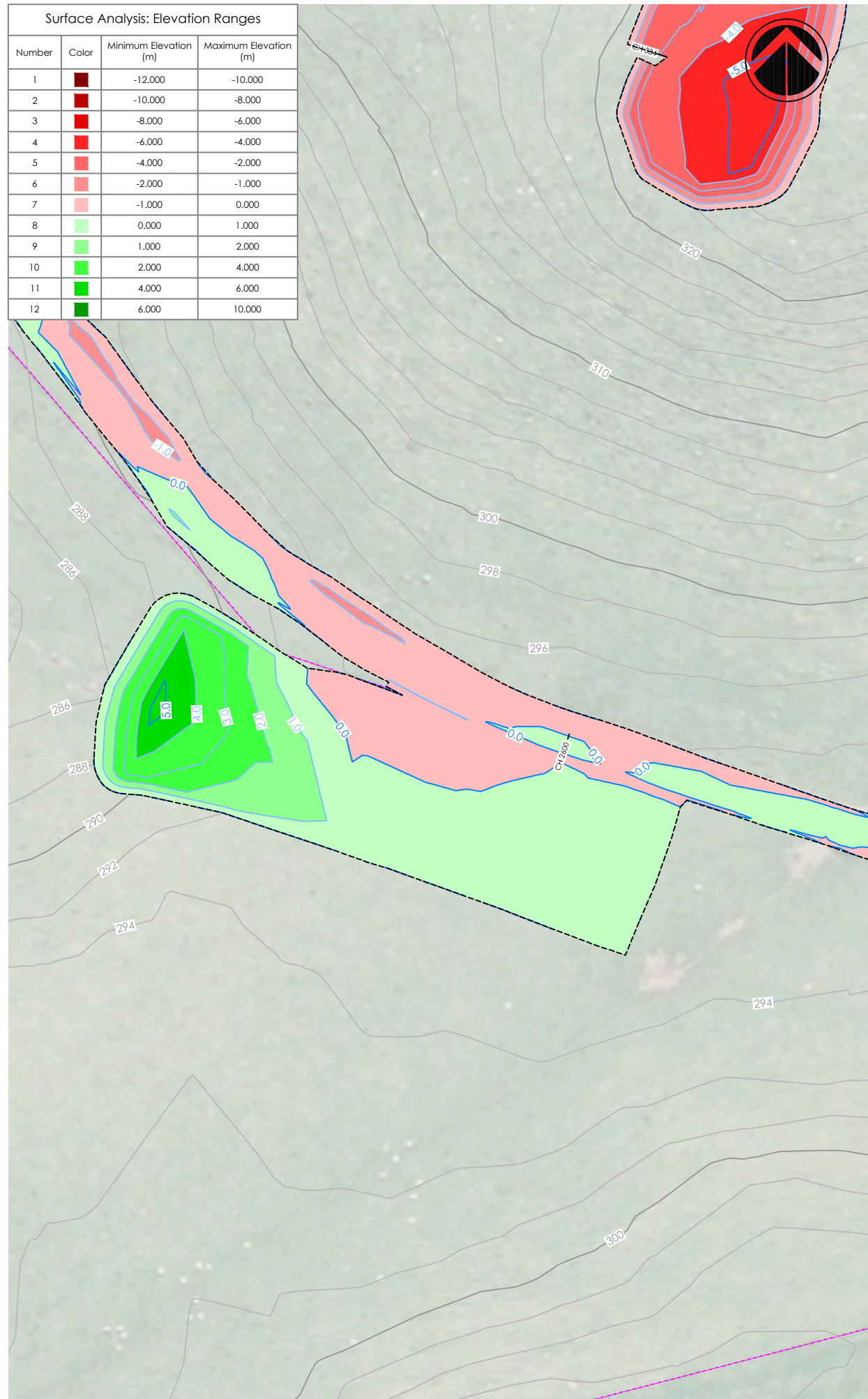


Surface Analysis: Elevation Ranges

Number	Color	Minimum Elevation (m)	Maximum Elevation (m)
1	Dark Red	-12.000	-10.000
2	Red	-10.000	-8.000
3	Light Red	-8.000	-6.000
4	Very Light Red	-6.000	-4.000
5	Light Pink	-4.000	-2.000
6	Very Light Pink	-2.000	-1.000
7	Light Red	-1.000	0.000
8	Light Green	0.000	1.000
9	Light Green	1.000	2.000
10	Light Green	2.000	4.000
11	Light Green	4.000	6.000
12	Dark Green	6.000	10.000



Notes:

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LEGEND

- EXISTING PARCEL BOUNDARY
- JACKSON PROPERTY BOUNDARY
- ROTOKOHU FARMS PROPERTY BOUNDARY
- DENIZE BROTHERS PROPERTY BOUNDARY
- HDC/MPDC TERRITORIAL BOUNDARY
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- EXTENT OF EARTHWORK
- PROPOSED TURBINE LOCATION
- EXISTING TRANSPOWER NATIONAL GRID LINES
- PROPOSED ROAD CENTER LINE AND EDGE OF CARRIAGEWAY
- EXISTING FENCE
- INDICATIVE QUARRY SITE
- INDICATIVE CLEANFILL SITE
- EXISTING CULVERT
- PROPOSED UPGRADED CULVERT
- STREAM (WRC REGIONAL MAP)

B	S92 RESPONSE UPDATE	LT	18.10.18
A	RESOURCE CONSENT	JT	15.06.18
REV:	DESCRIPTION:	BY:	DATE:
STATUS: RESOURCE CONSENT			

TEKTUS Consultants Ltd
 PO Box 80212 Green Bay
 Auckland 0643 NZ
 p. 09 827 1191
 m. 021 1434 874
 www.tektus.nz

CLIENT:
 VENTUS ENERGY (NZ) LTD
 10/215 ROSEDALE ROAD, ALBANY
 AUCKLAND 0632

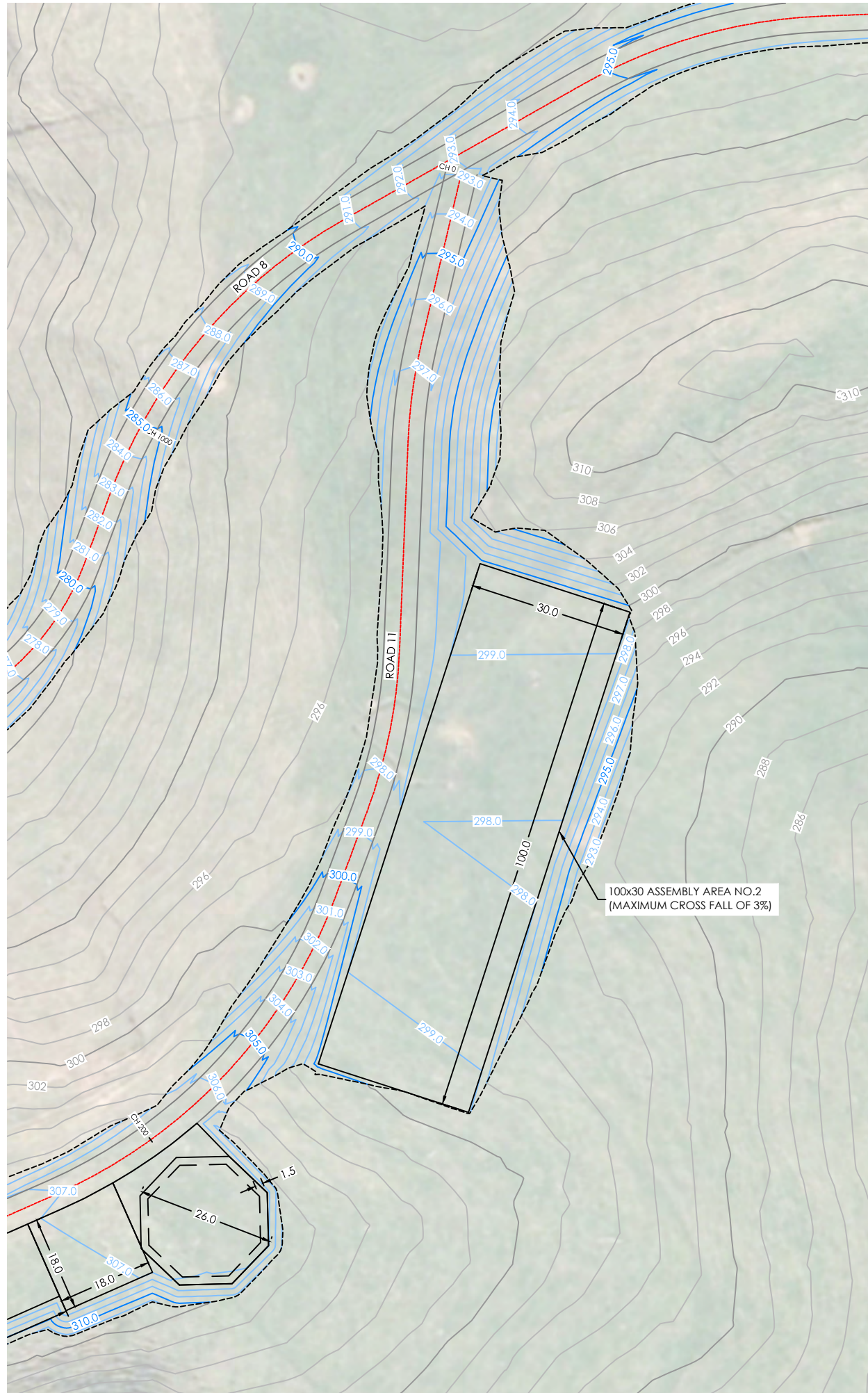
SURVEYOR:
 SYNERGY POSITIONING SYSTEMS LTD
 3/52 ARRENWAY DRIVE, ALBANY,
 AUCKLAND 0632

SITE:
 KAIMAI WIND FARM
 ROTOKOHU ROAD, PAEROA

TITLE:
 PRELIMINARY CIVIL ENGINEERING
 DRAWINGS

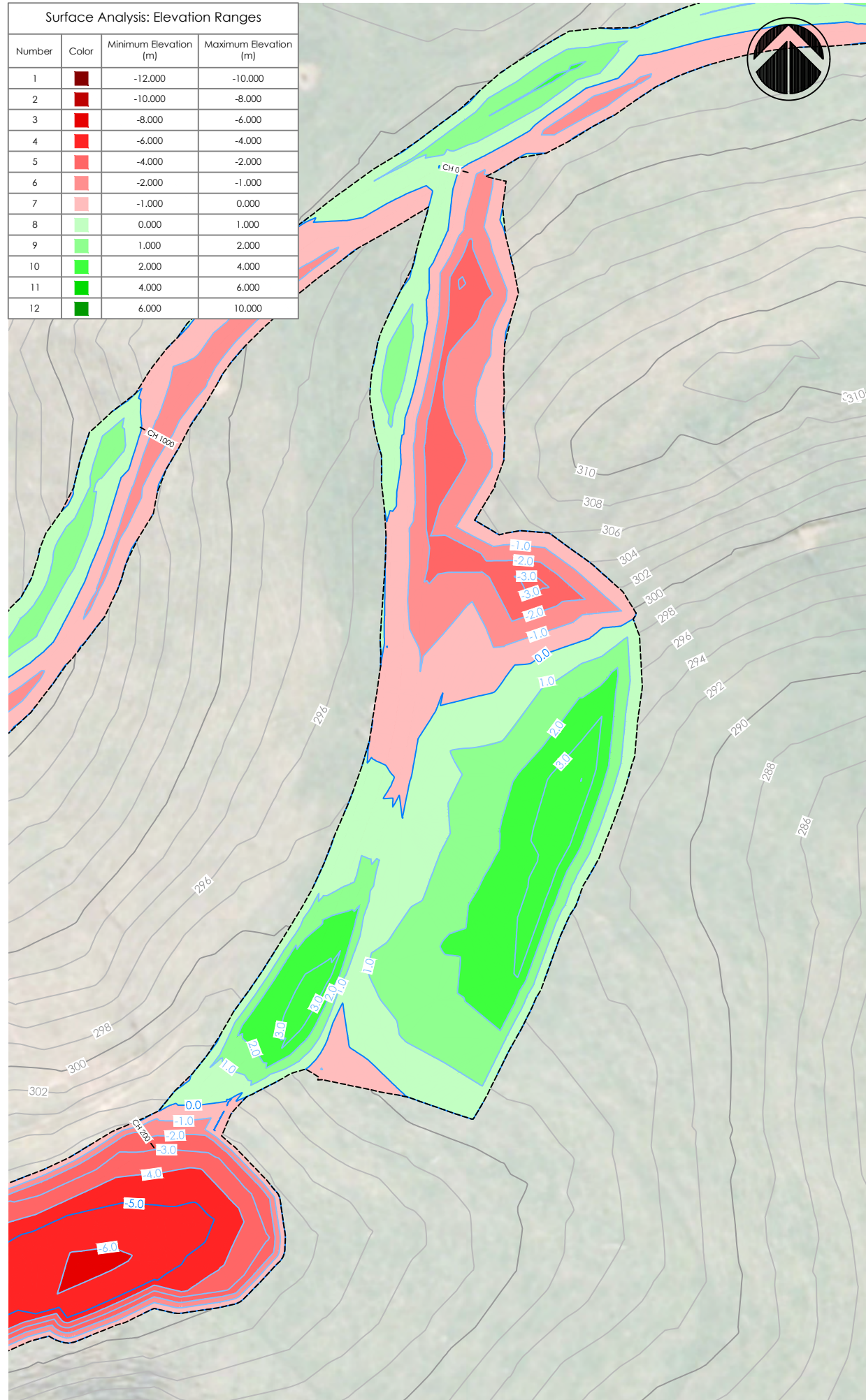
SUBTITLE:
 PROPOSED ASSEMBLY AREA NO.1

SCALE AT A3: 1:1000	DATE: 15.06.18	DRAWN: JT	CHECKED: JT
PROJECT NO: T15022	DRAWING NO: 211-1	REVISION: B	



Surface Analysis: Elevation Ranges

Number	Color	Minimum Elevation (m)	Maximum Elevation (m)
1	Dark Red	-12.000	-10.000
2	Red	-10.000	-8.000
3	Dark Red	-8.000	-6.000
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5	Light Red	-4.000	-2.000
6	Light Red	-2.000	-1.000
7	Light Red	-1.000	0.000
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B	S92 RESPONSE UPDATE	LT	18.10.18
A	RESOURCE CONSENT	JT	15.06.18

REV:	DESCRIPTION:	BY:	DATE:
STATUS: RESOURCE CONSENT			

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Auckland 0643 NZ
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10/215 ROSEDALE ROAD, ALBANY
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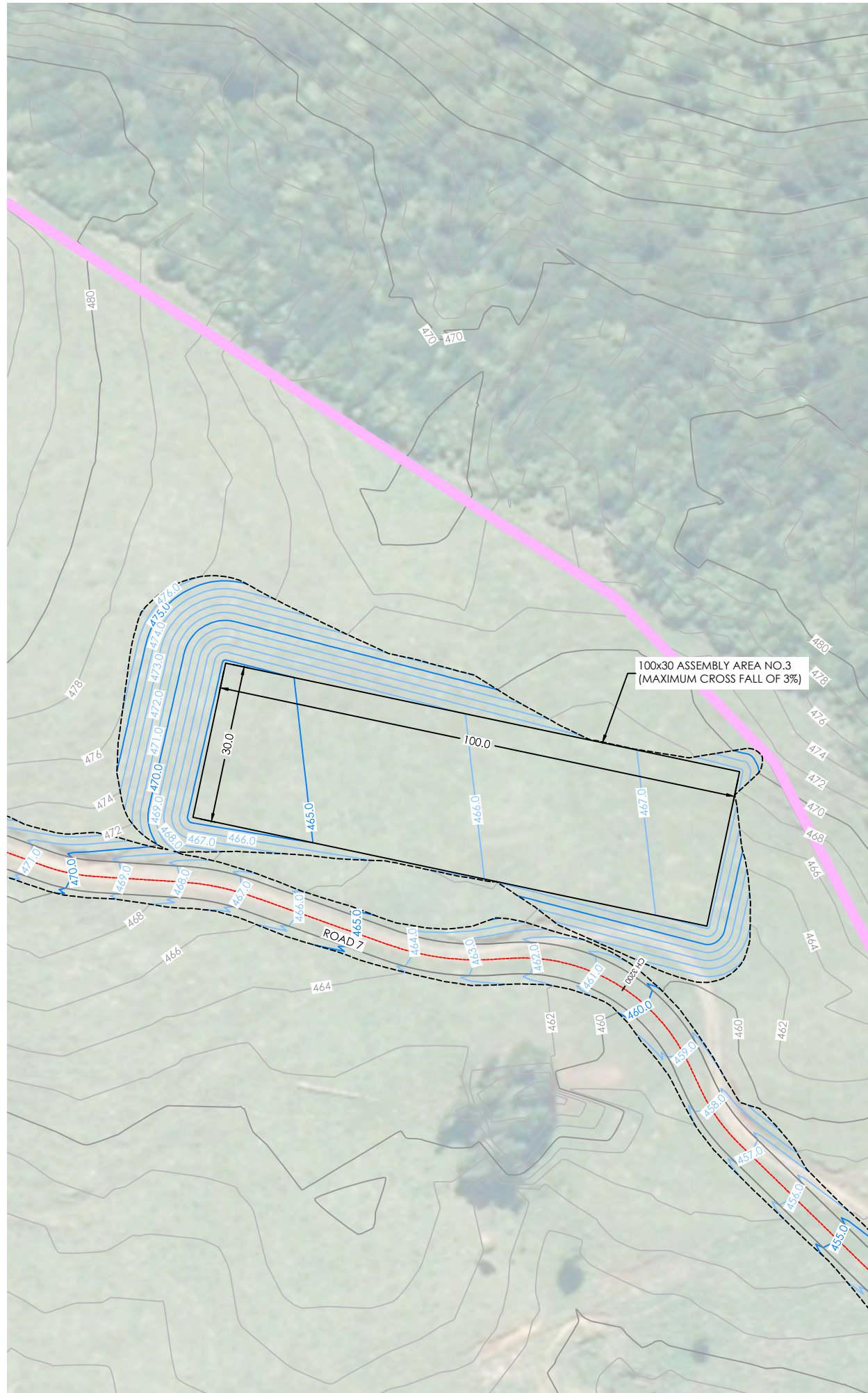
SURVEYOR: SYNERGY POSITIONING SYSTEMS LTD
3/52 ARRENWAY DRIVE, ALBANY,
AUCKLAND 0632

SITE: KAIMAI WIND FARM
ROTKOIHU ROAD, PAEROA

TITLE: PRELIMINARY CIVIL ENGINEERING
DRAWINGS

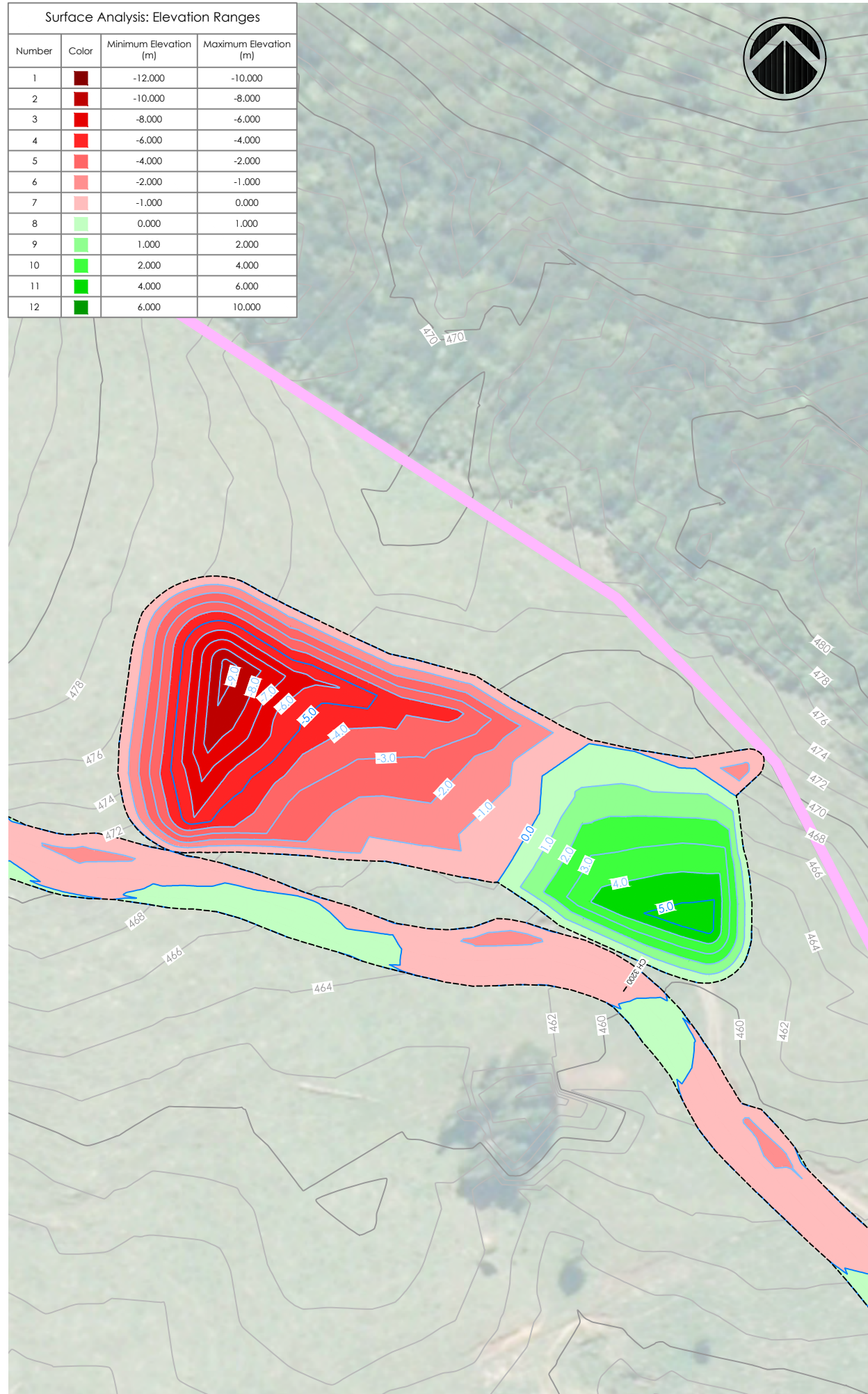
SUBTITLE: PROPOSED ASSEMBLY AREA NO.2

SCALE AT A3:	DATE:	DRAWN:	CHECKED:
1:1000	15.06.18	JT	JT
PROJECT NO:	DRAWING NO:	REVISION:	
T15022	211-2	B	



Surface Analysis: Elevation Ranges

Number	Color	Minimum Elevation (m)	Maximum Elevation (m)
1	Dark Red	-12.000	-10.000
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5	Light Orange	-4.000	-2.000
6	Light Red	-2.000	-1.000
7	Light Pink	-1.000	0.000
8	Light Green	0.000	1.000
9	Light Green	1.000	2.000
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11	Light Green	4.000	6.000
12	Dark Green	6.000	10.000



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A	RESOURCE CONSENT	JT	15.06.18
REV:	DESCRIPTION:	BY:	DATE:
	STATUS:		RESOURCE CONSENT

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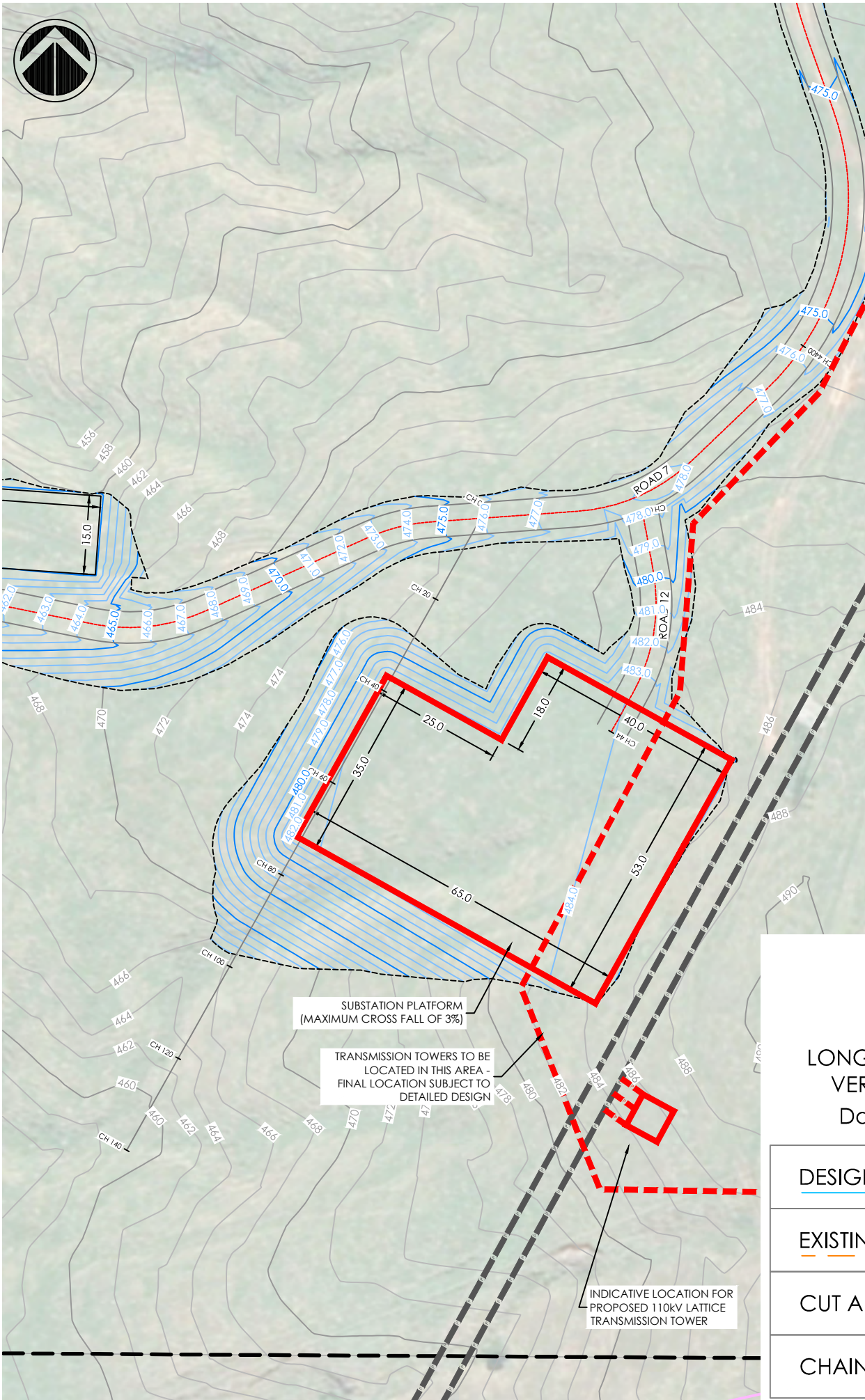
SURVEYOR:
 SYNERGY POSITIONING SYSTEMS LTD
 3/52 ARRENWAY DRIVE, ALBANY,
 AUCKLAND 0632

SITE:
 KAIMAI WIND FARM
 ROTOKOIHU ROAD, PAEROA

TITLE:
 PRELIMINARY CIVIL ENGINEERING
 DRAWINGS

SUBTITLE:
 PROPOSED ASSEMBLY AREA NO.3

SCALE AT A3:	DATE:	DRAWN:	CHECKED:
1:1000	15.06.18	JT	JT
PROJECT NO:	DRAWING NO:	REVISION:	
T15022	211-3	B	



Surface Analysis: Elevation Ranges

Number	Color	Minimum Elevation (m)	Maximum Elevation (m)
1	Dark Red	-12.000	-10.000
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B	S92 RESPONSE UPDATE	LT	18.10.18
A	RESOURCE CONSENT	JT	15.06.18

REV: DESCRIPTION: BY: DATE:
 STATUS: **RESOURCE CONSENT**

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 PO Box 80212 Green Bay
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 10/215 ROSEDALE ROAD, ALBANY
 AUCKLAND 0632

SURVEYOR: SYNERGY POSITIONING SYSTEMS LTD
 3/52 ARRENWAY DRIVE, ALBANY,
 AUCKLAND 0632

SITE: KAIMAI WIND FARM
 ROTOKOHO ROAD, PAEROA

TITLE: PRELIMINARY CIVIL ENGINEERING
 DRAWINGS

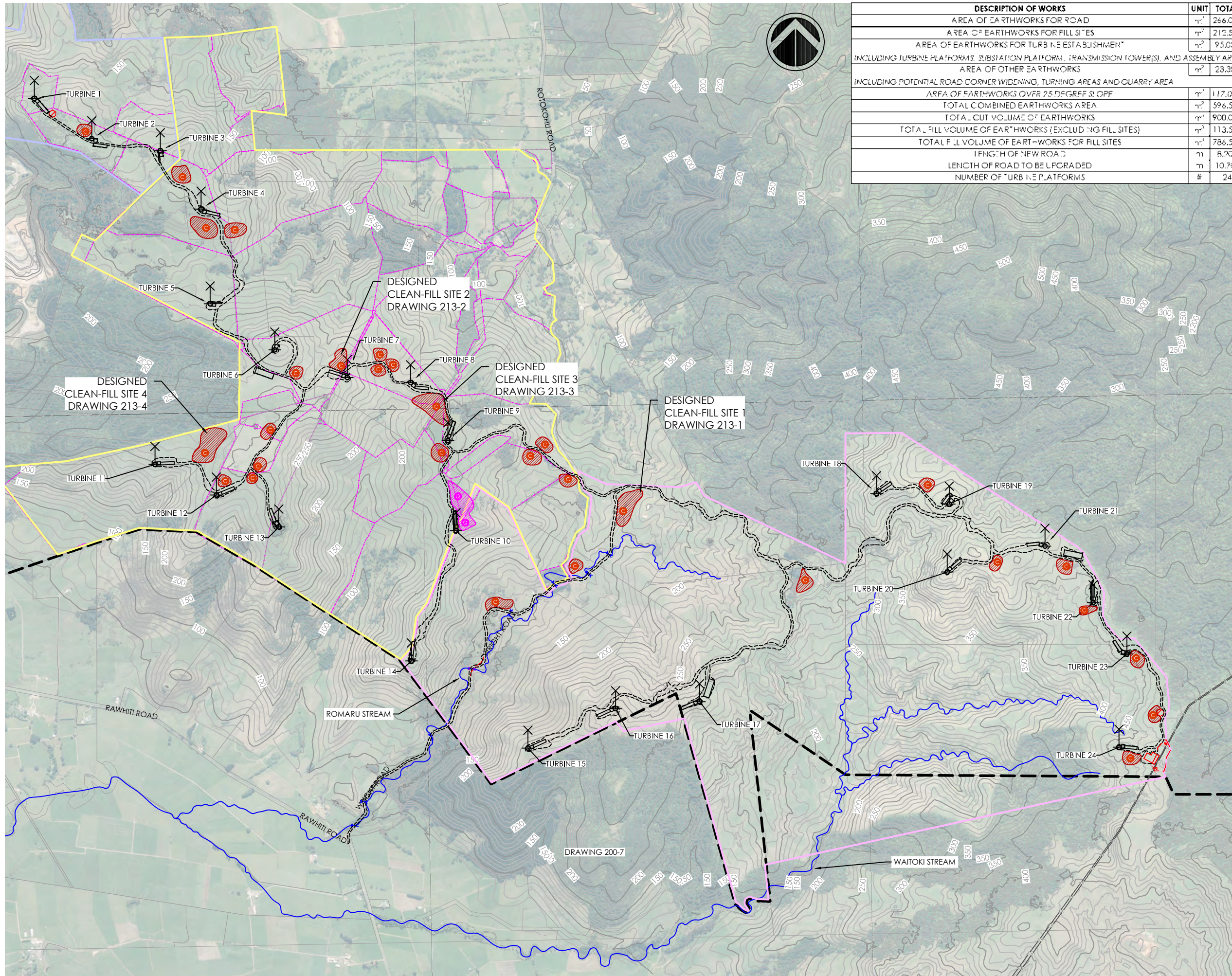
SUBTITLE: PROPOSED SUBSTATION PLATFORM

SCALE AT A3: 1:1000	DATE: 15.06.18	DRAWN: JT	CHECKED: JT
PROJECT NO: T15022	DRAWING NO: 212	REVISION: B	

LONGSECTION A-A
 VERT EXAG 1:1
 Datum 450.00

CHAINAGE	DESIGN LEVELS	EXISTING LEVELS	CUT AND FILL
0	476.05	476.24	-0.19
10	476.56	476.56	0.00
20	476.67	476.67	0.00
30	478.26	477.23	1.03
40	483.08	477.79	5.29
50	483.03	476.96	6.07
60	482.98	476.06	6.92
70	482.93	474.89	8.03
80	477.76	471.74	6.02
90	471.09	468.93	2.16
100	466.13	466.13	0.00
110	465.42	465.42	0.00
120	462.81	462.81	0.00
130	460.25	460.25	0.00
140	459.00	459.00	0.00

A-A
212



DESCRIPTION OF WORKS	UNIT	TOTAL
AREA OF EARTHWORKS FOR ROAD	m ²	266.000
AREA OF EARTHWORKS FOR FILL SITES	m ²	212.500
AREA OF EARTHWORKS FOR TURBINE ESTABLISHMENT* (INCLUDING TURBINE PLATFORMS, SUBSTATION PLATFORM, TRANSMISSION TOWER(S), AND ASSEMBLY AREA)	m ²	95.000
AREA OF OTHER EARTHWORKS (INCLUDING POTENTIAL ROAD CORNER WIDENING, TURNING AREAS AND QUARRY AREA)	m ²	23.300
AREA OF EARTHWORKS OVER 25 DEGREE SLOPE	m ²	117.000
TOTAL COMBINED EARTHWORKS AREA	m ²	596.500
TOTAL CUT VOLUME OF EARTHWORKS	m ³	900.000
TOTAL FILL VOLUME OF EARTHWORKS (EXCLUDING FILL SITES)	m ³	113.500
TOTAL FILL VOLUME OF EARTHWORKS FOR FILL SITES	m ³	786.500
LENGTH OF NEW ROAD	m	8.700
LENGTH OF ROAD TO BE UPGRADED	m	10.700
NUMBER OF TURBINE PLATFORMS	#	24

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 - EXISTING MAJOR CONTOUR
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 - EXTENT OF EARTHWORK
 - PROPOSED TURBINE LOCATION
 - EXISTING TRANSPOWER NATIONAL GRID LINES
 - PROPOSED ROAD CENTER LINE AND EDGE OF CARRIAGEWAY
 - EXISTING FENCE
 - INDICATIVE QUARRY SITE
 - INDICATIVE CLEANFILL SITE
 - EXISTING CULVERT
 - PROPOSED UPGRADED CULVERT
 - STREAM (WRC REGIONAL MAP)

A	ADDITIONAL PLAN FOR S92 RESPONSE	LT	27.09.18
REV:	DESCRIPTION:	BY:	DATE:
STATUS: RESOURCE CONSENT			

TEKTUS Consultants Ltd
 PO Box 80212 Green Bay
 Auckland 0643 NZ
 p. 09 827 1191
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CLIENT:
 VENTUS ENERGY (NZ) LTD
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 AUCKLAND 0632

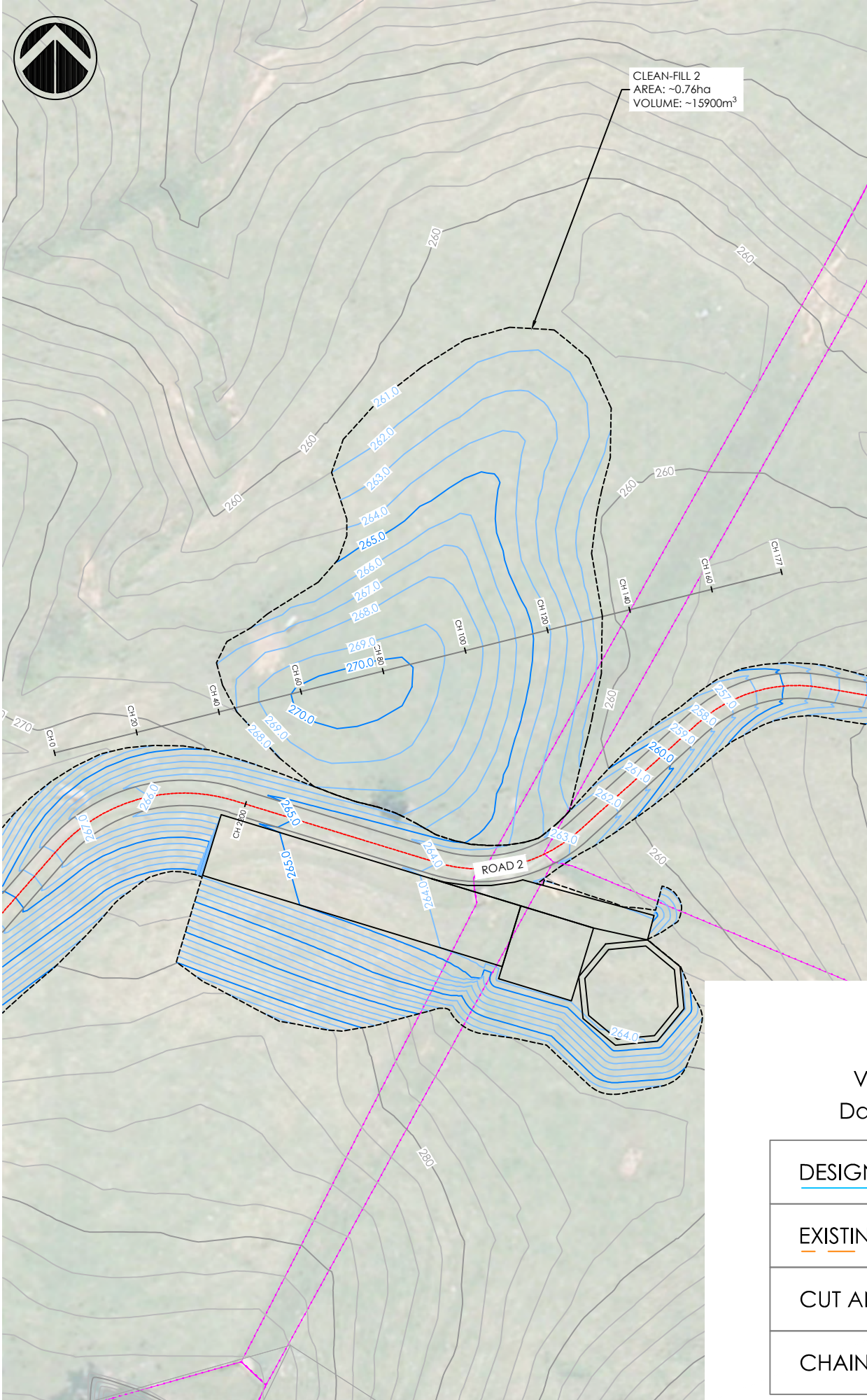
SURVEYOR:
 SYNERGY POSITIONING SYSTEMS LTD
 3/52 ARRENWAY DRIVE, ALBANY,
 AUCKLAND 0632

SITE:
 KAIMAI WIND FARM
 ROTOKOHU ROAD, PAEROA

TITLE:
 PRELIMINARY CIVIL ENGINEERING
 DRAWINGS

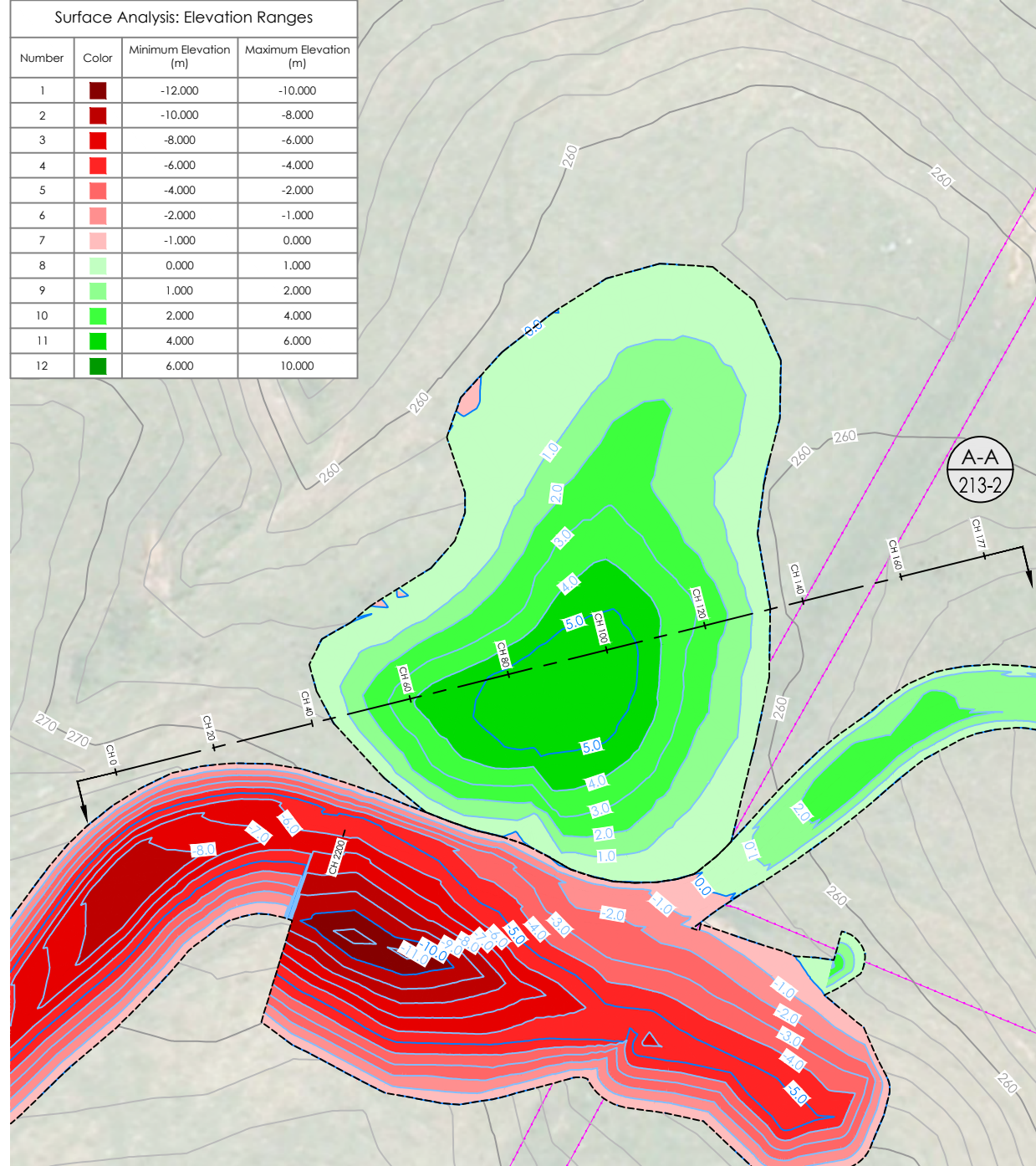
SUBTITLE:
 PROPOSED CLEAN-FILL OVERVIEW

SCALE AT A3:	DATE:	DRAWN:	CHECKED:
1:20000	27.09.18	LT	JT
PROJECT NO:	DRAWING NO:	REVISION:	
T15022	213	A	



Surface Analysis: Elevation Ranges

Number	Color	Minimum Elevation (m)	Maximum Elevation (m)
1	Dark Red	-12.000	-10.000
2	Red	-10.000	-8.000
3	Red-Orange	-8.000	-6.000
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A	ADDITIONAL PLAN FOR S92 RESPONSE	LT	27.09.18
REV:	DESCRIPTION:	BY:	DATE:
STATUS: RESOURCE CONSENT			

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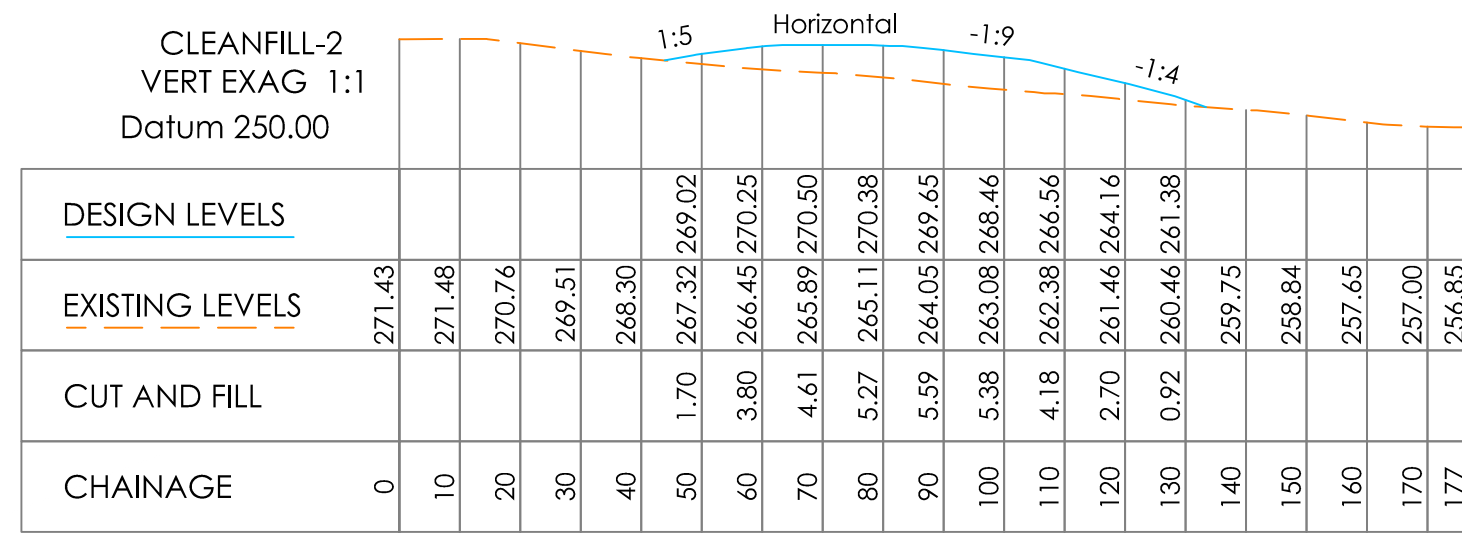
SURVEYOR: SYNERGY POSITIONING SYSTEMS LTD
 3/52 ARRENWAY DRIVE, ALBANY,
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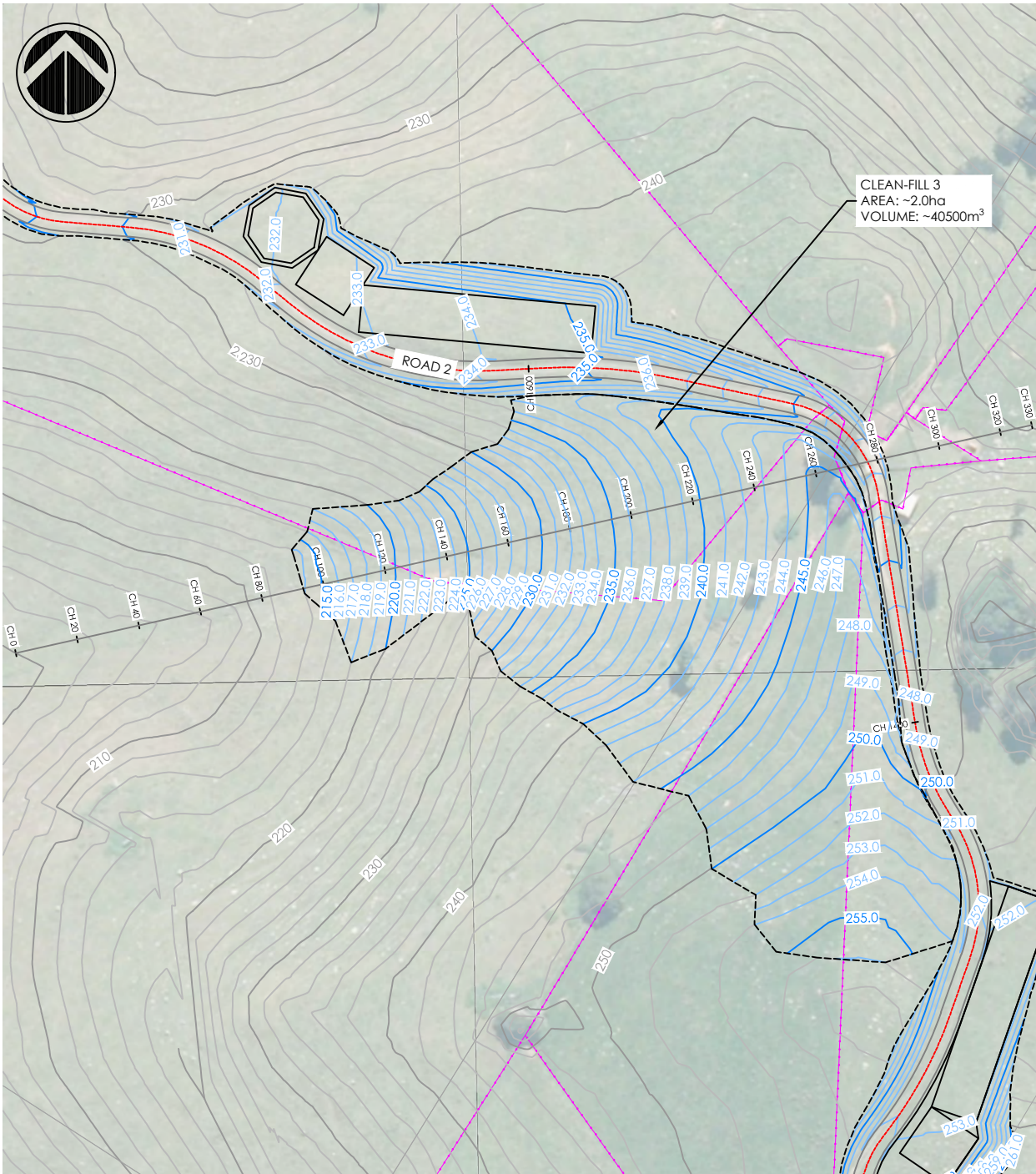
SITE: KAIMAI WIND FARM
 ROTOKOIHU ROAD, PAEROA

TITLE: PRELIMINARY CIVIL ENGINEERING
 DRAWINGS

SUBTITLE: PROPOSED CLEAN-FILL SITE 2

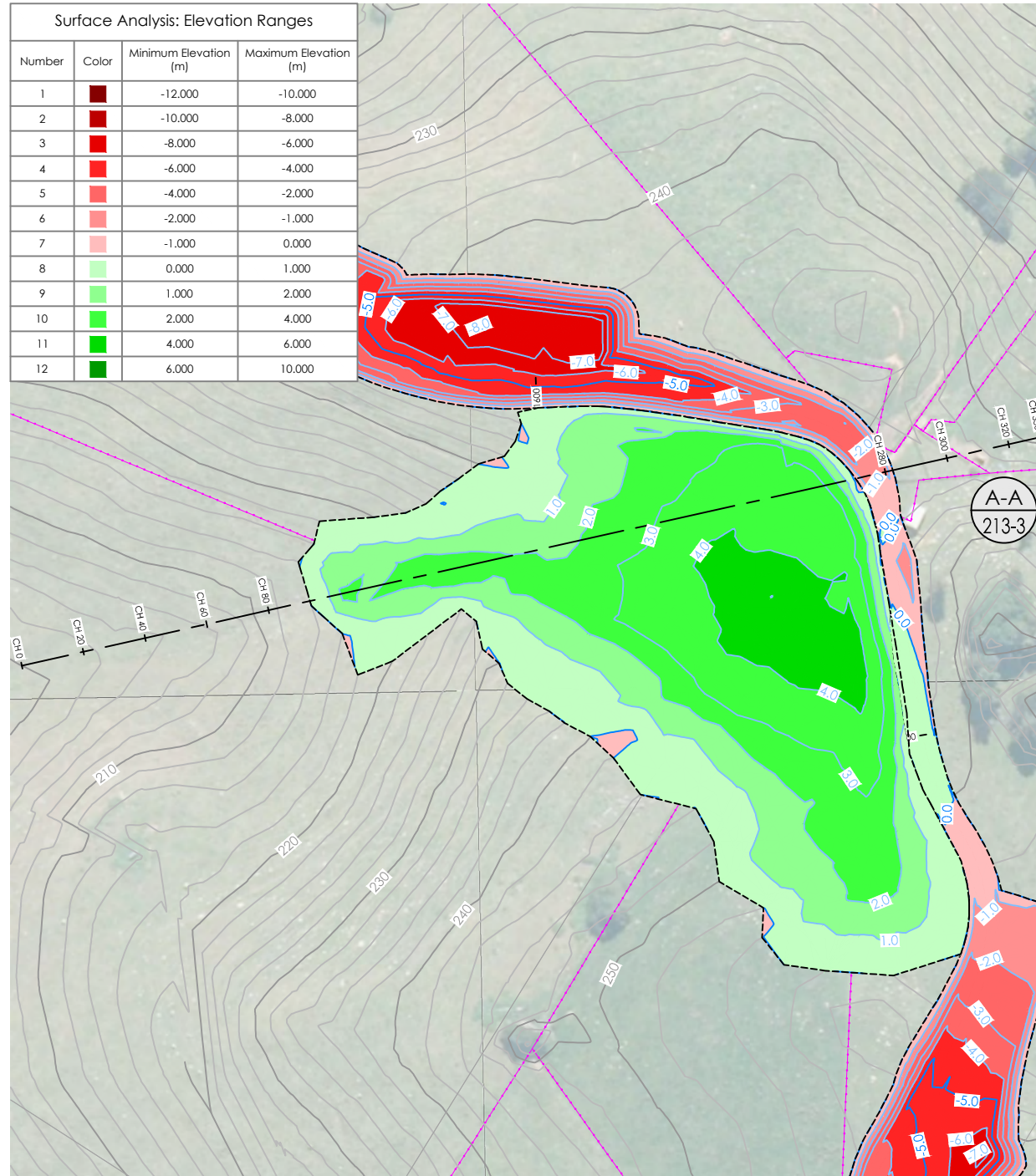
SCALE AT A3: 1:1250	DATE: 27.09.18	DRAWN: LT	CHECKED: JT
PROJECT NO: T15022	DRAWING NO: 213-2	REVISION: A	





Surface Analysis: Elevation Ranges

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 - DENIZE BROTHERS PROPERTY BOUNDARY
 - HDC/MPDC TERRITORIAL BOUNDARY
 - EXISTING MAJOR CONTOUR
 - EXISTING MINOR CONTOUR
 - PROPOSED MAJOR CONTOUR
 - PROPOSED MINOR CONTOUR
 - EXTENT OF EARTHWORK
 - PROPOSED TURBINE LOCATION
 - EXISTING TRANSPOWER NATIONAL GRID LINES
 - PROPOSED ROAD CENTER LINE AND EDGE OF CARRIAGEWAY
 - EXISTING FENCE
 - INDICATIVE QUARRY SITE
 - INDICATIVE CLEANFILL SITE
 - EXISTING CULVERT
 - PROPOSED UPGRADED CULVERT
 - STREAM (WRC REGIONAL MAP)

A	ADDITIONAL PLAN FOR SP2 RESPONSE	LT	10.10.18
REV:	DESCRIPTION:	BY:	DATE:
STATUS:		RESOURCE CONSENT	

TEKTUS Consultants Ltd
 PO Box 80212 Green Bay
 Auckland 0643 NZ
 p. 09 827 1191
 m. 021 1434 874
 www.tektus.nz

CLIENT:
 VENTUS ENERGY (NZ) LTD
 10/215 ROSEDALE ROAD, ALBANY
 AUCKLAND 0632

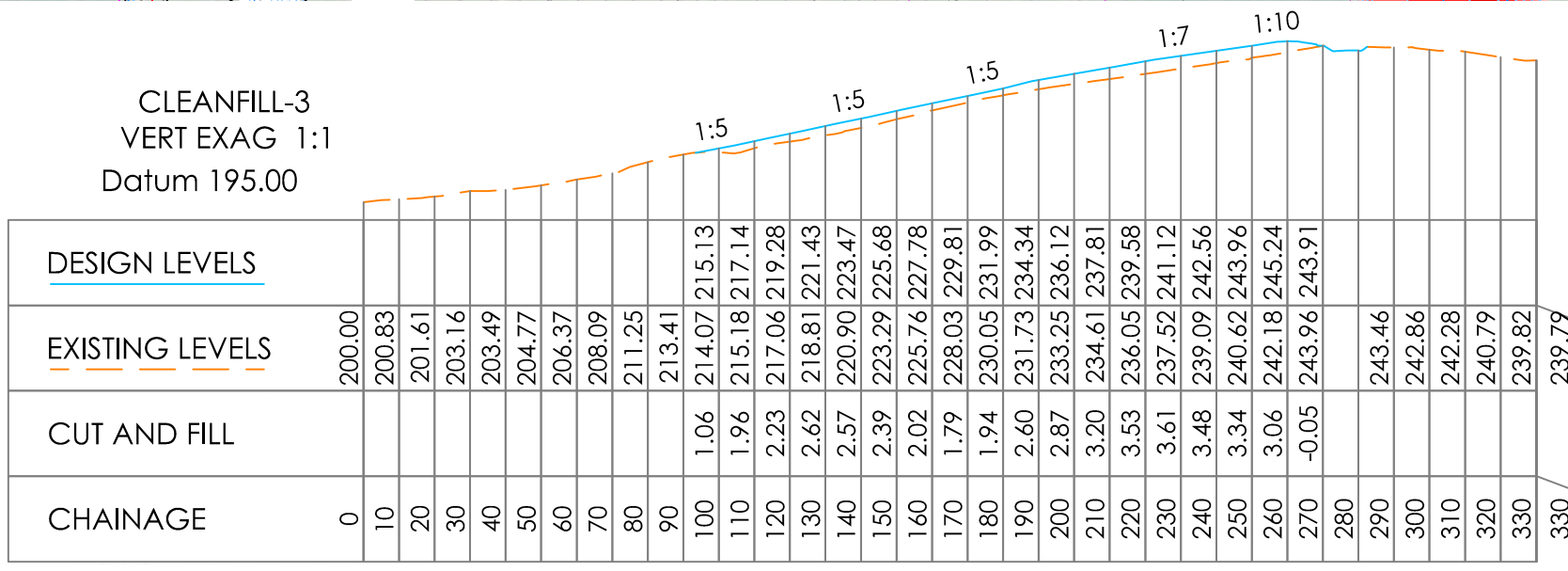
SURVEYOR:
 SYNERGY POSITIONING SYSTEMS LTD
 3/52 ARRENWAY DRIVE, ALBANY,
 AUCKLAND 0632

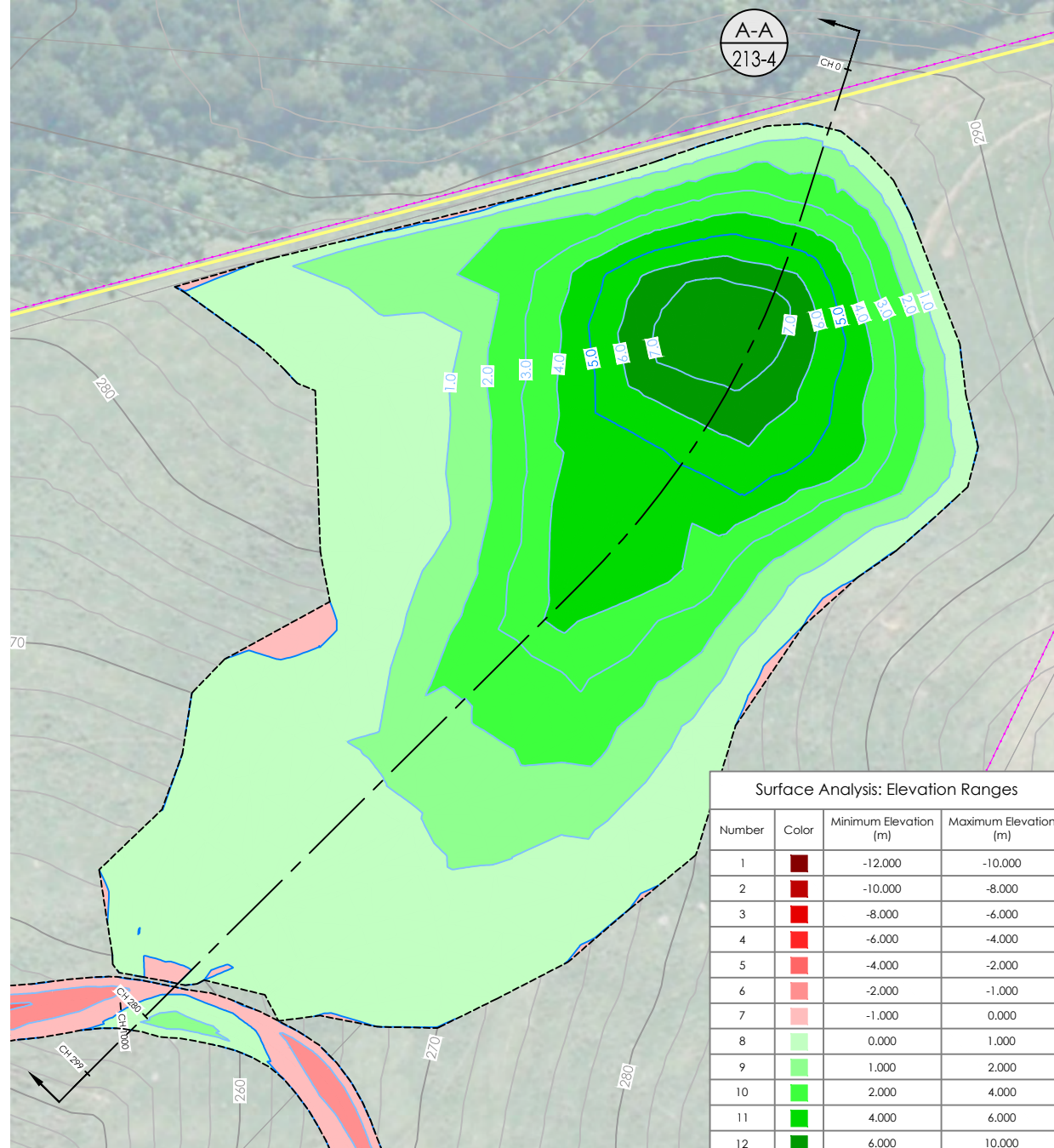
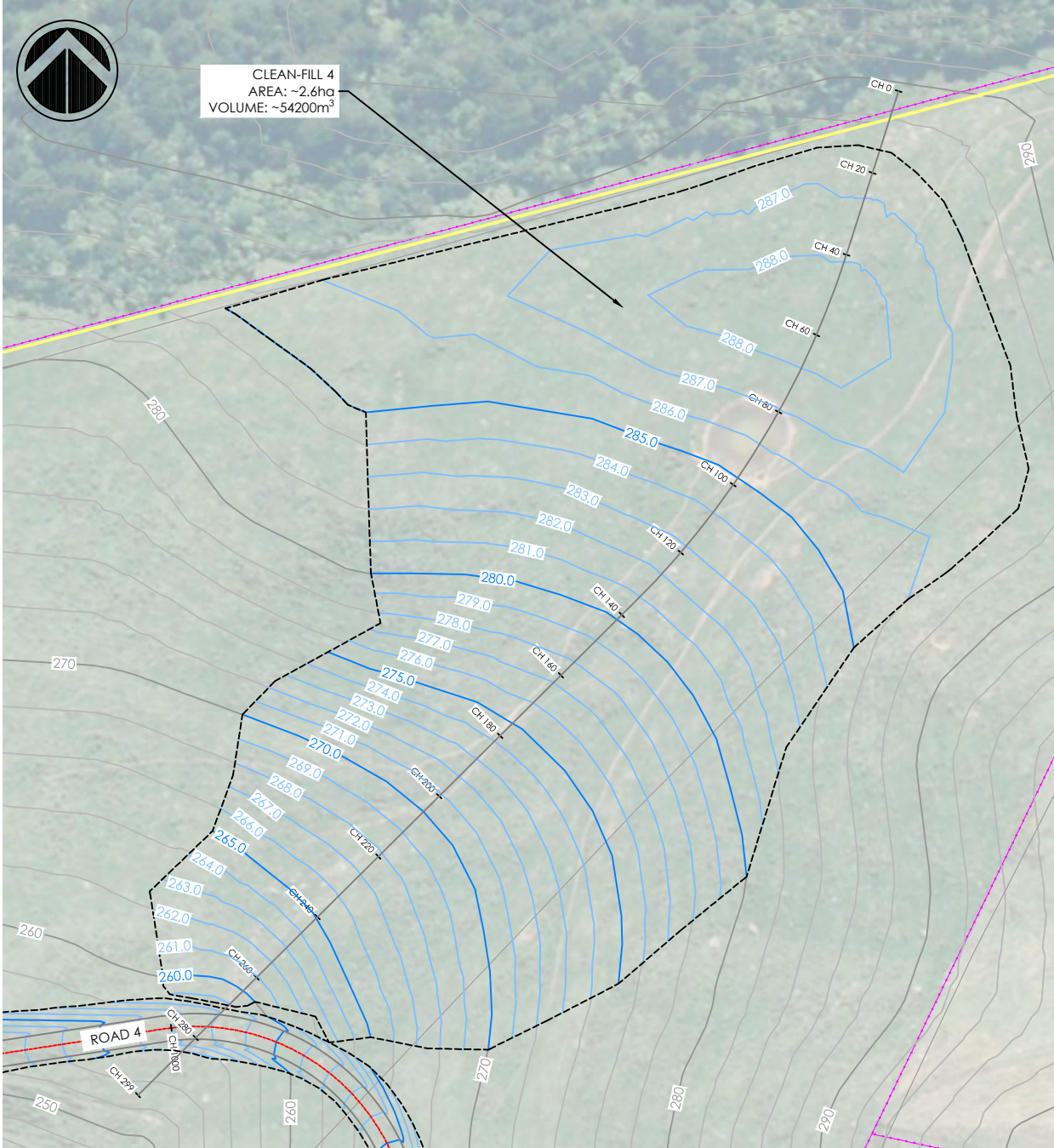
SITE:
 KAIMAI WIND FARM
 ROTOKOHO ROAD, PAEROA

TITLE:
 PRELIMINARY CIVIL ENGINEERING
 DRAWINGS

SUBTITLE:
 PROPOSED CLEAN-FILL SITE 3

SCALE AT A3:	DATE:	DRAWN:	CHECKED:
1:2000	10.10.18	LT	JT
PROJECT NO:	DRAWING NO:	REVISION:	
T15022	213-3	A	





Notes:

- FOR INFORMATION PURPOSES ONLY.
- BOUNDARIES, CONTOURS AND OTHER BASE INFORMATION SHOWN IS INDICATIVE ONLY AND PRIMARILY INFORMED BY AERIAL LIDAR SURVEY BY SYNERGY POSITIONING SYSTEMS LTD IN APRIL 2016.
- COORDINATES SHOWN ARE IN TERMS OF MT EDEN 2000 CIRCUIT AND LEVELS ARE RELATIVE TO THE AUCKLAND 1946 VERTICAL DATUM.
- THE PROPOSED ROAD ALIGNMENT, TURBINE PLATFORMS, AND OVERALL EARTHWORKS ARE BASED ON AN INDICATIVE ROAD ALIGNMENT AND REMAIN SUBJECT TO DETAILED DESIGN.
- VOLUME ESTIMATES BASED ON COMPARISON OF EXISTING & PROPOSED SURFACE LEVELS & DO NOT ACCOUNT FOR SUBGRADE CUT, BULKING OR COMPACTION FACTORS. OVERALL AREA & VOLUME ESTIMATES INCLUDE 20% CONTINGENCY FOR ADDITIONAL EARTHWORKS IF NECESSARY THROUGH DETAILED DESIGN.

LEGEND

- EXISTING PARCEL BOUNDARY
- JACKSON PROPERTY BOUNDARY
- ROTKOIHU FARMS PROPERTY BOUNDARY
- DENIZE BROTHERS PROPERTY BOUNDARY
- HDC/MPDC TERRITORIAL BOUNDARY
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- EXTENT OF EARTHWORK
- PROPOSED TURBINE LOCATION
- EXISTING TRANSPOWER NATIONAL GRID LINES
- PROPOSED ROAD CENTER LINE AND EDGE OF CARRIAGEWAY
- EXISTING FENCE
- INDICATIVE QUARRY SITE
- INDICATIVE CLEANFILL SITE
- EXISTING CULVERT
- PROPOSED UPGRADED CULVERT
- STREAM (WRC REGIONAL MAP)

A	ADDITIONAL PLAN FOR S92 RESPONSE	LT	10.10.18
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REV: DESCRIPTION: BY: DATE:
 STATUS: **RESOURCE CONSENT**

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 PO Box 80212 Green Bay
 Auckland 0643 NZ
 p. 09 827 1191
 m. 021 1434 874
 www.tektus.nz

CLIENT: VENTUS ENERGY (NZ) LTD
 10/215 ROSEDALE ROAD, ALBANY
 AUCKLAND 0632

SURVEYOR: SYNERGY POSITIONING SYSTEMS LTD
 3/52 ARRENWAY DRIVE, ALBANY,
 AUCKLAND 0632

SITE: KAIMAI WIND FARM
 ROTOKOIHU ROAD, PAEROA

TITLE: PRELIMINARY CIVIL ENGINEERING
 DRAWINGS

SUBTITLE: PROPOSED CLEAN-FILL SITE 4

SCALE AT A3: 1:1500	DATE: 10.10.18	DRAWN: LT	CHECKED: JT
PROJECT NO: T15022	DRAWING NO: 213-4	REVISION: A	