

# HAND AUGER LOG

Job No.: K200826

Client: Goodland Developments Limited

Hole No.: AH25

Project: Geotechnical Investigation

Date: 3/05/2021

Location: 2127 Kaipara Coast Highway, Kakanui

Logged By: RS

Coordinates: E 1730021.0, N 5954389.0

Ground Level: -

Sheet: 1 of 1

Depth (m)	RL	Subsurface Conditions	Groundwater	Geological Unit	Graphic Log	Vane Shear Strength (kPa) (refer notes for details)				Scala Penetrometer (blows / 50mm)		
						50	100	150	200	Values	Depth (m)	Blows
		[TOPSOIL]		TS	TS						4.60	3.0
		SILT; orange. Very stiff, dry no plasticity. Tephra present. [WAITEMATA GROUP]								UTP	4.65	6.0
0.5		0.3m: Becomes light grey, white friable.								-	4.70	6.0
		SILT some clay; orange mottled grey. Very stiff, dry, slightly plastic. [WAITEMATA GROUP]								237+	4.75	6.0
		0.8m: Becomes grey mottled orange.								-	4.80	4.0
1.0										UTP	4.85	6.0
		Clayey SILT; grey mottled orange. Very stiff, dry, moderate plasticity. [WAITEMATA GROUP]								-	4.90	10.0
1.5										237+	4.95	11.0
										-	5.00	12.0
2.0										UTP	5.05	10.0
										-	5.10	20.0
2.5		2.5m: Becomes moist.								203		
		SILT some clay with trace sand(fine); grey mottled orange. Very stiff, dry to moist, moderate plasticity. [WAITEMATA GROUP]								132		
3.0										193		
										127		
3.5		Clayey SILT; grey. Very stiff, moist, moderate to highly plastic. Weakly cemented clasts. [WAITEMATA GROUP]								149		
										103		
4.0		SILT with some clay; brownish grey mottled orange. Very stiff, moist, moderate plasticity. [WAITEMATA GROUP]								135		
										117		
4.5		4.2m: Highly oxidised.								152		
		SILT; grey. Hard, moist, no plasticity. [WAITEMATA GROUP]								74		
		4.6m: End of Hole. Too dense to auger (target depth).								196		
										106		
										237+		
										-		
										UTP		
										-		

## Notes & Abbreviations

Soils logged in accordance with 'The guidelines for the classification and description of soil and rock for engineering purposes' December 2005, NZGS

### Water

- ▼ Standing Water Level
- ∇ Water Level At Time Of Drilling
- ↔ Out Flow ▷ In Flow

### Shear Vane

- Corrected as per NZGS Guidelines
- Vane No.:1428
- UTP = Unable To Penetrate
- + = Peak Exceeded
- = No Result

### Other Comments

Target Depth 5.0m.

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# HAND AUGER LOG

Job No.: K200826

Client: Goodland Developments Limited

Hole No.: AH29

Project: Geotechnical Investigation

Date: 29/04/2021

Location: 2127 Kaipara Coast Highway, Kakanui

Logged By: KD

Coordinates: E 1729871.0, N 5954467.0

Ground Level: -

Sheet: 1 of 1

Depth (m)	RL	Subsurface Conditions	Groundwater	Geological Unit	Graphic Log	Vane Shear Strength (kPa)				Scala Penetrometer (blows / 50mm)			
						50	100	150	200	Values	Depth (m)	Blows	
0.5		TOPSOIL; dark brown, moist. [TOPSOIL]	Indwater Not Encount	T S WAITEMATA GROUP							0.60	4.0	
		Clayey SILT; brownish grey. Very stiff, moist, low to moderate plasticity. [WAITEMATA GROUP]							132				
		0.6m: End of Hole. Hit rock, checked three other locations in the surrounding area to confirm results.								57		0.70	12.0
												0.75	10.0
												0.80	15.0
												0.85	0.0
										UTP			
										-			

## Notes & Abbreviations

Soils logged in accordance with 'The guidelines for the classification and description of soil and rock for engineering purposes' December 2005, NZGS

### Water

- ▼ Standing Water Level
- ▽ Water Level At Time Of Drilling
- ↔ Out Flow ▷ In Flow

### Shear Vane

Corrected as per NZGS Guidelines  
 Vane No.: DR4681  
 UTP = Unable To Penetrate  
 + = Peak Exceeded  
 - = No Result

### Other Comments

Target Depth 5.0m.

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# HAND AUGER LOG

Job No.: K200826

Client: Goodland Developments Limited

Hole No.: AH30

Project: Geotechnical Investigation

Date: 30/04/2021

Location: 2127 Kaipara Coast Highway, Kakanui

Logged By: KD

Coordinates: E 1730009.0, N 5954614.0

Ground Level: -

Sheet: 1 of 1

Depth (m)	RL	Subsurface Conditions	Groundwater	Geological Unit	Graphic Log	Vane Shear Strength (kPa)				Scala Penetrometer (blows / 50mm)				
						50	100	150	200	Values	Depth (m)	Blows		
		[TOPSOIL]		TS	TS						4.90	4.0		
0.5		Clayey SILT; brownish orange. Very stiff, dry, low plasticity. [WAITEMATA GROUP]		WAITEMATA GROUP	[Graphic Log Symbols]					189	4.95	5.0		
											30	5.00	6.0	
												5.05	10.0	
												5.10	10.0	
												5.15	11.0	
												5.20	13.0	
												5.25	13.0	
												5.30	12.0	
1.0		Silty CLAY; light grey mottled orange. Very stiff, dry to moist, low to moderate plasticity. [WAITEMATA GROUP]										183		
												101		
		Clayey SILT; light grey mottled orange. Stiff to very stiff, dry, low plasticity. [WAITEMATA GROUP]										155		
												74		
1.5		SILT with some clay; light grey mottled orange. Very stiff, dry, no plasticity to low plasticity. [WAITEMATA GROUP]										223		
												85		
2.0		Silty CLAY; light grey with some mottled orange. Very stiff, dry to moist, low to moderate plasticity. [WAITEMATA GROUP]								237+				
		SILT with some clay; light grey with some mottled orange. Hard, dry to moist, low plasticity. [WAITEMATA GROUP]								-				
2.5										237+				
										-				
										199				
										105				
										186				
		Clayey SILT; grey. Very stiff, dry to moist, low plasticity. [WAITEMATA GROUP]								68				
3.0										237+				
										-				
										216				
										98				
3.5										223				
										71				
										237+				
4.0										-				
										237+				
										-				
4.5										237+				
										-				
										237+				
										-				
		5.0m: End of Hole (target depth 5.0m).								237+				

**Notes & Abbreviations**

Soils logged in accordance with 'The guidelines for the classification and description of soil and rock for engineering purposes' December 2005, NZGS

Water	Shear Vane	Other Comments
▼ Standing Water Level	Corrected as per NZGS Guidelines	Target Depth 5.0m.
∇ Water Level At Time Of Drilling	Vane No.:1428	
↔ Out Flow ▷ In Flow	UTP = Unable To Penetrate	
	+ = Peak Exceeded	
	- = No Result	

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# HAND AUGER LOG

Job No.: K200826

Client: Goodland Developments Limited

Hole No.: AH31

Project: Geotechnical Investigation

Date: 30/04/2021

Location: 2127 Kaipara Coast Highway, Kakanui

Logged By: KD

Coordinates: E 1729901.0, N 5954679.0

Ground Level: -

Sheet: 1 of 1

Depth (m)	RL	Subsurface Conditions	Groundwater	Geological Unit	Graphic Log	Vane Shear Strength (kPa) (refer notes for details)				Scala Penetrometer (blows / 50mm)		
						50	100	150	200	Values	Depth (m)	Blows
0.5		TOPSOIL; dark brown. Very stiff to hard, moist. [TOPSOIL]	Groundwater Not Encountered	WAITEMATA GROUP							5.10	4.0
		Clayey SILT; orange mottled brownish orange. Very stiff, dry to moist, moderate plasticity. [WAITEMATA GROUP]									220+	5.15
1.0		1.5m: Becomes dry to moist.									5.20	4.0
											5.25	2.0
											5.30	3.0
											5.35	5.0
											5.40	5.0
											5.45	6.0
											5.50	7.0
											5.55	7.0
											5.60	6.0
											5.65	7.0
2.0		SILT some clay; light brownish grey mottled orange. Very stiff, dry to moist, moderate plasticity. [WAITEMATA GROUP]									5.70	8.0
		3.2m: Becomes dry.									5.75	10.0
											5.80	12.0
											5.85	10.0
											5.90	13.0
											5.95	18.0
											6.00	15.0
											115	59
											135	69
											122	59
										115	41	
3.0		SILT with some clay and trace sand(medium); light brownish yellow with some orange streaks. Very stiff, moist, low plasticity. [WAITEMATA GROUP]									181	34
		3.9m: Becomes dark grey.									132	37
											194	59
											210	47
											UTP	-
											220+	-
											220+	-
											220+	-
											220+	-
											220+	-
			4.7m: Becomes wet.									
		5.0m: End of Hole (target depth 5.0m).										

**Notes & Abbreviations**

Soils logged in accordance with 'The guidelines for the classification and description of soil and rock for engineering purposes' December 2005, NZGS

Water	Shear Vane	Other Comments
▼ Standing Water Level	Corrected as per NZGS Guidelines	Target Depth 5.0m.
∇ Water Level At Time Of Drilling	Vane No.: DR4681	
↔ Out Flow ▷ In Flow	UTP = Unable To Penetrate	
	+ = Peak Exceeded	
	- = No Result	

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# HAND AUGER LOG

Job No.: K200826

Client: Goodland Developments Limited

Hole No.: AH32

Project: Geotechnical Investigation

Date: 29/04/2021

Location: 2127 Kaipara Coast Highway, Kakanui

Logged By: KD

Coordinates: E 1729854.0, N 5954698.0

Ground Level: -

Sheet: 1 of 1

Depth (m)	RL	Subsurface Conditions	Groundwater	Geological Unit	Graphic Log	Vane Shear Strength (kPa) (refer notes for details)				Scala Penetrometer (blows / 50mm)		
						50	100	150	200	Values	Depth (m)	Blows
		TOPSOIL; dark brown, moist. [TOPSOIL]		TS							1.85	0.0
0.5		SILT some clay; dark brownish grey with some orange inclusions. Very stiff, moist, moderate plasticity. Small shiny specs with cleavage. [WAITEMATA GROUP]	Groundwater Not Encountered	WAITEMATA GROUP						206 76		
										208 85		
1.0										220+ -		
										220+ -		
1.5		Silty CLAY; dark brownish grey mottled dark orange. Very stiff, moist high plasticity. [WAITEMATA GROUP]								193 52		
		1.8m: End of Hole (target depth 5.0m). Hit rock.								UTP -		
2.0												
2.5												
3.0												
3.5												
4.0												
4.5												

## Notes & Abbreviations

Soils logged in accordance with 'The guidelines for the classification and description of soil and rock for engineering purposes' December 2005, NZGS

### Water

- ▼ Standing Water Level
- ▽ Water Level At Time Of Drilling
- ↔ Out Flow ▷ In Flow

### Shear Vane

- Corrected as per NZGS Guidelines
- Vane No.: DR4681
- UTP = Unable To Penetrate
- + = Peak Exceeded
- = No Result

### Other Comments

Target Depth 5.0m.

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# HAND AUGER LOG

Job No.: K200826

Client: Goodland Developments Limited

Hole No.: AH34

Project: Geotechnical Investigation

Date: 22/09/2021

Location: 2127 Kaipara Coast Highway, Kakanui

Logged By: KD

Coordinates: ,

Ground Level: -

Sheet: 1 of 1

Depth (m)	RL	Subsurface Conditions	Groundwater	Geological Unit	Graphic Log	Vane Shear Strength (kPa) (refer notes for details)				Scala Penetrometer (blows / 50mm)			
						50	100	150	200	Values	Depth (m)	Blows	
		[TOPSOIL]		TS	TS						2.80	4.0	
		Silty CLAY; dark grey and orange. Stiff to very stiff, moist, moderate plasticity. [WAITEMATA GROUP SOILS]		WAITEMATA GROUP SOILS	[Graphic Log Symbols]					99	2.85	20.0	
0.5		0.5m: Some rootlets present.									56		
											150		
											78		
1.0											125		
											64		
		SILT some clay and minor sand(Coarse); grey (The sand is dark orange highly weathered). Very stiff, moist to wet, low plasticity. [WAITEMATA GROUP SOILS]									157		
1.5		1.4m: Becomes wet (slight water seepage). Some dark grey intermixed. 1.5m: No more sand present.									17		
											106		
											31		
		1.8m - 2.5m: Limonitic inclusions.							UTP				
2.0									-				
		SILT trace clay; grey with dark orange mottled. Very stiff to hard, moist, no plasticity. [WAITEMATA GROUP SOILS]							231+				
									58				
2.5		2.5m: Becomes dark brownish grey. The strength has become hard. 2.6m: Becomes dark grey with small white specs and trace gravel(Fine to coarse).	22/09/2021						160				
									33				
		2.8m: End of Hole (Target depth 5.0m).							UTP				
									-				
3.0													
3.5													
4.0													
4.5													

### Notes & Abbreviations

Soils logged in accordance with 'The guidelines for the classification and description of soil and rock for engineering purposes' December 2005, NZGS

Water	Shear Vane	Other Comments
▼ Standing Water Level	Corrected as per NZGS Guidelines	Target Depth 5.0m.
▽ Water Level At Time Of Drilling	Vane No.:522	
↔ Out Flow ▷ In Flow	UTP = Unable To Penetrate	
	+ = Peak Exceeded	
	- = No Result	

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# HAND AUGER LOG

Job No.: K200826

Client: Goodland Developments Limited

Hole No.: AH35

Project: Geotechnical Investigation

Date: 23/11/2021

Location: 2127 Kaipara Coast Highway, Kakanui

Logged By: RS

Coordinates: ,

Ground Level: -

Sheet: 1 of 1

Depth (m)	RL	Subsurface Conditions	Groundwater	Geological Unit	Graphic Log	Vane Shear Strength (kPa) (refer notes for details)				Scala Penetrometer (blows / 50mm)			
						50	100	150	200	Values	Depth (m)	Blows	
0.5		TOPSOIL; brownish grey. Some rootlets. [TOPSOIL]		TS							3.20	4.0	
		SILT with some clay; intermixed orange, grey and brownish orange. Stiff, dry, low plasticity. [FILL]		FILL						101	3.25	4.0	
		Clayey SILT; orange and grey streaked. Stiff to very stiff, dry to moist, moderately plastic.								59	3.30	5.0	
										71	3.35	4.0	
			SILT with minor to some clay; grey with orange mottles and streaks. Very stiff, moist, low plasticity. Friable, occasional rootlets.								110	3.40	4.0
										81	3.45	6.0	
			Sandy SILT; dark grey, highly oxidized.								71	3.50	10.0
										113	3.55	10.0	
			SILT with some to minor clay; grey with orange mottles and streaks. Very stiff, moist, low plasticity. Occasional rootlets.								85	3.60	10.0
										164	3.65	10.0	
		SILT with trace clay; grey with occasional dark orange streaks. Very stiff, dry, non-plastic. Friable.								71	3.70	6.0	
									186	3.75	8.0		
		Sandy SILT; dark grey. Wet.								186	3.80	10.0	
									85	3.85	8.0		
		SILT with some sand (fine to medium); grey with dark orange oxidization. Very stiff, wet, non plastic.								76	3.90	10.0	
									186	3.95	12.0		
		3.1m: Highly oxidized. 3.2m: End of Hole (Too dense to auger/ no recovery).								54	4.00	8.0	
									204	4.05	9.0		
										220	4.10	8.0	
										46	4.15	10.0	
										52	4.20	11.0	
										220	4.25	13.0	
										46	4.30	12.0	
										46	4.35	10.0	
										46	4.40	10.0	

## Notes & Abbreviations

Soils logged in accordance with 'The guidelines for the classification and description of soil and rock for engineering purposes' December 2005, NZGS

Water	Shear Vane	Other Comments
▼ Standing Water Level	Corrected as per NZGS Guidelines	Target Depth 5.0m.
▽ Water Level At Time Of Drilling	Vane No.: 1428	
↔ Out Flow ▷ In Flow	UTP = Unable To Penetrate	
	+ = Peak Exceeded	
	-- = No Result	

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# HAND AUGER LOG

Job No.: K200826

Client: Goodland Developments Limited

Hole No.: AH37

Project: Geotechnical Investigation

Date: 23/11/2021

Location: 2127 Kaipara Coast Highway, Kakanui

Logged By: RMS

Coordinates: ,

Ground Level: -

Sheet: 1 of 1

Depth (m)	RL	Subsurface Conditions	Groundwater	Geological Unit	Graphic Log	Vane Shear Strength (kPa)				Scala Penetrometer (blows / 50mm)			
						50	100	150	200	Values	Depth (m)	Blows	
0.0		TOPSOIL intermixed with some clay and silt. [TOPSOIL]		TS								4.90	4.0
0.5		Clayey SILT; brownish orange with orange mottles. Stiff, moist, moderately plastic.								101		4.95	6.0
1.0		0.9m: Minor gravels (fine to medium).								54		5.00	10.0
1.5		1.2m: Becomes orange with grey and red mottling.								85		5.05	10.0
2.0										47		5.10	10.0
2.5										47		5.15	9.0
3.0										88		5.20	5.0
3.5										49		5.25	5.0
4.0										78		5.30	6.0
4.5										47		5.35	10.0
5.0										47		5.40	10.0
5.5										78		5.45	8.0
6.0										47		5.50	8.0
6.5										78		5.55	8.0
7.0										47		5.60	8.0
7.5										78		5.65	8.0
8.0										47		5.70	8.0
8.5										98		5.75	8.0
9.0										61		5.80	8.0
9.5										85		5.85	8.0
10.0										91		5.90	7.0
10.5										51		5.95	6.0
11.0										51		6.00	6.0
11.5										61		6.05	7.0
12.0										118		6.10	7.0
12.5										81		6.15	10.0
13.0										81		6.20	13.0
13.5										132		6.25	14.0
14.0										74		6.30	16.0
14.5										186			
15.0										85			
15.5										135			
16.0										41			
16.5										186			
17.0										88			
17.5										UTP			
18.0										-			
18.5										189			
19.0										90			
19.5										220			
20.0										-			
20.5										237+			
21.0										-			
21.5										UTP			
22.0										-			
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48.0													
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49.0													
49.5													
50.0		5.0m: End of Hole (Target Depth).											

**Notes & Abbreviations**

Soils logged in accordance with 'The guidelines for the classification and description of soil and rock for engineering purposes' December 2005, NZGS

Water	Shear Vane	Other Comments
▼ Standing Water Level	Corrected as per NZGS Guidelines	Target Depth 5.0m.
▽ Water Level At Time Of Drilling	Vane No.:DR4681	
↔ Out Flow ▷ In Flow	UTP = Unable To Penetrate	
	+ = Peak Exceeded	
	- = No Result	

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# HAND AUGER LOG

Job No.: K200826

Client: Goodland Developments Limited

Hole No.: WW AH1

Project: Geotechnical Investigation

Date: 1/02/2024

Location: 2127 Kaipara Coast Highway, Kakanui

Logged By: CD

Coordinates: See Site Plan

Sheet: 1 of 1

Depth (m)	RL	Subsurface Conditions	Groundwater	Geological Unit	Graphic Log	Vane Shear Strength (kPa)					Scala Penetrometer (blows / 50mm)	
						(refer notes for details)				Values	Depth (m)	Blows
						50	100	150	200			
		Topsoil. [TOPSOIL]			TS							
0.5		Clayey SILT; orange light brown with grey mottles. Stiff to very stiff, dry to moist, low to moderate plasticity. [WAITEMATA GROUP SOILS]	Groundwater Not Encountered		TS							
1.0					WAITEMATA GROUP SOILS							
		1.2m: End of Hole (Target Depth Reached)										

**Notes & Abbreviations**

Soils logged in accordance with 'The guidelines for the classification and description of soil and rock for engineering purposes' December 2005, NZGS

Water	Shear Vane	Other Comments
▼ Standing Water Level	Corrected as per NZGS Guidelines	
▽ Water Level At Time Of Drilling	Vane No.:	
↔ Out Flow ▷ In Flow	UTP = Unable To Penetrate	
	+ = Peak Exceeded	
	- = No Result	

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# HAND AUGER LOG

Job No.: K200826

Client: Goodland Developments Limited

Hole No.: WW AH2

Project: Geotechnical Investigation

Date: 1/02/2024

Location: 2127 Kaipara Coast Highway, Kakanui

Logged By: CD

Coordinates: See Site Plan

Sheet: 1 of 1

Depth (m)	RL	Subsurface Conditions	Groundwater	Geological Unit	Graphic Log	Vane Shear Strength (kPa)					Scala Penetrometer (blows / 50mm)						
						(refer notes for details)					50	100	150	200	Values	Depth (m)	Blows
		Topsoil. [TOPSOIL]			TS												
0.5		SILT with some clay to clayey; light orange brown with grey mottles. Stiff to very stiff, dry to moist, low to moderate plasticity. [WAITEMATA GROUP SOILS]	Groundwater Not Encountered		WAITEMATA GROUP SOILS												
		1.2m: End of Hole (Target Depth Reached)															

**Notes & Abbreviations**

Soils logged in accordance with 'The guidelines for the classification and description of soil and rock for engineering purposes' December 2005, NZGS

Water	Shear Vane	Other Comments
▼ Standing Water Level	Corrected as per NZGS Guidelines	
▽ Water Level At Time Of Drilling	Vane No.:	
↙ Out Flow ↘ In Flow	UTP = Unable To Penetrate	
	+ = Peak Exceeded	
	- = No Result	

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# HAND AUGER LOG

Job No.: K200826

Client: Goodland Developments Limited

Hole No.: WW AH3

Project: Geotechnical Investigation

Date: 1/02/2024

Location: 2127 Kaipara Coast Highway, Kakanui

Logged By: CD

Coordinates: See Site Plan

Sheet: 1 of 1

Depth (m)	RL	Subsurface Conditions	Groundwater	Geological Unit	Graphic Log	Vane Shear Strength (kPa)					Scala Penetrometer (blows / 50mm)	
						(refer notes for details)				Values	Depth (m)	Blows
						50	100	150	200			
		Topsoil. [TOPSOIL]	Groundwater Not Encountered	TS								
		SILT with some clay; dark brown. Firm to stiff, dry, low plasticity. [COLLUVIUM]				COL.						
0.5		Clayey SILT; light grey with orange mottles. Stiff to very stiff, dry to moist, moderate plasticity. [WAITEMATA GROUP SOILS]		WAITEMATA GROUP SOILS								
1.0		1.2m: End of Hole (Target Depth Reached)										

### Notes & Abbreviations

Soils logged in accordance with 'The guidelines for the classification and description of soil and rock for engineering purposes' December 2005, NZGS

#### Water

- ▼ Standing Water Level
- ∇ Water Level At Time Of Drilling
- ↔ Out Flow ▷ In Flow

#### Shear Vane

- Corrected as per NZGS Guidelines
- Vane No.:
- UTP = Unable To Penetrate
- + = Peak Exceeded
- = No Result

#### Other Comments

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# HAND AUGER LOG

Job No.: K200826

Client: Goodland Developments Limited

Hole No.: WW AH4

Project: Geotechnical Investigation

Date: 1/02/2024

Location: 2127 Kaipara Coast Highway, Kakanui

Logged By: CD

Coordinates: See Site Plan

Sheet: 1 of 1

Depth (m)	RL	Subsurface Conditions	Groundwater	Geological Unit	Graphic Log	Vane Shear Strength (kPa)					Scala Penetrometer (blows / 50mm)			
						(refer notes for details)					Values	Depth (m)	Blows	
						50	100	150	200					
		Topsoil. [TOPSOIL]	Groundwater Not Encountered	TS										
0.5		Silty CLAY intermixed with topsoil. Firm to stiff, dry to moist, moderate to high plasticity. [COLLUVIUM]				COLLUVIUM								
		Clayey SILT; light grey with orange mottles. Stiff to very stiff, moist, moderate plasticity. [WAITEMATA GROUP SOILS]						WAITEMATA GROUP SOILS						
		1.2m: End of Hole (Target Depth Reached)												

## Notes & Abbreviations

Soils logged in accordance with 'The guidelines for the classification and description of soil and rock for engineering purposes' December 2005, NZGS

### Water

- ▼ Standing Water Level
- ▽ Water Level At Time Of Drilling
- ↔ Out Flow ▷ In Flow

### Shear Vane

- Corrected as per NZGS Guidelines
- Vane No.:
- UTP = Unable To Penetrate
- + = Peak Exceeded
- = No Result

### Other Comments

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# HAND AUGER LOG

Job No.: K200826

Client: Goodland Developments Limited

Hole No.: WW AH5

Project: Geotechnical Investigation

Date: 1/02/2024

Location: 2127 Kaipara Coast Highway, Kakanui

Logged By: CD

Coordinates: See Site Plan

Sheet: 1 of 1

Depth (m)	RL	Subsurface Conditions	Groundwater	Geological Unit	Graphic Log	Vane Shear Strength (kPa)					Scala Penetrometer (blows / 50mm)	
						(refer notes for details)					Depth (m)	Blows
						50	100	150	200	Values		
		Topsoil. [TOPSOIL]			TS							
0.5		SILT with some clay; light brown with orange mottles. Stiff, dry, low to moderate plasticity. [WAITEMATA GROUP SOILS]	Groundwater Not Encountered	WAITEMATA GROUP SOILS								
1.0		0.9m: becomes light grey with orange mottles and moist.										
		1.2m: End of Hole (Target Depth Reached)										

### Notes & Abbreviations

Soils logged in accordance with 'The guidelines for the classification and description of soil and rock for engineering purposes' December 2005, NZGS

Water	Shear Vane	Other Comments
▼ Standing Water Level	Corrected as per NZGS Guidelines	
▽ Water Level At Time Of Drilling	Vane No.:	
↔ Out Flow ▷ In Flow	UTP = Unable To Penetrate	
	+ = Peak Exceeded	
	- = No Result	

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# HAND AUGER LOG

Job No.: K200826

Client: Goodland Developments Limited

Hole No.: WW AH6

Project: Geotechnical Investigation

Date: 1/02/2024

Location: 2127 Kaipara Coast Highway, Kakanui

Logged By: CD

Coordinates: See Site Plan

Sheet: 1 of 1

Depth (m)	RL	Subsurface Conditions	Groundwater	Geological Unit	Graphic Log	Vane Shear Strength (kPa)					Scala Penetrometer (blows / 50mm)			
						(refer notes for details)				Values	Depth (m)	Blows		
						50	100	150	200					
		Topsoil. [TOPSOIL]	Groundwater Not Encountered	TS										
		Clayey SILT with minor organics; brown with grey mottles. Firm to stiff, dry, moderate plasticity. [COLLUVIUM]				COLL.								
0.5		SILT with some clay to clayey; light grey with orange mottles. Stiff to very stiff, moist, low to moderate plasticity. [WAITEMATA GROUP SOILS]						WAITEMATA GROUP SOILS						
		1.2m: End of Hole (Target Depth Reached)												

### Notes & Abbreviations

Soils logged in accordance with 'The guidelines for the classification and description of soil and rock for engineering purposes' December 2005, NZGS

#### Water

- ▼ Standing Water Level
- ∇ Water Level At Time Of Drilling
- ↔ Out Flow ▷ In Flow

#### Shear Vane

- Corrected as per NZGS Guidelines
- Vane No.:
- UTP = Unable To Penetrate
- + = Peak Exceeded
- = No Result

#### Other Comments

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# HAND AUGER LOG

Job No.: K200826

Client: Goodland Developments Limited

Hole No.: WW AH7

Project: Geotechnical Investigation

Date: 1/02/2024

Location: 2127 Kaipara Coast Highway, Kakanui

Logged By: CD

Coordinates: See Site Plan

Sheet: 1 of 1

Depth (m)	RL	Subsurface Conditions	Groundwater	Geological Unit	Graphic Log	Vane Shear Strength (kPa)				Scala Penetrometer (blows / 50mm)		
						50	100	150	200	Values	Depth (m)	Blows
		Topsoil. [TOPSOIL]										
0.5		SILT with some clay; light brown with orange mottles. Stiff to very stiff, dry, low to moderate plasticity. [WAITEMATA GROUP SOILS]	Groundwater Not Encountered									
1.0		0.9m: becomes light grey with orange mottles.										
		1.2m: End of Hole (Target Depth Reached)										

### Notes & Abbreviations

Soils logged in accordance with 'The guidelines for the classification and description of soil and rock for engineering purposes' December 2005, NZGS

#### Water

- ▼ Standing Water Level
- ▽ Water Level At Time Of Drilling
- ↔ Out Flow ▷ In Flow

#### Shear Vane

- Corrected as per NZGS Guidelines
- Vane No.:
- UTP = Unable To Penetrate
- + = Peak Exceeded
- = No Result

#### Other Comments

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# HAND AUGER LOG

Job No.: K200826

Client: Goodland Developments Limited

Hole No.: WW AH8

Project: Geotechnical Investigation

Date: 1/02/2024

Location: 2127 Kaipara Coast Highway, Kakanui

Logged By: CD

Coordinates: See Site Plan

Sheet: 1 of 1

Depth (m)	RL	Subsurface Conditions	Groundwater	Geological Unit	Graphic Log	Vane Shear Strength (kPa)					Scala Penetrometer (blows / 50mm)	
						(refer notes for details)				Values	Depth (m)	Blows
						50	100	150	200			
		Topsoil. [TOPSOIL]			TS							
0.5		SILT with some clay; grey with orange mottles. Stiff to very stiff, dry, low to moderate plasticity. [WAITEMATA GROUP SOILS]	Groundwater Not Encountered		TS							
		Clayey SILT; light grey with orange mottles. Stiff to very stiff, moist, moderate plasticity. [WAITEMATA GROUP SOILS]			WAITEMATA GROUP SOILS							
1.0												
		1.2m: End of Hole (Target Depth Reached)										

**Notes & Abbreviations**

Soils logged in accordance with 'The guidelines for the classification and description of soil and rock for engineering purposes' December 2005, NZGS

Water	Shear Vane	Other Comments
▼ Standing Water Level	Corrected as per NZGS Guidelines	
▽ Water Level At Time Of Drilling	Vane No.:	
↔ Out Flow ▷ In Flow	UTP = Unable To Penetrate	
	+ = Peak Exceeded	
	- = No Result	

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Produced with Core-GS

# HAND AUGER LOG

Job No.: K200826

Client: Goodland Developments Limited

Hole No.: WW AH9

Project: Geotechnical Investigation

Date: 1/02/2024

Location: 2127 Kaipara Coast Highway, Kakanui

Logged By: CD

Coordinates: See Site Plan

Sheet: 1 of 1

Depth (m)	RL	Subsurface Conditions	Groundwater	Geological Unit	Graphic Log	Vane Shear Strength (kPa)					Scala Penetrometer (blows / 50mm)	
						(refer notes for details)					Depth (m)	Blows
						50	100	150	200	Values		
		Topsoil. [TOPSOIL]	Groundwater Not Encountered	TS								
0.5		Fine SAND; light orange brown. Loose to medium dense, dry, moderately sorted. [WAITEMATA GROUP SOILS]		WGS								
		0.7m: End of Hole (Obstruction encountered)										
1.0												

**Notes & Abbreviations**

Soils logged in accordance with 'The guidelines for the classification and description of soil and rock for engineering purposes' December 2005, NZGS

Water	Shear Vane	Other Comments
▼ Standing Water Level ▽ Water Level At Time Of Drilling ⇐ Out Flow ⇨ In Flow	Corrected as per NZGS Guidelines Vane No.: UTP = Unable To Penetrate + = Peak Exceeded - = No Result	

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# HAND AUGER LOG

Job No.: K200826

Client: Goodland Developments Limited

Hole No.: WW AH10

Project: Geotechnical Investigation

Date: 1/02/2024

Location: 2127 Kaipara Coast Highway, Kakanui

Logged By: CD

Coordinates: See Site Plan

Sheet: 1 of 1

Depth (m)	RL	Subsurface Conditions	Groundwater	Geological Unit	Graphic Log	Vane Shear Strength (kPa)					Scala Penetrometer (blows / 50mm)	
						(refer notes for details)					Depth (m)	Blows
						50	100	150	200	Values		
		Topsoil. [TOPSOIL]			TS							
0.5		SILT with minor clay and trace fine sand; light brown with orange mottles. Stiff, dry, low plasticity. [WAITEMATA GROUP SOILS]	Groundwater Not Encountered	WAITEMATA GROUP SOILS								
1.0		SILT with some clay; light grey with orange mottles. Stiff to very stiff, dry to moist, low to moderate plasticity. [WAITEMATA GROUP SOILS]										
		1.2m: End of Hole (Target Depth Reached)										

### Notes & Abbreviations

Soils logged in accordance with 'The guidelines for the classification and description of soil and rock for engineering purposes' December 2005, NZGS

#### Water

- ▼ Standing Water Level
- ▽ Water Level At Time Of Drilling
- ↔ Out Flow ▷ In Flow

#### Shear Vane

- Corrected as per NZGS Guidelines
- Vane No.:
- UTP = Unable To Penetrate
- + = Peak Exceeded
- = No Result

#### Other Comments

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# HAND AUGER LOG

Job No.: K200826

Client: Goodland Developments Limited

Hole No.: WW AH11

Project: Geotechnical Investigation

Date: 1/02/2024

Location: 2127 Kaipara Coast Highway, Kakanui

Logged By: CD

Coordinates: See Site Plan

Sheet: 1 of 1

Depth (m)	RL	Subsurface Conditions	Groundwater	Geological Unit	Graphic Log	Vane Shear Strength (kPa)					Scala Penetrometer (blows / 50mm)	
						(refer notes for details)				Values	Depth (m)	Blows
						50	100	150	200			
		Topsoil. [TOPSOIL]										
0.5		SILT with minor clay and minor fine sand; light brown with orange mottles. Stiff, dry, low plasticity. [WAITEMATA GROUP SOILS]	Groundwater Not Encountered	TS								
1.0		SILT with some clay to clayey; light brown with grey and orange mottles. Stiff, moist, moderate plasticity. [WAITEMATA GROUP SOILS]		WAITEMATA GROUP SOILS								
		1.2m: End of Hole (Target Depth Reached)										

**Notes & Abbreviations**

Soils logged in accordance with 'The guidelines for the classification and description of soil and rock for engineering purposes' December 2005, NZGS

Water	Shear Vane	Other Comments
<ul style="list-style-type: none"> <li>▼ Standing Water Level</li> <li>▽ Water Level At Time Of Drilling</li> <li>↔ Out Flow ▷ In Flow</li> </ul>	<ul style="list-style-type: none"> <li>Corrected as per NZGS Guidelines</li> <li>Vane No.:</li> <li>UTP = Unable To Penetrate</li> <li>+ = Peak Exceeded</li> <li>- = No Result</li> </ul>	

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# HAND AUGER LOG

Job No.: K200826

Client: Goodland Developments Limited

Hole No.: WW AH12

Project: Geotechnical Investigation

Date: 1/02/2024

Location: 2127 Kaipara Coast Highway, Kakanui

Logged By: CD

Coordinates: See Site Plan

Sheet: 1 of 1

Depth (m)	RL	Subsurface Conditions	Groundwater	Geological Unit	Graphic Log	Vane Shear Strength (kPa)					Scala Penetrometer (blows / 50mm)	
						(refer notes for details)					Depth (m)	Blows
						50	100	150	200	Values		
		Topsoil. [TOPSOIL]	Groundwater Not Encountered	TS								
		0.3m: End of Hole (Obstruction encountered)										
0.5												
1.0												

**Notes & Abbreviations**

Soils logged in accordance with 'The guidelines for the classification and description of soil and rock for engineering purposes' December 2005, NZGS

Water	Shear Vane	Other Comments
▼ Standing Water Level ▽ Water Level At Time Of Drilling ⇐ Out Flow ⇨ In Flow	Corrected as per NZGS Guidelines Vane No.: UTP = Unable To Penetrate + = Peak Exceeded - = No Result	

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# HAND AUGER LOG

Job No.: K200826

Client: Goodland Developments Limited

Hole No.: WW AH13

Project: Geotechnical Investigation

Date: 1/02/2024

Location: 2127 Kaipara Coast Highway, Kakanui

Logged By: CD

Coordinates: See Site Plan

Sheet: 1 of 1

Depth (m)	RL	Subsurface Conditions	Groundwater	Geological Unit	Graphic Log	Vane Shear Strength (kPa)					Scala Penetrometer (blows / 50mm)	
						50	100	150	200	Values	Depth (m)	Blows
		Topsoil. [TOPSOIL]	Water Not Encountered	TS								
		0.1m: End of Hole (Obstruction encountered)										
0.5												
1.0												

### Notes & Abbreviations

Soils logged in accordance with 'The guidelines for the classification and description of soil and rock for engineering purposes' December 2005, NZGS

#### Water

- ▼ Standing Water Level
- ∇ Water Level At Time Of Drilling
- ↔ Out Flow ▷ In Flow

#### Shear Vane

- Corrected as per NZGS Guidelines
- Vane No.:
- UTP = Unable To Penetrate
- + = Peak Exceeded
- = No Result

#### Other Comments

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# HAND AUGER LOG

Job No.: K200826

Client: Goodland Developments Limited

Hole No.: WW AH14

Project: Geotechnical Investigation

Date: 1/02/2024

Location: 2127 Kaipara Coast Highway, Kakanui

Logged By: CD

Coordinates: See Site Plan

Sheet: 1 of 1

Depth (m)	RL	Subsurface Conditions	Groundwater	Geological Unit	Graphic Log	Vane Shear Strength (kPa)					Scala Penetrometer (blows / 50mm)	
						(refer notes for details)					Depth (m)	Blows
						50	100	150	200	Values		
		Topsoil. [TOPSOIL]	Groundwater Not Encountered	TS								
0.5		SILT with some clay; grey to light grey with orange mottles. Stiff to very stiff, dry, low to moderate plasticity. [WAITEMATA GROUP SOILS]				WAITEMATA GROUP SOILS						
		0.8m: becomes Clayey SILT										
		1.2m: End of Hole (Target Depth Reached)										

**Notes & Abbreviations**

Soils logged in accordance with 'The guidelines for the classification and description of soil and rock for engineering purposes' December 2005, NZGS

Water	Shear Vane	Other Comments
▼ Standing Water Level ▽ Water Level At Time Of Drilling ↙ Out Flow    ↘ In Flow	Corrected as per NZGS Guidelines Vane No.: UTP = Unable To Penetrate + = Peak Exceeded - = No Result	

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## **APPENDIX B**

### Third Party Information





REFER TO C202 FOR DETAIL PLAN



**LEGEND**

- SITE BOUNDARY
- EARTHWORKS EXTENT
- 50.0  
--- 52.0 EXISTING CONTOURS
- PROPOSED LOT AND ROAD BOUNDARIES
- PROPOSED RETAINING WALL
- EXISTING NATURAL WETLAND
- EXISTING MAN-MADE WETLAND

**NOTES:**

1. PROPOSED CONTOURS SHOWN ARE FINISHED GROUND LEVELS
2. SEDIMENT AND EROSION CONTROLS ARE TO BE OPERATIONAL, AS-BUILT AND APPROVED BY COUNCIL PRIOR TO BULK EARTHWORKS
3. ALL FILL TO BE PLACED TO CLASS A COMPACTION STANDARD AND CERTIFIED BY A GEOTECHNICAL ENGINEER

**CONSENT ISSUE**

D	INFORMAL S92 RESPONSE	ZY	21/07/23
C	ROAD 3 RE-ALIGN	VC	20/12/21
B	ROADING RE-ALIGN	VC	18/11/21
A	ORIGINAL ISSUE	VC	28/10/21
REVISION	CHANGES	CHECKED	DATE

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CLIENT  
**ABIB (OMARU) LTD**

PROJECT  
**GOODLAND COASTAL FARM**

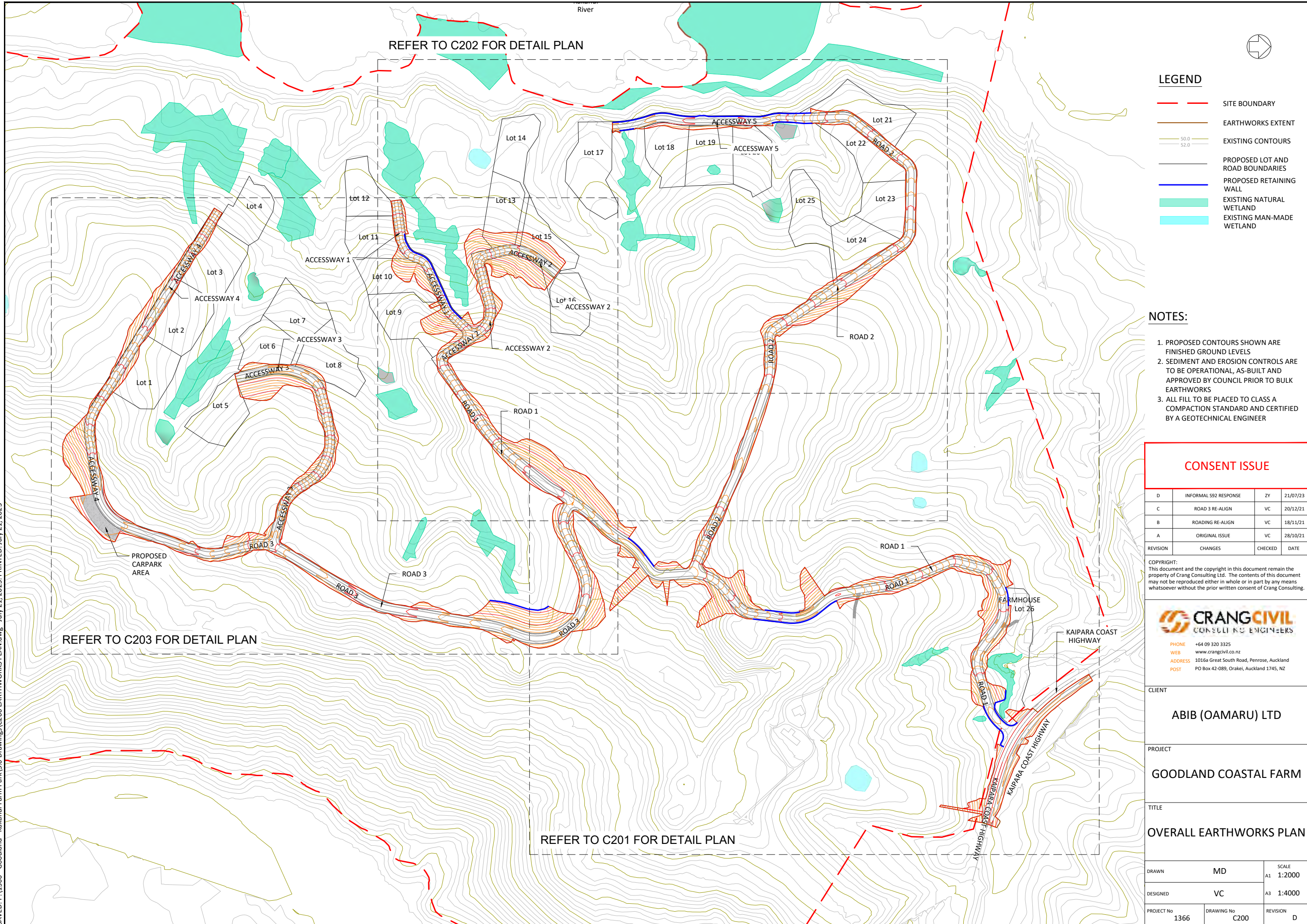
TITLE  
**OVERALL EARTHWORKS PLAN**

DRAWN	MD	SCALE
DESIGNED	VC	A1 1:2000
PROJECT No	DRAWING No	REVISION
1366	C200	D

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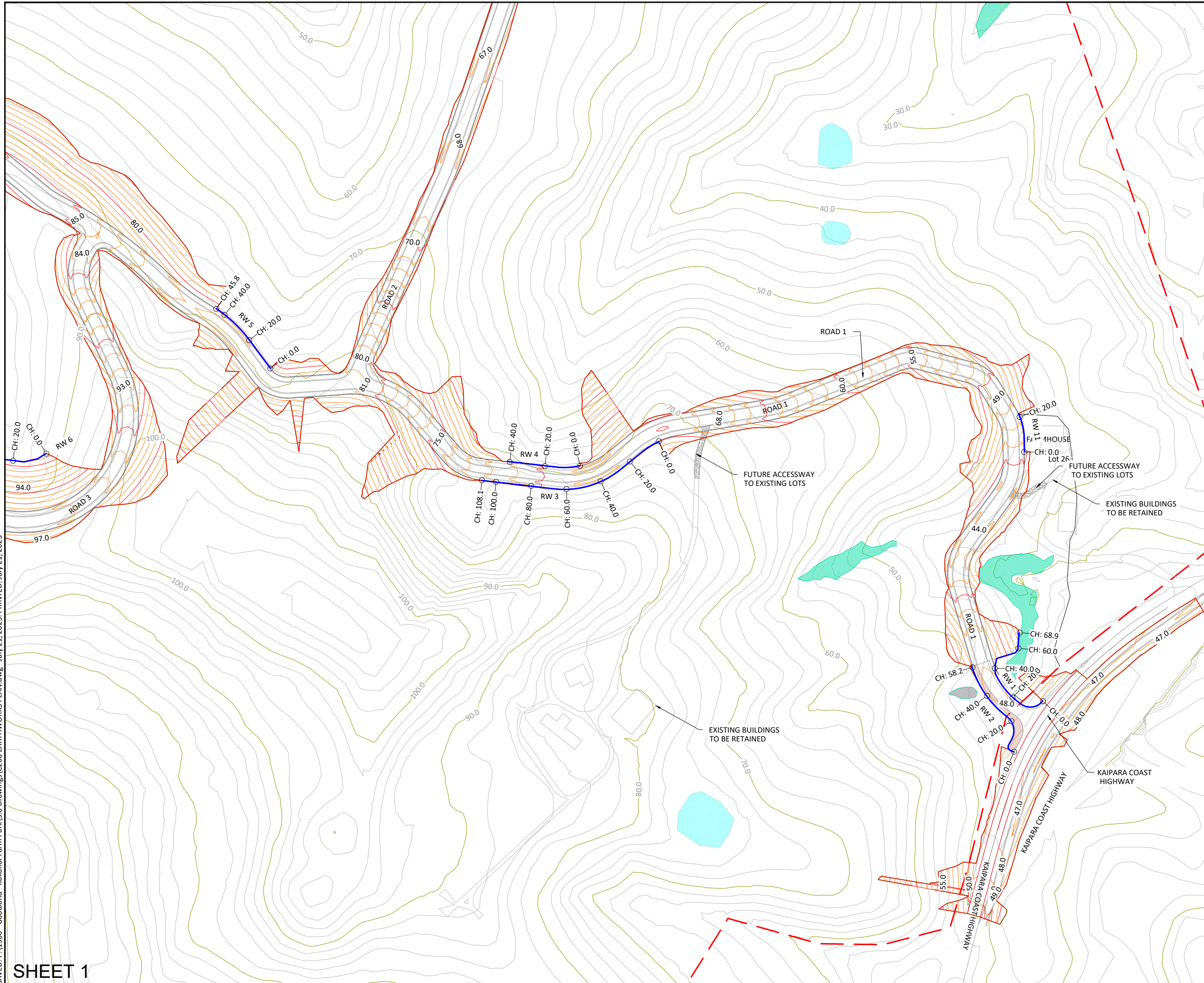
REFER TO C203 FOR DETAIL PLAN

REFER TO C201 FOR DETAIL PLAN



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SHEET 1



**LEGEND**

- SITE BOUNDARY
- EARTHWORKS EXTENT
- EXISTING CONTOURS
- PROPOSED LOT AND ROAD BOUNDARIES
- PROPOSED RETAINING WALL
- EXISTING NATURAL WETLAND
- EXISTING MAN-MADE WETLAND

**RETAINING WALL HEIGHTS:**

REFER TO DRAWINGS C240-C242 FOR RETAINING WALL LONG SECTIONS.

- RW 1 MAX. HEIGHT: 5.63m
- RW 2 MAX. HEIGHT: 4.31m
- RW 3 MAX. HEIGHT: 3.88m
- RW 4 MAX. HEIGHT: 0.83m
- RW 5 MAX. HEIGHT: 3.11m
- RW 6 MAX. HEIGHT: 4.04m
- RW 11 MAX. HEIGHT: 1.01m

**NOTES:**

1. PROPOSED CONTOURS SHOWN ARE FINISHED GROUND LEVELS
2. SEDIMENT AND EROSION CONTROLS ARE TO BE OPERATIONAL, AS-BUILT AND APPROVED BY COUNCIL PRIOR TO BULK EARTHWORKS
3. ALL FILL TO BE PLACED TO CLASS A COMPACTION STANDARD AND CERTIFIED BY A GEOTECHNICAL ENGINEER

**CONSENT ISSUE**

REVISION	CHANGES	CHECKED	DATE
C	INFORMAL S92 RESPONSE	ZY	21/07/23
B	ROADING RE-ALIGN	VC	18/11/21
A	ORIGINAL ISSUE	VC	28/10/21

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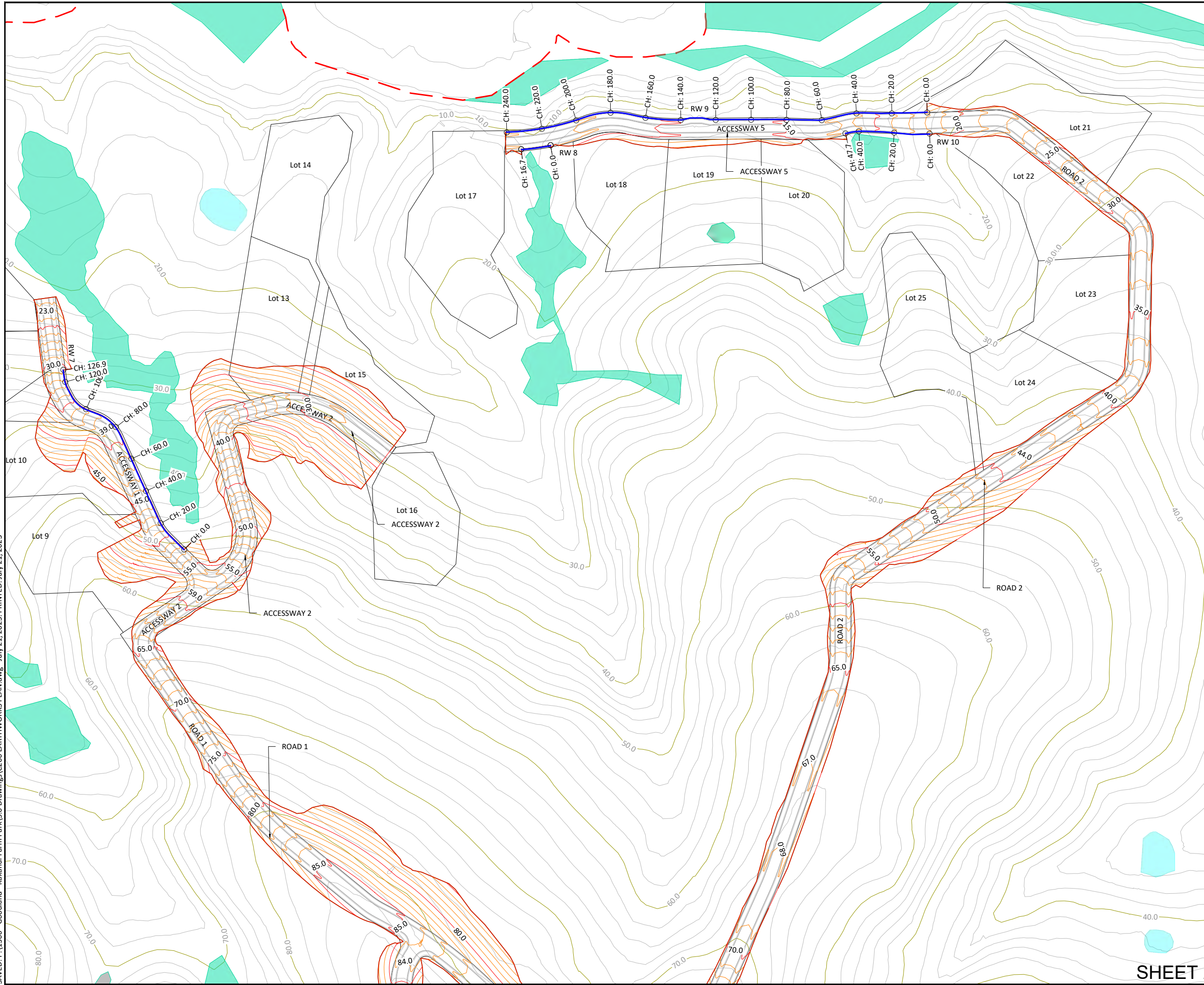
CLIENT  
**ABIB (OAMARU) LTD**

PROJECT  
**GOODLAND COASTAL FARM**

TITLE  
**EARTHWORKS PLAN SHEET 1**

DRAWN	MD	SCALE	A1 1:1000
DESIGNED	VC	SCALE	A3 1:2000
PROJECT No	1366	DRAWING No	C201
		REVISION	C

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**LEGEND**

- SITE BOUNDARY
- EARTHWORKS EXTENT
- EXISTING CONTOURS
- PROPOSED LOT AND ROAD BOUNDARIES
- PROPOSED RETAINING WALL
- EXISTING NATURAL WETLAND
- EXISTING MAN-MADE WETLAND

**RETAINING WALL HEIGHTS:**

- REFER TO DRAWINGS C240-C242 FOR RETAINING WALL LONG SECTIONS.
- RW 7 MAX. HEIGHT: 1.77m
- RW 8 MAX. HEIGHT: 2.06m
- RW 9 MAX. HEIGHT: 4.55m
- RW 10 MAX. HEIGHT: 2.59m

**NOTES:**

1. PROPOSED CONTOURS SHOWN ARE FINISHED GROUND LEVELS
2. SEDIMENT AND EROSION CONTROLS ARE TO BE OPERATIONAL, AS-BUILT AND APPROVED BY COUNCIL PRIOR TO BULK EARTHWORKS
3. ALL FILL TO BE PLACED TO CLASS A COMPACTION STANDARD AND CERTIFIED BY A GEOTECHNICAL ENGINEER

**CONSENT ISSUE**

D	INFORMAL S92 RESPONSE	ZY	21/07/23
C	ROAD 3 RE-ALIGN	VC	20/12/21
B	ROADING RE-ALIGN	VC	18/11/21
A	ORIGINAL ISSUE	VC	28/10/21
REVISION	CHANGES	CHECKED	DATE

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PROJECT

**GOODLAND COASTAL FARM**

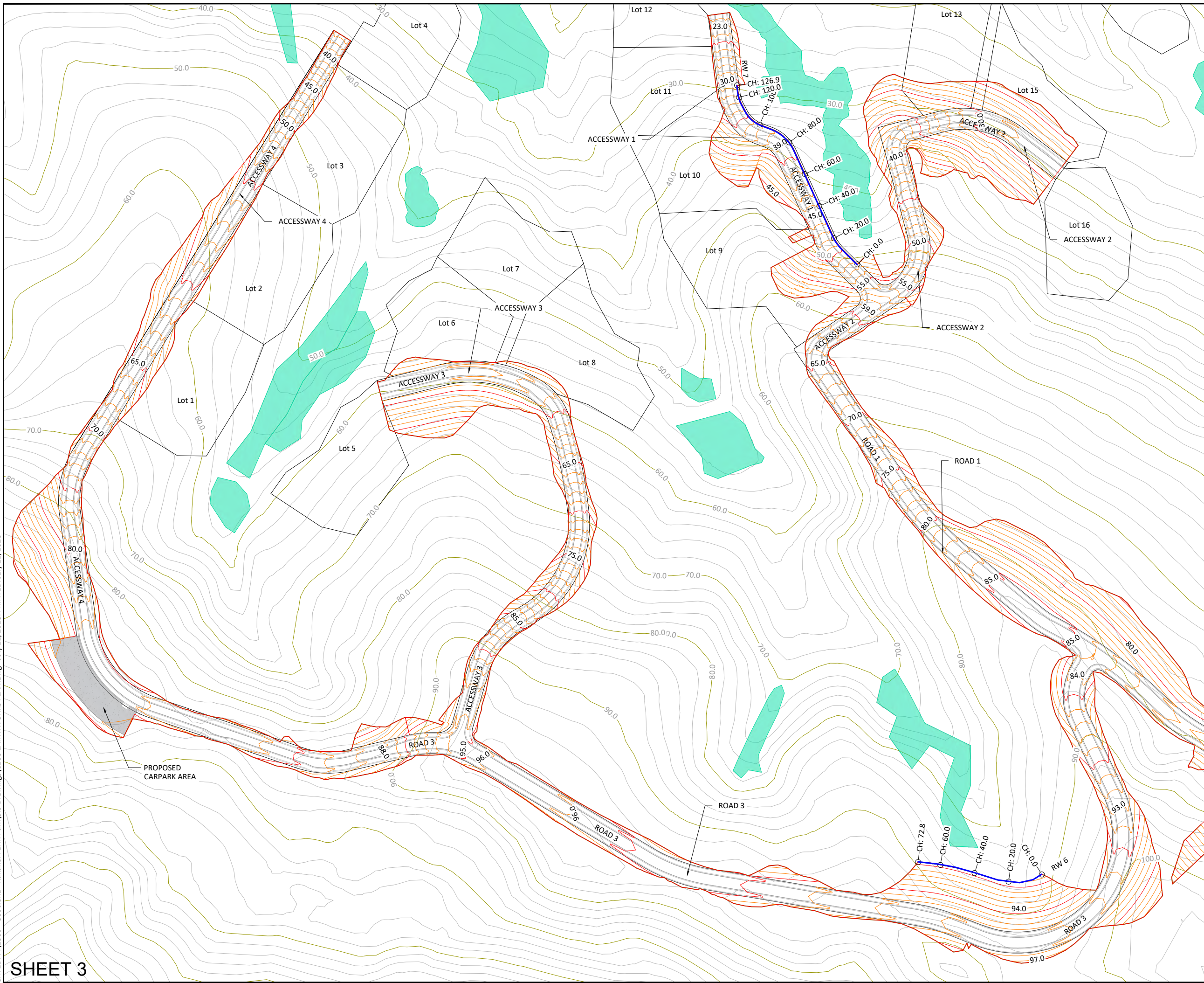
TITLE

**EARTHWORKS PLAN SHEET 2**

DRAWN	MD	SCALE	A1 1:1000
DESIGNED	VC	A3	1:2000
PROJECT No	DRAWING No	REVISION	
1366	C202	D	

**SHEET 2**

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**LEGEND**

- SITE BOUNDARY
- EARTHWORKS EXTENT
- 50.0  
— 52.0 EXISTING CONTOURS
- PROPOSED LOT AND ROAD BOUNDARIES
- PROPOSED RETAINING WALL
- EXISTING NATURAL WETLAND
- EXISTING MAN-MADE WETLAND

**RETAINING WALL HEIGHTS:**

REFER TO DRAWINGS C240-C242 FOR RETAINING WALL LONG SECTIONS.  
 RW 6 MAX. HEIGHT: 4.04m  
 RW 7 MAX. HEIGHT: 1.77m

**NOTES:**

1. PROPOSED CONTOURS SHOWN ARE FINISHED GROUND LEVELS
2. SEDIMENT AND EROSION CONTROLS ARE TO BE OPERATIONAL, AS-BUILT AND APPROVED BY COUNCIL PRIOR TO BULK EARTHWORKS
3. ALL FILL TO BE PLACED TO CLASS A COMPACTION STANDARD AND CERTIFIED BY A GEOTECHNICAL ENGINEER

**CONSENT ISSUE**

D	INFORMAL S92 RESPONSE	ZY	21/07/23
C	ROAD 3 RE-ALIGN	VC	20/12/21
B	ROADING RE-ALIGN	VC	18/11/21
A	ORIGINAL ISSUE	VC	28/10/21
REVISION	CHANGES	CHECKED	DATE

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CLIENT  
**ABIB (OAMARU) LTD**

PROJECT  
**GOODLAND COASTAL FARM**

TITLE  
**EARTHWORKS PLAN SHEET 3**

DRAWN	MD	SCALE	A1 1:1000
DESIGNED	VC	A3	1:2000
PROJECT No	DRAWING No	REVISION	
1366	C203	D	

REFER TO C212 FOR DETAIL PLAN



**LEGEND**

- SITE BOUNDARY
- EARTHWORKS EXTENT
- 50.0  
--- 52.0 EXISTING CONTOURS
- PROPOSED LOT AND ROAD BOUNDARIES
- PROPOSED RETAINING WALL
- EXISTING NATURAL WETLAND
- EXISTING MAN-MADE WETLAND

**NOTES:**

1. CUT & FILL ELEVATION RANGES ARE FROM EXISTING SURFACE TO FINISHED GROUND LEVELS.
2. A SUMMARY OF THE ADJUSTED VOLUME IS AS FOLLOWS:
  - TOPSOIL STRIP = 22,385m<sup>3</sup>
  - TOPSOIL RESPREAD = 17,000m<sup>3</sup>
  - CUT TO FILL (CLAY/SILT) = 49,670m<sup>3</sup>
  - IMPORT CLAY FILL = 410m<sup>3</sup>
3. VOLUME SUMMARY ASSUMES THE FOLLOWING:
  - TOPSOIL STRIP: -0.25m
  - TOPSOIL RESPREAD: 0.25m
  - ROAD/ACCESSWAY SUBGRADE: -0.38m
  - COMPACTION FACTOR = 15%
4. SUMMARIES DO NOT INCLUDE UNSUITABLE MATERIALS/PEAT.

**CONSENT ISSUE**

C	INFORMAL S92 RESPONSE	ZY	21/07/23
B	ROAD 3 RE-ALIGN	VC	20/12/21
A	ORIGINAL ISSUE	VC	24/11/21
REVISION	CHANGES	CHECKED	DATE

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CLIENT  
**ABIB (OMARU) LTD**

PROJECT  
**GOODLAND COASTAL FARM**

TITLE  
**OVERALL CUT & FILL LAYOUT PLAN**

DRAWN	MD	SCALE	A1 1:2000
DESIGNED	VC	A3	1:4000
PROJECT No	DRAWING No	REVISION	
1366	C210	C	

SAVED: P:\1366 - Goodland - Kakanui Farm Park\5.0 Drawings\C210 CUT & FILL PLAN.dwg - July 21, 2023. PRINTED: July 21, 2023

**Surface Analysis: Elevation Ranges**

Number	Color	Minimum Elevation (m)	Maximum Elevation (m)
1	Blue	-4.500	-3.000
2	Light Blue	-3.000	-2.000
3	Cyan	-2.000	-1.000
4	Light Green	-1.000	0.000
5	White	0.000	1.000
6	Light Grey	1.000	2.000
7	Medium Grey	2.000	3.000
8	Dark Grey	3.000	4.000
9	Black	4.000	5.700

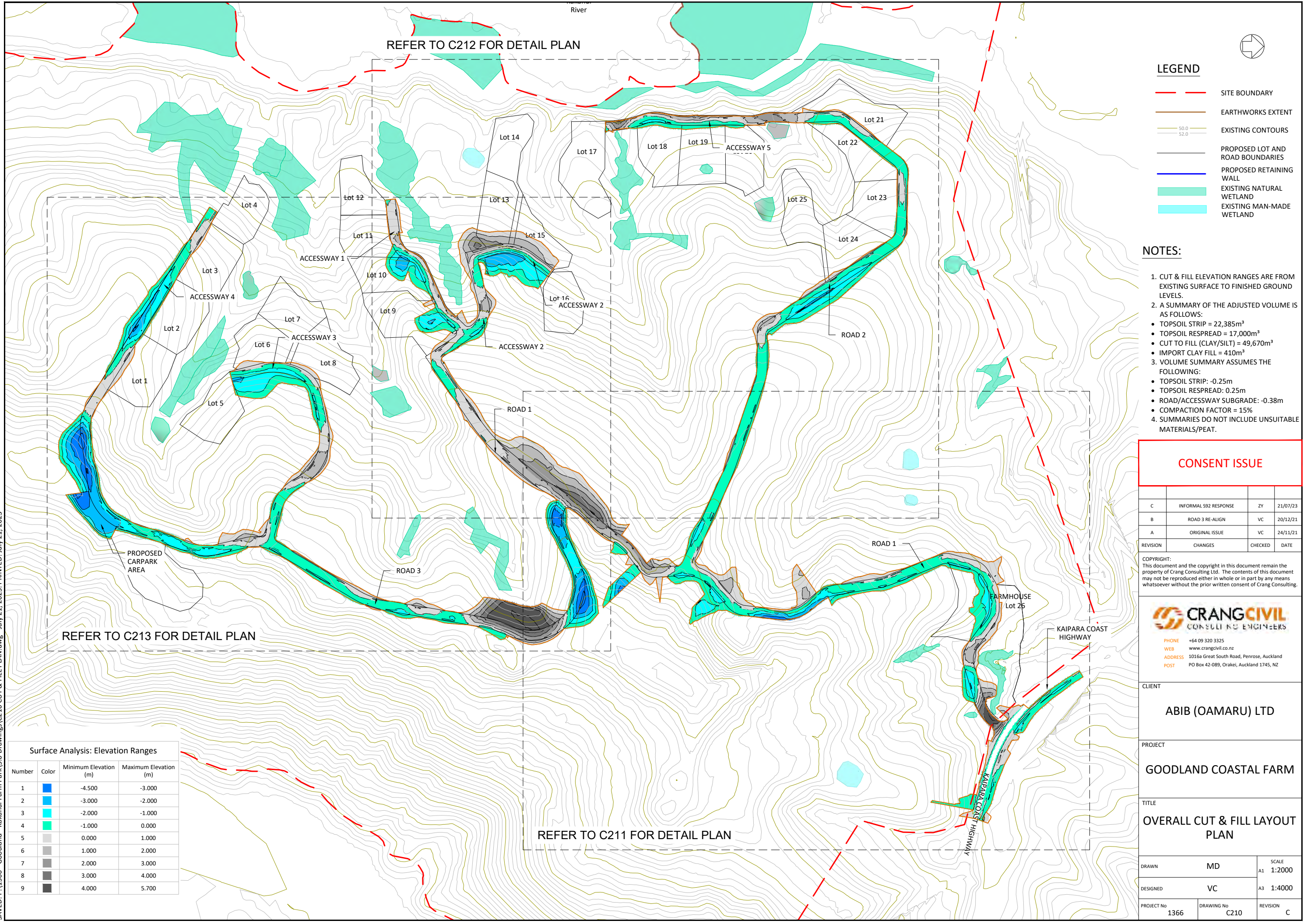
REFER TO C213 FOR DETAIL PLAN

REFER TO C211 FOR DETAIL PLAN

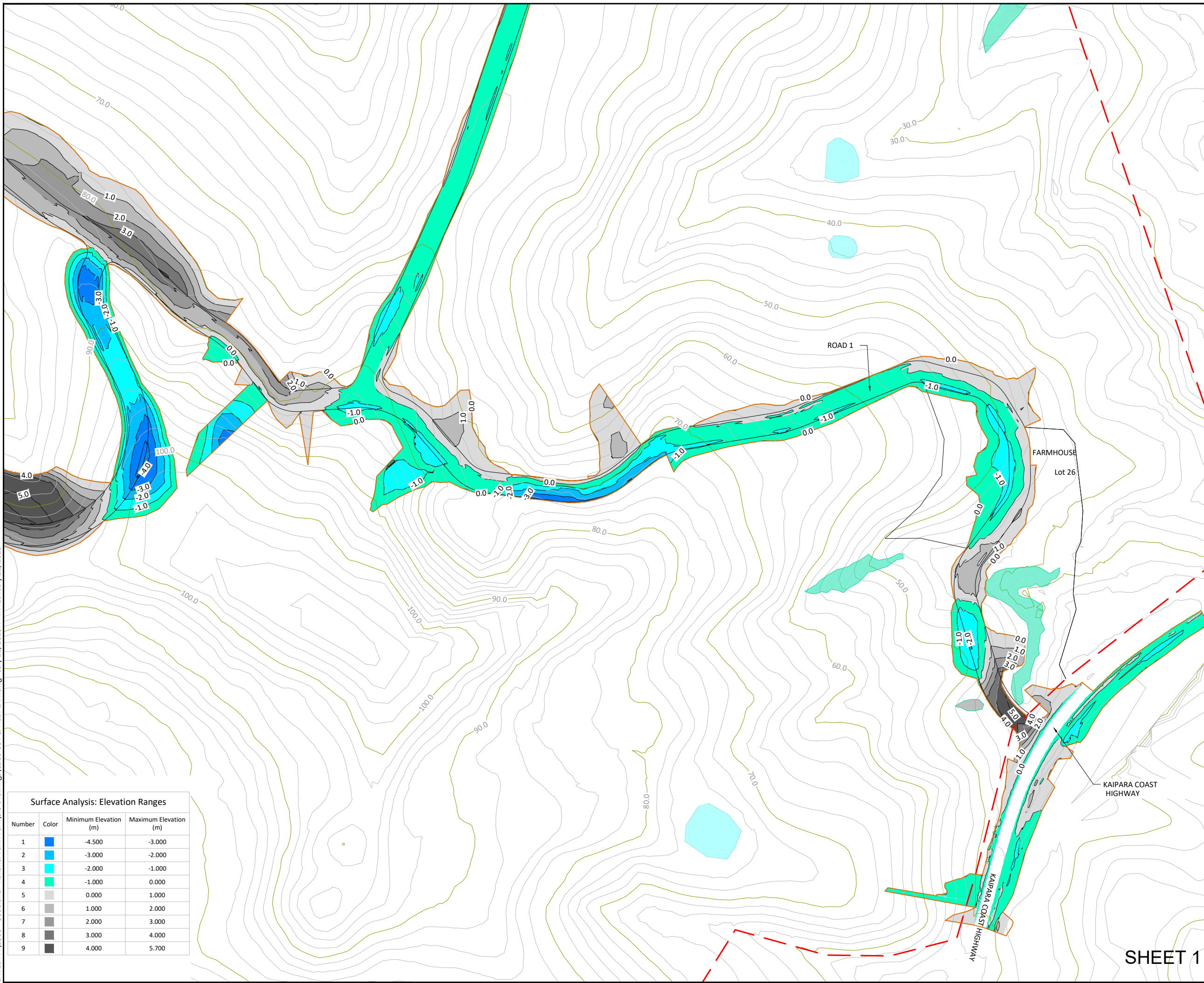
FARMHOUSE Lot 26

KAIPARA COAST HIGHWAY

KAIPARA COAST HIGHWAY



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**LEGEND**

- SITE BOUNDARY
- EARTHWORKS EXTENT
- 50.0  
--- 52.0 EXISTING CONTOURS
- PROPOSED LOT AND ROAD BOUNDARIES
- PROPOSED RETAINING WALL
- EXISTING NATURAL WETLAND
- EXISTING MAN-MADE WETLAND

**NOTES:**

1. CUT & FILL ELEVATION RANGES ARE FROM EXISTING SURFACE TO FINISHED GROUND LEVELS.
2. A SUMMARY OF THE ADJUSTED VOLUME IS AS FOLLOWS:
  - TOPSOIL STRIP = 22,385m<sup>3</sup>
  - TOPSOIL RESPREAD = 17,000m<sup>3</sup>
  - CUT TO FILL (CLAY/SILT) = 49,670m<sup>3</sup>
  - IMPORT CLAY FILL = 410m<sup>3</sup>
3. VOLUME SUMMARY ASSUMES THE FOLLOWING:
  - TOPSOIL STRIP: -0.25m
  - TOPSOIL RESPREAD: 0.25m
  - ROAD/ACCESSWAY SUBGRADE: -0.38m
  - COMPACTION FACTOR = 15%
4. SUMMARIES DO NOT INCLUDE UNSUITABLE MATERIALS/PEAT.

**CONSENT ISSUE**

REVISION	CHANGES	CHECKED	DATE
B	INFORMAL S92 RESPONSE	ZY	21/07/23
A	ORIGINAL ISSUE	VC	24/11/21

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PROJECT  
**GOODLAND COASTAL FARM**

TITLE  
**CUT & FILL LAYOUT PLAN SHEET 1**

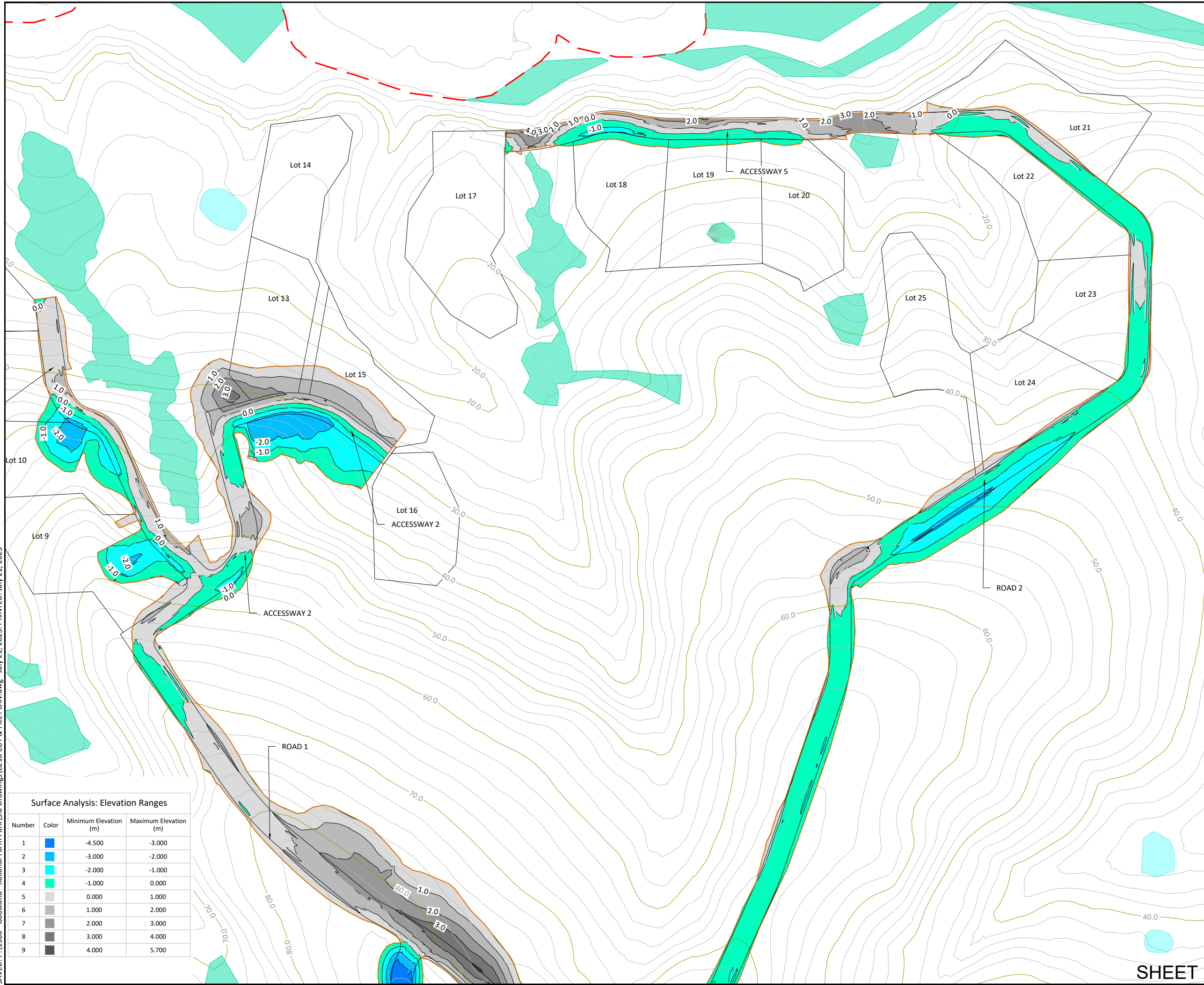
DRAWN	MD	SCALE	A1 1:1000
DESIGNED	VC	SCALE	A3 1:2000
PROJECT No	1366	DRAWING No	C211
REVISION	B		

**SHEET 1**

**Surface Analysis: Elevation Ranges**

Number	Color	Minimum Elevation (m)	Maximum Elevation (m)
1	Blue	-4.500	-3.000
2	Light Blue	-3.000	-2.000
3	Cyan	-2.000	-1.000
4	Light Green	-1.000	0.000
5	White	0.000	1.000
6	Light Grey	1.000	2.000
7	Medium Grey	2.000	3.000
8	Dark Grey	3.000	4.000
9	Black	4.000	5.700

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**LEGEND**

- SITE BOUNDARY
- EARTHWORKS EXTENT
- EXISTING CONTOURS
- PROPOSED LOT AND ROAD BOUNDARIES
- PROPOSED RETAINING WALL
- EXISTING NATURAL WETLAND
- EXISTING MAN-MADE WETLAND

**NOTES:**

1. CUT & FILL ELEVATION RANGES ARE FROM EXISTING SURFACE TO FINISHED GROUND LEVELS.
2. A SUMMARY OF THE ADJUSTED VOLUME IS AS FOLLOWS:
  - TOPSOIL STRIP = 22,385m<sup>3</sup>
  - TOPSOIL RESPREAD = 17,000m<sup>3</sup>
  - CUT TO FILL (CLAY/SILT) = 49,670m<sup>3</sup>
  - IMPORT CLAY FILL = 410m<sup>3</sup>
3. VOLUME SUMMARY ASSUMES THE FOLLOWING:
  - TOPSOIL STRIP: -0.25m
  - TOPSOIL RESPREAD: 0.25m
  - ROAD/ACCESSWAY SUBGRADE: -0.38m
  - COMPACTION FACTOR = 15%
4. SUMMARIES DO NOT INCLUDE UNSUITABLE MATERIALS/PEAT.

**CONSENT ISSUE**

REVISION	CHANGES	CHECKED	DATE
B	INFORMAL S92 RESPONSE	ZY	21/07/23
A	ORIGINAL ISSUE	VC	24/11/21

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PROJECT  
**GOODLAND COASTAL FARM**

TITLE  
**CUT & FILL LAYOUT PLAN SHEET 2**

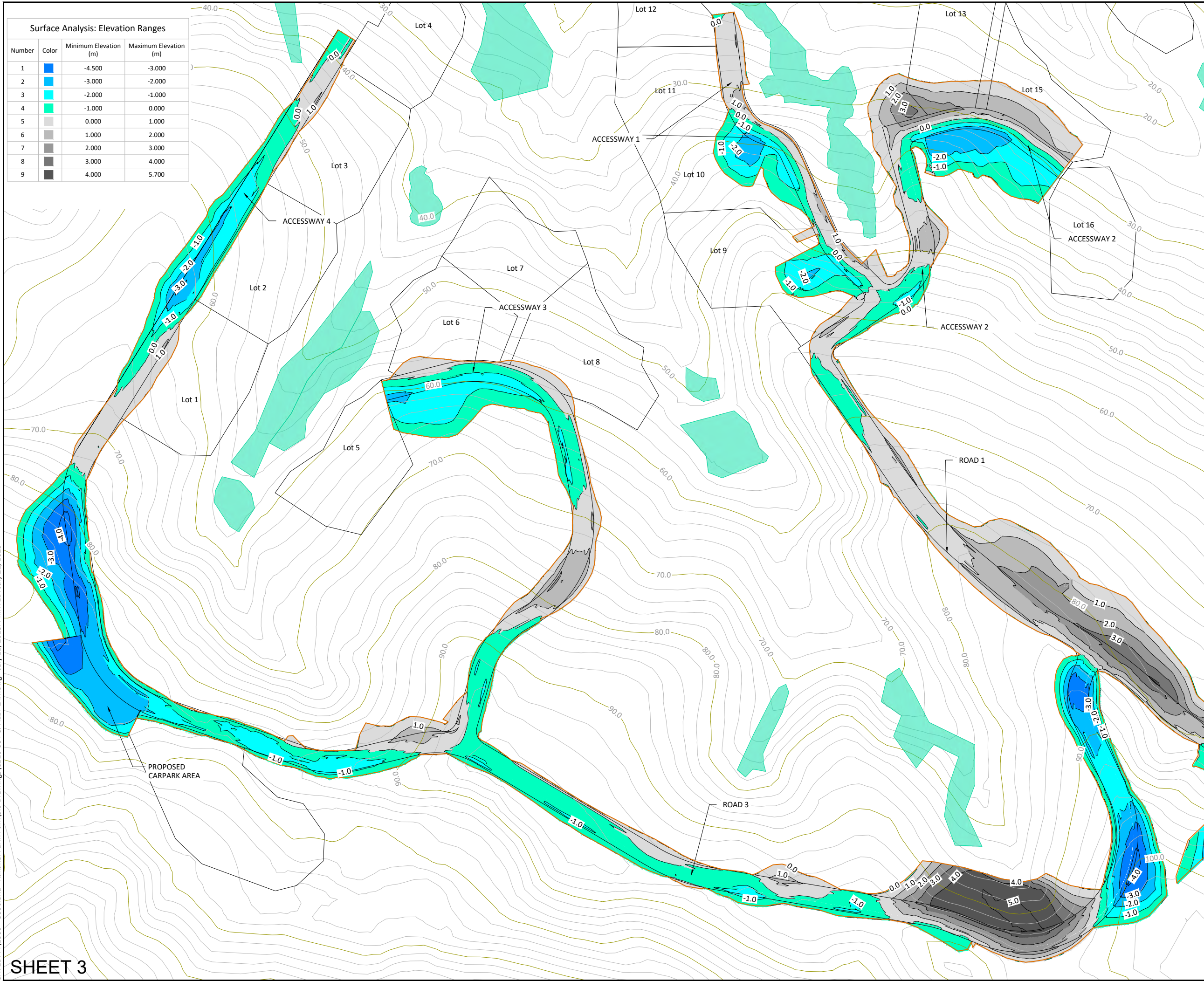
DRAWN	MD	SCALE	A1 1:1000
DESIGNED	VC		A3 1:2000
PROJECT No	DRAWING No	REVISION	
1366	C212	B	

**Surface Analysis: Elevation Ranges**

Number	Color	Minimum Elevation (m)	Maximum Elevation (m)
1		-4.500	-3.000
2		-3.000	-2.000
3		-2.000	-1.000
4		-1.000	0.000
5		0.000	1.000
6		1.000	2.000
7		2.000	3.000
8		3.000	4.000
9		4.000	5.700

SHEET 2

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**SHEET 3**

**Surface Analysis: Elevation Ranges**

Number	Color	Minimum Elevation (m)	Maximum Elevation (m)
1	Blue	-4.500	-3.000
2	Light Blue	-3.000	-2.000
3	Cyan	-2.000	-1.000
4	Light Green	-1.000	0.000
5	White	0.000	1.000
6	Light Grey	1.000	2.000
7	Medium Grey	2.000	3.000
8	Dark Grey	3.000	4.000
9	Black	4.000	5.700

**LEGEND**

- Red line: SITE BOUNDARY
- Orange line: EARTHWORKS EXTENT
- Yellow line: EXISTING CONTOURS
- Black line: PROPOSED LOT AND ROAD BOUNDARIES
- Blue line: PROPOSED RETAINING WALL
- Light Green area: EXISTING NATURAL WETLAND
- Cyan area: EXISTING MAN-MADE WETLAND

- NOTES:**
- CUT & FILL ELEVATION RANGES ARE FROM EXISTING SURFACE TO FINISHED GROUND LEVELS.
  - A SUMMARY OF THE ADJUSTED VOLUME IS AS FOLLOWS:
    - TOPSOIL STRIP = 22,385m<sup>3</sup>
    - TOPSOIL RESPREAD = 17,000m<sup>3</sup>
    - CUT TO FILL (CLAY/SILT) = 49,670m<sup>3</sup>
    - IMPORT CLAY FILL = 410m<sup>3</sup>
  - VOLUME SUMMARY ASSUMES THE FOLLOWING:
    - TOPSOIL STRIP: -0.25m
    - TOPSOIL RESPREAD: 0.25m
    - ROAD/ACCESSWAY SUBGRADE: -0.38m
    - COMPACTION FACTOR = 15%
  - SUMMARIES DO NOT INCLUDE UNSUITABLE MATERIALS/PEAT.

**CONSENT ISSUE**

REVISION	CHANGES	CHECKED	DATE
C	INFORMAL S92 RESPONSE	ZY	21/07/23
B	ROAD 3 RE-ALIGN	VC	20/12/21
A	ORIGINAL ISSUE	VC	24/11/21

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CLIENT	ABIB (OAMARU) LTD		
PROJECT	GOODLAND COASTAL FARM		
TITLE	CUT & FILL LAYOUT PLAN SHEET 3		
DRAWN	MD	SCALE	A1 1:1000
DESIGNED	VC	SCALE	A3 1:2000
PROJECT No	1366	DRAWING No	C213
		REVISION	C

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Kakanui River

REFER TO C222 FOR DETAIL PLAN

REFER TO C223 FOR DETAIL PLAN

REFER TO C221 FOR DETAIL PLAN

**LEGEND**

- 60.0 PROPOSED CONTOURS
- 52.0 EXISTING CONTOURS
- EARTHWORKS EXTENT
- TREATMENT DEVICE CATCHMENT
- DWD EARTHWORKS EXTENT
- CWD EARTHWORKS EXTENT
-  STABILISED CONSTRUCTION ENTRANCE
-  DEB

**NOTES:**

1. ALL CLEAN WATER RUNOFF FROM UPSTREAM CATCHMENTS SHALL BE DIVERTED AWAY FROM THE WORKS AND TOWARDS STABILISED DRAINS TO PREVENT SURFACE EROSION.
2. EROSION AND SEDIMENT CONTROL PLANS SHALL COMPLY WITH THE "EROSION AND SEDIMENT CONTROL GUIDELINES FOR LAND DISTURBING ACTIVITIES" ALSO KNOWN AS GD05.
3. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IN PLACE AND FULLY OPERATIONAL PRIOR TO START OF EARTHWORKS. THE CONTRACTOR SHALL ARRANGE FOR AND ATTEND A PRELIMINARY SEDIMENT CONTROL MEETING ON-SITE WITH AC REPRESENTATIVE AND THE ENGINEER.
4. CONTRACTOR SHALL ENSURE THAT A COPY OF EROSION AND SEDIMENT CONTROL PLANS AVAILABLE ON SITE AT ALL TIMES AND THAT ALL SUB-CONTRACTORS AND PERSONNEL INVOLVED IN EARTHWORKS OR OTHER ACTIVITIES RELATED TO EROSION AND SEDIMENT CONTROL HAVE ACCESS TO THESE PLANS AND ARE FAMILIAR WITH THE MEASURES TO BE UNDERTAKEN.

**CONSENT ISSUE**

C	INFORMAL S92 RESPONSE	ZY	21/07/23
B	ROAD 3 RE-ALIGN	VC	20/12/21
A	ORIGINAL ISSUE	VC	24/11/21
REVISION	CHANGES	CHECKED	DATE

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PROJECT  
**GOODLAND COASTAL FARM**

TITLE  
**EROSION & SEDIMENT CONTROL OVERALL PLAN**

DRAWN	MD	SCALE	A1 1:2000
DESIGNED	VC	A3	1:4000
PROJECT No	DRAWING No	REVISION	
1366	C220	C	