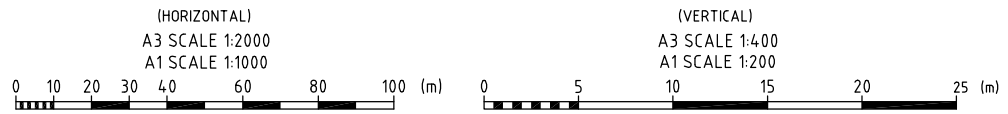
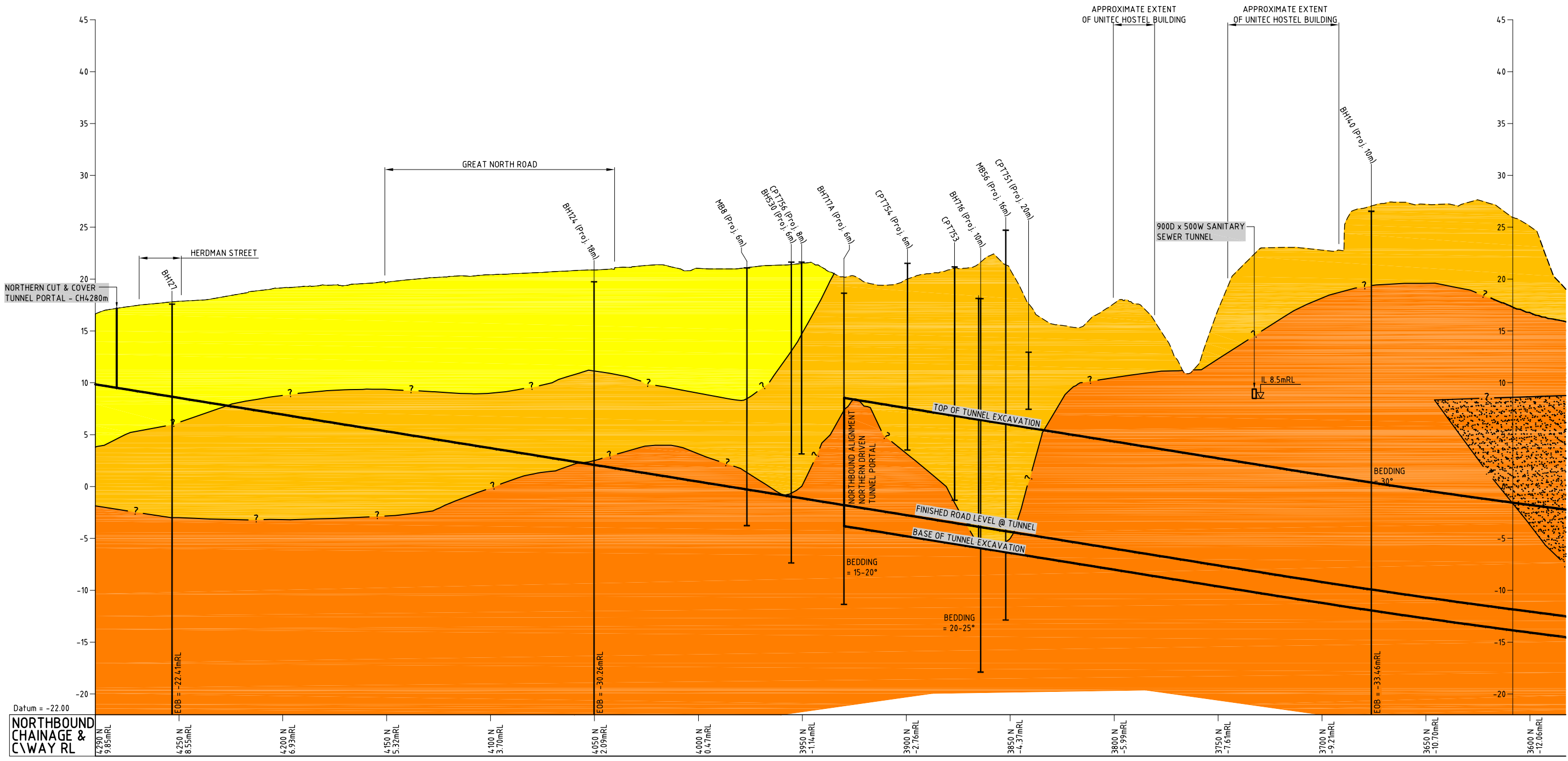
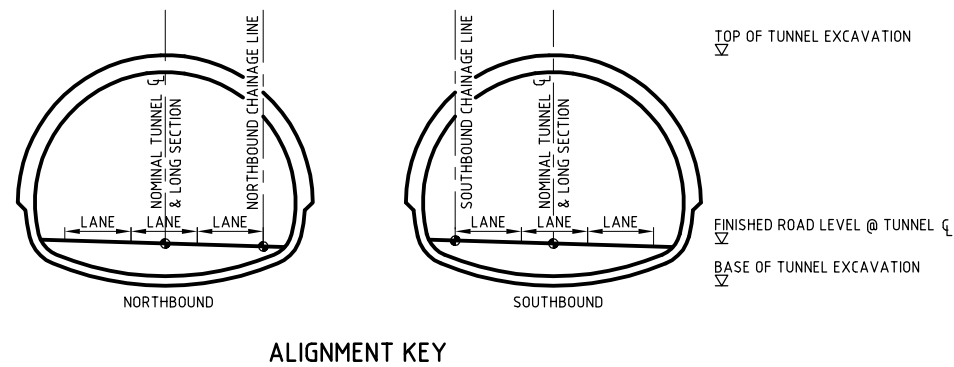


LEGEND

- FILL
- REFUSE
- TUFF
- BASALT
- TAURANGA GROUP
- WEATHERED ECBF
- ECBF Siltstone & Sandstone (SPT N ≥ 50)
- WEATHERED PARNELL GRIT
- PARNELL GRIT



No.	Revision	By	Chk	Appd	Date
B	CONSENT ISSUE	LJD	NIS	TJES	27.05.10
A	GEOTECHNICAL INTERPRETATIVE REPORT ISSUE	LJD	NIS	TJES	21.04.10

Drawing Originator:

Tonkin & Taylor
Environmental and Engineering Consultants

Original Scale (A1)	1:1000	Design Engineer	JKK
Reduced Scale (A3)	1:2000	Review Engineer	NIS
		Drafting Checked	BKD
		Consultant Approval	TJES
		Received by Beca	RM

NZ TRANSPORT AGENCY
WAKA KOTAHĪ

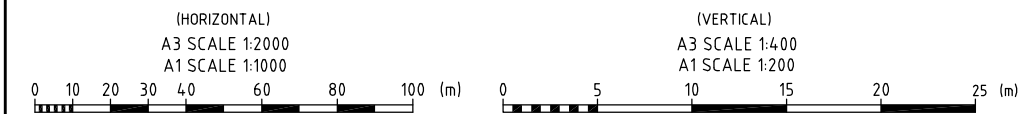
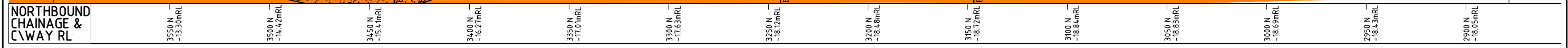
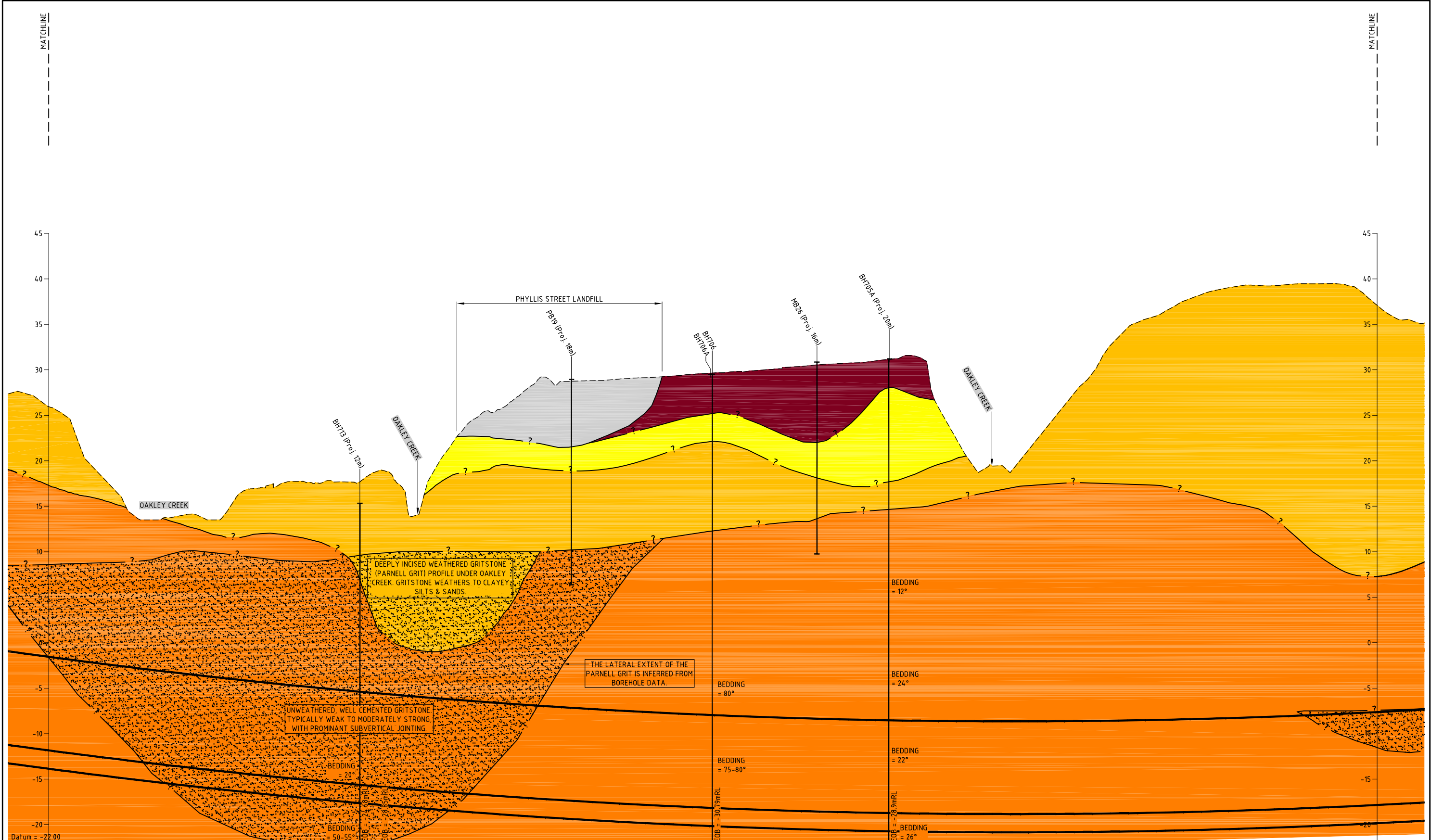
Project: **WATERVIEW CONNECTION PROJECT**
SH16 / SH20

Title: **NORTHBOUND ALIGNMENT GEOLOGICAL LONG SECTION (SHEET 1 OF 6)**

Base level: MSL AUCK. VERT. DATUM 1946	
Grid Reference:	
MT EDEN 2000	
Originator No.	
Project No.	Rev.
20.11-3-D-J-200-326	B

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Document No. 20.11-3-D-J-200-326_331.dwg



No.	Revision	By	Chk	Appd	Date
B	CONSENT ISSUE	LJD	NIS	TJES	27.05.10
A	GEOTECHNICAL INTERPRETATIVE REPORT ISSUE	LJD	NIS	TJES	21.04.10

Drawing Originator:

Tonkin & Taylor
Environmental and Engineering Consultants

Original Scale (A1)	1:1000	Design Engineer	JKK
Reduced Scale (A3)	1:2000	Review Engineer	NIS
		Drafting Checked	BKD
		Consultant Approval	TJES
		Received by Beca	RM

NZ TRANSPORT AGENCY
WAKA KOTAHAI

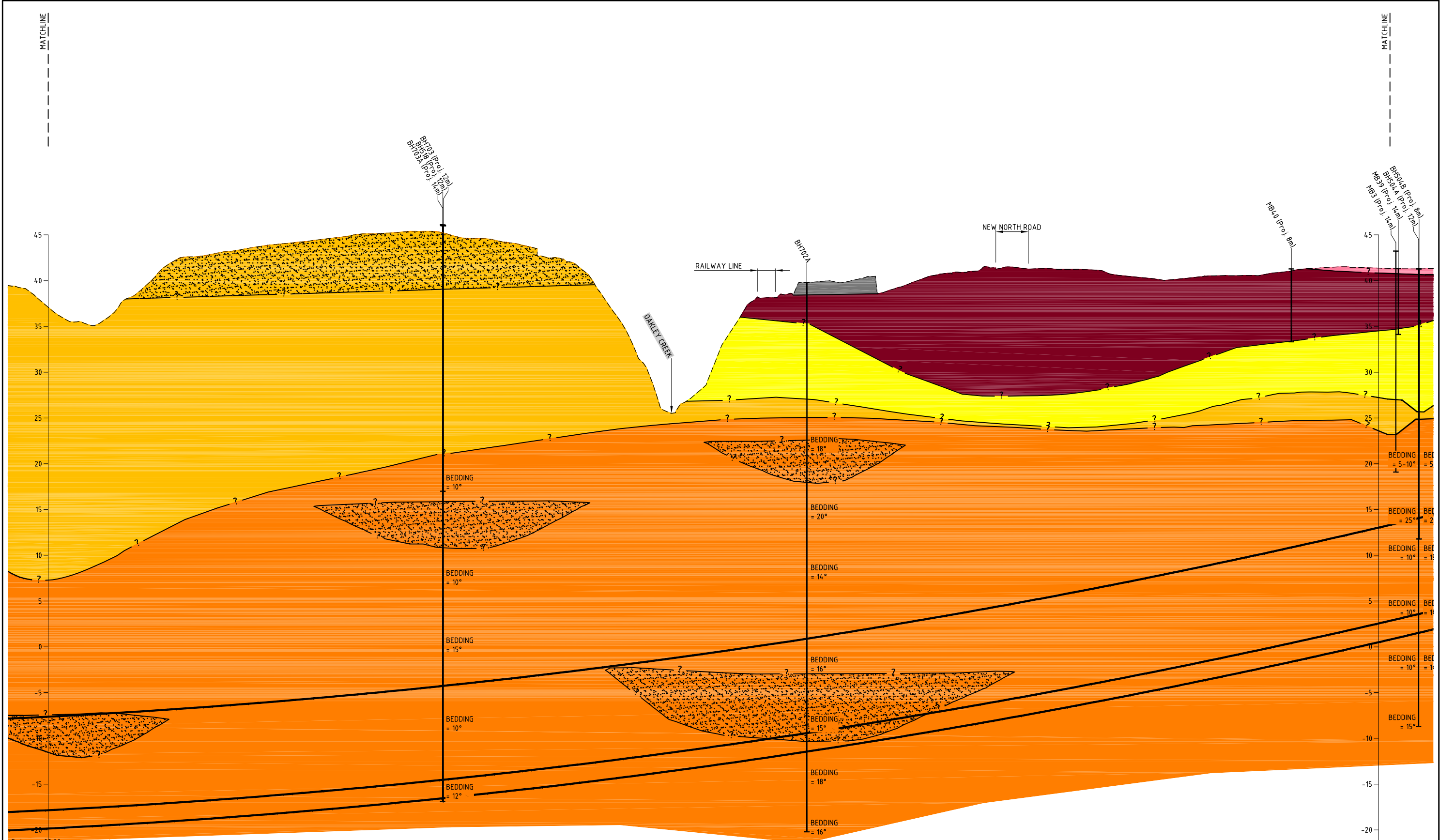
Project: **WATERVIEW CONNECTION PROJECT**
SH16 / SH20

Title: **NORTHBOUND ALIGNMENT**
GEOLOGICAL LONG SECTION
(SHEET 2 OF 6)

Base level: MSL AUCK. VERT. DATUM 1946	
Grid Reference: MT EDEN 2000	
Originator No.	
Project No. 20.11-3-D-J-200-327	Rev. B

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Document No. 20.11-3-D-J-200-326_331.dwg



NORTHBOUND CHAINAGE & C/WAY RL

2850 N -17.54mRL	2800 N -18.97mRL	2750 N -16.15mRL	2700 N -15.26mRL	2650 N -14.25mRL	2600 N -13.12mRL	2550 N -11.86mRL	2500 N -10.47mRL	2450 N -8.96mRL	2400 N -7.33mRL	2350 N -5.57mRL	2300 N -3.68mRL	2250 N -1.67mRL	2200 N 0.46mRL	2150 N 2.72mRL
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No.	Revision	By	Chk	Appd	Date
B	CONSENT ISSUE	LJD	NIS	TJES	27.05.10
A	GEO TECHNICAL INTERPRETATIVE REPORT ISSUE	LJD	NIS	TJES	21.04.10

Drawing Originator:

Tonkin & Taylor
Environmental and Engineering Consultants

Original Scale (A1)	1:1000	Design Engineer	JKK
Reduced Scale (A3)	1:2000	Review Engineer	NIS
		Drafting Checked	BKD
		Consultant Approval	TJES
		Received by Beca	RM

NZ TRANSPORT AGENCY
WAKA KOTAHĪ

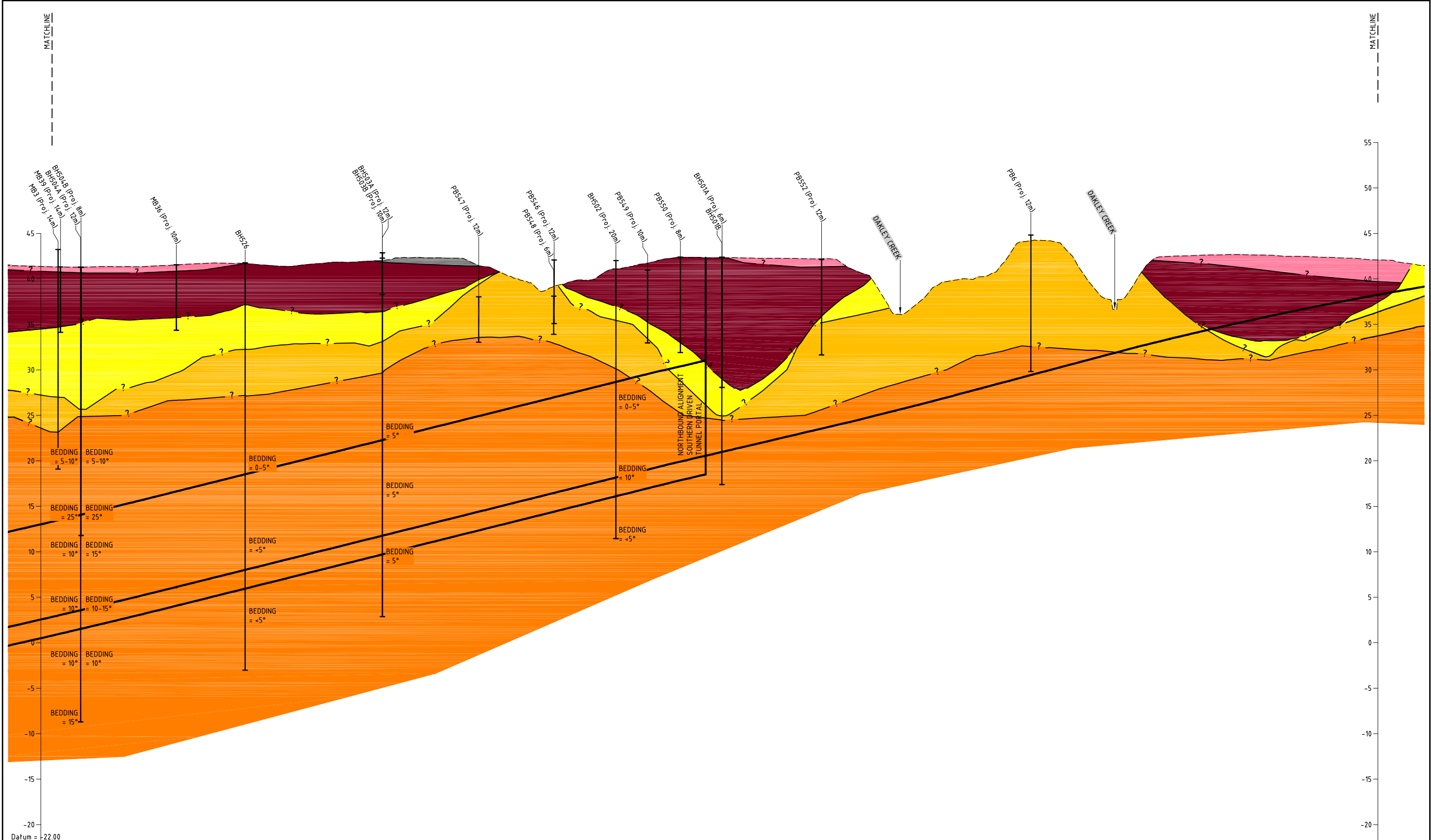
Project: **WATERVIEW CONNECTION PROJECT**
SH16 / SH20

Title: **NORTHBOUND ALIGNMENT GEOLOGICAL LONG SECTION**
(SHEET 3 OF 6)

Base level: MSL AUCK. VERT. DATUM 1946	
Grid Reference: MT EDEN 2000	
Originator No.	
Project No.	Rev.
20.11-3-D-J-200-328	B

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Document No. 20.11-3-D-J-200-326_331.dwg



NORTHBOUND CHAINAGE & CWAY RL

2100 N	2050 N	2000 N	1950 N	1900 N	1850 N	1800 N	1750 N	1700 N	1650 N	1600 N	1550 N	1500 N	1450 N	1400 N
5.10mRL	7.59mRL	10.09mRL	12.59mRL	15.09mRL	17.59mRL	20.06mRL	22.40mRL	24.78mRL	27.35mRL	30.02mRL	32.67mRL	35.05mRL	37.17mRL	38.90mRL



No.	Revision	By	Chk	Appd	Date
B	CONSENT ISSUE	LJD	NIS	TJES	27.05.10
A	GEOTECHNICAL INTERPRETATIVE REPORT ISSUE	LJD	NIS	TJES	21.04.10

Drawing Originator:

Tonkin & Taylor
Environmental and Engineering Consultants

Original Scale (A1)	1:1000	Design Engineer	JKK
Reduced Scale (A3)	1:2000	Review Engineer	NIS
		Drafting Checked	BKD
		Consultant Approval	TJES
		Received by Beca	RM



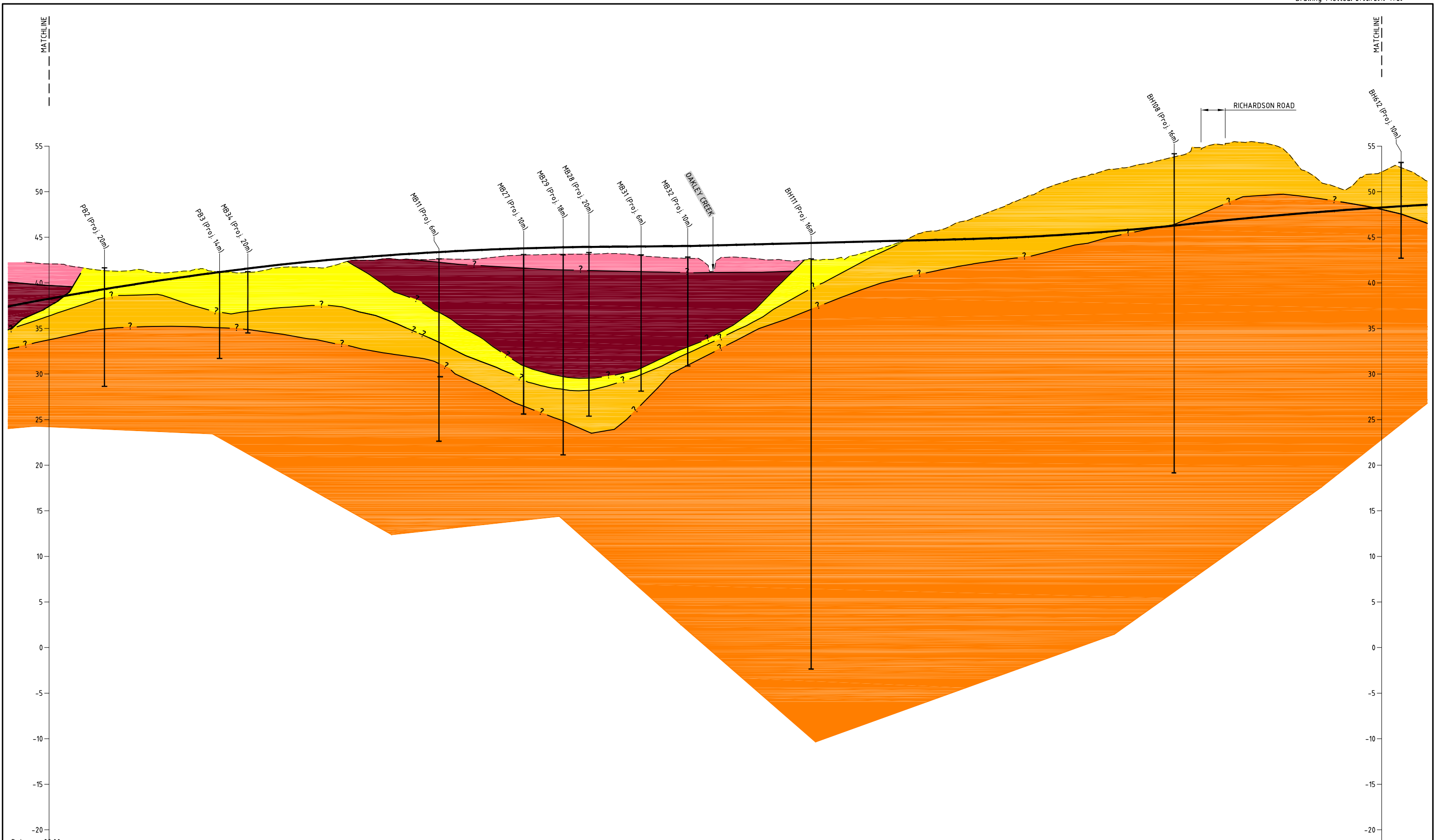
Project: **WATERVIEW CONNECTION PROJECT**
SH16 / SH20

Title: **NORTHBOUND ALIGNMENT GEOLOGICAL LONG SECTION (SHEET 4 OF 6)**

Base level: MSL AUCK. VERT. DATUM 1946	
Grid Reference: MT EDEN 2000	
Originator No.	
Project No.	Rev.
20.11-3-D-J-200-329	B

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Document No. 20.11-3-D-J-200-326_331.dwg



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1300 N 41.89mRL	1250 N 42.83mRL
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1000 N 44.39mRL	950 N 44.64mRL
900 N 44.91mRL	850 N 45.47mRL
800 N 46.35mRL	750 N 47.34mRL
700 N 48.13mRL	



No.	Revision	By	Chk	Appd	Date
B	CONSENT ISSUE	LJD	NIS	TJES	27.05.10
A	GEO TECHNICAL INTERPRETATIVE REPORT ISSUE	LJD	NIS	TJES	21.04.10

Drawing Originator:

Tonkin & Taylor
Environmental and Engineering
Consultants

Original Scale (A1)	1:1000	Design Engineer	JKK
Reduced Scale (A3)	1:2000	Review Engineer	NIS
		Drafting Checked	BKD
		Consultant Approval	TJES
		Received by Beca	RM



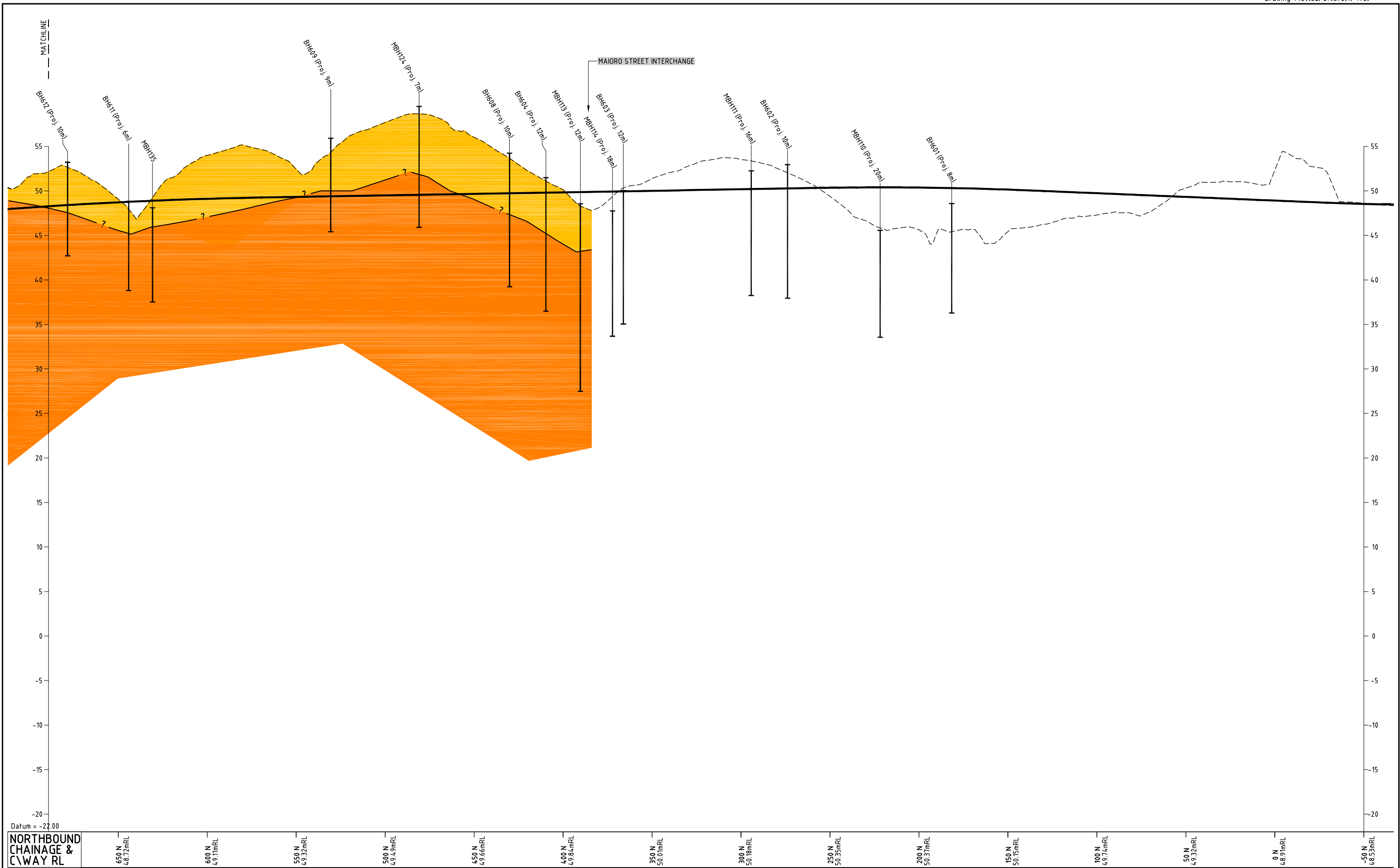
Project: **WATERVIEW CONNECTION PROJECT**
SH16 / SH20

Title: **NORTHBOUND ALIGNMENT GEOLOGICAL LONG SECTION (SHEET 5 OF 6)**

Base level:	
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Grid Reference:	
MT EDEN 2000	
Originator No.	
Project No.	
20.11-3-D-J-200-330	Rev.
	B

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Document No. 20.11-3-D-J-200-326_331.dwg



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No.	Revision	By	Chk	Appd	Date
B	CONSENT ISSUE	LJD	NIS	TJES	27.05.10
A	GEO TECHNICAL INTERPRETATIVE REPORT ISSUE	LJD	NIS	TJES	21.04.10

Drawing Originator:

Tonkin & Taylor
Environmental and Engineering Consultants

Original Scale (A1)	1:1000	Design Engineer	JKK
Reduced Scale (A3)	1:2000	Review Engineer	NIS
		Drafting Checked	BKD
		Consultant Approval	TJES
		Received by Beca	RM



Project: **WATERVIEW CONNECTION PROJECT**
SH16 / SH20

Title: **NORTHBOUND ALIGNMENT GEOLOGICAL LONG SECTION**
(SHEET 6 OF 6)

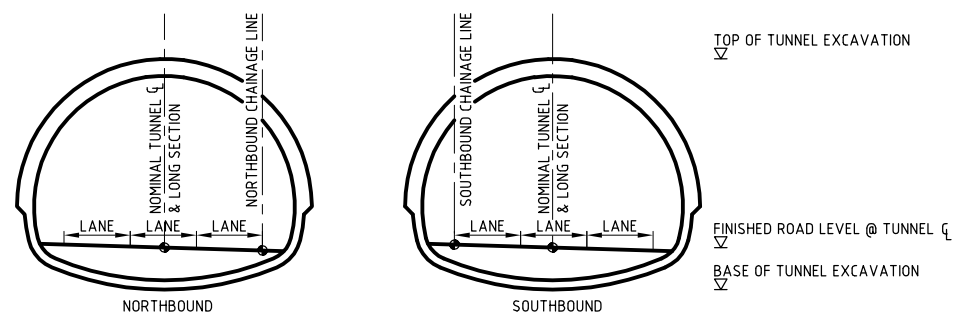
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Originator No.			
Project No.	20.11-3-D-J-200-331	Rev.	B

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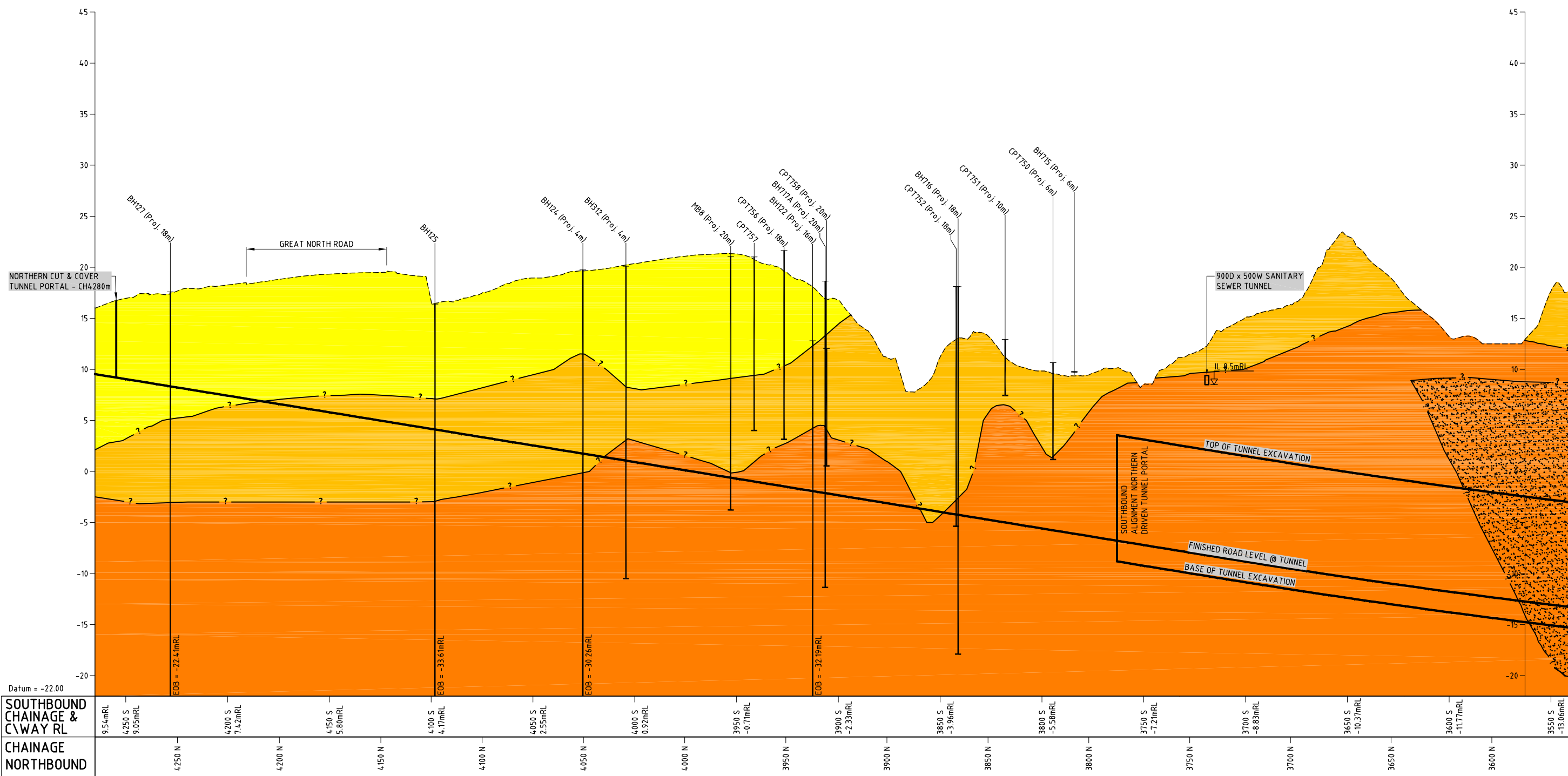
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LEGEND

- FILL
- REFUSE
- TUFF
- BASALT
- TAURANGA GROUP
- WEATHERED ECBF
- ECBF Siltstone & Sandstone (SPT N ≥ 50)
- WEATHERED PARNELL GRIT
- PARNELL GRIT



ALIGNMENT KEY



	SOUTHBOUND CHAINAGE & C/WAY RL	9.54mRL	4250 S	9.05mRL	4200 S	7.42mRL	4150 S	5.80mRL	4100 S	4.17mRL	4050 S	2.55mRL	4000 S	0.92mRL	3950 S	-0.71mRL	3900 S	-2.33mRL	3850 S	-3.96mRL	3800 S	-5.58mRL	3750 S	-7.21mRL	3700 S	-8.83mRL	3650 S	-10.37mRL	3600 S	-11.77mRL	3550 S	-13.06mRL
	CHAINAGE NORTHBOUND		4250 N		4200 N		4150 N		4100 N		4050 N		4000 N		3950 N		3900 N		3850 N		3800 N		3750 N		3700 N		3650 N		3600 N		3550 N	



No.	Revision	By	Chk	Appd	Date
B	CONSENT ISSUE	LJD	NIS	TJES	27.05.10
A	GEO TECHNICAL INTERPRETATIVE REPORT ISSUE	LJD	NIS	TJES	21.04.10

Drawing Originator:

Tonkin & Taylor
Environmental and Engineering Consultants

Original Scale (A1)	Design Engineer	Review Engineer	JKK
1:1000	Drafting Checked	BKD	NIS
Reduced Scale (A3)	Consultant Approval	TJES	
1:2000	Received by Beca	RM	

NZ TRANSPORT AGENCY
WAKA KOTAHĀ

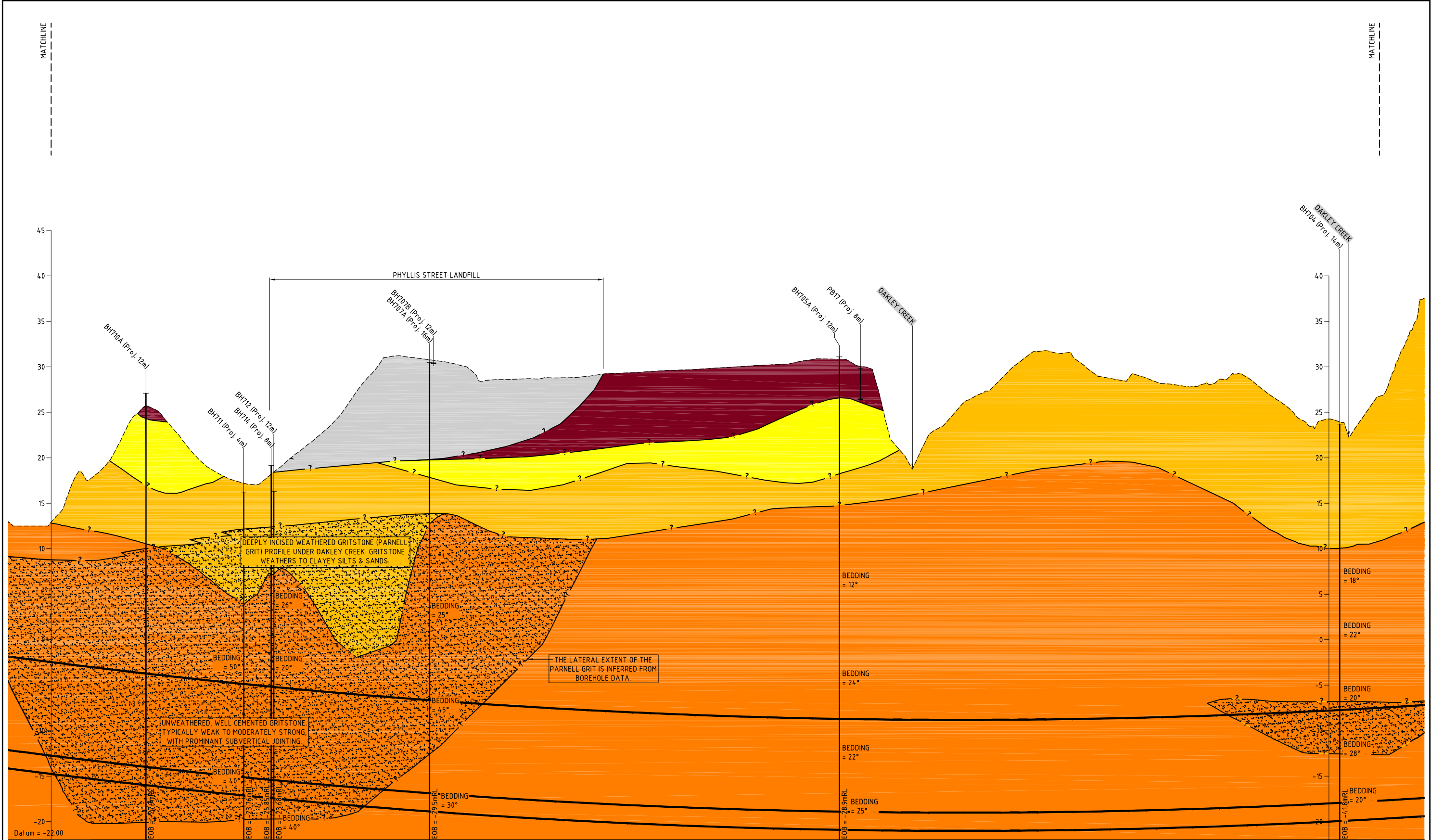
Project: **WATERVIEW CONNECTION PROJECT**
SH16 / SH20

Title: **SOUTHBOUND ALIGNMENT GEOLOGICAL LONG SECTION (SHEET 1 OF 6)**

Base level: MSL AUCK. VERT. DATUM 1946	
Grid Reference: MT EDEN 2000	
Originator No.	
Project No.	Rev.
20.11-3-D-J-200-332	B

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Document No. 20.11-3-D-J-200-332_337.dwg



SOUTHBOUND CHAINAGE & C/WAY RL		3550 N	3500 S -14.22mRL	3450 S -15.25mRL	3400 S -16.16mRL	3350 S -16.94mRL	3300 S -17.60mRL	3250 S -18.13mRL	3200 S -18.54mRL	3150 S -18.87mRL	3100 S -18.98mRL	3050 S -19.02mRL	3000 S -18.92mRL	2950 S -18.71mRL	2900 S -18.37mRL	2850 S -17.90mRL
CHAINAGE NORTHBOUND		3550 N	3500 N	3450 N	3400 N	3350 N	3300 N	3250 N	3200 N	3150 N	3100 N	3050 N	3000 N	2950 N	2900 N	2850 N



No.	Revision	By	Chk	Appd	Date
B	CONSENT ISSUE	LJD	NIS	TJES	27.05.10
A	GEOTECHNICAL INTERPRETATIVE REPORT ISSUE	LJD	NIS	TJES	21.04.10

Drawing Originator:

Tonkin & Taylor
Environmental and Engineering Consultants

Original Scale (A1)	1:1000	Design Engineer	JKK
Reduced Scale (A3)	1:2000	Review Engineer	NIS
		Drafting Checked	BKD
		Consultant Approval	TJES
		Received by Beca	RM

NZ TRANSPORT AGENCY
WAKA KOTAHĪ

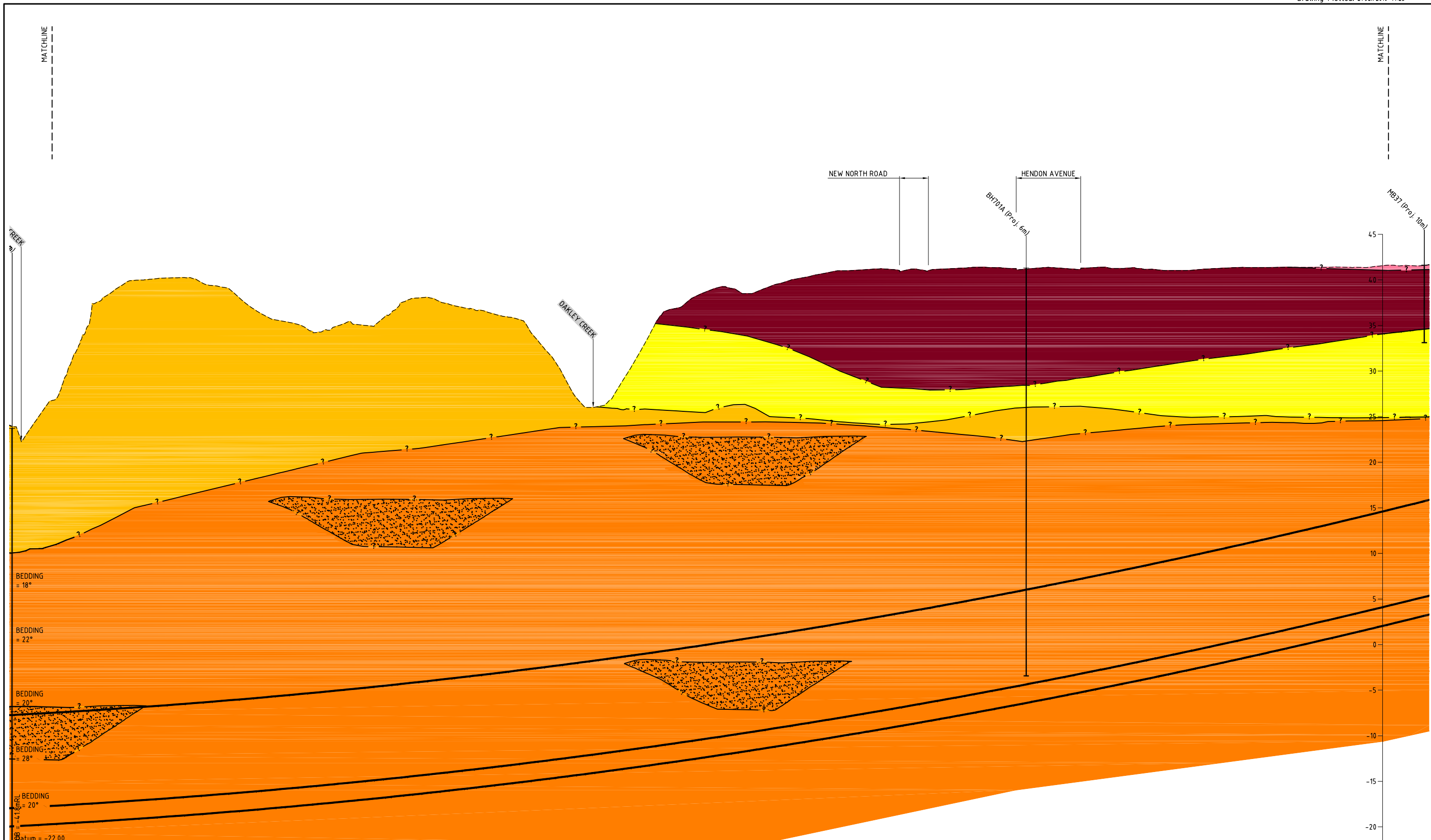
Project: **WATERVIEW CONNECTION PROJECT**
SH16 / SH20

Title: **SOUTHBOUND ALIGNMENT GEOLOGICAL LONG SECTION (SHEET 2 OF 6)**

Base level: MSL AUCK. VERT. DATUM 1946	
Grid Reference: MT EDEN 2000	
Originator No.	
Project No.	Rev.
20.11-3-D-J-200-333	B

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Document No. 20.11-3-D-J-200-332_337.dwg



SOUTHBOUND CHAINAGE & C/WAY RL	2800 S -17.3mRL	2750 S -16.59mRL	2700 S -15.75mRL	2650 S -14.78mRL	2600 S -13.69mRL	2550 S -12.48mRL	2500 S -11.13mRL	2450 S -9.67mRL	2400 S -8.08mRL	2350 S -6.36mRL	2300 S -4.52mRL	2250 S -2.55mRL	2200 S -0.46mRL	2150 S 1.76mRL	2100 S 4.10mRL
CHAINAGE NORTHBOUND	2800 N	2750 N	2700 N	2650 N	2600 N	2550 N	2500 N	2450 N	2400 N	2350 N	2300 N	2250 N	2200 N	2150 N	2100 N



No.	Revision	By	Chk	Appd	Date
B	CONSENT ISSUE	LJD	NIS	TJES	27.05.10
A	GEOTECHNICAL INTERPRETATIVE REPORT ISSUE	LJD	NIS	TJES	21.04.10

Drawing Originator:

Tonkin & Taylor
Environmental and Engineering Consultants

Original Scale (A1)	1:1000	Design Engineer	JKK
Reduced Scale (A3)	1:2000	Review Engineer	NIS
		Drafting Checked	BKD
		Consultant Approval	TJES
		Received by Beca	RM



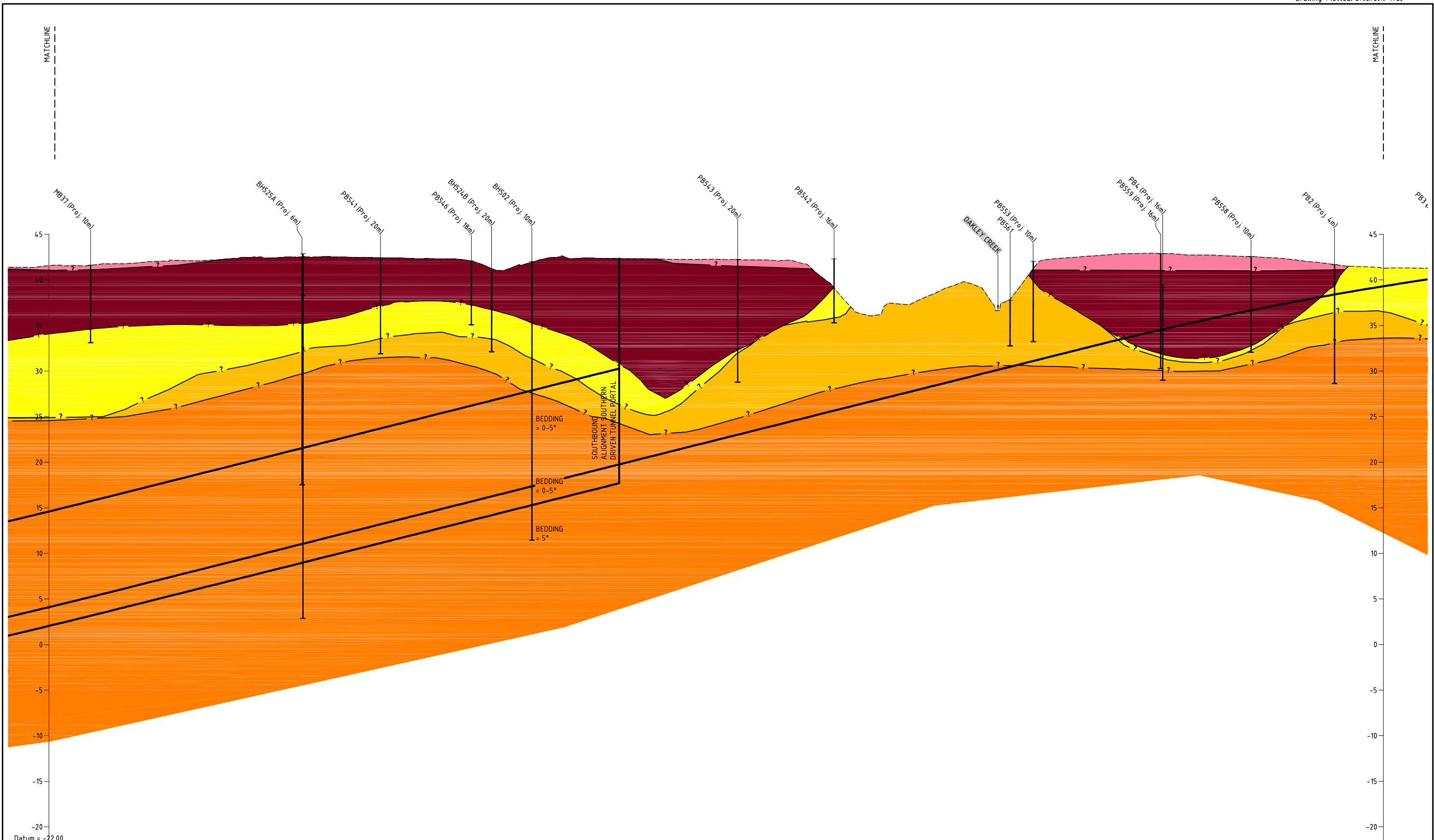
Project: **WATERVIEW CONNECTION PROJECT**
SH16 / SH20

Title: **SOUTHBOUND ALIGNMENT GEOLOGICAL LONG SECTION**
(SHEET 3 OF 6)

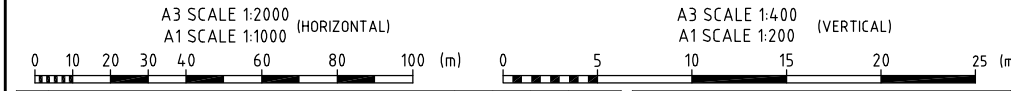
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Rev.	B

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Document No. 20.11-3-D-J-200-332_337.dwg



SOUTHBOUND CHAINAGE & C/WAY RL	2050 S	2000 S	1950 S	1900 S	1850 S	1800 S	1750 S	1700 S	1650 S	1600 S	1550 S	1500 S	1450 S	1400 S	1350 S
	6.56mRL	9.06mRL	11.56mRL	14.06mRL	16.56mRL	19.06mRL	21.56mRL	24.06mRL	26.56mRL	29.06mRL	31.56mRL	33.96mRL	36.17mRL	38.0mRL	39.76mRL
CHAINAGE NORTHBOUND	2050 N	2000 N	1950 N	1900 N	1850 N	1800 N	1750 N	1700 N	1650 N	1600 N	1550 N	1500 N	1450 N	1400 N	1350 N



No.	Revision	By	Chk	Appd	Date
B	CONSENT ISSUE	LJD	NIS	TJES	27.05.10
A	GEOTECHNICAL INTERPRETATIVE REPORT ISSUE	LJD	NIS	TJES	21.04.10

Drawing Originator:

Tonkin & Taylor
Environmental and Engineering Consultants

Original Scale (A1)	1:1000	Design Engineer	JKK
Reduced Scale (A3)	1:2000	Review Engineer	NIS
		Drafting Checked	BKD
		Consultant Approval	TJES
		Received by Beca	RM



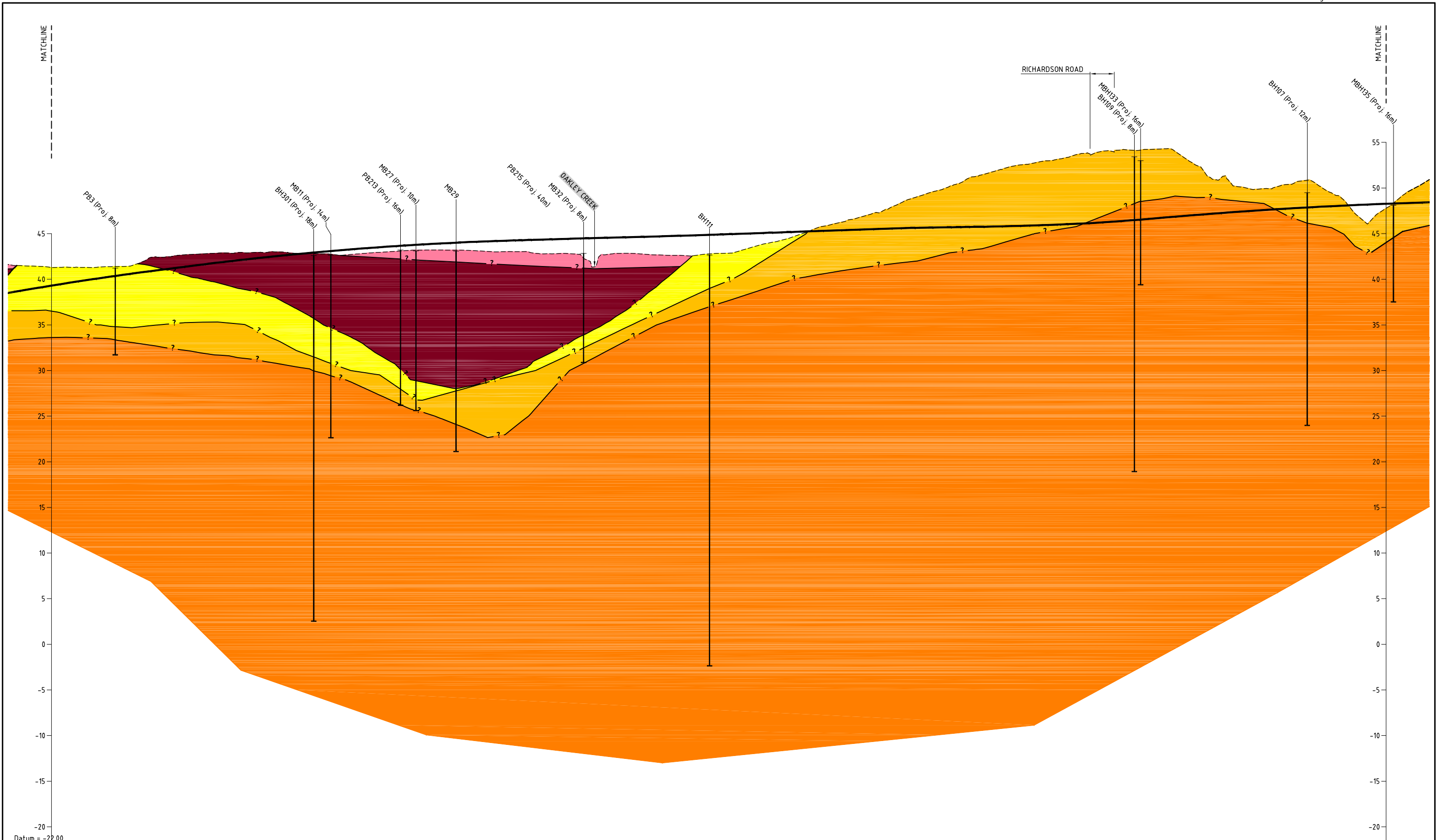
Project: **WATERVIEW CONNECTION PROJECT**
SH16 / SH20

Title: **SOUTHBOUND ALIGNMENT GEOLOGICAL LONG SECTION**
(SHEET 4 OF 6)

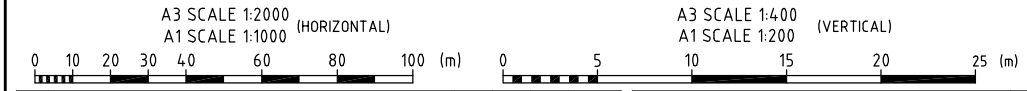
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Originator No.	
Project No.	20.11-3-D-J-200-335
Rev.	B

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Document No. 20.11-3-D-J-200-332_337.dwg



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CHAINAGE NORTHBOUND	1300 N 1250 N 1200 N 1150 N 1100 N 1050 N 1000 N 950 N 900 N 850 N 800 N 750 N 700 N 650 N



No.	Revision	By	Chk	Appd	Date
B	CONSENT ISSUE	LJD	NIS	TJES	27.05.10
A	GEOTECHNICAL INTERPRETATIVE REPORT ISSUE	LJD	NIS	TJES	21.04.10

Drawing Originator:

Tonkin & Taylor
Environmental and Engineering Consultants

Original Scale (A1)	1:1000	Design Engineer	JKK
Reduced Scale (A3)	1:2000	Review Engineer	NIS
		Drafting Checked	BKD
		Consultant Approval	TJES
		Received by Beca	RM



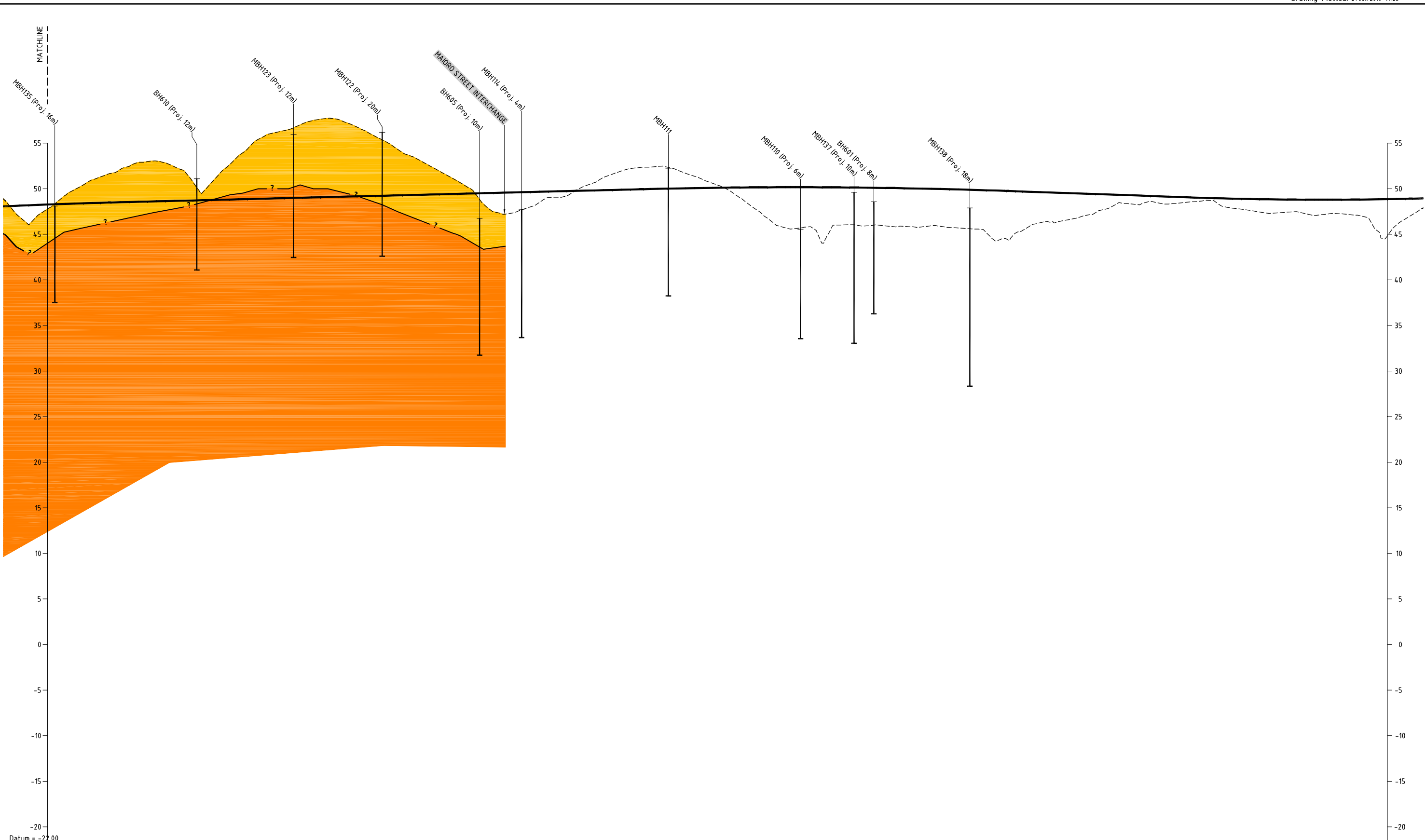
Project: **WATERVIEW CONNECTION PROJECT**
SH16 / SH20

Title: **SOUTHBOUND ALIGNMENT GEOLOGICAL LONG SECTION (SHEET 5 OF 6)**

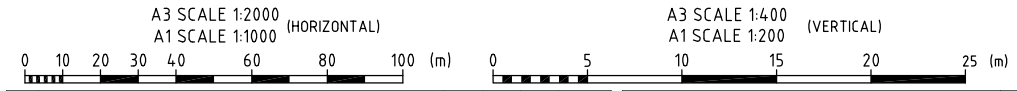
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Originator No.	
Project No.	Rev.
20.11-3-D-J-200-336	B

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Document No. 20.11-3-D-J-200-332_337.dwg



SOUTHBOUND CHAINAGE & C/WAY RL		600 S 48.49mRL	550 S 48.74mRL	500 S 48.99mRL	450 S 49.24mRL	400 S 49.49mRL	350 S 49.74mRL	300 S 49.99mRL	250 S 50.14mRL	200 S 50.14mRL	150 S 50.00mRL	100 S 49.70mRL	50 S 49.35mRL	0 S 49.00mRL	-50 S 48.80mRL	-100 S 48.86mRL
CHAINAGE NORTHBOUND		600 N	550 N	500 N	450 N	400 N	350 N	300 N	250 N	200 N	150 N	100 N	50 N	0 N	-50 N	-100 N



No.	Revision	By	Chk	Appd	Date
B	CONSENT ISSUE	LJD	NIS	TJES	27.05.10
A	GEOTECHNICAL INTERPRETATIVE REPORT ISSUE	LJD	NIS	TJES	21.04.10

Drawing Originator:

Tonkin & Taylor
Environmental and Engineering Consultants

Original Scale (A1)	1:1000	Design Engineer	JKK
Reduced Scale (A3)	1:2000	Review Engineer	NIS
		Drafting Checked	BKD
		Consultant Approval	TJES
		Received by Beca	RM

NZ TRANSPORT AGENCY
WAKA KOTAHI

Project: **WATERVIEW CONNECTION PROJECT**
SH16 / SH20

Title: **SOUTHBOUND ALIGNMENT GEOTECHNICAL LONG SECTION**
(SHEET 6 OF 6)

Base level: MSL AUCK. VERT. DATUM 1946	
Grid Reference: MT EDEN 2000	
Originator No.	
Project No. 20.11-3-D-J-200-337	Rev. B

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