

Marlborough District Council  
Attention: Jenny Keene  
u 071312

please find enclosed logs for W1+W2,  
Abdulla block layout, & geotechnical  
reports for underlying subdivision  
(Site 3 = subject site)

SmartAlliances Ltd    T: 03 579 6211  
PO Box 546            F: 03 579 6233  
Blenheim, 7240        E: info@smartalliances.co.nz

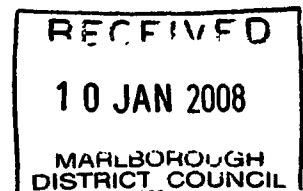
regards  
Dave Dravitzki

W1

(m)	Horizon or Layer and boundary	Genesis	Description							Drainage Category
			Colour	Field Texture	% + 2mm Fragments	Compactness	Consistency	Structure	Moisture condition	
0.1	A	Topsoil	Brown	Silt loam	None	Loose	Stiff	Strong	Dry	2
0.2	B-C	Residual	Yellow-brown and cream	Gravelly silt loam	20%	Medium dense	Very stiff	Weak	Dry	3
0.2	Struck Boulder									

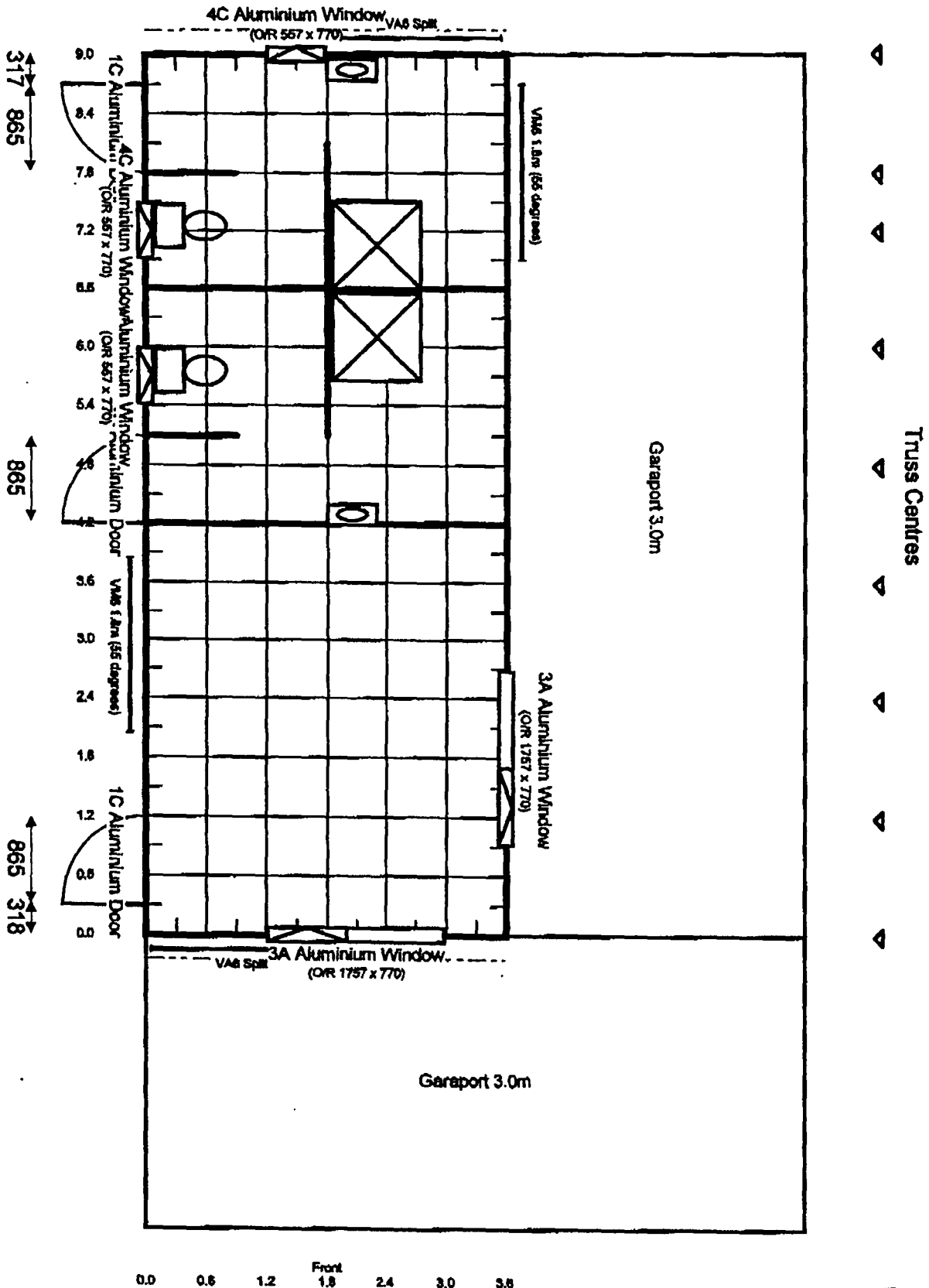
W2

(m)	Horizon or Layer and boundary	Genesis	Description							Drainage Category
			Colour	Field Texture	% + 2mm Fragments	Compactness	Consistency	Structure	Moisture condition	
0.1	A	Topsoil	Brown	Silt loam	None	Loose	Stiff	Strong	Dry	2
0.2	B-C	Residual	Yellow-brown and cream	Gravelly silt loam	20%	Medium dense	Very stiff	Weak	Dry	3
0.2	Struck Boulder									



Proposed: 'Lifestylar'  
 For: Mr. Michael Bradley  
 Address: Queen Charlotte Drive, Havelock,

*Attention Drawitzki*



RECEIVED  
 10 JAN 2008  
 MARLBOROUGH  
 DISTRICT COUNCIL

13 December 2007

Marlborough District Council  
PO Box 443  
**Blenheim**

Attention: Jenny Keene

Dear Jenny



**Wastewater System for Proposed Ablution Block**  
**U071312**  
**Our ref B07-2101 / 0333**

## **1.0 Introduction & Clarification**

In response to your letter dated 6 December 2007 and further to your discussions with Mike Bradley and myself, we are able to confirm and clarify the current proposal with respect to the above resource consent and the related wastewater system.

The proposal for which the consent is applied for relates to the proposed abluion block to be used as a toilet facility to service visitors to their gallery and potential tea rooms only. The abluion block will also be used during family meetings and events, at which time the gallery will be closed to the public.

No accommodation comprising either cabins or a residential dwelling is proposed at this stage. These developments may or may not take place in the next few years and no details are available at this point. If any such developments proceed in the future, an assessment of the requirements to upgrade the wastewater system or the provision of a new wastewater system for any future facility will be carried out at that time.

## **2.0 Wastewater Field Design**

Please find attached a revised site plan showing the locations of the wastewater field auger locations W1 and W2 and log L1 of the exposure in the existing track.

As the proposed abluion block will be used for EITHER customers of the gallery / tearooms OR by family during meetings / events, it is considered that a design flow of 1,250 litres per day is an appropriate value for the proposed facility. This equates to a wastewater flow allowance of 25 litres per day per customer as per AS/NZS 1547 and MDC recommendations and allows for up to 50 customers per day.

As set out in our report dated April 2007, an assessment of the best practical option has determined that primary treatment and dose pumped shallow bed wastewater land application is appropriate and the most practical option for this property for the proposed activity.

On the basis of the assessed design flow of 1,250 litres per day and adopting a loading rate of 15mm/day, the total length of 2.0m wide shallow bed required is 42m (refer attached wastewater design sheets). It is recommended that this length of bed be constructed as 3 beds of 14m. A recommended bed detail is provided on the attached drawing 0333-002.

### 3.0 Geotechnical Assessment

Notwithstanding that an engineering report was prepared for the underlying subdivision, it is expected that the currency of that report would have elapsed and it is noted that the property is shown to be crossed by the 'unstable' hazard overlay according to the Marlborough District Council Sounds Resource Management Plan.

The approximate extent of the 'unstable' hazard zone is shown on the attached site plan. During the site appraisal on 4 April 2007 it was noted that the land application area is located on gently sloping (10°) slopes to the west. Steeper hillside topography (>25°) is located to the south and east of the assessed area, and it is considered that these steeper backslopes comprise the landform delineated by the broad scale hazard mapping.

The gentle slopes underlying the proposed land application area are considered to be stable and the stability of the land application area slopes is not an issue.

It is therefore considered that the proposed wastewater disposal system and associated land application area is unlikely to adversely affect the existing slope stability conditions at the site and that the site is suitable for the proposed shallow bed land application.

A statement of professional opinion in the form required by Council is attached.

Please do not hesitate to call if you have any queries.

Regards

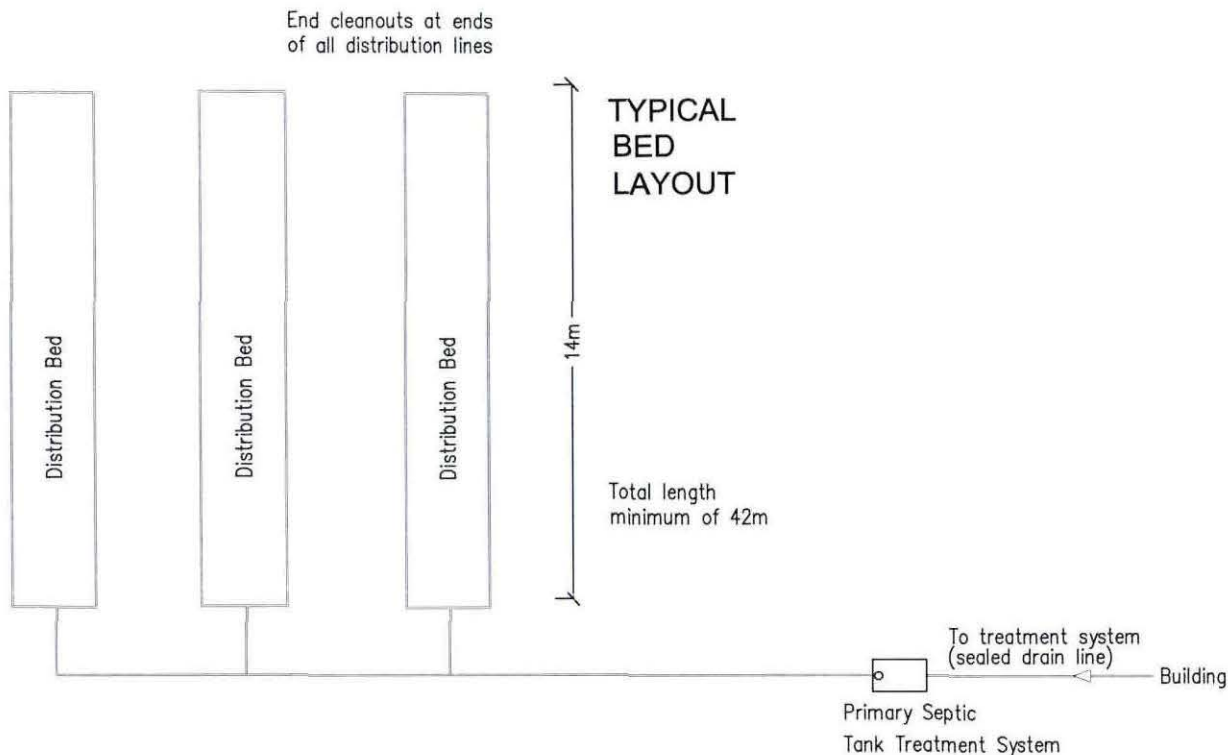


**Dave Dravitzki**  
Engineering Geologist

Copy to: M & L Bradley, 129 Queen Charlotte Drive, RD1, Picton 7281

**SOIL PERMEABILITY ASSESSMENT / EFFLUENT DESIGN SHEET**  
To AS/NZS 1547:2000

<b>Site Evaluation: M &amp; L Bradley</b>	<b>Job No: B07-2101</b>
Intended water Supply: <i>Public Supply Rain water (roof collection) Bore/Well/Dam</i>	
Local experience with existing on-site systems:	
Septic Tank or similar (Primary treatment): <i>OK when installed properly with a correctly sized drainage area and maintained.</i>	Secondary treatment: <i>Work very well in domestic situation producing a relatively high quality effluent.</i>
Recommendation for this site: <i>Conventional Septic Tank with dose pumped effluent application trenches</i>	
Need for surface water collector / cut-off drains?	
AVAILABILITY OR RESERVE / SETBACK AREAS	
Reserve area available for extensions, % of design area:	
Setback distance? (between development and disposal system):	<i>Min. as required by Resource Management Act</i>
Ksat, (m/day):	ESTIMATED SOIL CATEGORY: <i>Category 3 - Moderately well drained loam</i>
<b>Design</b>	
RECOMMENDED D.L.R.	<b>15</b> mm/day
(NOTE: Where DIR is 10mm/week or less, ETA/ETS trenches to Fig 4.5A7 NZS1547:2000 should be specified to enable the utilisation of such soils)	
50 Customers At 25L/person/day:	<b>1250</b> L/day from Appendix 4.2D AS/NZS 1547:2000
DESIGN DAILY FLOW:	<b>1250</b> L/day
Septic tank size (min):	<b>4,000</b> (MDC Specification)
AREA REQUIRED:	<b>83.3</b> m <sup>2</sup>
LENGTH REQUIRED:	<b>41.7</b> m with 2.0m wide beds
RESERVE AREA REQUIRED:	<b>100%</b> of specified drainage area
<b>RECOMMENDATION :</b>	
<i>Primary treatment system and 2.0m wide dose pumped land application beds to be a minimum total length of 42m.</i>	



**SYSTEM USE & MAINTENANCE**

1. The household sewage should not contain anything other than human waste and toilet paper, and food material such as may go down a kitchen sink drain. Garbage grinders are not recommended, although they need not be forbidden. More frequent de-sludging of the system may be needed if a garbage grinder is used.

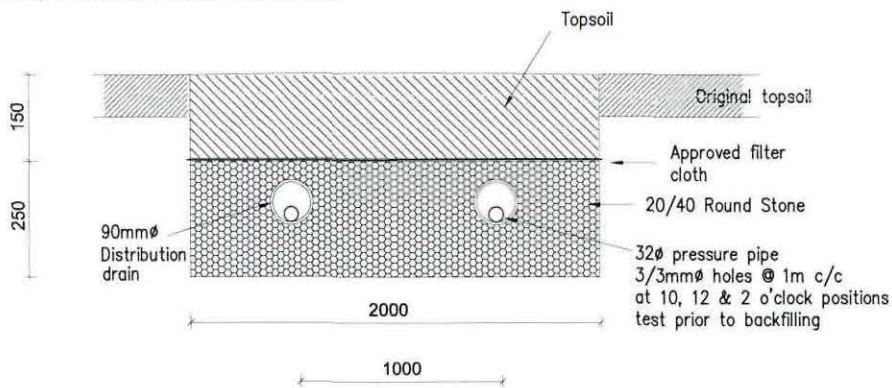
Normal use in the house of soaps, detergents, bleaches, plumbing fixture cleaners, drain cleaners and disinfectants will not harm the functioning of the system or the soil absorption system.

2. Prohibited discharge to the system
- \* Oil/grease from a deep frier (for example).
  - \* Stormwater or any drainage other than sewerage generated in the house.
  - \* Petrol, oil or other flammable/explosive substances
  - \* Garden, garage, and workshop chemicals (e.g. pesticides, paint cleaners, photographic chemicals, motor oil or trade waste).
  - \* Disposable nappies & sanitary napkins.

3. It is an MDC requirement that any wastewater treatment system be regularly serviced and maintained by a contractor experienced in this field.

**NOTE - BEDS**

- (1). Distribution drains to be U-PVC 90mmØ perforated pipe with perforations comprising at least 2% of surface area. (6mmØ slots at 100mm centres from 4 to 8 o'clock positions).
- (2). Distribution pipes to be laid flat.
- (3). Sides & base of trench to be carefully scratched with a pointed tool before laying filter media.



**TYPICAL BED CONSTRUCTION**

AMENDMENT	DATE	DETAILS	PROJECT <b>BRADLEY ABLUTION BLOCK</b>	 <small>ENGINEERING   RESOURCE MANAGEMENT   ARCHITECTS</small> <small>TEL 03 579 6211 FAX 03 579 6233 PO BOX 546 BLENHEIM NEW ZEALAND</small>	DWG NO. 0333-002	AMENDMENT
			DRAWING DRAINAGE FIELD SPECIFICATION		CAD FILE REF:	DRAWN DD

13 December 2007

## **Opinion As To Land Stability**

**Description:** Proposed Wastewater System at Lot 2 DP 349124

**For:** M. & L. Bradley

**I, David Neil Robert Dravitzki, hereby confirm that:**

1. I am experienced in the field of soils engineering and more particularly land and foundation stability and am formally recognised by the Marlborough District Council. I am familiar with and understand the purpose of the Marlborough District Council's geotechnical reporting standards. This professional opinion is furnished to the Marlborough District Council alone, on the express condition that it will not be communicated to or be relied upon by any other person. It is based on conditions presently found on site and is consistent with standards currently being applied.
2. Site investigations have been reviewed under my direction and are described in the report dated April 2007 and the attached letter dated 13 December 2007. The following professional opinion is based on the assumption that the data obtained from these investigations is representative of the whole area under consideration. In my professional opinion, having examined the site, it is reasonable for Council to assume that the data referred to above is representative of the whole area under consideration.
3. In my professional opinion, not to be construed as a guarantee, and having regard to the specifics of the site which I have investigated to the extent that acceptable engineering practices require, giving due regard to acceptable engineering principles and practices for land stability, then the proposed land application area shown on the plans is suitable for the proposed development.
4. This professional opinion shall remain current for a maximum of two years.



Dave Dravitzki, Smart Alliances  
Engineering Geologist  
BSc, MSc, TIPENZ



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 design@smartassociates.co.nz



M & L BRADLEY  
 129 QUEEN CHARLOTTE DRIVE  
 HAVELOCK  
 PROJECT No. **B07-2101**

**NOTES**  
 Do not scale from this drawing. Only figured dimensions are to be taken from this drawing. The contractor must verify all dimensions on site before commencing any ordering of materials, work or shop drawings. The contractor must report any discrepancies to the Engineer before commencing work. If this drawing exceeds the quantities taken in any way, the Engineer is to be informed before the work is started. This drawing is Copyright and must not be reproduced without the consent of Smart Associates Ltd. The Engineer is to be given at least 2 weeks notice of the beginning of construction works, and at least 48 hours notice of critical items (eg concrete pours, prelining etc). The Engineer reserves the right to alter the design in light of site circumstances including previously unforeseen design issues.

SITE PLAN			DRAWING No. <b>001</b>
DRAWN DD	CHECKED DD	SCALE (A3) 1:750	DATE 13.12.07
COMPUTER FILE: drawings\			REVISION A

File Ref: U071312

Case Officer: Jenny Keene

ISO 9002  
Form Ref CI 751

6 December 2007

S88 RMA 1991  
More info letter

Versatile Building Limited  
64 Grove Road  
Blenheim 7201

Dear Sir,

**Receipt of application for resource consent - U071312 - Bradley,  
Micheal Kenneth David & Lynette Carol - Queen Charlotte Drive  
Havelock**

The Council acknowledges receipt of the following application for resource consent:

To build toilet and kitchen facilities in a hazard overlay and to discharge treated domestic waste water to land on Lot 2 DP 378569.

I have been appointed as your case officer. I have assessed your application for completeness and have determined that further information is required to enable the application to be further processed. The information required is outlined as follows-

- The proposed activity is in a hazard area and no geotechnical assessment and Professional Opinion is provided regarding the construction and the discharge. Please provide this information in the required from by accredited providers.
- No details are provided about the proposed shop. This is not a Permitted Activity in this zone. Consent will be required. Please provide all appropriate details if you wish to apply to undertake this activity in the Sounds Residential zone *— they realise this and are working to this end.*
- The wastewater loading assessment is not accurate and not acceptable. The system has to be designed for the maximum loading proposed – this is 6170 litres a day according to my calculations – 40 people camping at 130 litres a day (as showers and kitchen are provided), 4 people residing at 180 litres per day, and 10 people using the shop at 25 litres per day. This totals 6170 litres per day. The design that has been provided is insufficient for this loading.
- The location of the soil testing has not been provided on the site plan. This must be done within the proposed land application area – please provide evidence of where in the LAA that this was done.

The application will remain on hold under section 88 of the Resource Management Act until this information is received.

Yours faithfully

Jenny Keene  
**RESOURCE MANAGEMENT OFFICER**

Encl

\\WKE1....O:\TemplatesForms\RegQualitySystems\IResourceMgmtControl\Chapter\88MoreInfoSQL.doc Saved 21/03/2007 12:14:00



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[www.smartassociates.co.nz](http://www.smartassociates.co.nz)

# Engineering Report

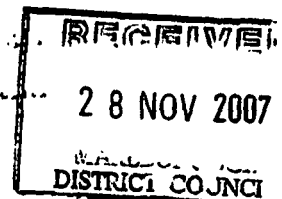
**M & L Bradley**

**On-Site Wastewater Management**

**at**

**129 Queen Charlotte Drive  
Havelock**

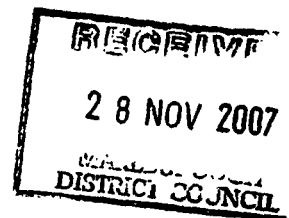
**Dave Dravitzki  
Engineering Geologist  
Smart Associates Ltd  
24 April 2007**



Job No B07-2101

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- 1. Introduction**
  - 2. Description**
  - 3. Site Evaluation**
  - 4. Recommendation**
  - 5. Limitations**
  - 6. References**
  - 7. Appendices**
    - A Site Plan
    - B Drainage Field Specification
    - C Wastewater Design Sheet



**1. Introduction**

- 1.1 It is understood that M & L Bradley are proposing to construct a building from which they will sell their art, and require the installation of ablution facilities and associated on-site wastewater disposal system.
- 1.2 The purpose of this report is to present the results of site investigations carried out in relation to onsite wastewater treatment and disposal. The site investigation was carried out on 4 April 2007.

**2. Description**

- 2.1 The legal description of the site is Lot 2, DP 349124, and the land area is 0.64 ha.
- 2.2 It is understood that it is proposed to install an ablution block comprising toilet and shower facilities to service the proposed shop located in the southern corner of the site as shown on the appended site plan.
- 2.3 It is expected that the number of customers visiting the shop will be less than 10 people per day. It is however understood that occasional (1-2 times per year) whanau occasions and tribal meetings are hosted on the site which involve up to approximately 40 people camping on the site for 1-2 days at a time and that in the future the shop may be converted into a permanent two bedroom residence.
- 2.3 The site generally comprises moderate slopes (10°) to the west and is vegetated in open pasture / lawn in the vicinity of the proposed development.
- 2.4 The geological map for the area (Begg and Johnston 2000) indicates the site is underlain by Marlborough Schist of Permian age (Caples Group, textural sub-zone IIB).
- 2.5 The test pit excavation reported in Section 3 generally confirms the stratigraphy as indicated on the geological map.

**3. Site Evaluation**

- 3.1 The proposed land application area (LAA) is positioned in the southern part of the site and to the south of proposed ablution block. The Havelock tidal flats and foreshore is generally located greater than thirty metres away from the proposed LAA. Providing appropriate care is undertaken in positioning the LAA, the stream to the north of the LAA should also be located at a distance in excess of thirty metres.
- 3.2 The proposed land application area slopes are generally slightly sloping (10°) to the west and are vegetated in grassed lawn / paddock. Groundwater was not encountered within the subsurface investigation reported herein and is expected to be located at a depth in excess of two metres below ground level.
- 3.3 A log of the access track face to the west of the proposed LAA was carried out and yielded the following representative soil properties:

L1

(m)	Horizon or Layer and boundary	Genesis	Description							Drainage Category
			Colour	Field Texture	% + 2mm Fragments	Compactness	Consistency	Structure	Moisture condition	
0.15	A	Topsoil	Brown	Silt loam	None	Loose	Soft	Strong	Dry	
0.5	B-C	Residual	Yellow-brown and cream	Gravelly silt loam	20%	Medium dense	Very stiff	Weak	Dry	
0.6	C-R	Residual	Yellow-brown	Gravelly silt loam	30%	Medium dense	Very stiff	Weak	Dry	

RE  
 28 NOV 2007  
 M  
 DIST

- 3.4 A series of shallow boreholes put down within the proposed land application area generally confirmed the soil profiles shown in L1 above. Based on the soil assessment carried out, an average drainage category of 3 has been adopted.
- 3.5 In accordance with Plan Change 7 Rule 27.2.4.5.5 an assessment of the best practical option has determined that primary treatment and dose pumped trench effluent wastewater land application is appropriate and the most practical option for this property.
- 3.6 A GR Lawrence Septic Tank Treatment System and trench effluent land application system is recommended.

A primary treatment system such the system proposed will normally produce average effluent quality equal to or better than:

BOD after 5 days	< 100 g/m <sup>3</sup>
Suspended solids	< 100 g/m <sup>3</sup>

- 3.7 Based on a stream water supply for the dwelling, AS/NZS 1547:2000 recommends the following wastewater flow design allowances:

- (i) 25 litres/person/day for tea rooms with restroom facilities (considered to be representative of customers to the shop). Assuming 10 customers per day the design flow would be 250 litres per day.
- (ii) 180 litres/person/day for households with standard facilities. Assuming a permanent occupant of 4 people in a two bedroom dwelling, the design flow is 720 litres per day.
- (iii) 65 litres/person/day for camping grounds for recreational areas. Assuming 40 persons, this equates to 2,600 litres per day for an occasional transient loading of the system.

- 3.8 It is our opinion and recommendation that a system designed to the foregoing Item (ii) should be sufficient to service the proposed building facilities provided that a minimum wastewater storage capacity of 5,000 litres is installed to accommodate the intermittent loading associated with the foregoing Item (iii).

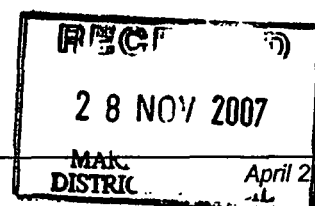
- 3.8 The total length of 600mm wide dose pumped trench required is 80m (refer wastewater design sheets Appendix C). It is recommended that this length of trench be constructed as 2x3 trenches of 13m that are alternately dosed, pumped through a sequencing valve at the pump discharge. A typical effluent trench detail is provided on drawing 002 in Appendix B.

- 3.9 Prior to the proposed system becoming operational the system designer must inspect and certify that the system has been installed according to the design. This certification must then be forwarded to Council.

- 3.10 Vehicular access to the system for desludging will be available.

#### 4. Recommendations

- A GR Lawrence Septic Tank Treatment System and dose pumped trench effluent land application system is recommended. Installation is to be in accordance with requirements and recommendations of NZS 1547:2000.



see  
info  
received  
14/12/07.

**5. Limitations**

This report is valid for two years from the date of issue and covers the design of a wastewater treatment and management system for M & L Bradley at 129 Queen Charlotte Drive, Havelock. Any other areas are outside the scope of this report.

The reliance by other parties on the information or opinions in the report shall, without our prior review and agreement in writing, be at such parties' sole risk.

**6. References**

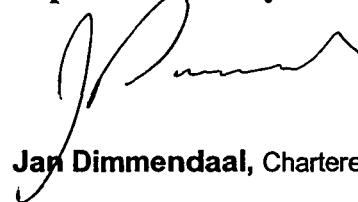
1. AS/NZS 1547:2000 On-site Domestic Wastewater Management
2. Marlborough District Council Guidelines for new on-site wastewater management systems.

**Report prepared by:**

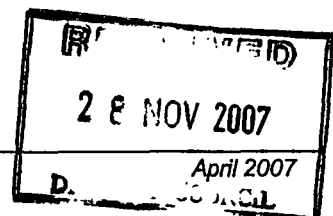


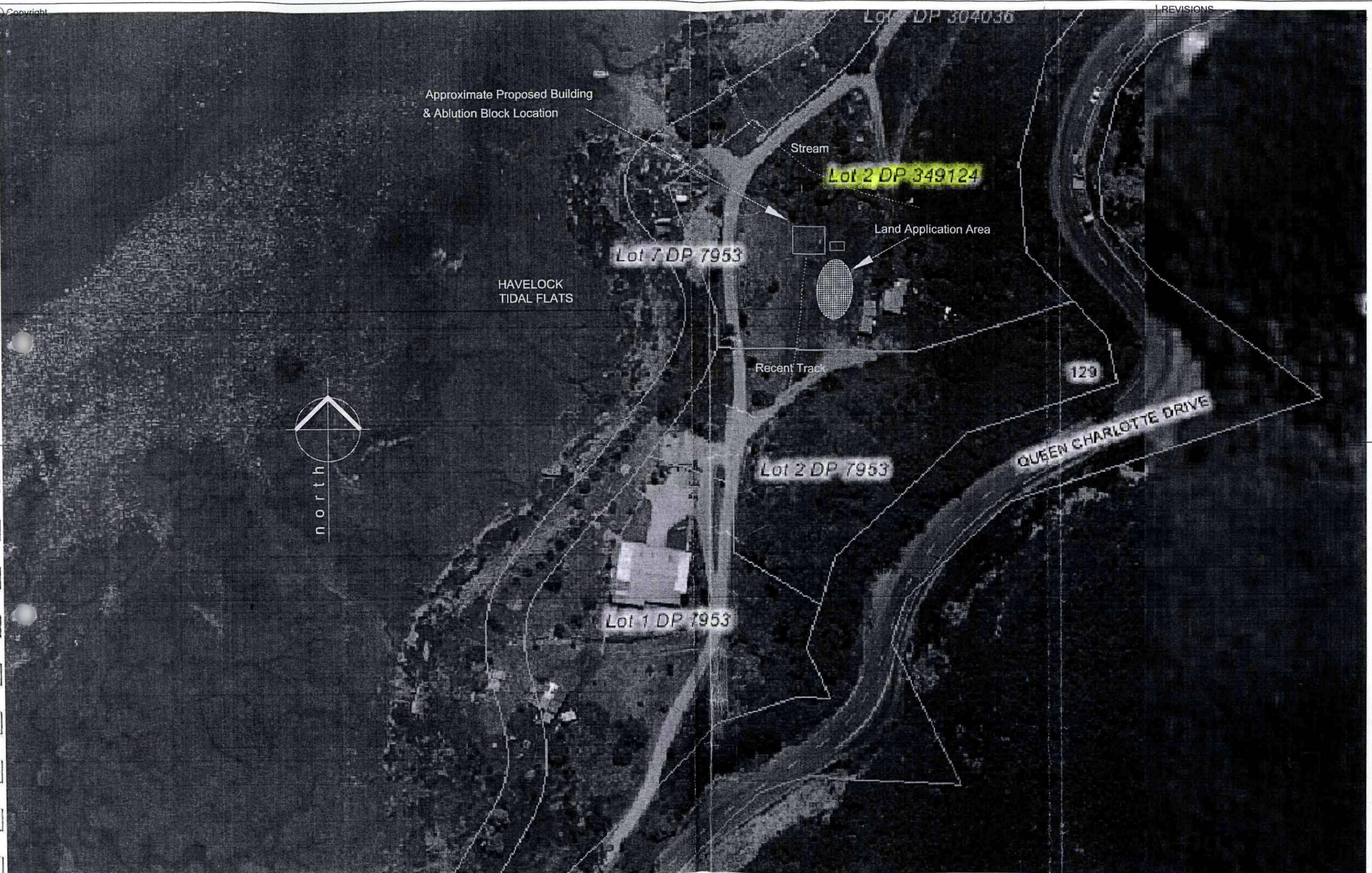
**Dave Dravitzki**, Engineering Geologist  
24 April 2007

**Report reviewed by:**



**Jan Dimmendaal**, Chartered Engineer





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 Blenheim, N.Z. design@smartassociates.co.nz



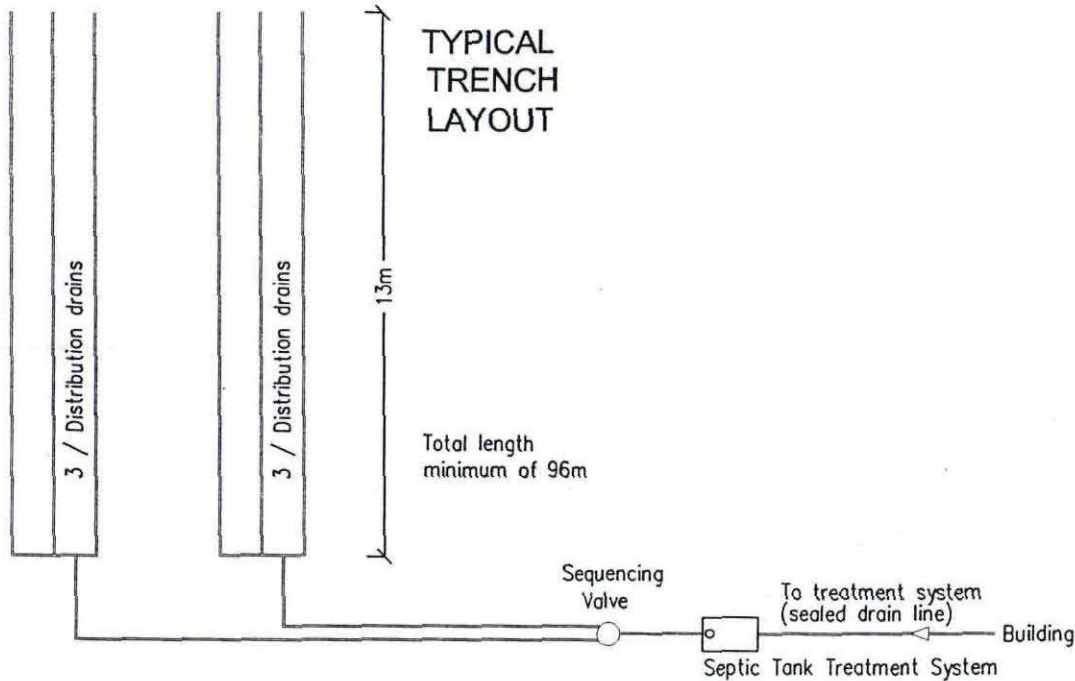
M & L BRADLEY  
 129 QUEEN CHARLOTTE DRIVE  
 HAVELOCK  
 PROJECT No. **B07-2101**

**NOTES**  
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SITE PLAN	28 NOV 2007	DRAWING No. 001
DRAWN DD	CHECKED JD	DATE 20.04.07
COMPUTER FILE: drawings\	SCALE (A3) 1:750	REVISION /

**NOTES**  
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End cleanouts at ends of all distribution lines



**SYSTEM USE & MAINTENANCE**

1. The household sewage should not contain anything other than human waste and toilet paper, and food material such as may go down a kitchen sink drain. Garbage grinders are not recommended, although they need not be forbidden. More frequent de-sludging of the system may be needed if a garbage grinder is used.

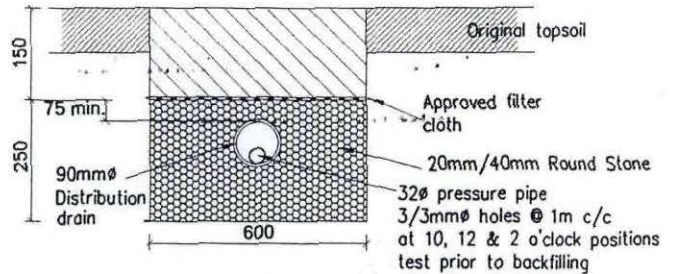
Normal use in the house of soaps, detergents, bleaches, plumbing fixture cleaners, drain cleaners and disinfectants will not harm the functioning of the system or the soil absorption system.

2. Prohibited discharge to the system
- \* Oil/grease from a deep frier (for example).
  - \* Stormwater or any drainage other than sewerage generated in the house.
  - \* Petrol, oil or other flammable/explosive substances
  - \* Garden, garage, and workshop chemicals (e.g. pesticides, paint cleaners, photographic chemicals, motor oil or trade waste.
  - \* Disposable nappies & sanitary napkins.

3. It is an MDC requirement that any wastewater treatment system be regularly serviced and maintained by a contractor experienced in this field.

**NOTE - TRENCHES**

- (1) Trench spacing 1m. minimum between edges
- (2) Distribution drains to be U-PVC 90mm $\emptyset$  perforated pipe with perforations comprising at least 2% of surface area. (20mm $\emptyset$  holes at 100mm centres at 4 & 8 o'clock positions).
- (3) Distribution pipes to be laid flat or at a gradient not greater than 1 in 200.
- (4) Sides & base of trench to be carefully scratched with a pointed tool before laying filter media.



**TYPICAL TRENCH CONSTRUCTION**

RECEIVED

28 NOV 2007

**SMART ASSOCIATES Ltd.**  
 ENGINEERS & ARCHITECTS  
 31 George Street Tel: ++64 3 577 7487  
 P.O.Box 57 Fax: ++64 3 577 7485  
 Blenheim, N.Z. design@smartassociates.co.nz

PROPOSED WASTEWATER DISPOSAL  
 129 QUEEN CHARLOTTE DRIVE  
 for M & L BRADLEY

PROJECT No. **B07-2101**

DRAWING No. <b>002</b>		DATE 20.04.07	
DRAWN DD		SCALE (A4) As Shown	REVISION /
CHECKED JD			
COMPUTER FILE:			



**SMART ASSOCIATES Ltd.**  
 ENGINEERS & ARCHITECTS  
 31 George Street Tel: (03) 577 7487  
 P.O.Box 57 Fax: (03) 577 7485  
 Blenheim, N.Z. design@smartassociates.co.nz



**SOIL PERMEABILITY ASSESSMENT / EFFLUENT DESIGN SHEET**  
 To AS/NZS 1547:2000

<b>Site Evaluation: M &amp; L Bradley</b>	<b>Job No: B07-2101</b>
Intended water Supply:	
<i>Public Supply Rain water (roof collection) Bore/Well/Dam</i>	
Local experience with existing on-site systems:	
Septic Tank or similar (Primary treatment):	Secondary treatment:
<i>OK when installed properly with a correctly sized drainage area and maintained.</i>	<i>Work very well in domestic situation producing a relatively high quality effluent.</i>
Recommendation for this site: <i>Conventional Septic Tank with dose pumped effluent application trenches</i>	
Need for surface water collector / cut-off drains?	
AVAILABILITY OR RESERVE / SETBACK AREAS	
Reserve area available for extensions, % of design area:	
Setback distance? (between development and disposal system):	<i>Min. as required by Resource Management Act</i>
Ksat, (m/day):	ESTIMATED SOIL CATEGORY: <i>Category 3 - Moderately well drained loam</i>
<b>Design</b>	
RECOMMENDED D.L.R.	<i>15</i> mm/day
(NOTE: Where DIR is 10mm/week or less, ETA/VTS trenches to Fig 4.5A7 NZS1547:2000 should be specified to enable the utilisation of such soils)	
4 Permanent People At 180L/person/day:	<i>720</i> L/day from Appendix 4.2D AS/NZS 1547:2000
DESIGN DAILY FLOW:	<i>720</i> L/day
Septic tank size (min):	<i>5,000</i> (Table 4.3A1)
AREA REQUIRED:	<i>48.0</i> m <sup>2</sup>
LENGTH REQUIRED:	<i>80.0</i> m with 600 wide trench
RESERVE AREA REQUIRED:	<i>100%</i> of specified drainage area
<b>RECOMMENDATION :</b>	
<i>Conventional 5,000 litre septic tank and dose pumped effluent application trenches to be a minimum total length of 80m (Lines to be laid at 1.6m centres, Pump sized by manufacturer).</i>	

