ON-SITE WASTEWATER MANAGEMENT REPORT

CLIENT	Andrew Tideswell
SITE ADDRESS	259c Anakiwa Road, Anakiwa
Legal Description	LOT 1 DP 4617, LOT 3 DP 4617
Property Area	0.2295 Ha
MDC Property Number	210593
Type of System	Primary
DESIGNER / AGENT Postal Address	Ron Findlater Findlater Construction Ltd 32 Timandra Place, Blenheim
Phone	03 579 2284
Fax	03 579 2285
Email	ron@findlaterconstruction.co.nz

Report Number	296
BC Number	
Resource Consent Number	
FC Job Number	
Revision Number	2

1.0 GENERAL PROPERTY INFORMATION

- 1.1.1 Introduction
- 1.1.2 Annual Rainfall
- 1.1.3 Existing resource consent discharge permits.
- 1.1.4 Other active resource consents.
- 1.1.5 Known resource consent requirements for disposal of wastewater on this property.
- 1.1.6 Is there a consent notice on the certificate of title restricting wastewater discharges on the property?
- 1.1.7 Has the property any current or historical activity that has resulted with it being on the HAIL list.
- 1.1.8 Is the National Environmental Standard for accessing and managing contaminants in soil to protect human health, applicable to this application.

2.0 ON-SITE ASSESSMENT

GENERAL

- 2.1.1 Date of site visit.
- 2.1.2 Site visit weather conditions.

POTABLE WATER

- 2.1.3 Potable water supply
- 2.1.4 Potable water bore number MDC
- 2.1.5 LAA set back distances from potable water bores.
- 2.1.6 Other close neighbouring potable water bores and setback distances to LAA etc.
- 2.1.7 Is the proposed LAA within any groundwater supply protection zone for private, group or community potable water supply.

EXISTING WASTEWATER SYSTEM DISCHARGES

- 2.1.8 Are there any existing wastewater system discharges on property. (Note: If so, describe and discuss).
- 2.1.9 Will any existing wastewater systems be de-commissioned as a result of this report. **FLOODING**
- 2.2.0 Has the proposed LAA ever been covered with flood water.
- 2.2.1 Will the LAA need to be set at a level above existing ground level? (Note: If so, describe these). LAND STABILITY
- 2.2.2 Is the property located within a hazard area? (Volume 3 of plan).
- 2.2.3 Has the proposed LAA ever been use as a fill site of any kind? (Note: If so, describe and discuss).
- 2.2.4 Does the LAA require expert assessment to its suitability and stability?

GROUND & SURFACE WATER

- 2.2.5 Ground water depths.
- 2.2.6 Iron stains or mottling.
- 2.2.7 Closest surface water to LAA.
- 2.2.8 Ground water discussion.

3.0 LAND APPLICATION AREA INVESTIGATION

- 3.1.1 Predominant wind direction affecting the LAA.
- 3.1.2 LAA evapo-transpiration potential.
- 3.1.3 Availability of reserve LAA.
- 3.1.4 LAA area cut off drain discussion.
- 3.1.5 Sensitive Soils
- 3.1.6 Impeded Soils
- 3.1.7 Soil log discussion
- 3.1.8 Soil logs.
- 3.1.9 Discussion regarding most suitable land application method/system and area

4.0 WASTEWATER SYSTEM DESIGN

- 4.1.1 Known wastewater design constraints.
- 4.1.2 Most practical wastewater system in consideration of site constraints.
- 4.1.3 Alternative wastewater system discussion
- 4.1.4 Discussion about any effects cold weather or frosts may cause.
- 4.1.5 Discussion about setback distances Table R1 AS/NZS 1547:2012

5.0 WASTEWATER DESIGN CALCULATIONS (Continued)

- 5.1.1 Portable water usage (litres per person per day).
- 5.1.2 Occupancy.
- 5.1.3 Dripline Field Calculations

6.0 **RECOMMENDATIONS**

6.1.1 Best practicable option.

7.0 ASSESSMENT OF EFFECTS ON THE ENVIRONMENT

- 7.1.1 Steps taken in the wastewater system design to minimise effects on the environment.
- 7.1.2 Possible environment effects on this property.
- 7.1.3 Possible environmental effects to neighbouring properties.
- 7.1.4 Probable effects from overloading.
- 7.1.5 Consultation with owners of neighbouring properties.
- 7.1.6 Consultation with Tangata Whenua.

8.0 ASSESSMENT IN RELATION TO AWATERE & MARLBOROUGH SOUNDS RESOURCE MANAGEMENT PLANS

- 8.1.1 Assessment Against Volume 1 of the Awatere or Marlborough Sounds Resource Management Plans.
- 8.1.2 Assessment Against Objectives and Policies of Volume 1 of the Plan.
- 8.1.3 Other.

9.0 MAINTENANCE REQUIREMENTS

- 9.1.1 System maintenance requirements.
- 9.1.2 Care of land application area.

10.0 REFERENCES

10.1.1 References.

11.0 PRODUCTER STATEMENT - DESIGN

12.0 INSTALLATION CERTIFICATE

APPENDIX

- A Site Plan
- B Details

1.0 GENERAL PROPERTY INFORMATION

1.1.1 Introduction

The purpose of this report to to support the proposed extension of an existing bach at 259c Anakiwa Road, Anakiwa. The existing bach consists of a single bedroom and associated living areas. The proposed extension consists of a single bedroom dwelling with an additional living/study room which will be classed as an additonal bedroom for this design. The existing mezzaine area has also been classed as a single person bedroom in this report. The existing bach is located down a shared accessway in Tirimoana, Anakiwa. The accessway is sealed and there are approximately 6 nearby dwellings that share the access. The access intersects the property with the dwelling and LAA on the eastern side of the accessway.

- 1.1.2Annual rainfall.1.1.3Existing resource consent discharge permits.Approx. 1563 mmN/A
- 1.1.4 Other active resource consents. None that are relevant to this proposal.
- 1.1.5 Known resource consent requirements for disposal of wastewater on this property. (Note: e.g. Location of LAA, requirement for design to be completed by a civil engineer etc.). No.
- 1.1.6 Is there a consent notice on the certificate of title restricting wastewater discharges on the property? No.
- 1.1.7 Has the property any current or historical activity that has resulted with it being on the HAIL list. No.
- 1.1.8 Is the National Environmental Standard for accessing and managing contaminants in soil to protect human health, applicable to this application. No.

2.1.2 Site visit weather conditions.

Fine and Clear

2.0 ON - SITE ASSESSMENT

GENERAL

2.1.1 Date of site visit. 3/11/22

POTABLE WATER

- 2.1.3 Potable water supply Private water scheme
- 2.1.4 Potable water bore number MDC N/A
- 2.1.5 LAA set back distances from potable water bores. No nearby bores.
- 2.1.6 Other close neighbouring potable water bores and setback distances to LAA etc. There are no nearby bores.

2.0 ON - SITE ASSESSMENT (Continued)

2.1.7 Is the proposed LAA within any groundwater supply protection zone for private, group or community potable water supply.

No.

EXISTING WASTEWATER SYSTEM DISCHARGES

- 2.1.8 Are there any existing wastewater system discharges on property. (*Note: If so, describe and discuss*). Yes, there is an existing septic tank and discharge trenches, the existing septic tank will be decomssioned and the existing trenches abandoned when the new system is installed.
- 2.1.9 Will any existing wastewater systems be de-commissioned as a result of this report. Yes the existing wastewater system will be decommissioned.

FLOODING

- 2.2.0 Has the proposed LAA ever been covered with flood water. (Note: If so, describe event, regularity and possible future events) No.
- 2.2.1 Will the LAA need to be set at a level above existing ground level? (*Note: If so, describe these*). No.

LAND STABILITY

- 2.2.2 Is the property located in a hazard area? (Note: Volume 3 of the Plan). No
- 2.2.3 Has the proposed LAA ever been use as a fill site of any kind? (*Note: If so, describe and discuss*). No.
- 2.2.4 Does the LAA require expert assessment to its suitability and stability? No.

GROUND & SURFACE WATER

2.2.5	Ground water depths.								
	Summer	Est.	2500 mm	Measured	mm	Best			
	Winter	Est.	2000 mm	Measured	mm	Worst			
226	Iron stains or m	ottlina							

Were any iron stains or mottling observed?	Yes	No 🗸
If yes, at what depth below ground level?	mm	

- 2.2.7 Closest surface water to LAA. (Note: Name of surface water body, if one exists.) Small unnamed creek. This is located approximately 20m from the proposed LAA.
- 2.2.8 Ground water discussion.

No ground water issues in the LAA.

3.0 LAND APPLICATION AREA INVESTIGATION

- 3.1.1 Predominant wind direction affecting the LAA. Northwesterly.
- 3.1.2 LAA evapo-transpiration potential. Good, with excellent exposure to sun and wind.
- 3.1.3 Availability of reserve LAA. Area within the property is limited however reserve areas are available if required in the future.
- 3.1.4 LAA area cut off drain discussion. The land above the proposed LAA has a bench cut in which will act as a cut off drain.
- 3.1.5 Sensitive Soils No.
- 3.1.6 Impeded Soils No.

3.1.7 Soil log discussion

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3 test holes were dug at the proposed location of the LAA. The general make up of the soils were a layer of topsoil followed by a silty clay.

3.1.8 Soil logs.

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Lower	Moisture	Colour	Description	Coarse	Consistency	Structure	Soil
Depth	Condition	(Moist)		Fragments			Category
mm				%			
0-250	Dry	Brown	Topsoil	3%	Medium	Weak	3
250- 1400	Moist	Orangey Brown	Silty Clay Loam	5%	Medium	Moderate	4

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Lower	Moisture	Colour	Description	Coarse	Consistency	Structure	Soil
Depth	Condition	(Moist)		Fragments			Category
mm				%			
0-200	Dry	Brown	Topsoil	2%	Medium	Weak	3
200- 900	Moist	Orangey Brown	Silty Clay Loam	5%	Medium	Moderate	4

TP 3

Lower	Moisture	Colour	Description	Coarse	Consistency	Structure	Soil
Depth	Condition	(Moist)		Fragments			Category
mm				%			
0-300	Dry	Brown	Topsoil	2%	Medium	Weak	3
300- 900	Moist	Orangey Brown	Silty Clay Loam	5%	Medium	Moderate	4

3.1.9 Discussion regarding most suitable land application method/system and area

There are several options for this property, a secondary treatment system to dripline was considered, however, with the low volumes it was determined a primary treatment system to effluent disposal beds would be sufficient

4.0 WASTEWATER SYSTEM DESIGN

CONSTRAINTS EFFECTING WASTEWATER SYSTEM DESIGN

4.1.1 Known wastewater design constraints. Unnamed creek and underlying soil properties.

4.1.2 Most practical wastewater system in consideration of site constraints.

The most practical system in consideration of site constraints is primary treatment with discharge to a conservatively designed LAA of dose loaded effluent disposal beds. It is proposed to dose load the LAA to allow a 'rest' period for the LAA due to the slow drainage characteristics of the underlying soils.

4.1.3 Alternative wastewater system discussion

There are other options such a secondary treatment system followed by a dripline field. However, due to the nature of the property and relatively small volumes, a primary system followed by conservatively designed effluent disposal bed is all that is required. This will have minimal to no impact on the surrounding environment.

4.1.4 Discussion about any effects cold weather or frosts may cause. Not an issue in this case as the winter time temperatures in this area are not unduly harsh.

4.1.5 Discussion about setback distances - Table R1 AS/NZS 1547:2012

The only setback distance to note is from the unnamed creek and the eastern boundary. The setback will be 20m min from the unnamed creek. The underlying soils have slow drainage characteristics which will ensure the treated effluent won't laterally migrate. The disposal beds have been designed conservatively and the likleihood of the disposal beds being overloaded is minimal. A min 2m boundary setback from the eastern boundary is adequate as the land is not sloping towards this boundary. This setback is adequate as the treated effluent will not spread laterally over a distance greater than 2m. There are no other design contraints of concern.

5.0 WASTEWATER DESIGN CALCULATIONS

5.1.1 Portable water usage (litres per person per day).

Table H3 AS/NZS 1547/2012

	Typical Wastewater Design Flows			
Source	(L/person/day) (see Note 1)			
	On-site roof water	Reticulated		
	tank supply	community or		
		bore water supply		
Households with standard fixtures	180	200		
(includes a automatic washing machine)	100	200		
Households with standard water reduction fixtures	145	165		
(Refer note 2)	145	105		
Households with full water reduction facilities	120	145		
(Refer Note 3)	120	145		
Households with Blackwater only	F	<u>so</u>		
(Refer Notes 4 + 5)				
Households with Greywater only	90	120		
(Refer Notes 4 + 5)	30	120		

Please AS/NZS 1547/2012 Page 123 for notes.

5.0 WASTEWATER DESIGN CALCULATIONS (Continued)

	Daily design	flow		= 16	65 lit	res/day/	pers	on.	
5.1.2	Occupancy. House Bedrooms	2.5 x	2 People/Bedr	oom =	5 >	< 165	=	825	Litres/Day
							=	825	Litres/Day
5.1.3	Dripline Field	Calculation	S						
		DIR for Ca	tegory 4 Soils	=	10	mm/da	ay		
				=	C DI	R	I	Q = DIR =	Daily design flow in litres/day Daily irrigation rate in mm/day
				=	<u>82</u> 10	2 <u>5</u>).0			
		Theoretica	l LAA, drip line a	area =	82.5	5 m²			

6.0 **RECOMMENDATIONS**

6.1.1 Best practicable option.

In my opinion, the best option for this property is a primary treatment system followed by a conservatively designed dose loaded effluent disposal beds. The volumes are relatively low and there is no need for a complex secondary treatment system.

All as per our plans.

7.0 ASSESSMENT OF EFFECTS ON THE ENVIRONMENT

- 7.1.1 Steps taken in the wastewater system design to minimise effects on the environment.
 - a) Conservatively designed LAA.
 - b) The design conforms with AS/NZS 1547:2012.
 - c) Buffer distances and no buffer zone constraints.

7.1.2 Possible environment effects on this property.

There will be no negative effects to the property from the wastewater discharge. The low flows will dissipate into the ground and will be aided by evapotranspiration.

7.1.3 Possible environmental effects to neighbouring properties.

As the complete wastewater system design conforms with AS/NZS 1547:2012 and a conservative approach has been used in the design, there should be little or no effects on the property.

The setback distances conform to AS/NZS 1547:2012

7.1.4 Probable effects from overloading.

The system would cope with short durations where the DIR (Daily Irrigation Rate) was above the design criteria.

Prolonged overloading would most likely result in blocked emitters and failure of the dripline field.

7.1.5 Consultation with owners of neighbouring properties.

As there is realistically little or no chance of treated wastewater entering or effecting neighbouring properties, no consultation has been entered with neighbouring property owners.

7.1.6 Consultation with Tangata Whenua.

The purpose of this report is to design a wastewater system for the existing development which meets current NZ standards. The proposed new wastewater system has taken a number of steps to mitigate any adverse effects on the environment.

In short, the treated wastewater will be contained within the property and disposed of on site with little or no noticeable effect to the surrounding environment.

In view of the above, I believe there is little point in consulting with Tangata Whenua.

8.0 ASSESSMENT IN RELATION TO AWATERE & MARLBOROUGH SOUNDS RESOURCE MANAGEMENT PLANS

8.1.1 Assessment Against Volume 1 of the Awatere or Marlborough Sounds Resource Management Plans.

			Yes or No			
Is a public sewer located within 60 metres of the property	/ boundary?		Ν			
Does a public sewer exist within 60 metres of the closest	Does a public sewer exist within 60 metres of the closest building on the property being serviced?					
Is the discharge outside any catchment classed NS as d	efined in Appendix J of the	plan?	Ν			
Will the discharge infiltrate the soils easily and have no measurable effect on the surrounding area?						
Is the discharge from the wastewater system to the LAA less the Facial coliforms <pre><10,000/100ml</pre>						
	BOD5	<100g/m3	Y			
	Suspended solids	<60g/m3	Y			
Is the discharge subject to episodic high values of suspe	nded solids and BOD?		Ν			
Can storm water, ground water or rainfall enter the treatm	nent system?		Ν			
Will the system be maintained in a functional condition a	t all times?		Y			
Is the rate of discharge under 2m3 per day?			Y			
Will any discharge be over 30 metres away from any sur	face water body?		Ν			
Will there be any surface water ponding or run off directly	y or indirectly into a surface	e water body?	Ν			
Is there over 600mm separation distance from groundwa	ter at any time?		Y			
Is the discharge over 30 metres from any bore drawing w	vater from a unconfined aq	uifer?	Y			
Will any objectionable odour be detected beyond the pro	perty boundary?		Ν			
Will the wastewater system be located in a manner that i	t can easily be accessed f	or servicing?	Y			
If a septic tank is part of the wastewater system will it ha	ve a design life of 15 years	?	Y			
Note: A septic tank must have a minimum retention time	of 24 hours.					
Will any discharges be located in a drinking water catch	ment?		Ν			

If dripper line is being installed, does the installation comply with the manufacturers installation spec's.

8.1.2 Assessment Against Objectives and Policies of Volume 1 of the Plan.

Are the wastewater discharges to land sustainable long term?	
Will the design and implementation of the LAA avoid remediation effects on the surrounding environment?	
Will the wastewater discharge have any effect on public health?	
Is the proposed wastewater system treatment option the best option for the property on consideration	
of all factors.	

8.1.3 Other.

Will the wastewater discharge have any effect on the surrounding ecosystems, including effects on plants, animals and habitats in the vicinity?

Will the wastewater discharge have any effect on aesthetic, recreational, scientific, historical, spiritual or cultural value, or other special value, for present or future generations?

Is there any risk to the neighbourhood, the wider community or the environment through natural hazards or use of hazardous substances.

Ν	
Y	

N	
N	

Ν

9.0 MAINTENANCE REQUIREMENTS

9.1.1 System maintenance requirements.

The Marlborough District Council requires that the owner of any advanced wastewater treatment system enters into and retains a service contract with a suitable qualified maintenance contractor.

Also records of service checks, generally at 12 month intervals, are to be forwarded to the Marlborough District Council at the completion of each service visit.

We, Findlater Construction, can provide this service.

9.1.2 Care of land application area.

The land application area should be kept free of :

- a. Vehicle movements and parking
- b. Planting of anything other than grasses and shallow rooted plants
- c. Grazing of heavy animals, e.g. Cattle etc.

10.0 REFERENCES

10.1.1 References.

Marlborough District Council: Guidelines for new on-site wastewater management systems (2005).

AS/NZS 1547:2012, On-Site domestic wastewater management.

Centre for Environmental Training - Course July 2005: 'Site and Soil Assessment for On-Site Wastewater Management Systems'.

Small and Decentralised Wastewater Management Systems - Crites & Tchobanolous

11.0 PRODUCTER STATEMENT - DESIGN

ISSUED BY	Findlater Construction Ltd
CLIENT	Andrew Tideswell
TO BE SUPPLIED TO	Local Regularity Authority
SITE ADDRESS Legal	LOT 1 DP 4617, LOT 3 DP 4617
Street Address	259c Anakiwa Road, Anakiwa

Findlater Construction Ltd has been engaged to provide technical details in the form of a wastewater report in relation to this property. Please refer to this report for complete information

Report Number 296

The design producer statement applies only to details specified in the above report. This report has been carried out in accordance with AS/NZS 1547:2012.

I believe on reasonable grounds that this design has been carried out in accordance with best practice in wastewater design principles and procedures.

This statement does not approve the installed system.

Disclaimer

The client is to make full disclosure of any relevant information on existing and/or proposed activities on the site that may influence the design of the proposed complete wastewater system. This includes but is not limited to daily flows, chemical content of wastewater, occupancy and so forth. Subsequent changes to the site that might affect the topography and soil profiles are to be notified by the client. Failure, by the client, to provide this information will invalidate this design producer statement.

Approval in writing is to be sort from Findlater Construction Ltd, should variations to the specification and layout in this report/drawing be considered necessary by the installer to or at the time of installation. Failure to do so will invalidate this Design Producer Statement and Findlater Construction Ltd will no longer take any responsibility for the design.

Findlater Construction Ltd

12.0 INSTALLATION CERTIFICATE

(To be completed by the installer at the completion of works, includes commissioning)

PROVIDED BY	Findlater Construction Ltd
CLIENT	Andrew Tideswell
SITE ADDRESS Legal	259c Anakiwa Road, Anakiwa LOT 1 DP 4617, LOT 3 DP 4617
PROJECT	To design and install a wastewater system for this project
WASTEWATER REPORT Author	Ron Findlater
Report Number	296
Building consent number	BC
INSPECTIONS By Date By Date	
VARIATIONS	

DECLARATION

I believe on reasonable grounds that all of the wastewater works have been completed in accordance with the Findlater Construction wastewater report.

INSTALLATION BY	Findlater Construction Ltd
Signed	Name
Position	Date



Lot3DP4517 210593

EXISTING EFFLUENT DISPOSAL TRENCH. LOCATION INDICATIVE ONLY

PROPOSED EXTENSION

EXISTING DWELLING

PROPOSED 5,000L SEPTIC TANK AND FLOUT CHAMBER









Manufactured from high strength precast concrete for strength and durability



Picture shown with single Flout but can also accommodate the double Flout or an alternating device

External Dimensions1370l x 810w x 880h + 75 for lidInternal Dimensions (nom)1200l x 650w x 805deep

As Standard this chamber is set up for a 600mm difference in height between inlet and outlet but this can be modified to suit specific requirements.

Chamber Weight 820Kg Lid Weight 240Kg

Minimum Dose 180L / 240mm Drawdown Maximum Dose 400L / 525mm Drawdown (Modify inlet height for max dose) Ultra low dose 160L/ 205mm Drawdown (with low drawdown Flout) Product Code STDFLCHC

Specify dose volume required when ordering and the chamber and Flout can be set up to suit. A range of smaller and larger flout chambers are also available.



23 King Edward Street Motueka 7120 New Zealand Phone (03) 528 1018 Email info@alphaprecasts.co.nz

The information in this document is intended as a guide only and Purchases, Specifiers and Users of Alpha Precasts Ltd products must make their own assessment for suitability for their particular use and circumstances and the conditions in which they will be used.