

Note that an Otago Regional Council (ORC) consent may also be required to discharge domestic waste water to land if any of the following apply:


- Daily discharge volume exceeds 2,000 litres per day
- Discharge will occur in a groundwater protection zone
- Discharge will occur within 50 metres of a surface water body (natural or manmade)
- Discharge will occur within 50 metres of an existing bore/well
- Discharge will result in a direct discharge into a drain/water ace/ground water
- Discharge may runoff onto another persons' property

If any of these apply then we recommend that you correspond with the ORC;

*Otago Regional Council
"The Station" (upstairs)
Cnr. Camp and Shotover Streets
P O Box 958
Queenstown 9300*

Tel: 03 442 5681

I believe to the best of my knowledge that the information provided in this assessment is true and complete. I have the necessary experience and qualifications as defined in Section 3.3 AS/NZS 1547:2012 to undertake this assessment in accordance with the requirements of AS/NZS 1547:2012:

Company:	<u>GeoSolve Ltd</u>
Email:	<u>sreeves@geosolve.co.nz</u>
Phone number:	<u>0272457470</u>
Name:	<u>Simon Reeves</u>
Signature:	<u></u>
Date:	<u>4/10/2022</u>

Queenstown Lakes District Council
Private Bag 50072
10 Gorge Road
QUEENSTOWN 9348

Phone: 03 441 0499
Fax: 03 442 4778
Email: services@qldc.govt.nz
Website: www.qldc.govt.nz



Certificate of Analysis

Page 1 of 4

Client:	Jono Hay	Lab No:	2953465	DWAPv1
Contact:	Jono Hay 8 Berkshire Street Arrowtown 9302	Date Received:	12-Apr-2022	
		Date Reported:	22-Apr-2022	
		Quote No:		
		Order No:		
		Client Reference:	Jono Hay	
		Submitted By:	Jono Hay	

Sample Type: Aqueous				
Sample Name:		Bore - A 11-Apr-2022 12:30 pm		
Lab Number:		2953465.1		
		Guideline Value	Maximum Acceptable Values (MAV)	
Routine Water + E.coli profile Kit				
Escherichia coli	MPN / 100mL	6	-	< 1
Routine Water Profile				
Turbidity	NTU	25	< 2.5	-
pH	pH Units	8.5	7.0 - 8.5	-
Total Alkalinity	g/m ³ as CaCO ₃	85	-	-
Free Carbon Dioxide	g/m ³ at 25°C	< 1.0	-	-
Total Hardness	g/m ³ as CaCO ₃	33	< 200	-
Electrical Conductivity (EC)	mS/m	26.3	-	-
Electrical Conductivity (EC)	µS/cm	263	-	-
Approx Total Dissolved Salts	g/m ³	176	< 1000	-
Total Arsenic	g/m ³	0.0106	-	0.01
Total Boron	g/m ³	0.82	-	1.4
Total Calcium	g/m ³	11.9	-	-
Total Copper	g/m ³	0.0034	< 1	2
Total Iron	g/m ³	1.13	< 0.2	-
Total Lead	g/m ³	0.00126	-	0.01
Total Magnesium	g/m ³	0.76	-	-
Total Manganese	g/m ³	0.062	< 0.04 (Staining) < 0.10 (Taste)	0.4
Total Potassium	g/m ³	1.45	-	-
Total Sodium	g/m ³	46	< 200	-
Total Zinc	g/m ³	0.058	< 1.5	-
Chloride	g/m ³	3.4	< 250	-
Nitrate-N	g/m ³	< 0.05	-	11.3
Sulphate	g/m ³	38	< 250	-

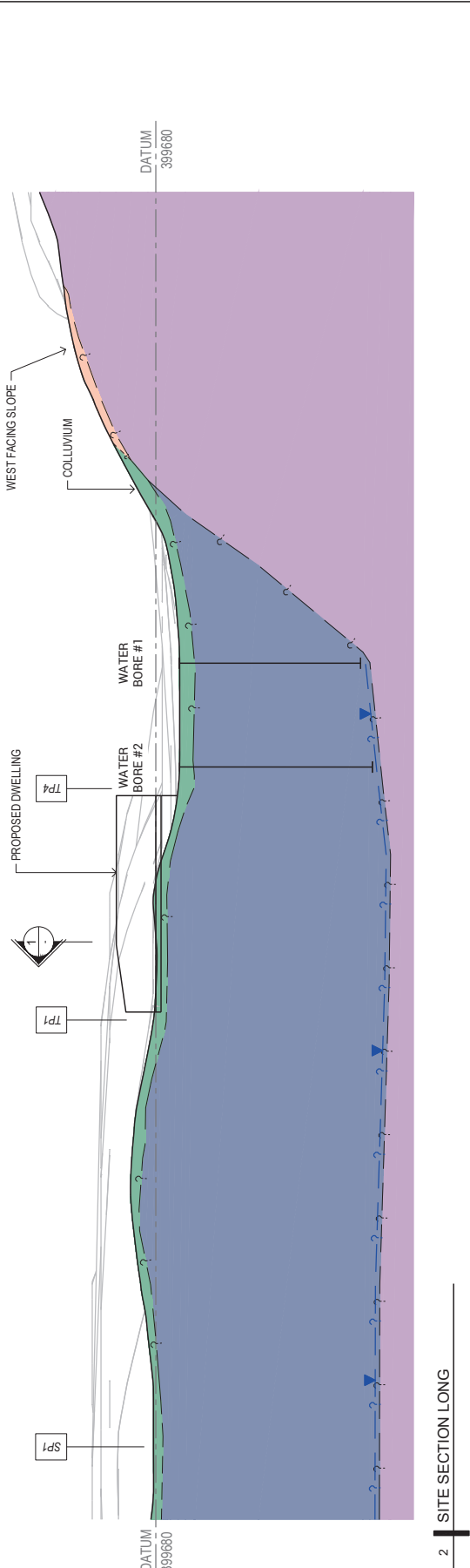
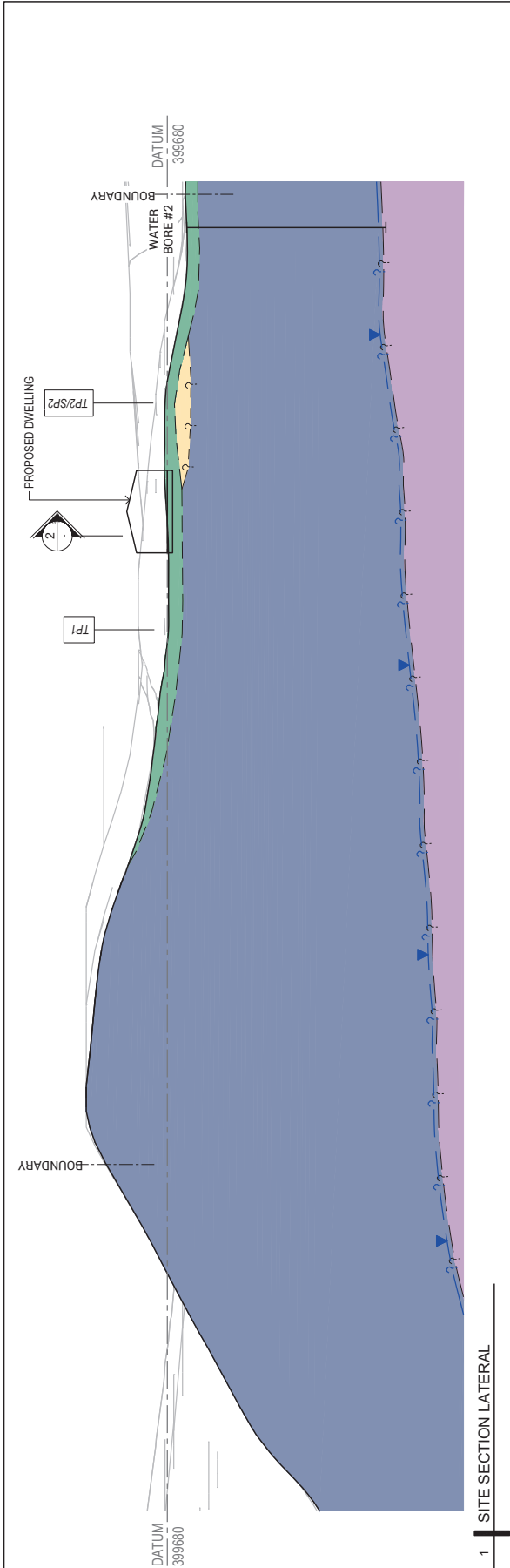
Note: The Guideline Values and Maximum Acceptable Values (MAV) are taken from the publication 'Drinking-water Standards for New Zealand 2005 (Revised 2018)', Ministry of Health. Copies of this publication are available from <https://www.health.govt.nz/publication/drinking-water-standards-new-zealand-2005-revised-2018>

The Maximum Acceptable Values (MAVs) have been defined by the Ministry of Health for parameters of health significance and should not be exceeded. The Guideline Values are the limits for aesthetic determinands that, if exceeded, may render the water unattractive to consumers.

Note that the units g/m³ are the same as mg/L and ppm.



This Laboratory is accredited by International Accreditation New Zealand (IANZ), which represents New Zealand in the International Laboratory Accreditation Cooperation (ILAC). Through the ILAC Mutual Recognition Arrangement (ILAC-MRA) this accreditation is internationally recognised. The tests reported herein have been performed in accordance with the terms of accreditation, with the exception of tests marked * or any comments and interpretations, which are not accredited.



Notes:

1. These drawings have been prepared for the benefit of Jono Hay with respect to the particular brief given to us and it may not be relied upon in other contexts or for any other purpose without our prior review and agreement.

Legend:

Colluvium	Coarser Glacial Till
Alluvium	Schist Bedrock
Glacial Till	Inferred Groundwater

GEOSOLVE

Level 1, 70 MacAndrew Road, South Dunedin
www.geosolve.co.nz

DRAWN	WGS	SEP 22
DRAFTING CHECKED		
APPROVED		
CHECKED		
DATE		
SCALE (AT A3 SIZE)		
1:500		
PROJECT No.		
220698		

Jono Hay

134 Malaghans Road, Dalefield, Queenstown

Geotechnical Investigations

Cross Sections

FIG No: Appendix A - Figure 2

REV. 0

Appendix B: Investigation Data

TEST PIT LOG

EXCAVATION NUMBER:

TP 1

PROJECT:	134 Malaghans Road			JOB NUMBER:	220696
LOCATION:	See Site Plan	INCLINATION:	Vertical		
EASTING:		EQUIPMENT:	5T excavator	OPERATOR:	Jono Hay
NORTHING:		COORD. SYSTEM:		COMPANY:	
ELEVATION:		EXCAV. DATUM:	Existing ground level	HOLE STARTED:	09/08/2022
METHOD:	Aerial Photography	ACCURACY:	± 5 m	HOLE FINISHED:	09/08/2022

Soil / Rock Type	Description	Graphic Log	Depth (m)	Groundwater / Seepage	Scala Penetrometer (Blows per 100mm)
TOPSOIL	Organic SILT with minor sand; dark brown. Firm; moist; non-plastic; sand, fine to medium. A trace of rootlets.	0m	0.0		
ALLUVIAL SILT	Sandy SILT; brown. Firm; moist; non-plastic; sand, fine to medium.	0.2m	0.1		
			0.2		
			0.3		
			0.4		
			0.5		
			0.6		
			0.7		
			0.8		
			0.9		
			1.0		
			1.1		
			1.2		
			1.3		
			1.4		
			1.5		
GLACIAL TILL	Sandy fine to medium GRAVEL, minor silt; grey. Dense; moist; sand, fine to coarse; gravel, subangular to subrounded.	1.6m	1.6		
			1.7		
			1.8		
			1.9		
			2.0		
			2.1		
			2.2		
			2.3		
			2.4		

Total Excavation Depth = 2.4 m

COMMENT:	Pit walls stood well during excavation.	LOGGED BY:	SR
		CHECKED DATE:	21/11/2022
		SHEET:	1 of 1

TEST PIT LOG

EXCAVATION NUMBER:

TP 2

PROJECT:	134 Malaghans Road			JOB NUMBER:	220696
LOCATION:	See Site Plan	INCLINATION:	Vertical		
EASTING:		EQUIPMENT:	5T excavator	OPERATOR:	Jono Hay
NORTHING:		COORD. SYSTEM:		COMPANY:	
ELEVATION:		EXCAV. DATUM:	Existing ground level	HOLE STARTED:	09/08/2022
METHOD:	Aerial Photography	ACCURACY:	± 5 m	HOLE FINISHED:	09/08/2022

Soil / Rock Type	Description	Graphic Log	Depth (m)	Groundwater / Seepage	Scala Penetrometer (Blows per 100mm)
TOPSOIL	Organic SILT with minor sand; dark brown. Firm; moist; non-plastic; sand, fine to medium. A trace of rootlets.	0m	0.0		
ALLUVIAL SILT	Sandy SILT; brown. Firm; moist; non-plastic; sand, fine to medium.	0.2m	0.1		
ALLUVIAL SAND	Fine to coarse SAND with trace gravel and silt; grey. Medium dense; moist; gravel is fine, subrounded.	0.5m	0.2		
			0.3		
			0.4		
			0.5		
			0.6		
			0.7		
			0.8		
			0.9		
			1.0		
COARSE GLACIAL TILL	Sandy fine to coarse GRAVEL, trace silt, with boulders up to 1.0m diameter; grey. Dense; moist; sand, fine to coarse; gravel, subangular to angular.	1m	1.1		
			1.2		
			1.3		
			1.4		
			1.5		
			1.6		
			1.7		
			1.8		
			1.9		
			2.0		
			2.1		
			2.2		
			2.3		
			2.4		

Total Excavation Depth = 2.4 m

COMMENT:	Pit walls stood well above water level during excavation. Pit also used as soak hole, see SP2	LOGGED BY:	SR
		CHECKED DATE:	21/11/2022
		SHEET:	1 of 1

TEST PIT LOG

EXCAVATION NUMBER:

TP 3

PROJECT:	134 Malaghans Road			JOB NUMBER:	220696
LOCATION:	See Site Plan	INCLINATION:	Vertical		
EASTING:		EQUIPMENT:	5T excavator	OPERATOR:	Jono Hay
NORTHING:		COORD. SYSTEM:		COMPANY:	
ELEVATION:		EXCAV. DATUM:	Existing ground level	HOLE STARTED:	09/08/2022
METHOD:	Aerial Photography	ACCURACY:	± 5 m	HOLE FINISHED:	09/08/2022

Soil / Rock Type	Description	Graphic Log	Depth (m)	Groundwater / Seepage	Scala Penetrometer (Blows per 100mm)
TOPSOIL	Organic SILT with minor sand; dark brown. Firm; moist; non-plastic; sand, fine to medium. A trace of rootlets.	0m	0.0		
ALLUVIAL SILT	Sandy SILT; brown. Firm; moist; non-plastic; sand, fine to medium.	0.2m	0.1		
			0.2		
			0.3		
			0.4		
			0.5		
			0.6		
			0.7		
			0.8		
			0.9		
			1.0		
GLACIAL TILL	Sandy fine to medium GRAVEL, minor silt; grey. Dense; moist; sand, fine to coarse; gravel, subangular to subrounded.	1.1m	1.1		
			1.2		
			1.3		
			1.4		
			1.5		
			1.6		
			1.7		
			1.8		
			1.9		
			2.0		
			2.1		
			2.2		
			2.3		
			2.4		

Total Excavation Depth = 2.4 m

COMMENT:	Pit walls stood well during excavation.	LOGGED BY:	SR
		CHECKED DATE:	21/11/2022
		SHEET:	1 of 1

TEST PIT LOG

EXCAVATION NUMBER:

TP 4

PROJECT:	134 Malaghans Road			JOB NUMBER:	220696
LOCATION:	See Site Plan	INCLINATION:	Vertical		
EASTING:		EQUIPMENT:	5T excavator	OPERATOR:	Jono Hay
NORTHING:		COORD. SYSTEM:		COMPANY:	
ELEVATION:		EXCAV. DATUM:	Existing ground level	HOLE STARTED:	09/08/2022
METHOD:	Aerial Photography	ACCURACY:	± 5 m	HOLE FINISHED:	09/08/2022

Soil / Rock Type	Description	Graphic Log	Depth (m)	Groundwater / Seepage	Scala Penetrometer (Blows per 100mm)
TOPSOIL	Organic SILT with minor sand; dark brown. Firm; moist; non-plastic; sand, fine to medium. A trace of rootlets.		0m 0.1 0.2 0.3		
ALLUVIAL SILT	Sandy SILT; brown. Firm; moist; non-plastic; sand, fine to medium.		0.4 0.5 0.6 0.7 0.8 0.9 1.0 1.1 1.2 1.3 1.4 1.5 1.6 1.7		
GLACIAL TILL	Sandy fine to medium GRAVEL, minor silt; grey. Dense; moist; sand, fine to coarse; gravel, subangular to subrounded.		1.8 1.9 2.0 2.1 2.2 2.3 2.4	NO SEEPAGE	

Total Excavation Depth = 2.4 m

COMMENT:	Pit walls stood well during excavation.	LOGGED BY:	SR
		CHECKED DATE:	21/11/2022
		SHEET:	1 of 1

SOAKAGE PIT LOG

EXCAVATION NUMBER:

SP 1

PROJECT:	134 Malaghans Road			JOB NUMBER:	220696
LOCATION:	See Site Plan	INCLINATION:	Vertical		
EASTING:		EQUIPMENT:	5T excavator	OPERATOR:	Jono Hay
NORTHING:		COORD. SYSTEM:		COMPANY:	
ELEVATION:		EXCAV. DATUM:	Existing ground level	HOLE STARTED:	09/08/2022
METHOD:	Aerial Photography	ACCURACY:	± 5 m	HOLE FINISHED:	09/08/2022

Soil / Rock Type	Description	Graphic Log	Depth (m)	Groundwater / Seepage	Scala Penetrometer (Blows per 100mm)
					0 5 10 15
TOPSOIL	Organic SILT with minor sand; dark brown. Firm; moist; non-plastic; sand, fine to medium. A trace of rootlets.	0m	0.0		
			0.1		
			0.2		
ALLUVIAL SILT	Sandy SILT; brown. Firm; moist; non-plastic; sand, fine to medium.	0.2m	0.2		
			0.3		
			0.4		
			0.5		
			0.6		
			0.7		
			0.8		
GLACIAL TILL	Sandy fine to medium GRAVEL, minor silt; grey. Dense; moist; sand, fine to coarse; gravel, subangular to subrounded.	0.8m	0.8		
			0.9		
			1.0		
			1.1		
			1.2		
			1.3		
			1.4	NO SEEPAGE	

Total Excavation Depth = 1.4 m

COMMENT:	Soakage testing at 1.4 m depth.	LOGGED BY:	SR
		CHECKED DATE:	05/09/2022
		SHEET:	1 of 1

SOAKAGE PIT LOG

EXCAVATION NUMBER:

SP 2

PROJECT:	134 Malaghans Road			JOB NUMBER:	220696
LOCATION:	See Site Plan	INCLINATION:	Vertical		
EASTING:		EQUIPMENT:	5T excavator	OPERATOR:	Jono Hay
NORTHING:		COORD. SYSTEM:		COMPANY:	
ELEVATION:		EXCAV. DATUM:	Existing ground level	HOLE STARTED:	09/08/2022
METHOD:	Aerial Photography	ACCURACY:	± 5 m	HOLE FINISHED:	09/08/2022

Soil / Rock Type	Description	Graphic Log	Depth (m)	Groundwater / Seepage	Scala Penetrometer (Blows per 100mm)
					0 5 10 15
TOPSOIL	Organic SILT with minor sand; dark brown. Firm; moist; non-plastic; sand, fine to medium. A trace of rootlets.	0m	0.0		
			0.1		
			0.2		
ALLUVIAL SILT	Sandy SILT; brown. Firm; moist; non-plastic; sand, fine to medium.		0.2		
			0.3		
			0.4		
			0.5		
ALLUVIAL SAND	Fine to coarse SAND with trace gravel and silt; grey. Medium dense; moist; gravel is fine, subrounded.		0.5		
			0.6		
			0.7		
			0.8		
			0.9		
			1.0		
COARSE GLACIAL TILL	Sandy fine to coarse GRAVEL, trace silt, with boulders up to 1.0m diameter; grey. Dense; moist; sand, fine to coarse; gravel, subangular to angular.		1.0		
			1.1		
			1.2		
			1.3		
			1.4		
			1.5		
			1.6		
			1.7		
			1.8		
			1.9		
			2.0		
			2.1		
			2.2		
			2.3		
			2.4	NO SEEPAGE	

Total Excavation Depth = 2.4 m

COMMENT:	Soakage testing at 2.4 m depth.	LOGGED BY:	SR
		CHECKED DATE:	05/09/2022
		SHEET:	1 of 1

BORE REPORT

GENERAL BORE DETAILS

Client: JONO HAY

Driller/s: McMILLAN CIVIL LTD Grid Ref: _____

Consent: RM21.031.01

Method: TWID ROTARY

Lot No.: DP15343

Bore No: #1

Date Completed: _____

Job No.: 342632

Site Location: E1261276 NS011298 134 MALAGHANS ROAD

BORE CONSTRUCTION DETAILS

Casing

Casing Length: 72m

Casing Material: UPVC PN9

Top of Casing: 500 above/below gl

Telescoped Casing (if applicable)

Bore

Bore Depth: 72m

Bore Dia.: 115mm

Dia	Length	Set [from ; to]	
mm	m	m	m
mm	m	m	m
mm	m	m	m

Screen/s (if applicable) Top of Leader: _____ m

Type	Slot Size	Dia.	Length	Set [from : to]	
<u>UPVC PN9</u>	<u>1</u> mm	<u>115</u> mm	<u>60</u> m	<u>12</u> m	<u>72</u> m
	mm	mm	m	m	m
	mm	mm	m	m	m

WATER LEVEL INFORMATION

Static Water Level: _____ m [SWL] above/below ground

BORE DEVELOPMENT & TESTING (if applicable)

Development Duration: 18 hrs

Pumping Duration: 120 hrs

Flow Rate	Draw Down (from SWL)	Duration
<u>4</u> LPM	<u>39</u> m	<u>120</u> Hrs
LPM	m	Hrs
GPM	m	Hrs
GPM	m	Hrs
GPM	m	Hrs
GPM	m	Hrs

BORE HEAD SEALING

Sealed: Y/N

Sealing Material: Bentonite concrete

Capped: Y/N

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Page 2 of 2

BORE REPORT

GENERAL BORE DETAILS

Client: JONO HAY
Driller/s: McMILLAN CIVIL Grid Ref: E1261285 W5011291 Consent: RM
Method: TWO ROTARY Lot No.: DP15343 Bore No.: #2
Date Completed: _____ Job No.: SL2632
Site Location: 34 MALAGHAN ROAD

BORE CONSTRUCTION DETAILS

Casing Bore
Casing Length: 63 Bore Depth: 63
Casing Material: UPVC PM9 Bore Dia.: 115mm
Top of Casing: .500 above/below gl
Telescoped Casing (if applicable)

Dia	Length	Set [from ; to]	
mm	m	m	m
mm	m	m	m
mm	m	m	m

Screen/s (if applicable) Top of Leader: _____ m

Type	Slot Size	Dia.	Length	Set [from : to]	
<u>UPVC PM9</u>	<u>1</u> mm	<u>115</u> mm	<u>51</u> m	<u>12</u> m	<u>63</u> m
	mm	mm	m	m	m
	mm	mm	m	m	m

WATER LEVEL INFORMATION Static Water Level: _____ m [SWL] above/below ground

BORE DEVELOPMENT & TESTING (if applicable)

Development Duration: 18 hrs Pumping Duration: 72 hrs

Flow Rate	Draw Down (from SWL)	Duration
<u>4</u> LPM	<u>39</u> m	<u>72</u> Hrs
LPM	m	Hrs
GPM	m	Hrs
GPM	m	Hrs
GPM	m	Hrs
GPM	m	Hrs

BORE HEAD SEALING Sealed: YN Sealing Material: BEUTONITE AND CONCRETE Capped: YN

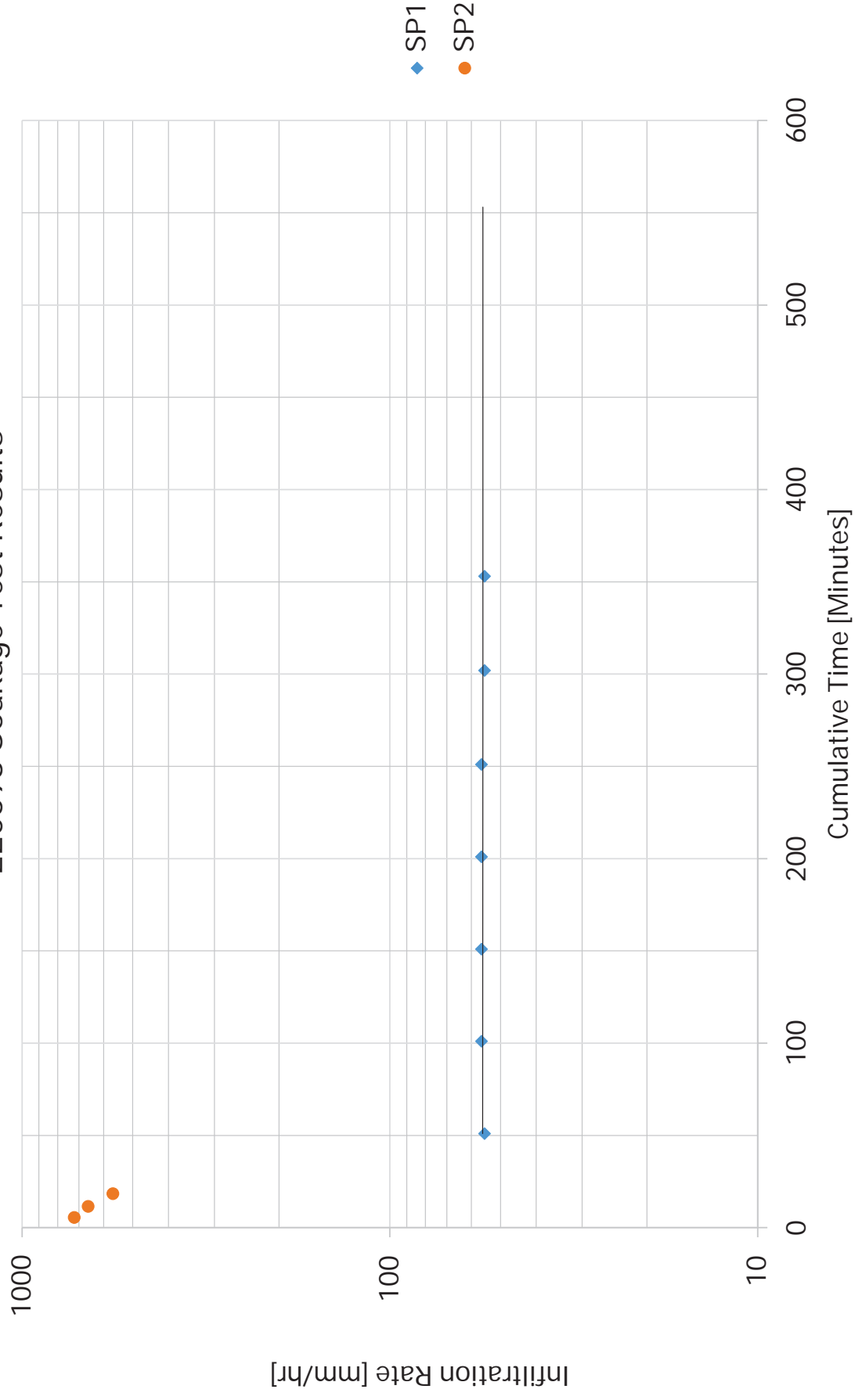
BORE REPORT

BORELOG

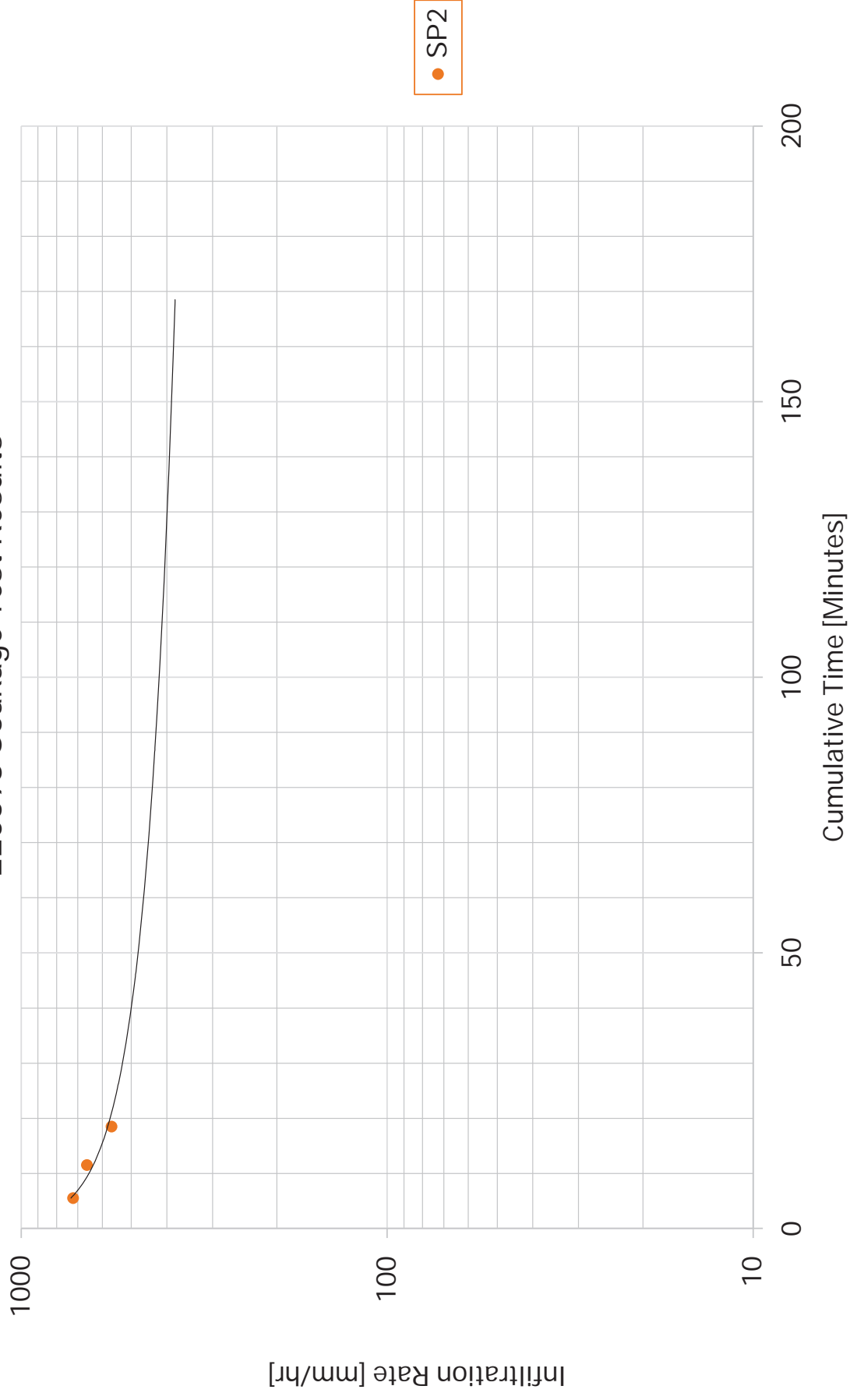
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Appendix C: Permeability Test Results

220698 Soakage Test Results



220698 Soakage Test Results



Appendix D: Site Soils Assessment

Onsite Wastewater Disposal Site & Soils Assessment

Use for Subdivision or Land Use Resource Consent



The design standard for waste water treatment and effluent disposal systems is AS/NZS 1547:2012. All references in this form relate to this standard.

Applications should provide sufficient information to demonstrate that all lots will be capable of accommodating an on-site system.

Site Description

Property Owner: Martin & Barbara Hay

Location Address: 134 Malaghans Road
Dalefield, Queenstown

Legal Description (eg Lot3 DP1234) : Lot 1 DP 15343

List any existing consents related to waste disposal on the site: _____

General description of development / source of waste water: Proposed secondary dwelling

The number and size of the lots being created: Proposed additional dwelling

Site Assessment (refer to Tables R1 & R2 for setback distances to site features)

Land use	<u>Rural & Wakatipu Basin Rural Amenity Zone</u>
Topography	<u>Undulating with isolated mounds/hillocks, hill slope facing west</u>
Slope angle	<u>5-15</u>
Aspect	<u>North</u>
Vegetation cover	<u>Grass and scattered trees</u>
Areas of potential ponding	<u>As indicated on GeoSolve Site Plan</u>
Ephemeral streams	<u>N/A</u>
Drainage patterns and overland paths	<u>As indicated on GeoSolve Site Plan</u>
Flood potential (show with return period on site plan)	<u>N/A</u>
Distance to nearest water body	<u>~500m SW of the site.</u>
Water bores with 50m (reference ORC Maps)	<u>CB11/0140 & CB11/0139 (On the subject site)</u>
Other Site Features	<u>Nil.</u>

Slope stability assessment details – summarise any areas unsuitable for waste water irrigation.
(Attach report if applicable): _____

_____ No slope stability issues identified _____

(Highest potential) Depth to ground water:

Summer 21-22m

Winter 21-22m

Information Source ORC Well logs

What is the potential for waste water to short circuit through permeable soils to surface and / or ground water? Low potential. Shallow gradient of site and observed thickness of soils underlying the site.

Soil Investigation (Appendix C)

Field investigation date: 9-11 August 2022

Number of test pit bores (C3.5.4): 5

Soil investigation addendum to be attached that includes a plan showing test pit or bore location, log results and photos of the site profile.

If fill material was encountered during the soil investigation state how this will impact on the waste water system: No fill material encountered

Average depth of topsoil: 0.3m

Indicative permeability (Appendix G) : 50-300mm/hr

Percolation test method (refer to B6 for applicability) : Open soak pit test
(attach report if applicable)

Soil Category (Table 5.1)	Soil Texture (Appendix E)	Drainage	Tick One
1	Gravel and sands	Rapid	x
2	Sandy loams	Free	
3	Loams	Good	x
4	Clay loams	Moderate	
5	Light clays	Moderate to slow	
6	Medium to heavy clays	Slow	

Reasons for placing in stated category:

_____ Multiple soil types tested. Based on soil description and recorded infiltration rate _____

Loading rate, DLR (Table L1): _____

Explanation for proposed loading rate: _____

Recommendations from site and soils assessment

Specify any design constraints

Specify any areas unsuitable for location of the disposal field

Specify any unsuitable treatment and/or disposal systems

Propose suitable mitigation to enable successful effluent treatment

50m separation distance to water bores on subject site.

See section 7 of GeoSolve report for additional details.

Attachments Checklist



Copy of existing consents



Soil investigation addendum



To scale site plan, the following must be included on the plan:

Buildings

Boundaries

Retaining Walls

Embankments

Water bodies

Flood potential

Other septic tanks / treatment systems

Water bores

Existing and proposed trees and shrubs

Direction of ground water flow

North arrow

Note that an Otago Regional Council (ORC) consent may also be required to discharge domestic waste water to land if any of the following apply:


- Daily discharge volume exceeds 2,000 litres per day
- Discharge will occur in a groundwater protection zone
- Discharge will occur within 50 metres of a surface water body (natural or manmade)
- Discharge will occur within 50 metres of an existing bore/well
- Discharge will result in a direct discharge into a drain/water ace/ground water
- Discharge may runoff onto another persons' property

If any of these apply then we recommend that you correspond with the ORC;

*Otago Regional Council
"The Station" (upstairs)
Cnr. Camp and Shotover Streets
P O Box 958
Queenstown 9300

Tel: 03 442 5681*

I believe to the best of my knowledge that the information provided in this assessment is true and complete. I have the necessary experience and qualifications as defined in Section 3.3 AS/NZS 1547:2012 to undertake this assessment in accordance with the requirements of AS/NZS 1547:2012:

Company:	<u>GeoSolve Ltd</u>
Email:	<u>sreeves@geosolve.co.nz</u>
Phone number:	<u>0272457470</u>
Name:	<u>Simon Reeves</u>
Signature:	<u></u>
Date:	<u>4/10/2022</u>

Queenstown Lakes District Council
Private Bag 50072
10 Gorge Road
QUEENSTOWN 9348

Phone: 03 441 0499
Fax: 03 442 4778
Email: services@qldc.govt.nz
Website: www.qldc.govt.nz

2 November 2022

Kent Wilkins
Kent Wilkins Electrical

Sent via email only: kent@kentwilkinselectrical.co.nz

Dear Kent,

**ELECTRICITY SUPPLY AVAILABILITY FOR A PROPOSED BUILDING DEVELOPMENT.
134 MALAGHANS ROAD, DALEFIELD. LOT 1 DP 15343.**

Thank you for your inquiry outlining the above proposed development.

Subject to technical, legal and commercial requirements, Aurora Energy can make a Point of Supply¹ (PoS) available for this development.

Disclaimer

This letter confirms that a PoS **can** be made available. This letter **does not** imply that a PoS is available now, or that Aurora Energy will make a PoS available at its cost.

Next Steps

To arrange an electricity connection to the Aurora Energy network, a connection application will be required. General and technical requirements for electricity connections are contained in Aurora Energy's Network Connection Standard. Connection application forms and the Network Connection Standard are available from www.auroraenergy.co.nz.

Yours sincerely



Niel Frear

CUSTOMER INITIATED WORKS MANAGER

¹ Point of Supply is defined in section 2(3) of the Electricity Act 1993.



Lightspeed Technology Group
12/183 - 193 Glenda Drive
Frankton 9300

21st November 2022

LightSpeed are the largest independent ISP in the Wakatipu and have 10 years experience operating in the Wakatipu basin. LightSpeed serves residential and business broadband to customers all over the Queenstown Southern Lakes area.

LightSpeed prides itself in being able to deliver services where other ISPs cant. We deliver tightly integrated and bespoke broadband solutions to rural customers to quickly and economically seize new market opportunities with installations in less than 7 days.

We will be able to provide upto a speed of 100/100mbps symmetrical download & upload speed to the proposed new dwelling at 134 Malaghans Road. We already service other dwelling on this property.

We currently offer wireless to the Speargrass/Lower Shotover area. We have approximately 400 customers in that area using the LightSpeed network these being residential & commercial connections.

Fibre is not available due to it being zoned as rural at present.

We are on the register of Chorus' non-retail users threw the Commerce Commission.

LightSpeed also supplies VoIP phone solutions over our network for clients who require a phone line.

Best Regards

Liam Martin
Managing Director

PO Box 83 Queenstown 9300 NZ
Phone: +64 3 4412134
Mobile:+64 276886730



LEGAL DESCRIPTION:
Lot 1 DP 15343
CT: 16487
AREA: 4.3423ha
ADDRESS: 134 MALAGHANS ROAD, DALEFIELD
DISTRICT PLAN: RURAL & PARTIAL RURAL AMENITY ZONE.
WIND ZONE: VERY HIGH
SNOW LOADING: SED

PROPOSED - SITE PLAN-GEOTECH

SCALE: 1:500@A1 (half-scale @A3)

SHEET No. PD102
REV. C
DATE: 07/09/22

PROJECT No: 1612
PROJECT: BARN HOUSE
Document Set ID: 7609413
Version: 1, Version Date: 03/05/2023

SHEET: PROPOSED SITE PLAN





anna-marie chin architects

This drawing is CDPP/HRCT and is the property of Anna-Marie Chin Architects Ltd.

QLDC Property Map



Legend

-  Override 1
-  Addresses
-  Roads
-  Parcels and Properties

0 0.05 0.1 0.2 km
Scale: 1:2,257

Map Date:
21/11/2022



QLDC Property Map



Legend

- Override 1
- Roads

0 0.75 1.5 3 km
Scale: 1:36,112

Map Date: 21/11/2022



Onsite Wastewater Disposal Site & Soils Assessment

Use for Subdivision or Land Use Resource Consent



The design standard for waste water treatment and effluent disposal systems is AS/NZS 1547:2012. All references in this form relate to this standard.

Applications should provide sufficient information to demonstrate that all lots will be capable of accommodating an on-site system.

Site Description

Property Owner: Martin & Barbara Hay

Location Address: 134 Malaghans Road
Dalefield, Queenstown

Legal Description (eg Lot3 DP1234) : Lot 1 DP 15343

List any existing consents related to waste disposal on the site: _____

General description of development / source of waste water: Proposed secondary dwelling

The number and size of the lots being created: Proposed additional dwelling

Site Assessment (refer to Tables R1 & R2 for setback distances to site features)

Land use	<u>Rural & Wakatipu Basin Rural Amenity Zone</u>
Topography	<u>Undulating with isolated mounds/hillocks, hill slope facing west</u>
Slope angle	<u>5-15</u>
Aspect	<u>North</u>
Vegetation cover	<u>Grass and scattered trees</u>
Areas of potential ponding	<u>As indicated on GeoSolve Site Plan</u>
Ephemeral streams	<u>N/A</u>
Drainage patterns and overland paths	<u>As indicated on GeoSolve Site Plan</u>
Flood potential (show with return period on site plan)	<u>N/A</u>
Distance to nearest water body	<u>~500m SW of the site.</u>
Water bores with 50m (reference ORC Maps)	<u>CB11/0140 & CB11/0139 (On the subject site)</u>
Other Site Features	<u>Nil.</u>

Slope stability assessment details – summarise any areas unsuitable for waste water irrigation.
(Attach report if applicable): _____

_____ No slope stability issues identified _____

(Highest potential) Depth to ground water:

Summer 21-22m

Winter 21-22m

Information Source ORC Well logs

What is the potential for waste water to short circuit through permeable soils to surface and / or ground water? Low potential. Shallow gradient of site and observed thickness of soils underlying the site.

Soil Investigation (Appendix C)

Field investigation date: 9-11 August 2022

Number of test pit bores (C3.5.4): 5

Soil investigation addendum to be attached that includes a plan showing test pit or bore location, log results and photos of the site profile.

If fill material was encountered during the soil investigation state how this will impact on the waste water system: No fill material encountered

Average depth of topsoil: 0.3m

Indicative permeability (Appendix G) : 50-300mm/hr

Percolation test method (refer to B6 for applicability) : Open soak pit test
(attach report if applicable)

Soil Category (Table 5.1)	Soil Texture (Appendix E)	Drainage	Tick One
1	Gravel and sands	Rapid	x
2	Sandy loams	Free	
3	Loams	Good	x
4	Clay loams	Moderate	
5	Light clays	Moderate to slow	
6	Medium to heavy clays	Slow	

Reasons for placing in stated category:

Multiple soil types tested. Based on soil description and recorded infiltration rate

Loading rate, DLR (Table L1): _____

Explanation for proposed loading rate: _____

Recommendations from site and soils assessment

Specify any design constraints
Specify any areas unsuitable for location of the disposal field
Specify any unsuitable treatment and/or disposal systems
Propose suitable mitigation to enable successful effluent treatment

50m separation distance to water bores on subject site.

See section 7 of GeoSolve report for additional details.

Attachments Checklist

☐

Copy of existing consents

☒

Soil investigation addendum

☒

To scale site plan, the following must be included on the plan:

Buildings

Boundaries

Retaining Walls

Embankments

Water bodies

Flood potential

Other septic tanks / treatment systems

Water bores

Existing and proposed trees and shrubs

Direction of ground water flow

North arrow

Note that an Otago Regional Council (ORC) consent may also be required to discharge domestic waste water to land if any of the following apply:


- Daily discharge volume exceeds 2,000 litres per day
- Discharge will occur in a groundwater protection zone
- Discharge will occur within 50 metres of a surface water body (natural or manmade)
- Discharge will occur within 50 metres of an existing bore/well
- Discharge will result in a direct discharge into a drain/water ace/ground water
- Discharge may runoff onto another persons' property

If any of these apply then we recommend that you correspond with the ORC;

*Otago Regional Council
"The Station" (upstairs)
Cnr. Camp and Shotover Streets
P O Box 958
Queenstown 9300*

Tel: 03 442 5681

I believe to the best of my knowledge that the information provided in this assessment is true and complete. I have the necessary experience and qualifications as defined in Section 3.3 AS/NZS 1547:2012 to undertake this assessment in accordance with the requirements of AS/NZS 1547:2012:

Company:	<u>GeoSolve Ltd</u>
Email:	<u>sreeves@geosolve.co.nz</u>
Phone number:	<u>0272457470</u>
Name:	<u>Simon Reeves</u>
Signature:	<u></u>
Date:	<u>4/10/2022</u>

Queenstown Lakes District Council
Private Bag 50072
10 Gorge Road
QUEENSTOWN 9348

Phone: 03 441 0499
Fax: 03 442 4778
Email: services@qldc.govt.nz
Website: www.qldc.govt.nz



Certificate of Analysis

Page 1 of 4

Client:	Jono Hay	Lab No:	2953465	DWAPv1
Contact:	Jono Hay 8 Berkshire Street Arrowtown 9302	Date Received:	12-Apr-2022	
		Date Reported:	22-Apr-2022	
		Quote No:		
		Order No:		
		Client Reference:	Jono Hay	
		Submitted By:	Jono Hay	

Sample Type: Aqueous				
Sample Name:		Bore - A 11-Apr-2022 12:30 pm		
Lab Number:		2953465.1		
		Guideline Value	Maximum Acceptable Values (MAV)	
Routine Water + E.coli profile Kit				
Escherichia coli	MPN / 100mL	6	-	< 1
Routine Water Profile				
Turbidity	NTU	25	< 2.5	-
pH	pH Units	8.5	7.0 - 8.5	-
Total Alkalinity	g/m ³ as CaCO ₃	85	-	-
Free Carbon Dioxide	g/m ³ at 25°C	< 1.0	-	-
Total Hardness	g/m ³ as CaCO ₃	33	< 200	-
Electrical Conductivity (EC)	mS/m	26.3	-	-
Electrical Conductivity (EC)	µS/cm	263	-	-
Approx Total Dissolved Salts	g/m ³	176	< 1000	-
Total Arsenic	g/m ³	0.0106	-	0.01
Total Boron	g/m ³	0.82	-	1.4
Total Calcium	g/m ³	11.9	-	-
Total Copper	g/m ³	0.0034	< 1	2
Total Iron	g/m ³	1.13	< 0.2	-
Total Lead	g/m ³	0.00126	-	0.01
Total Magnesium	g/m ³	0.76	-	-
Total Manganese	g/m ³	0.062	< 0.04 (Staining) < 0.10 (Taste)	0.4
Total Potassium	g/m ³	1.45	-	-
Total Sodium	g/m ³	46	< 200	-
Total Zinc	g/m ³	0.058	< 1.5	-
Chloride	g/m ³	3.4	< 250	-
Nitrate-N	g/m ³	< 0.05	-	11.3
Sulphate	g/m ³	38	< 250	-

Note: The Guideline Values and Maximum Acceptable Values (MAV) are taken from the publication 'Drinking-water Standards for New Zealand 2005 (Revised 2018)', Ministry of Health. Copies of this publication are available from <https://www.health.govt.nz/publication/drinking-water-standards-new-zealand-2005-revised-2018>

The Maximum Acceptable Values (MAVs) have been defined by the Ministry of Health for parameters of health significance and should not be exceeded. The Guideline Values are the limits for aesthetic determinands that, if exceeded, may render the water unattractive to consumers.

Note that the units g/m³ are the same as mg/L and ppm.



This Laboratory is accredited by International Accreditation New Zealand (IANZ), which represents New Zealand in the International Laboratory Accreditation Cooperation (ILAC). Through the ILAC Mutual Recognition Arrangement (ILAC-MRA) this accreditation is internationally recognised. The tests reported herein have been performed in accordance with the terms of accreditation, with the exception of tests marked * or any comments and interpretations, which are not accredited.

pH/Alkalinity and Corrosiveness Assessment

The pH of a water sample is a measure of its acidity or basicity. Waters with a low pH can be corrosive and those with a high pH can promote scale formation in pipes and hot water cylinders.

The guideline level for pH in drinking water is 7.0-8.5. Below this range the water will be corrosive and may cause problems with disinfection if such treatment is used.

The alkalinity of a water is a measure of its acid neutralising capacity and is usually related to the concentration of carbonate, bicarbonate and hydroxide. Low alkalinities (25 g/m³) promote corrosion and high alkalinities can cause problems with scale formation in metal pipes and tanks.

The pH of this water is within the NZ Drinking Water Guidelines, the ideal range being 7.0 to 8.0. With the pH and alkalinity levels found, it is unlikely this water will be corrosive towards metal piping and fixtures.

Hardness/Total Dissolved Salts Assessment

The water contains a low amount of dissolved solids and would be regarded as being soft.

Nitrate Assessment

Nitrate-nitrogen at elevated levels is considered undesirable in natural waters as this element can cause a health disorder called methaemaglobinaemia. Very young infants (less than six months old) are especially vulnerable. The Drinking-water Standards for New Zealand 2005 (Revised 2018) suggests a maximum permissible level of 11.3 g/m³ as Nitrate-nitrogen (50 g/m³ as Nitrate).

Nitrate-nitrogen was not found in this water.

Boron Assessment

Boron may be present in natural waters and if present at high concentrations can be toxic to plants.

Boron was found at an elevated level in this water. We would recommend against using this water for irrigation purposes, especially boron sensitive crops such as kiwifruit.

Metals Assessment

Iron and manganese are two problem elements that commonly occur in natural waters. These elements may cause unsightly stains and produce a brown/black precipitate. Iron is not toxic but manganese, at concentrations above 0.5 g/m³, may adversely affect health. At concentrations below this it may cause stains on clothing and sanitary ware.

Iron was found in this water at a high level.

Manganese was found in this water at a significant level.

Treatment to remove iron and/or manganese will be required.

Bacteriological Tests

The NZ Drinking Water Standards state that there should be no Escherichia coli (E coli) in water used for human consumption. The presence of these organisms would indicate that other pathogens of faecal origin may be present.

The E coli result indicates that this water should be checked again ensuring the sample is collected into a sterile container and, if still high, the water should not be used for drinking without filtration or disinfection

Final Assessment

The parameters Turbidity, Total Arsenic, Total Iron, Total Manganese and Escherichia coli did NOT meet the guidelines laid down in the publication 'Drinking-water Standards for New Zealand 2005 (Revised 2018)' published by the Ministry of Health for water which is suitable for drinking purposes.

Summary of Methods

The following table(s) gives a brief description of the methods used to conduct the analyses for this job. The detection limits given below are those attainable in a relatively simple matrix. Detection limits may be higher for individual samples should insufficient sample be available, or if the matrix requires that dilutions be performed during analysis. A detection limit range indicates the lowest and highest detection limits in the associated suite of analytes. A full listing of compounds and detection limits are available from the laboratory upon request. Unless otherwise indicated, analyses were performed at Hill Laboratories, 28 Duke Street, Frankton, Hamilton 3204.

Sample Type: Aqueous			
Test	Method Description	Default Detection Limit	Sample No
Routine Water Profile		-	1
Filtration, Unpreserved	Sample filtration through 0.45µm membrane filter. Performed at Hill Laboratories - Chemistry; 101c Waterloo Road, Christchurch.	-	1
Total Digestion	Nitric acid digestion. APHA 3030 E (modified) 23 rd ed. 2017.	-	1
Turbidity	Analysis using a Hach 2100 Turbidity meter. Analysed at Hill Laboratories - Chemistry; 101c Waterloo Road, Christchurch. APHA 2130 B 23 rd ed. 2017 (modified).	0.05 NTU	1
pH	pH meter. Analysed at Hill Laboratories - Chemistry; 101c Waterloo Road, Christchurch. APHA 4500-H ⁺ B 23 rd ed. 2017. Note: It is not possible to achieve the APHA Maximum Storage Recommendation for this test (15 min) when samples are analysed upon receipt at the laboratory, and not in the field. Samples and Standards are analysed at an equivalent laboratory temperature (typically 18 to 22 °C). Temperature compensation is used.	0.1 pH Units	1
Total Alkalinity	Titration to pH 4.5 (M-alkalinity), autotitrator. Analysed at Hill Laboratories - Chemistry; 101c Waterloo Road, Christchurch. APHA 2320 B (modified for Alkalinity <20) 23 rd ed. 2017.	1.0 g/m ³ as CaCO ₃	1
Free Carbon Dioxide	Calculation: from alkalinity and pH, valid where TDS is not >500 mg/L and alkalinity is almost entirely due to hydroxides, carbonates or bicarbonates. APHA 4500-CO ₂ D 23 rd ed. 2017.	1.0 g/m ³ at 25°C	1
Total Hardness	Calculation from Calcium and Magnesium. APHA 2340 B 23 rd ed. 2017.	1.0 g/m ³ as CaCO ₃	1
Electrical Conductivity (EC)	Conductivity meter, 25°C. Analysed at Hill Laboratories - Chemistry; 101c Waterloo Road, Christchurch. APHA 2510 B 23 rd ed. 2017.	0.1 mS/m	1
Electrical Conductivity (EC)	Conductivity meter, 25°C. APHA 2510 B 23 rd ed. 2017.	1 µS/cm	1
Approx Total Dissolved Salts	Calculation: from Electrical Conductivity.	2 g/m ³	1
Total Arsenic	Nitric acid digestion, ICP-MS, trace level. APHA 3125 B 23 rd ed. 2017 / US EPA 200.8.	0.0011 g/m ³	1
Total Boron	Nitric acid digestion, ICP-MS, trace level. APHA 3125 B 23 rd ed. 2017.	0.0053 g/m ³	1
Total Calcium	Nitric acid digestion, ICP-MS, trace level. APHA 3125 B 23 rd ed. 2017.	0.053 g/m ³	1
Total Copper	Nitric acid digestion, ICP-MS, trace level. APHA 3125 B 23 rd ed. 2017 / US EPA 200.8.	0.00053 g/m ³	1
Total Iron	Nitric acid digestion, ICP-MS, trace level. APHA 3125 B 23 rd ed. 2017.	0.021 g/m ³	1
Total Lead	Nitric acid digestion, ICP-MS, trace level. APHA 3125 B 23 rd ed. 2017 / US EPA 200.8.	0.00011 g/m ³	1
Total Magnesium	Nitric acid digestion, ICP-MS, trace level. APHA 3125 B 23 rd ed. 2017.	0.021 g/m ³	1
Total Manganese	Nitric acid digestion, ICP-MS, trace level. APHA 3125 B 23 rd ed. 2017 / US EPA 200.8.	0.00053 g/m ³	1
Total Potassium	Nitric acid digestion, ICP-MS, trace level. APHA 3125 B 23 rd ed. 2017.	0.053 g/m ³	1
Total Sodium	Nitric acid digestion, ICP-MS, trace level. APHA 3125 B 23 rd ed. 2017.	0.021 g/m ³	1
Total Zinc	Nitric acid digestion, ICP-MS, trace level. APHA 3125 B 23 rd ed. 2017 / US EPA 200.8.	0.0011 g/m ³	1
Chloride	Filtered sample from Christchurch. Ion Chromatography. APHA 4110 B (modified) 23 rd ed. 2017.	0.5 g/m ³	1
Nitrate-N	Filtered sample from Christchurch. Ion Chromatography. APHA 4110 B (modified) 23 rd ed. 2017.	0.05 g/m ³	1
Sulphate	Filtered sample from Christchurch. Ion Chromatography. APHA 4110 B (modified) 23 rd ed. 2017.	0.5 g/m ³	1
Escherichia coli	MPN count using Colilert 18 (Incubated at 35°C for 18 hours) and 97 wells. Analysed at Hill Laboratories - Microbiology; 101c Waterloo Road, Hornby, Christchurch. APHA 9223 B 23 rd ed. 2017.	1 MPN / 100mL	1

These samples were collected by yourselves (or your agent) and analysed as received at the laboratory.

Testing was completed between 13-Apr-2022 and 22-Apr-2022. For completion dates of individual analyses please contact the laboratory.

Samples are held at the laboratory after reporting for a length of time based on the stability of the samples and analytes being tested (considering any preservation used), and the storage space available. Once the storage period is completed, the samples are discarded unless otherwise agreed with the customer. Extended storage times may incur additional charges.

This certificate of analysis must not be reproduced, except in full, without the written consent of the signatory.

A handwritten signature in blue ink, appearing to read 'K Harrison', is positioned above the printed name.

Kim Harrison MSc
Client Services Manager - Environmental



T 027 5021234

T 0800 945372

mark@purewatercentral.co.nz

www.purewatercentral.co.nz

17 January 2023

Jono Hay
Arrowtown

The following assessment is the recommended treatment based on Hill Laboratories water test dated 22/04/2022 (lab No: 2953465)

The high turbidity @ 25 NTU is caused by the high iron and manganese content which will be lowered to within NZDW standards with the installation of the proposed water treatment system.

The E.coli level @ 6 MPN will also be eliminated with the installation of the proposed water treatment system.

The Arsenic level @ 0.0106 will be removed with the installation of the proposed water treatment system.

Pure Water Central Ltd proposes to firstly install a Pentair automatic water softener to remove the total hardness, iron and manganese content to within NZDW standards. This will be followed up with cartridge filtration down to 1 micron and a Greenway NSF 55 Class B validated @ 40 mJ/cm² ultra violet system.

I would recommend installing a point of use drinking water filter to remove the Arsenic content.

Please email or ring me if your have any questions.

Kind Regards

Mark Crosland

Pure Water Central Ltd

Ref: 22154

5 December 2022

Jonathan Hay
134 Malaghans Road
Dalefield

Email: Jono@amchinarchitects.co.nz



RE: 134 Malaghans Road, Dalefield NES Letter

1 Introduction

Jonathan Hay is seeking land use consent from the Queenstown District Council (QLDC) to establish a building platform within a rural property located at 134 Malaghans Road, Dalefield. Changing the use of a piece of land is an activity subject to the National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health (NESC) if it occurs on a 'piece of land' that has history of hazardous substance storage, use or disposal, as described on the Hazardous Activities and Industries List (HAIL) (Ministry for the Environment, 2012).

Regulation 6 of the NESC sets out two methods that can be used to establish whether the land has had hazardous activities or industries conducted on it. The first method is by conducting a Preliminary Site Investigation (PSI). The second is by reviewing information about the land that is held and is accessible by the relevant territorial or unitary authority.

To support the consent application without the completion of a PSI, Mr Hay has engaged e3Scientific Limited (e3s) to complete a review of most up-to-date information from the QLDC and Otago Regional Council (ORC), as per NESC regulation 6(2)(a). This was completed to establish whether or not the site is a piece of land as described in regulation 5(7).

e3Scientific's experience in the provision of contaminated land services is provided in Attachment A.

2 Site Overview

The site is located at 134 Malaghans Road and was purchased by Mr Hay's parents in 2012. The site includes an existing dwelling at the southeast portion of the site and a set of stables. According to Mr Hay, when the property was purchased by his parents the stables were being used to store building materials and has since been used for general farm storage (hay bales) and general timber storage (not treated). The stables are located approximately 30 metres southeast from the proposed building platform. The site has operated as lifestyle block with some grazing of livestock. Mr Hay is not aware of any landfilling or offal pit activity on the property. The site location and layout is presented in Figure 1.

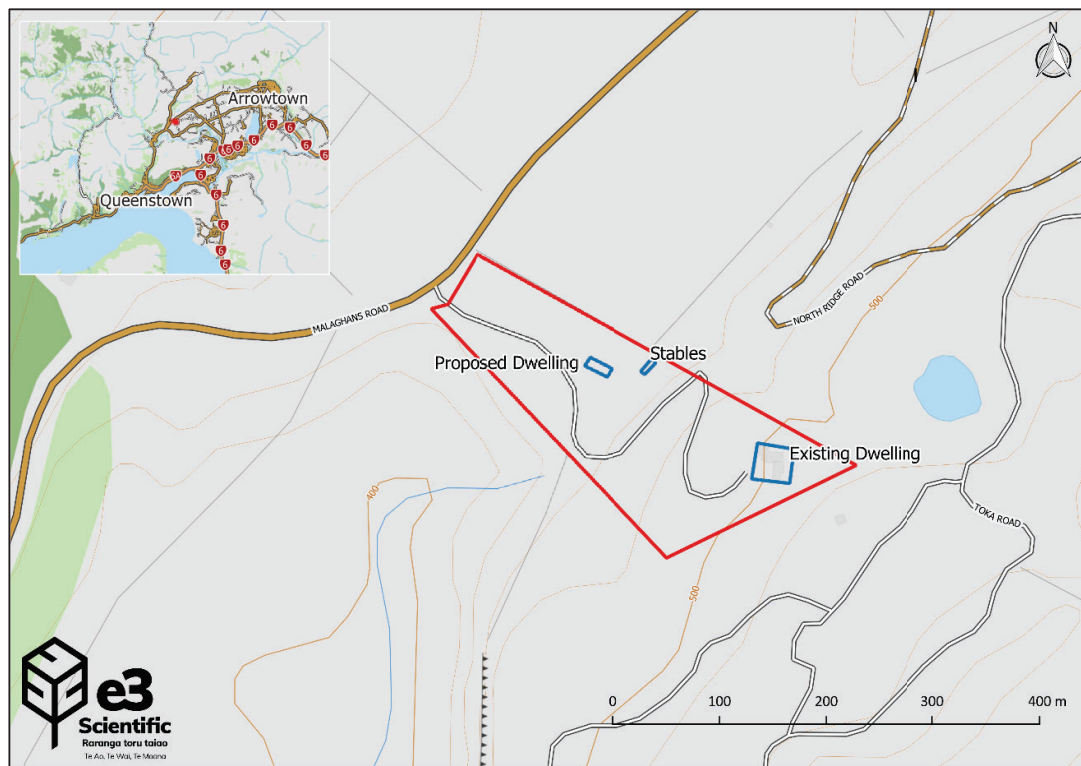


Figure 1: Site Location Plan

3 Site Visit

e3s completed a site walkover across the proposed building platform and the set of stables on the 25th of November. The stables showed no signs of hazardous substance storage and appeared to be consistent with Mr Hays description of timber and farm storage. The exterior of the stables had not been painted and therefore there is no risk of lead-based paint use. The stables included a small set of stock yards; however, there was no sheep dip. The yards are more consistent

with what is typically found on a lifestyle block for managing a small number of stock.

At the time of the site walkover, the proposed building platform was covered with pasture. There were no signs of staining, burnt materials or uncontrolled fill.

It is possible that the site has historically received broadacre applications of agrichemicals such as DDT and superphosphate fertiliser during low intensity productive use as farmland. These agrichemicals were commonly used to fertilise soil and control pests such as grass grub. e3Scientific has assessed Organochlorine Pesticides (such as DDT) and cadmium (a contaminant associated with superphosphate fertiliser) concentrations in soils throughout Otago and Southland. In all investigations, contaminants have only been encountered at elevated concentrations approaching NESCS soil contaminant standards in the vicinity of sheep dips, sheep footbaths, dusting yards and areas of historic agrichemical storage. It is highly unlikely the broadacre application of agrichemicals over the balance of the site have occurred at a rate and intensity that would result in an accumulation of contaminants in concentrations that could present a risk to human health or the environment. As such, this activity is not considered a HAIL activity.

4 ORC HAIL Register

The Otago Regional Council's online HAIL Register was examined on 1 December 2022. The site is not currently recorded on the Otago Regional Council's HAIL Register. However, the ORC notes that the database is continually under development and should not be regarded as a complete record of all properties in Otago. The absence of available information does not necessarily mean that the property is uncontaminated; rather no information exists on the database.

A map generated from the ORC's HAIL register is provided in Attachment B.

5 QLDC NES Records Search

In November 2022, e3s completed a review of property files for 134 Malaghans Road made available on the QLDC's information portal known as eDocs.

None of the records on the property file indicated that a HAIL activity has taken place on the site. The property files included information associated with the construction of the existing dwelling with associated extensions and alterations

such as fireplace installations, swimming pool, kitchen alterations, installation of a water tank and construction of a studio. Property files related to the construction of the stables described the intended use as loose boxes and a feed room which supports conversations with Mr Hay regarding no indication of hazardous substances being stored within the stables.

A Project Information Memorandum on the property file from 2005 noted that the council has no record to suggest this site has been occupied by land use activities associated with hazardous substances. This further supports the notion that no HAIL activities have occurred on this site.

6 Summary and Conclusions

In summary, a site walkover and a review of information held by the ORC and the QLDC have not found any indication that a HAIL activity has taken place on the property. Therefore, e3s have established the site is not a piece of land as described in regulation 5(7) and therefore the change of use associated with current consent application is not subject to the NESCS.

If you have any questions regarding the information provided in this letter, please contact Fiona Rowley on 03 409 8664 or via email at fiona.rowley@e3scientific.co.nz

Yours sincerely,



Fiona Rowley
Senior Environmental Scientist

Attachments

Attachment A: e3Scientific Experience

Attachment B: ORC HAIL Map

References

Ministry for the Environment. (2012). *Users' Guide: National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health*. Wellington: Ministry for the Environment.

Attachment A: e3Scientific Experience





Contaminated Land Services

e3Scientific Limited (e3Scientific) is a New Zealand owned and operated environmental science consultancy. Our team delivers technical, innovative science; practical solutions; and expert advice to assist our clients in the smart management of the environment.

e3Scientific provides a range contaminated land services, including:

- Due Diligence Investigations.
- Preliminary Site Investigations.
- Detailed Site Investigations.
- Soil and groundwater remedial advice and management.
- Peer review and regulator support.

Our Contaminated Land team has a sound understanding of New Zealand's regulatory environment with respect to the assessment and management of contaminated land and has been a major supplier of contaminated land services in Otago and Southland since 2012.

Simon Beardmore is the Technical Director of the Contaminated Land team at e3Scientific. Simon has over 12 years post graduate experience working as an Environmental Scientist, specialising in the investigation and management of contaminated land. Simon developed contaminated land management strategy and standard operating procedures at the Otago Regional Council and has completed and supervised the delivery of preliminary and detailed site investigations, and site remediation projects throughout Otago and Southland. Simon is responsible for technical oversight of projects and certifying contaminated land investigations as a suitably qualified and experienced practitioner. Simon is supported by Team Leader Fiona Rowley, Senior Environmental Scientists Carrie Pritchard, Jodi Halleux and Simon Bloomberg, and Environmental Scientist and Geospatial Specialist Jessie Lindsay.

The e3Scientific team has completed many Preliminary Site Investigations, Detailed Site Investigations and remedial projects across New Zealand and regularly provides peer review of site investigations for district and regional councils. Projects have involved investigations into the impact on soil quality associated with operational and historic timber treatment plants, fuel storage and distribution facilities, substations, sheep dips and yards, orchards, vineyards, agricultural activities, gasworks, service stations, and operational and closed landfills.





The following provides a summary of key contaminated land work e3Scientific is involved in or has completed:

- Hundreds of Preliminary Site Investigations and Detailed Site Investigations to support subdivision, landuse change and earthworks consent applications.
- Support Environment Southland's Selected Landuse Register including the identification of Hazardous Activities on properties across Southland and the registration of HAIL sites.
- Review of groundwater contamination associated with the former Invercargill gasworks site including the completion of a groundwater investigations and an environmental risk assessment to support a discharge consent application.
- Large scale remedial works of former timber treatment plants and sheep dips including the completion of detailed investigations to delineate the extent of contaminated soils, design of remedial action plans, project management of remedial works and completion of site validation and council close out reports.
- Investigations into an area of arsenic impacted soils in Frankton including the completion of detailed investigations to delineate the horizontal extent, consideration of the source of the arsenic, liaison with property owners and council.
- Project management of a bioavailability study of arsenic impacted soils in Gibbston Valley to support a Tier 2 risk assessment associated with a residential development.
- Oversight of the removal of multiple underground fuel storage systems for private residences, schools and oil and gas clients.

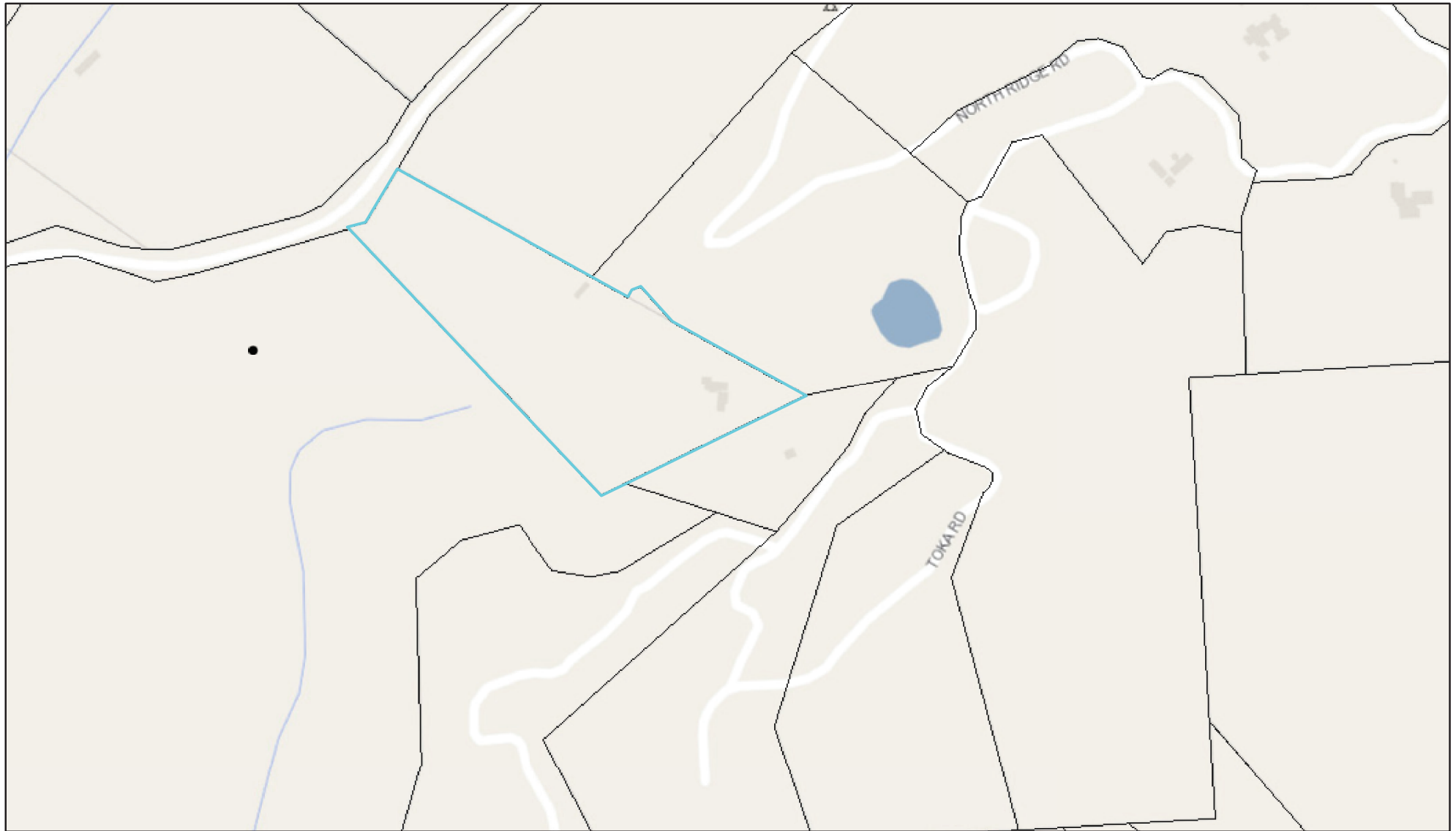
The e3Scientific team is committed to professional development, and employing new technologies in the prevention, assessment and remediation of contaminated land. e3Scientific is an active member of the Australasian Land & Groundwater Association and WasteMINZ.





Attachment B: ORC HAIL Map



Hazardous Activities and Industries Map



12/2/2022, 10:00:54 AM

BoreData - Bores  Small Community Supply
• Domestic  ORC Properties

1:4,514
0 0.04 0.07 0.15 mi
0 0.05 0.1 0.2 km

LINZ, DCC, WDC, CDC, QLDC, CODC and ORC, Eagle Technology, Land Information New Zealand, OpenStreetMap Contributors, Kiwi rail, Otago Regional Council



AFFECTED PERSON'S APPROVAL

FORM 8A



Resource Management Act 1991 Section 95



RESOURCE CONSENT APPLICANT'S NAME AND/OR RM

Jonathan Hay & Georgina Tudor-Jones



AFFECTED PERSON'S DETAILS

I/We **Cliff and Di Baker**

Are the owners/occupiers of

224 MALAGHANS ROAD RD 1 QUEENSTOWN
LOT 5 DP 24219 BLK IV SHOTOVER SD
CT OT16B/235



DETAILS OF PROPOSAL

I/We hereby give written approval for the proposal to:

Land use consents are sought to construct a modest residential dwelling (approximate footprint of 215m²) and any associated activities such as earthworks, materials and landscaping on the lower portion of the site.

The dwelling has been architecturally designed to fit into the topography of the site as shown on the attached plans prepared by Anna-Marie Chin Architects Limited.

The application includes the removal of two existing sheds and it is proposed to construct one new three bay shed (approximate footprint of 85m²) for farm and house storage to replace these sheds.

at the following subject site(s):

134 Malaghan's Road. RD1. Queenstown / Lot 1 DP 15343



I/We understand that by signing this form Council, when considering this application, will not consider any effects of the proposal upon me/us.



I/We understand that if the consent authority determines the activity is a deemed permitted boundary activity under section 87BA of the Act, written approval cannot be withdrawn if this process is followed instead.



WHAT INFORMATION/PLANS HAVE YOU SIGHTED




I/We have sighted and initialled ALL plans dated and approve them.


Drawing register appended, drawings dated 15-12-2022



APPROVAL OF AFFECTED PERSON(S)

The written consent of all owners / occupiers who are affected. If the site that is affected is jointly owned, the written consent of all co-owners (names detailed on the title for the site) are required.

A	Name (PRINT) CLIFFORD MICHAEL BAKER	
	Contact Phone / Email address 027 554 9987 cliff.baker@shotoverjet.co.nz	
	Signature 	Date 20-12-22

B	Name (PRINT) DIANA JENNIFER BAKER	
	Contact Phone / Email address 021 07 09 177 /diana.merigold@hotmail.com	
	Signature 	Date 21-12-22

C	Name (PRINT)	
	Contact Phone / Email address	
	Signature	Date

D	Name (PRINT)	
	Contact Phone / Email address	
	Signature	Date

Note to person signing written approval

Conditional written approvals cannot be accepted.

There is no obligation to sign this form, and no reasons need to be given.

If this form is not signed, the application may be notified with an opportunity for submissions.

If signing on behalf of a trust or company, please provide additional written evidence that you have signing authority.



BARN HOUSE

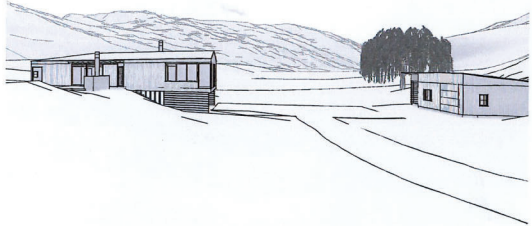
134 MALAGHANS RD, DALEFIELD

1512 - 2

RESOURCE CONSENT

REVISION	DATE	DESCRIPTION
A	20/11/22	NEIGHBOURS REVIEW
B	15/12/22	FOR RESOURCE CONSENT

SHEET NO.	REVN	DATE	CURRENT REVISION DESCRIPTION	DRAWING NAME
PD001	B	15/12/22	FOR RESOURCE CONSENT	COVER SHEET
PD101	D	15/12/22	FOR RESOURCE CONSENT	SITE PLAN
PD102	E	15/12/22	FOR RESOURCE CONSENT	PROPOSED SITE PLAN
PD103	B	15/12/22	FOR RESOURCE CONSENT	PROPOSED EARTHWORKS PLAN
PD301	B	15/12/22	FOR RESOURCE CONSENT	PROPOSED FLOOR PLANS
PD301	B	15/12/22	FOR RESOURCE CONSENT	PROPOSED ELEVATIONS
PD302	B	15/12/22	FOR RESOURCE CONSENT	PROPOSED ELEVATIONS
PD303	B	15/12/22	FOR RESOURCE CONSENT	PROPOSED ELEVATIONS
PD304	B	15/12/22	FOR RESOURCE CONSENT	PROPOSED ELEVATIONS - SHED
PD305	B	15/12/22	FOR RESOURCE CONSENT	PROPOSED ELEVATIONS - SHED
PD400	B	15/12/22	FOR RESOURCE CONSENT	PROPOSED SITE SECTIONS
PD401	B	15/12/22	FOR RESOURCE CONSENT	MATERIAL PALETTE
PD700	C	15/12/22	FOR RESOURCE CONSENT	3D VIEWS
PD701	C	15/12/22	FOR RESOURCE CONSENT	3D VIEWS
PD702	C	15/12/22	FOR RESOURCE CONSENT	3D VIEWS
PD703	C	15/12/22	FOR RESOURCE CONSENT	3D VIEWS



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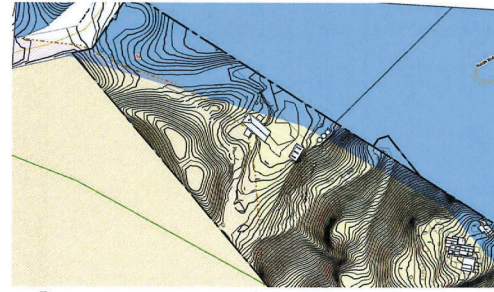
8 BERKSHIRE STREET PO BOX 253 ARROWTOWN P 03 409 8881 E ADMIN@AMCHINARCHITECTS.CO.NZ WWW.AMCHINARCHITECTS.CO.NZ

Figured dimensions are to be taken in preference to scaled dimensions. Verify all dimensions on the job before preparing shop drawings or commencing work. This drawing is COPYRIGHT and is the property of Anna-Marie Chin Architects Ltd ©



LOCATION PLAN

SCALE: 1:4000@A1 (half-scale @A3)



SITE - PDP Zones

SCALE: 1:2000@A1 (half-scale @A3)

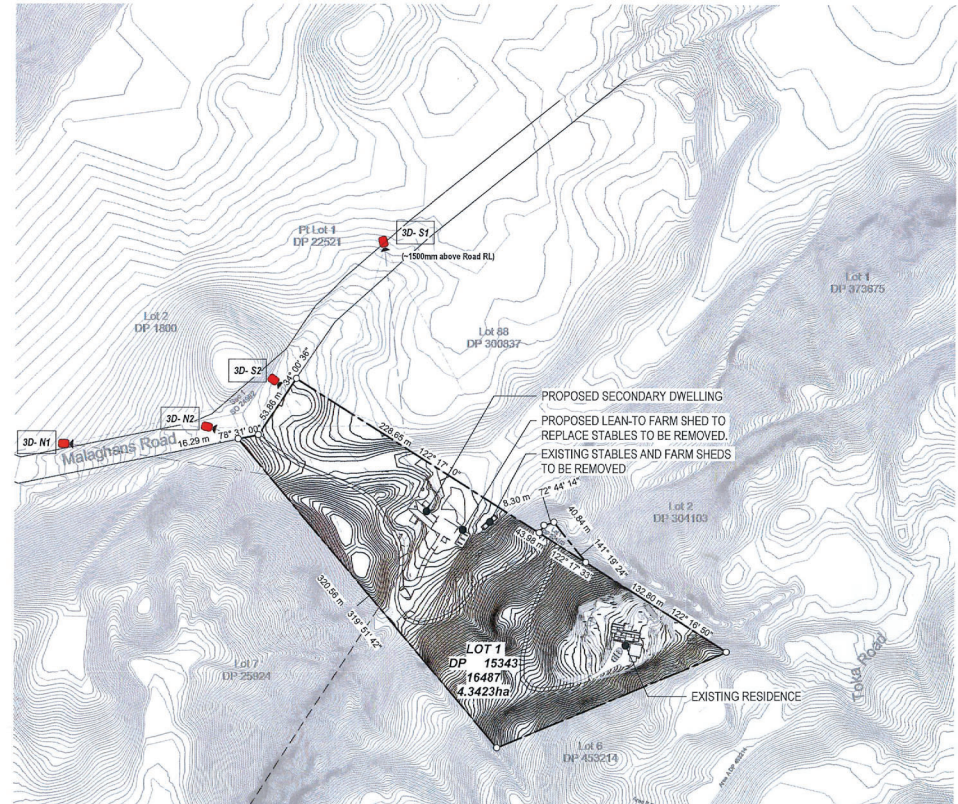


GENERAL NOTES:

1. NO CHANGE TO EXISTING DWELLING OR ASSOCIATED STRUCTURES OR SERVICES UNLESS SPECIFICALLY NOTED.
2. CONFIRM ALL MEASUREMENTS ON SITE.
3. EXISTING VEGETATION INDICATED IS NOT ALL ENCOMPASSING.
4. SURROUNDING CONTOURS AND HORIZONS ARE FOR CONTEXT ONLY. REFER SURVEYOR INFORMATION FOR VERIFIED VIEW LINES AND HEIGHTS.
5. MAXIMUM HEIGHT LINE IS DRAWN AT THE BUILDING FACE UNLESS OTHERWISE STATED.

LEGAL DESCRIPTION:

Lot 1 DP 15343
 CT: 16487
 AREA: 4.3423ha
 ADDRESS: 134 MALAGHANS ROAD,
 DALEFIELD
 DISTRICT PLAN: RURAL & PARTIAL RURAL
 AMENITY ZONE.
 WIND ZONE: VERY HIGH
 SNOWLOADING: SED



SITE PLAN

SCALE: 1:2000@A1 (half-scale @A3)

RESOURCE CONSENT

SHEET No. PD101
 REV. D
 DATE: 15/12/22

Handwritten signature of Anna-Marie Chin

anna-marie chin architects





GENERAL NOTES:

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EARTHWORKS VOLUMES:

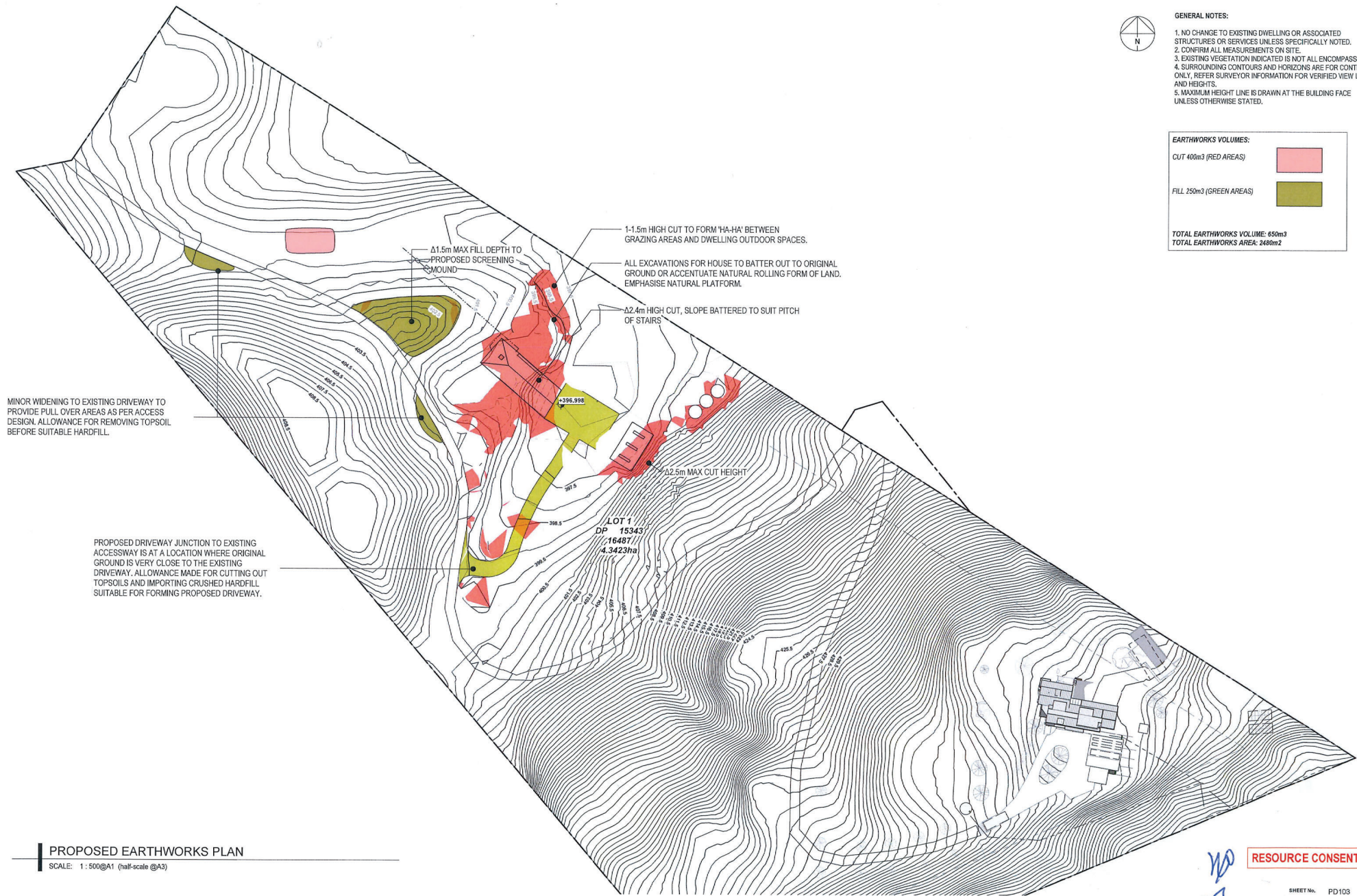
CUT 400m³ (RED AREAS)



FILL 250m³ (GREEN AREAS)



TOTAL EARTHWORKS VOLUME: 650m³
TOTAL EARTHWORKS AREA: 2480m²



PROPOSED EARTHWORKS PLAN

SCALE: 1:500@A1 (half-scale @A3)

RESOURCE CONSENT

SHEET No. PD103
REV. B
DATE: 15/12/22

PROJECT No:

1612 - 2

PROJECT:

BARN HOUSE

SHEET:

PROPOSED EARTHWORKS PLAN

Document Set ID: 7609404 134 MALAGHANS RD, DALEFIELD
Version: 1, Version Date: 03/05/2023

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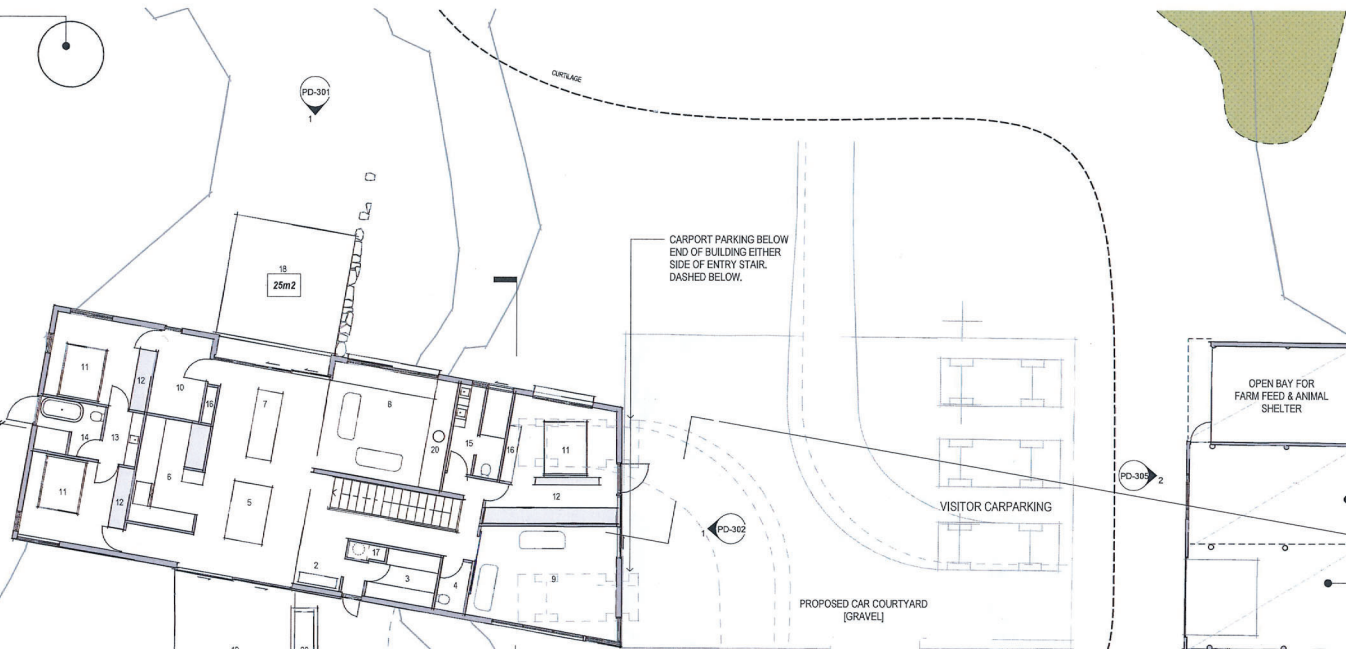


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CORRUGATED IRON OPEN TOP PLUNGE POOL OR SPA POOL.
ACCESS AND HEIGHT TO COMPLY WITH NZBC F9/A1

- 1 stair & entry (at lower level)
- 2 boot area
- 3 laundry
- 4 wc
- 5 kitchen
- 6 scullery
- 7 dining
- 8 living
- 9 media & sitting
- 10 study
- 11 bedroom
- 12 wardrobes
- 13 vanity
- 14 bathroom
- 15 ensuite
- 16 store
- 17 plant
- 18 decking
- 19 patio
- 20 fireplace
- 21 flip-up washing line (#8 wire and stick)



RESOURCE CONSENT

SHEET No. PD-201
REV. B
DATE: 15/12/22

PROPOSED FLOORPLAN

SCALE: 1:100@A1 (half-scale @A3)

PROJECT No:

1612 - 2

PROJECT:

BARN HOUSE

SHEET:

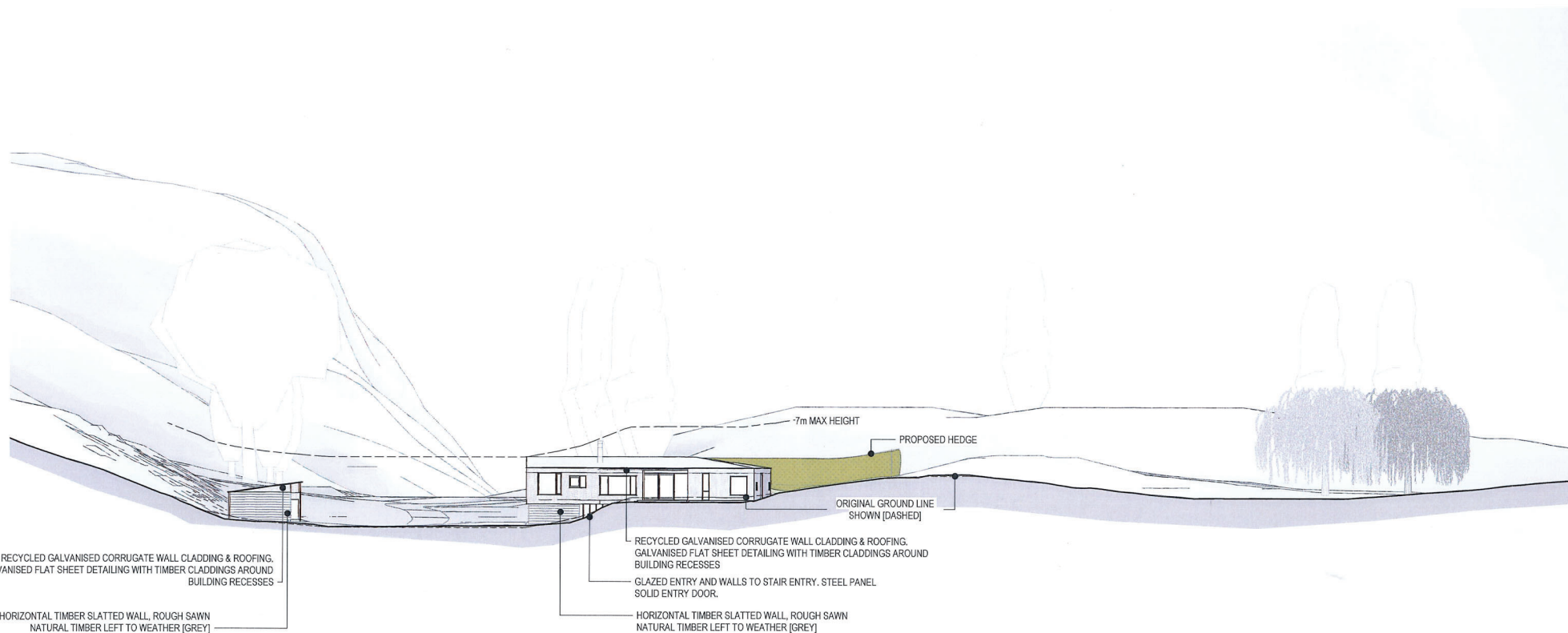
PROPOSED FLOOR PLANS

Document Set ID: 7609404 134 MALAGHANS RD, DALEFIELD
Version: 1, Version Date: 03/05/2023

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GENERAL NOTES:

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1 ELEVATION - PROPOSED SHED & HOUSE - NORTH
PD-201 SCALE: 1:200@A1 (half-scale @A3)

RESOURCE CONSENT

SHEET No: PD-301
REV. B
DATE: 15/1/2022

PROJECT No:
1612 - 2

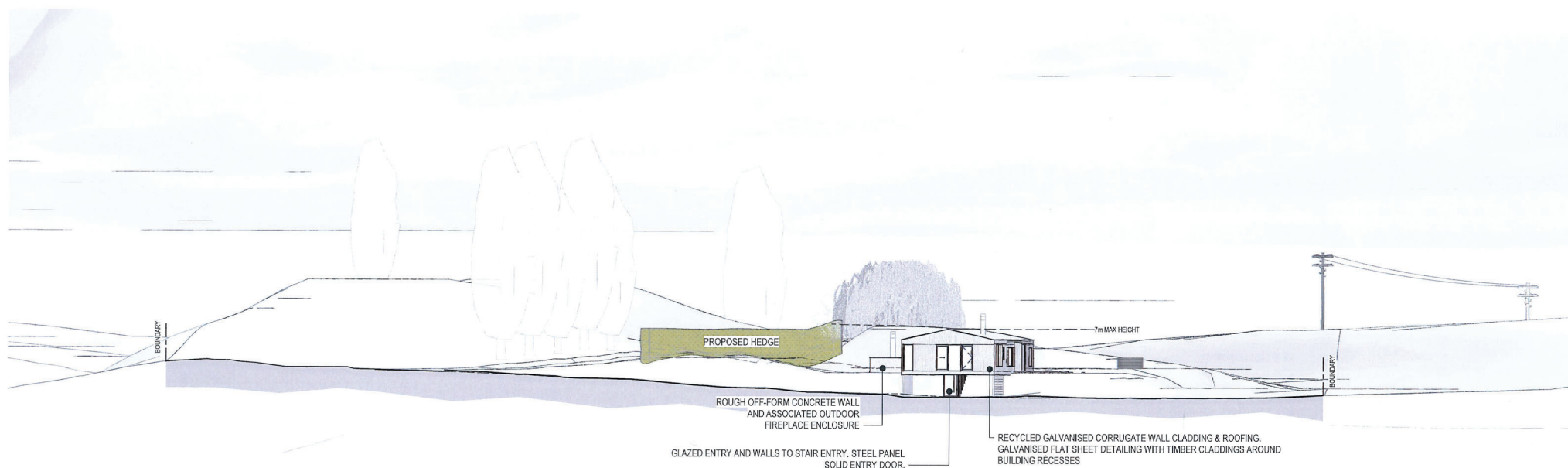
PROJECT:
BARN HOUSE
134 MALAGHANS RD, DALEFIELD
Version: 1, Version Date: 03/05/2023

SHEET:
PROPOSED ELEVATIONS

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1 ELEVATION - PROPOSED HOUSE - EAST
PD-201 SCALE: 1:200@A1 (half-scale @A3)

RESOURCE CONSENT

SHEET No: PD-302
REV. B
DATE: 15/12/22

CM

PROJECT No:
1612 - 2

PROJECT:
BARN HOUSE
134 MALAGHANS RD, DALEFIELD
Version: 1, Version Date: 03/05/2023

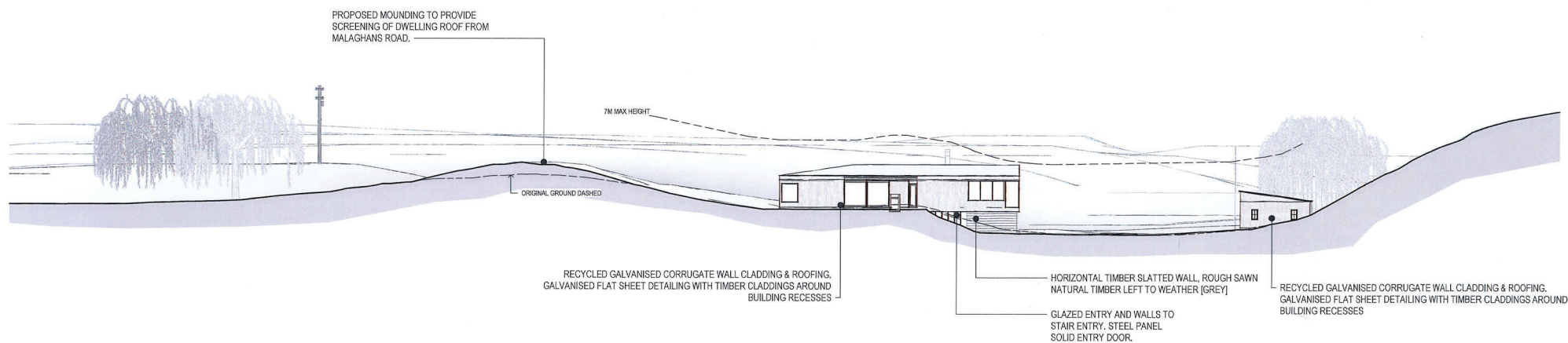
SHEET:
PROPOSED ELEVATIONS

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1 ELEVATION - PROPOSED SOUTH

PD-201 SCALE: 1:200@A1 (half-scale @A3)

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RESOURCE CONSENT

SHEET No. PD-303
REV. B
DATE: 15/12/22

PROJECT No:
1612 - 2

PROJECT:
BARN HOUSE
134 MALAGHANS RD, DALEFIELD
Version: 1, Version Date: 03/05/2023

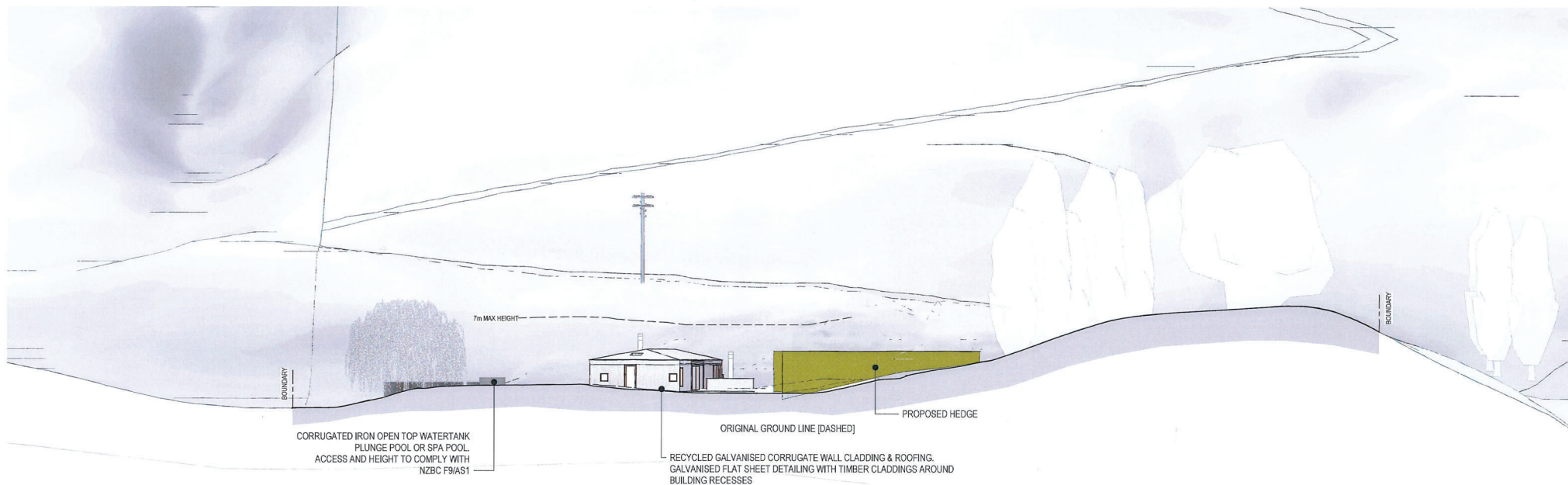
SHEET:
PROPOSED ELEVATIONS

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1 | ELEVATION - PROPOSED WEST
PD-201 SCALE: 1:200@A1 (half-scale @A3)

[Signature]
RESOURCE CONSENT

[Signature]

SHEET No: PD-304
REV: B
DATE: 15/12/22

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PROJECT No:

1812 - 2

PROJECT:

BARN HOUSE

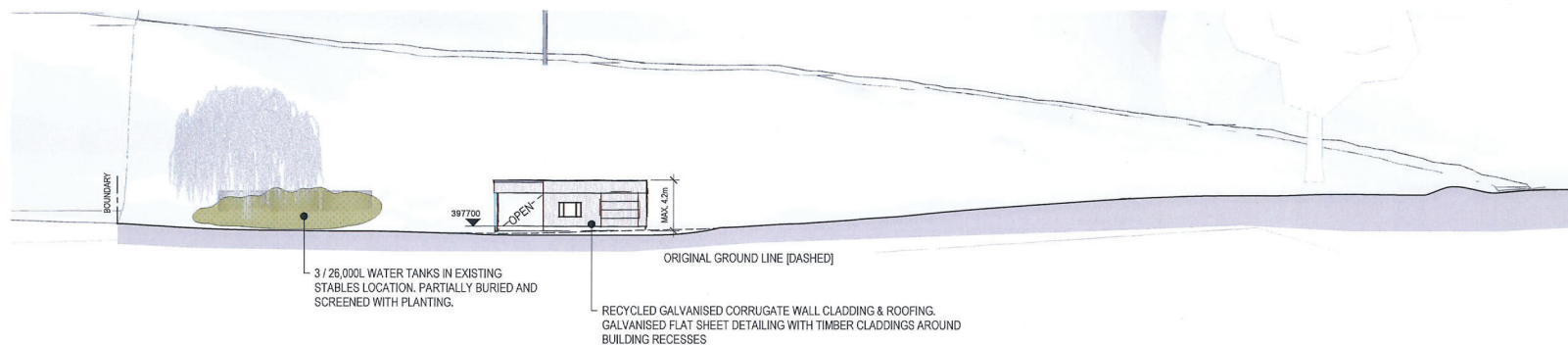
SHEET:

PROPOSED ELEVATIONS

Document Set ID: 7609404 134 MALAGHANS RD, DALEFIELD
Version: 1, Version Date: 03/05/2023

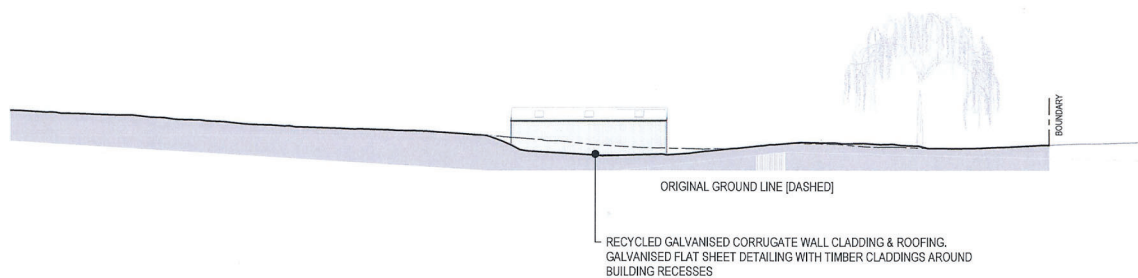
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2 | ELEVATION - PROPOSED SHED - WEST

PD-201 SCALE: 1:200@A1 (half-scale @A3)



1 | ELEVATION - PROPOSED SHED - EAST

PD-201 SCALE: 1:200@A1 (half-scale @A3)

RESOURCE CONSENT

CJ

SHEET No. PD-305
REV. B
DATE: 15/12/22

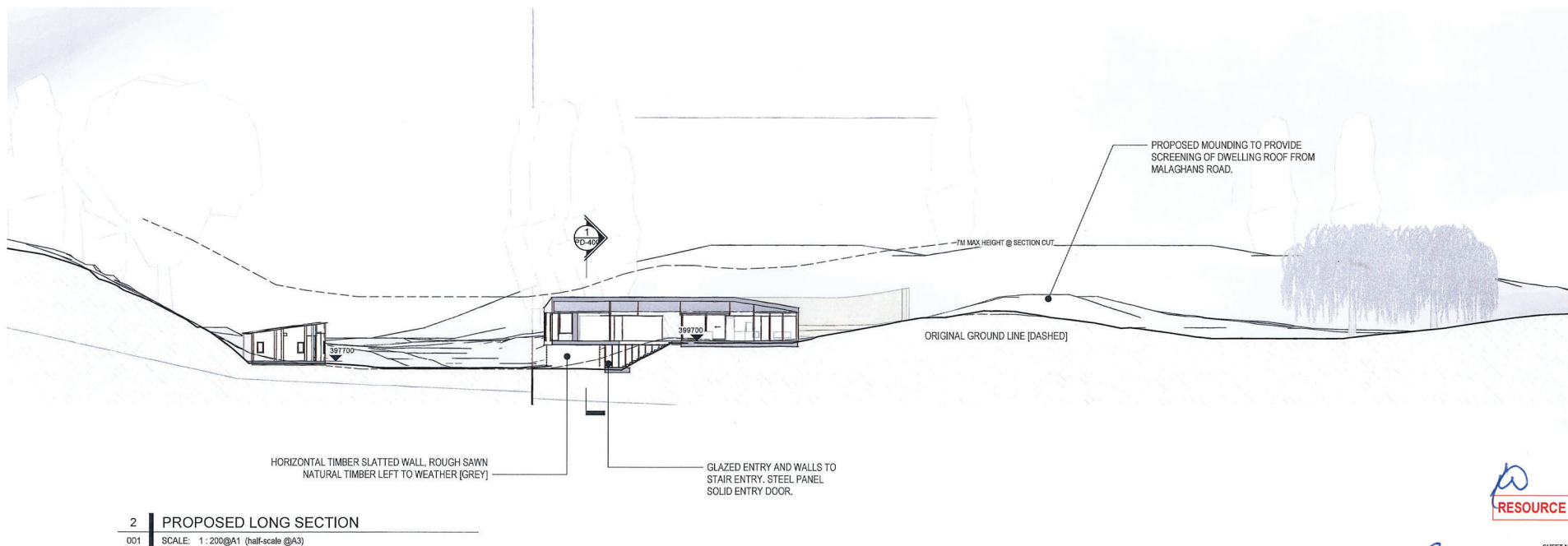
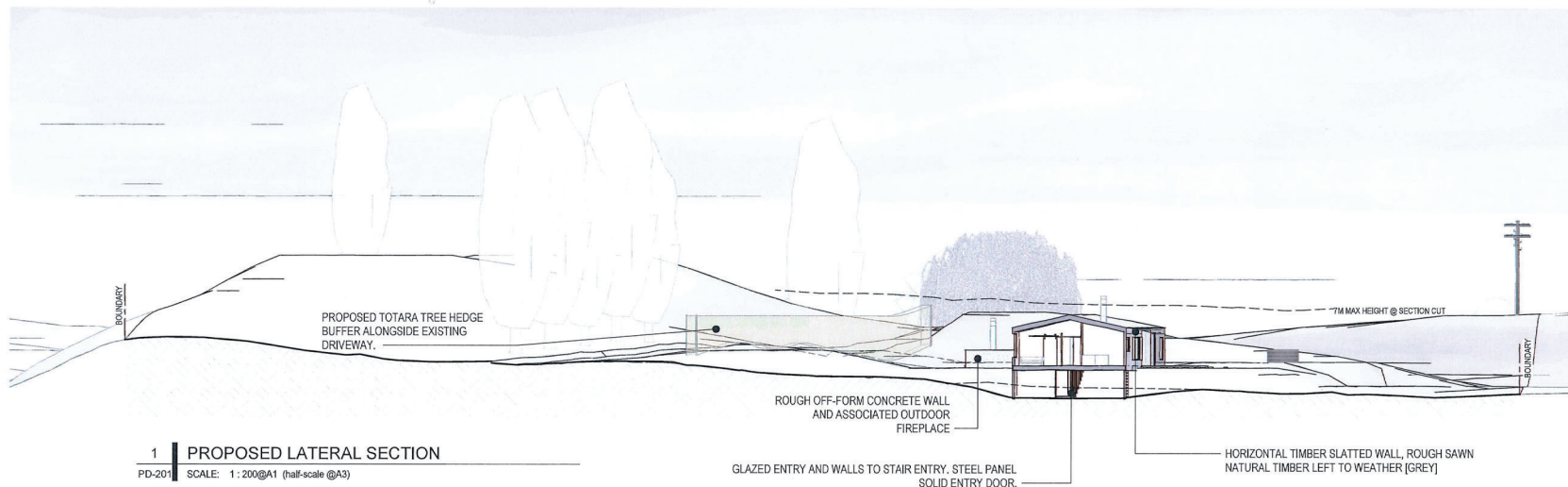
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PROJECT No:
1612 - 2

PROJECT:
BARN HOUSE
134 MALAGHANS RD, DALEFIELD
Version: 1, Version Date: 03/05/2023

SHEET:
PROPOSED ELEVATIONS - SHED



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RESOURCE CONSENT

Ca

SHEET No. PD-400
REV. B
DATE: 15/12/22

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