	1346.580
C-21	67740.617	3219128.890	1346.509
C-22	67880.930	3219184.900	1347.071
C-23	67838.730	3219165.140	1346.931
C-24	67792.440	3219165.200	1346.734
C-25	67750.650	3219165.450	1346.576

NOTES

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CLIENT			
SIGNATURE		DATE	
DESIGNED	DRAWN	CHECKED	
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SIGNATURE		DATE	

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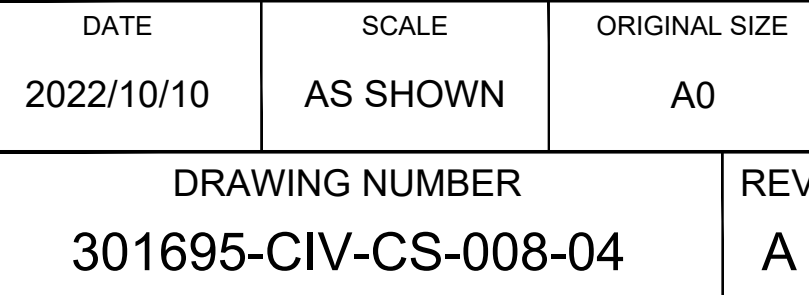


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PROJECT

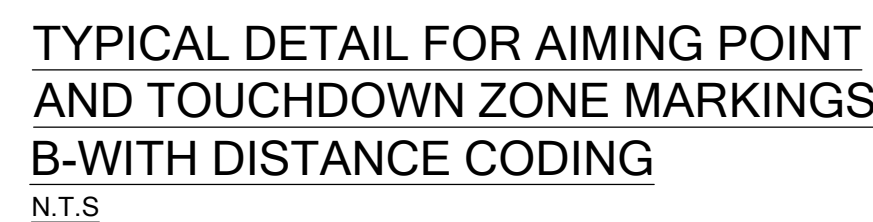
REHABILITATION OF RUNWAY
0220 AND TAXIWAYS AT BRAM
FISCHER INTERNATIONAL
AIRPORT

TAXIWAY BRAVO: C
SECTIONS (CH 00 -

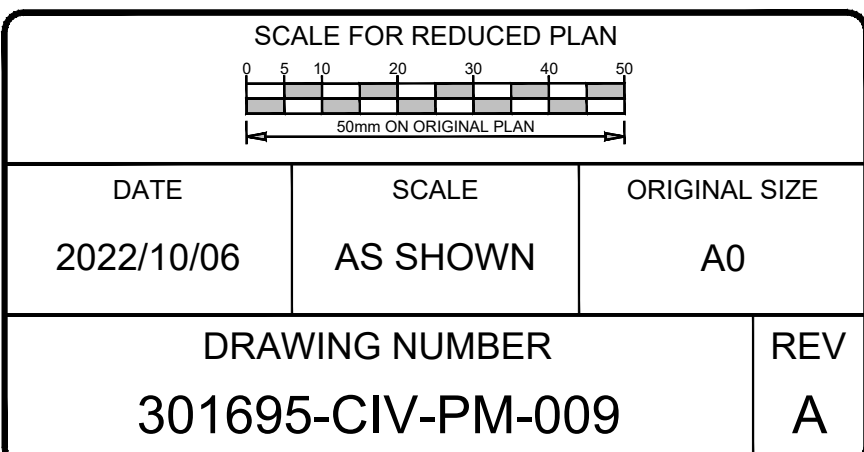


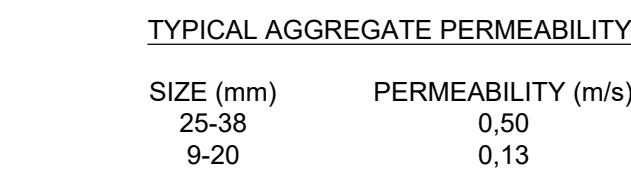
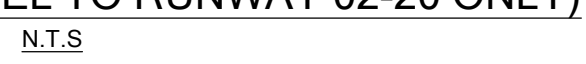
26/10/2022 1:44:51 Printed By: Brendan Isaac (Pretoria)

FOR RUNWAY AIMING POINT
AND TOUCHZONES REFER TO
TYPICAL DETAIL



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Refer any discrepancies to the Engineer.



COORDINATES FOR SUBSOIL DRAINAGE

NOTES

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Refer any discrepancies to the Engineer.

REVISION SCHEDULE

	1990	1995	2000
1. <i>Chlamydia trachomatis</i>	1.0	1.0	1.0
2. <i>Neisseria meningitidis</i>	1.0	1.0	1.0
3. <i>Neisseria gonorrhoeae</i>	1.0	1.0	1.0
4. <i>Streptococcus pneumoniae</i>	1.0	1.0	1.0
5. <i>Haemophilus influenzae</i>	1.0	1.0	1.0
6. <i>Legionella pneumophila</i>	1.0	1.0	1.0
7. <i>Salmonella enteritidis</i>	1.0	1.0	1.0
8. <i>Escherichia coli</i>	1.0	1.0	1.0
9. <i>Staphylococcus aureus</i>	1.0	1.0	1.0
10. <i>Pseudomonas aeruginosa</i>	1.0	1.0	1.0
11. <i>Streptococcus pyogenes</i>	1.0	1.0	1.0
12. <i>Streptococcus pneumoniae</i>	1.0	1.0	1.0
13. <i>Streptococcus pneumoniae</i>	1.0	1.0	1.0
14. <i>Streptococcus pneumoniae</i>	1.0	1.0	1.0
15. <i>Streptococcus pneumoniae</i>	1.0	1.0	1.0
16. <i>Streptococcus pneumoniae</i>	1.0	1.0	1.0
17. <i>Streptococcus pneumoniae</i>	1.0	1.0	1.0
18. <i>Streptococcus pneumoniae</i>	1.0	1.0	1.0
19. <i>Streptococcus pneumoniae</i>	1.0	1.0	1.0
20. <i>Streptococcus pneumoniae</i>	1.0	1.0	1.0
21. <i>Streptococcus pneumoniae</i>	1.0	1.0	1.0
22. <i>Streptococcus pneumoniae</i>	1.0	1.0	1.0
23. <i>Streptococcus pneumoniae</i>	1.0	1.0	1.0
24. <i>Streptococcus pneumoniae</i>	1.0	1.0	1.0
25. <i>Streptococcus pneumoniae</i>	1.0	1.0	1.0
26. <i>Streptococcus pneumoniae</i>	1.0	1.0	1.0
27. <i>Streptococcus pneumoniae</i>	1.0	1.0	1.0
28. <i>Streptococcus pneumoniae</i>	1.0	1.0	1.0
29. <i>Streptococcus pneumoniae</i>	1.0	1.0	1.0
30. <i>Streptococcus pneumoniae</i>	1.0	1.0	1.0
31. <i>Streptococcus pneumoniae</i>	1.0	1.0	1.0
32. <i>Streptococcus pneumoniae</i>	1.0	1.0	1.0
33. <i>Streptococcus pneumoniae</i>	1.0	1.0	1.0
34. <i>Streptococcus pneumoniae</i>	1.0	1.0	1.0
35. <i>Streptococcus pneumoniae</i>	1.0	1.0	1.0
36. <i>Streptococcus pneumoniae</i>	1.0	1.0	1.0
37. <i>Streptococcus pneumoniae</i>	1.0	1.0	1.0
38. <i>Streptococcus pneumoniae</i>	1.0	1.0	1.0
39. <i>Streptococcus pneumoniae</i>	1.0	1.0	1.0
40. <i>Streptococcus pneumoniae</i>	1.0	1.0	1.0
41. <i>Streptococcus pneumoniae</i>	1.0	1.0	1.0
42. <i>Streptococcus pneumoniae</i>	1.0	1.0	1.0
43. <i>Streptococcus pneumoniae</i>	1.0	1.0	1.0
44. <i>Streptococcus pneumoniae</i>	1.0	1.0	1.0
45. <i>Streptococcus pneumoniae</i>	1.0	1.0	1.0
46. <i>Streptococcus pneumoniae</i>	1.0	1.0	1.0
47. <i>Streptococcus pneumoniae</i>	1.0	1.0	1.0
48. <i>Streptococcus pneumoniae</i>	1.0	1.0	1.0
49. <i>Streptococcus pneumoniae</i>	1.0	1.0	1.0
50. <i>Streptococcus pneumoniae</i>	1.0	1.0	1.0
51. <i>Streptococcus pneumoniae</i>	1.0	1.0	1.0
52. <i>Streptococcus pneumoniae</i>	1.0	1.0	1.0
53. <i>Streptococcus pneumoniae</i>	1.0	1.0	1.0
54. <i>Streptococcus pneumoniae</i>	1.0	1.0	1.0
55. <i>Streptococcus pneumoniae</i>	1.0	1.0	1.0
56. <i>Streptococcus pneumoniae</i>	1.0	1.0	1.0
57. <i>Streptococcus pneumoniae</i>	1.0	1.0	1.0
58. <i>Streptococcus pneumoniae</i>	1.0	1.0	1.0
59. <i>Streptococcus pneumoniae</i>	1.0	1.0	1.0
60. <i>Streptococcus pneumoniae</i>	1.0	1.0	1.0
61. <i>Streptococcus pneumoniae</i>	1.0	1.0	1.0
62. <i>Streptococcus pneumoniae</i>	1.0	1.0	1.0
63. <i>Streptococcus pneumoniae</i>	1.0	1.0	1.0
64. <i>Streptococcus pneumoniae</i>	1.0	1.0	1.0
65. <i>Streptococcus pneumoniae</i>	1.0	1.0	1.0
66. <i>Streptococcus pneumoniae</i>	1.0	1.0	1.0
67. <i>Streptococcus pneumoniae</i>	1.0	1.0	1.0
68. <i>Streptococcus pneumoniae</i>	1.0	1.0	1.0
69. <i>Streptococcus pneumoniae</i>	1.0	1.0	1.0
70. <i>Streptococcus pneumoniae</i>	1.0	1.0	1.0
71. <i>Streptococcus pneumoniae</i>	1.0	1.0	1.0
72. <i>Streptococcus pneumoniae</i>	1.0	1.0	1.0
73. <i>Streptococcus pneumoniae</i>	1.0	1.0	1.0
74. <i>Streptococcus pneumoniae</i>	1.0	1.0	1.0
75. <i>Streptococcus pneumoniae</i>	1.0	1.0	1.0

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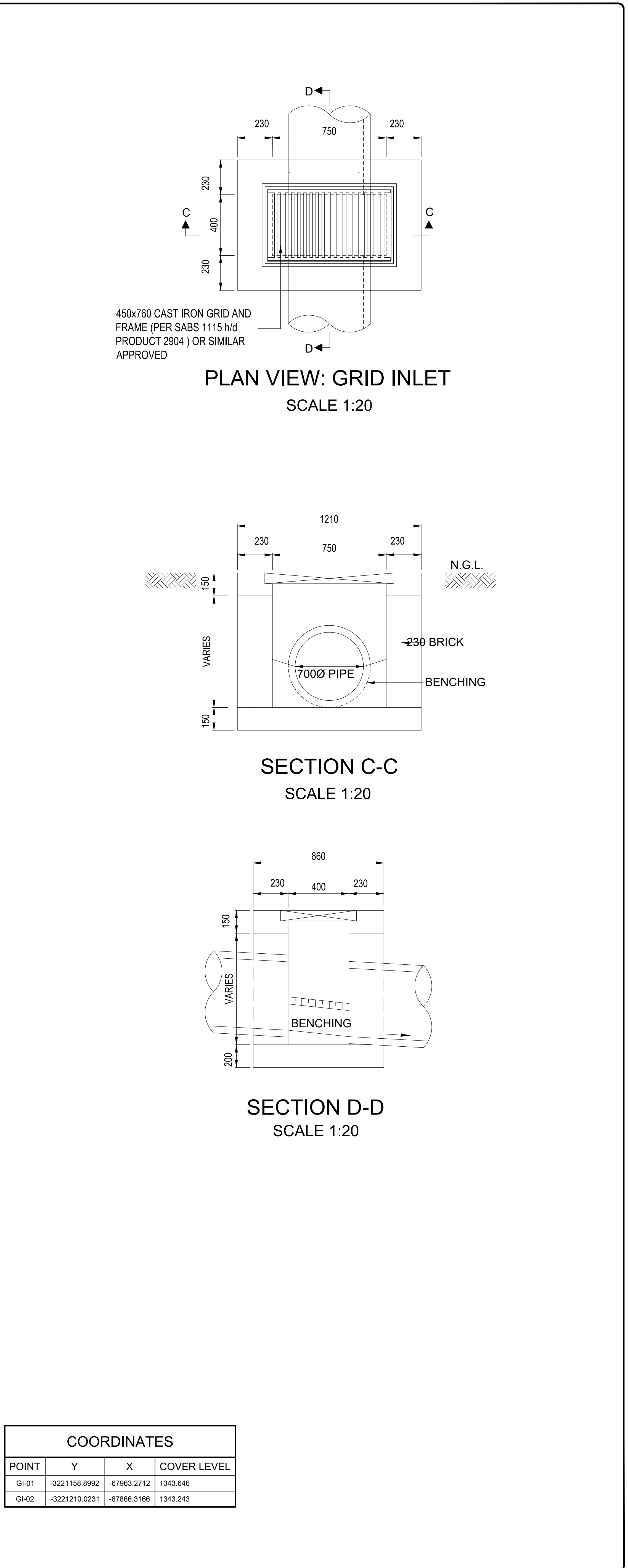


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REHABILITATION OF RUNWAY 0220 AND TAXIWAYS AT BRA FISCHER INTERNATIONAL AIRPORT

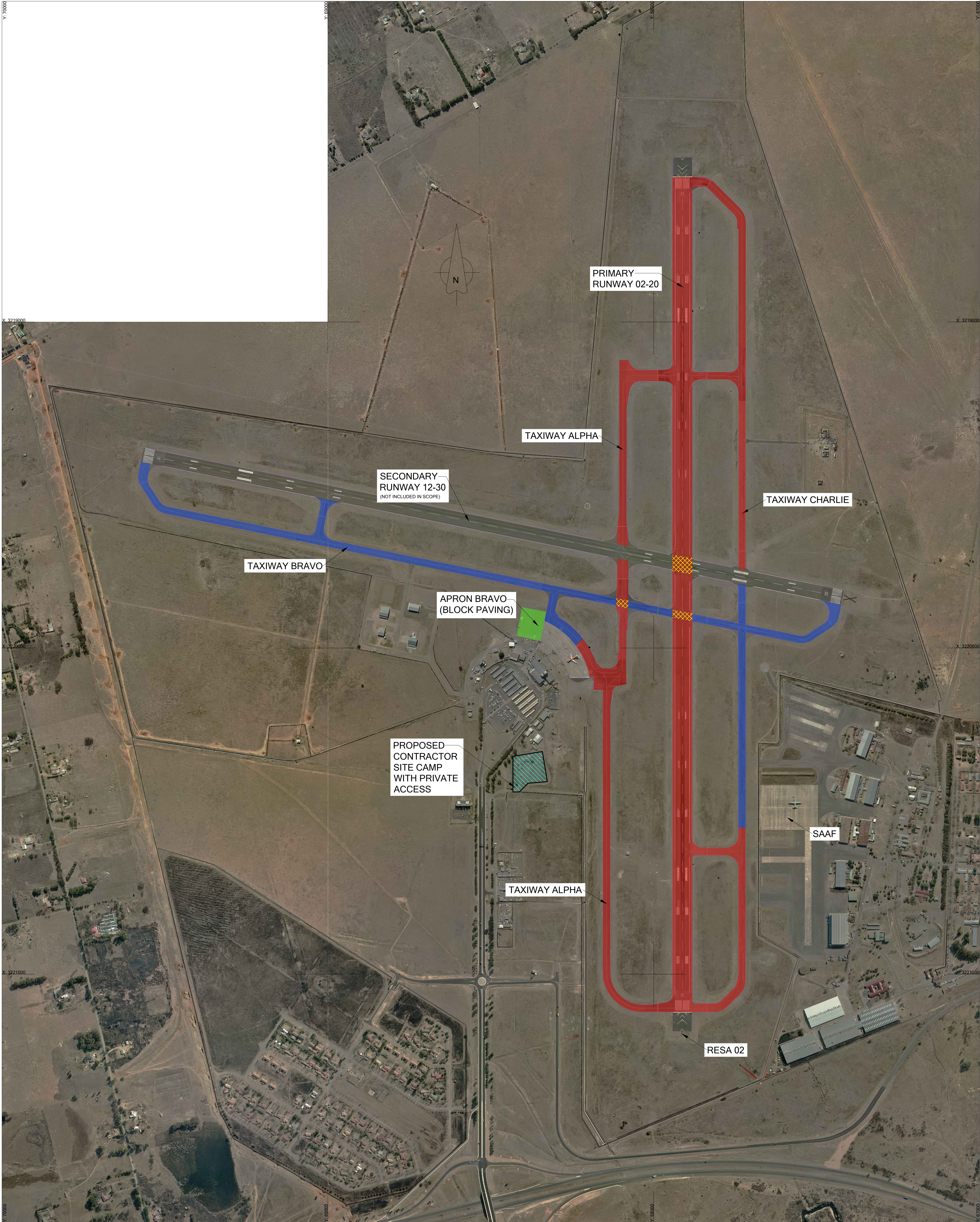
SUBSURFACE DRAINAGE LAYOUT AND DETAIL

SCALE FOR REDUCED PLAN



COORDINATES			
POINT	Y	X	COVER LEVEL
GI-01	-3221158.8992	-67963.2712	1343.646
GI-02	-3221210.0231	-67866.3166	1343.243

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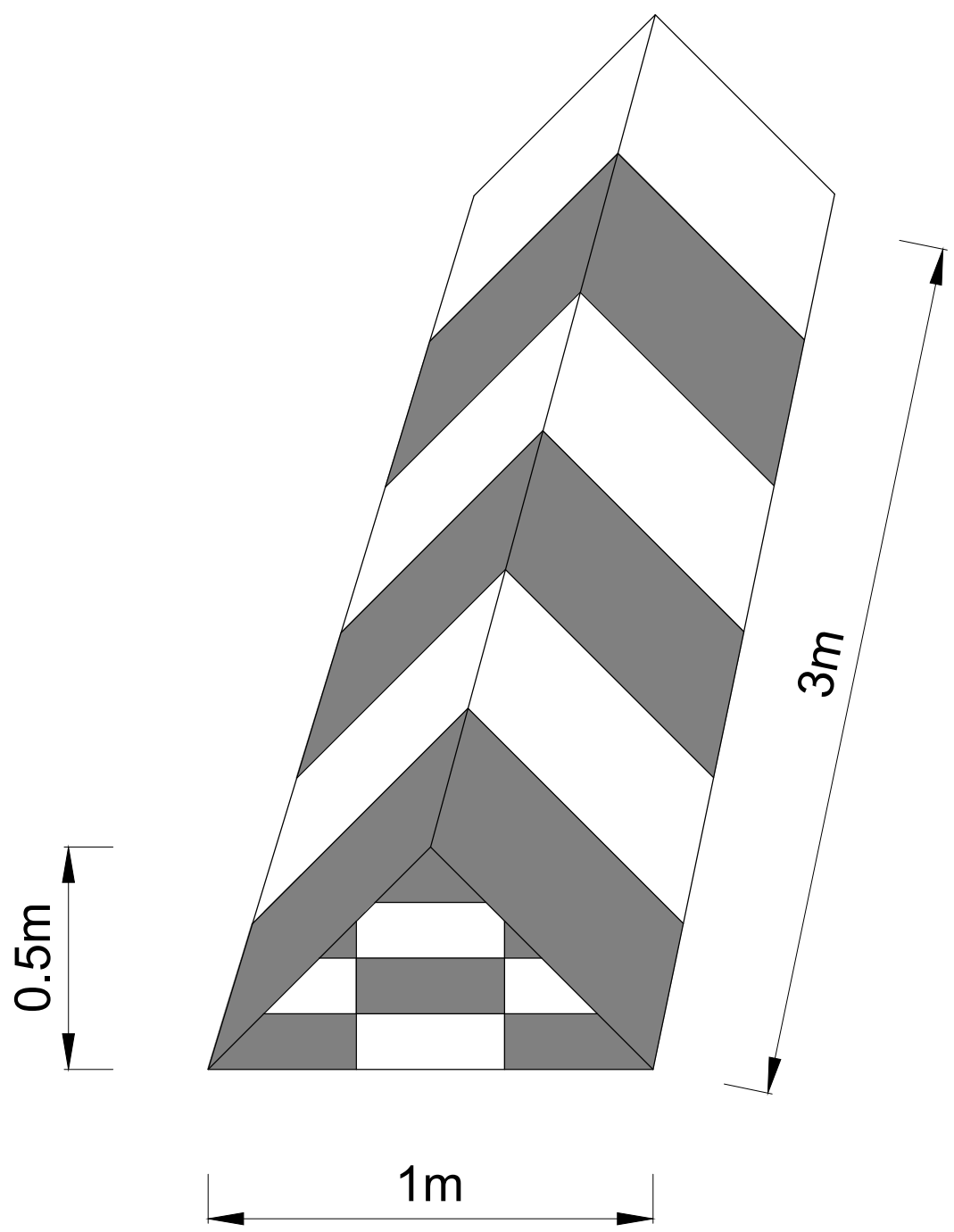
INDICATIVE CONSTRUCTION PHASING

- PHASE 1 (RUNWAY 02-20; TAXI ALPHA; TAXI CHARLIE)
- PHASE 2 (TAXI BRAVO; TAXI CHARLIE)
- PHASE 3 (APRON BRAVO)
- NIGHT WORK (RUNWAY INTERSECTIONS)

BOUNDARY MARKERS

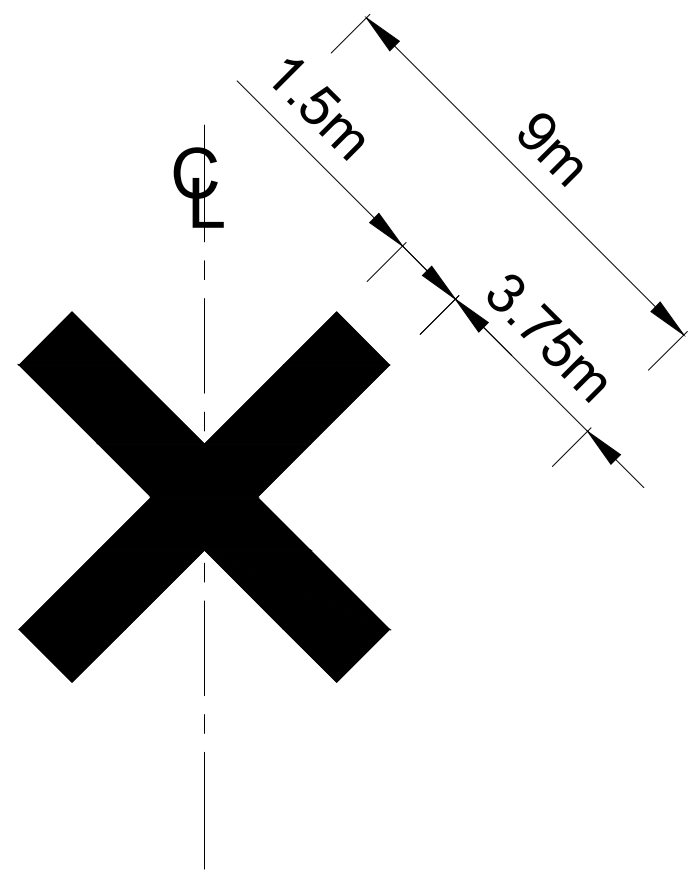
Colour Bands:

- To be perpendicular to longest dimension.
- Width $\frac{1}{7}$ of longest dimension.
- Bands should contrast with background against which they will be seen.
- Orange/Red and White should be used, except where such colours are not conspicuous when viewed against the background.
- Band of the extremities should be of darker colour on object.
- Should be recognizable in clear weather from at least 1000m for an object to be viewed from the air and 300m for an object to be viewed from the ground in all directions in which aircraft is likely to approach.
- Shape must be distinct to the extent necessary to ensure that they are not mistaken for markers that may convey other information.
- To be placed at each end of the closed taxiway and intersection with other taxiways as per safety and operational manual or as otherwise instructed.



CLOSED TAXIWAY TEMPORARY MARKING

- Placed at each end of the taxiway or portion there of, declared the taxiway closed.
- Max. interval not exceeding 300m.
- Yellow should be used.



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CONSULTING ENGINEER

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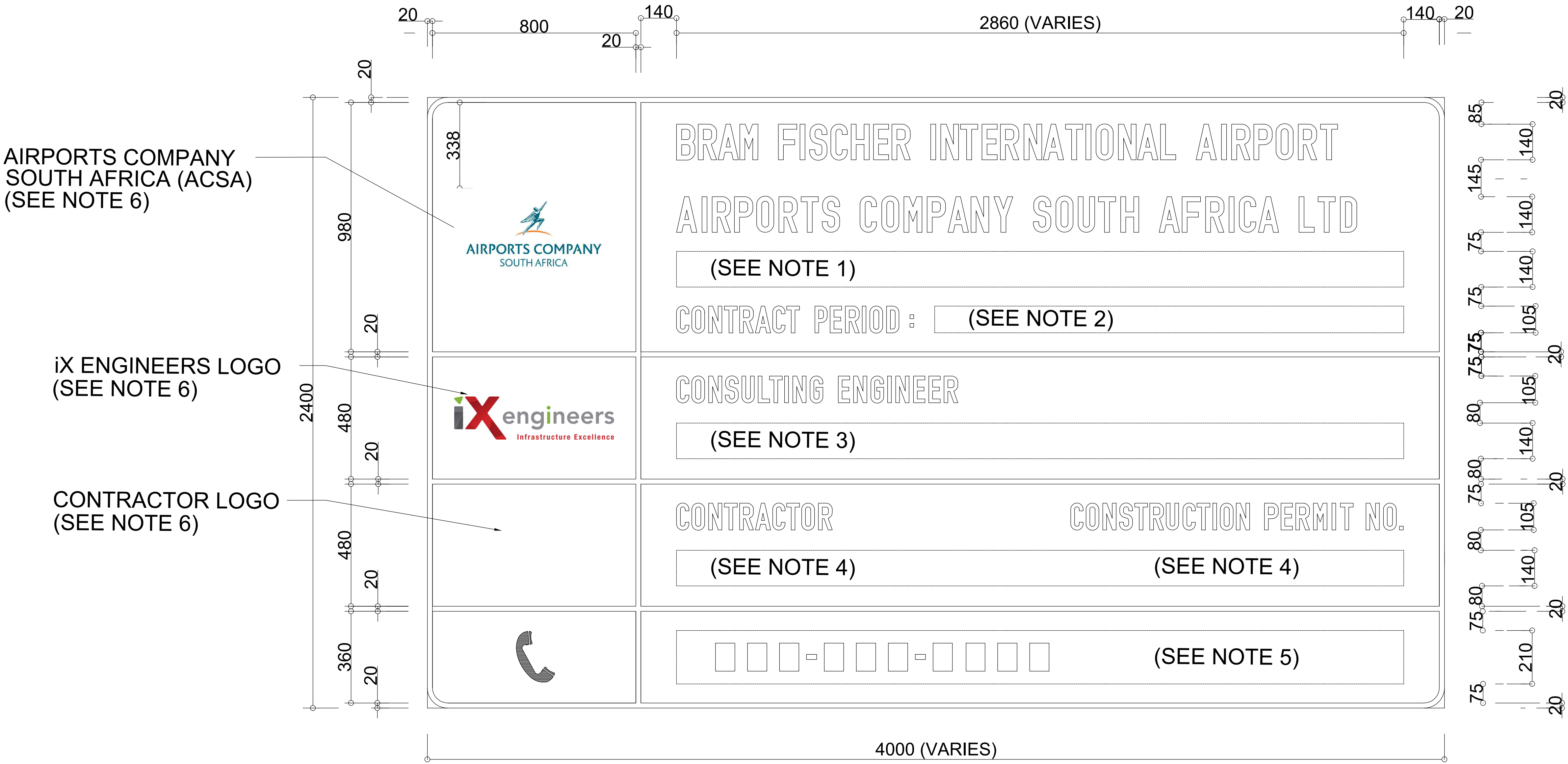
REHABILITATION OF RUNWAY 0220 AND TAXIWAYS AT BRAM FISCHER INTERNATIONAL AIRPORT

DRAWING DESCRIPTION

INDICATIVE CONSTRUCTION PHASING PLAN AND TEMPORARY TRAFFIC CONTROL MEASURES

SCALE FOR REDUCED PLAN

DATE	SCALE	ORIGINAL SIZE
2022/10/05	1 : 5000	A0
DRAWING NUMBER		REV
301695-CIV-PP-012		A



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N.T.S

NOTES:

1. USE AN APPROPRIATE DESCRIPTION FOR THE TYPE OF WORKS
eg. *REHABILITATION OF RUNWAY 0220 AND TAXIWAYS AT BRAM FISCHER INTERNATIONAL AIRPORT*
2. USE THE COMMENCEMENT AND DUE COMPLETION DATES (MONTH / YEAR)
3. NAME OF CONSULTING ENGINEER
4. REGISTERED NAME OF CONTRACTOR AND CONSTRUCTION WORK PERMIT NUMBER
5. AN ALL HOURS CONTACT TELEPHONE / CELL NUMBER SHALL BE SUPPLIED FOR THE SITE SAFETY OFFICER OR FOR A RESPONSIBLE PERSON APPROVED BY THE ENGINEER
6. LOGOS MUST BE DISPLAYED IN FULL COLOUR, LOGOS ARE AVAILABLE FROM THE RELEVANT ORGANISATIONS

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SIGNATURE	PR No	DATE

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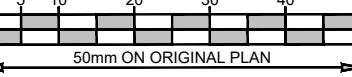
PROJECT

REHABILITATION OF RUNWAY
0220 AND TAXIWAYS AT BRAM
FISCHER INTERNATIONAL
AIRPORT

DRAWING DESCRIPTION

CONTRACT NAMEBOARD

SCALE FOR REDUCED PLAN



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