

Malcolm Linton

Wastewater / Drainage Engineer.

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:PRODUCER STATEMENT – DESIGN - PS1:

Sewage Land Application System

Our Ref: CD 156/17 - Chaney's

To: Christchurch City Council.
&
Environment Canterbury

Applicant: Wala Investments Ltd

Date: 7th November 2017

Location: Part RS 14244 – Main North Rd

Valuation: 2191804600

I, Malcolm Linton hereby confirm that the sewage Land Application system for the above site, has been designed with sound and widely accepted principles to adequately dispose of the sewage effluent on-site.

The standard of effluent treatment will satisfy Environment Canterbury's investigation under a "Resource Consent Application" for sewage Treatment in the Unsewered Areas of the Canterbury Region, the design complies with standards within AS/NZS 1547:2012.

The design is detailed in the Specification, Working Drawing Details A, B and Site Plan that is attached. As an independent design professional, covered by a current policy of professional indemnity insurance. I believe on reasonable grounds that this system will adequately dispose of effluent on-site and comply with N.Z. Building Code, G13.2, G13.3.4, G13/VM4 of the Building Regulation 1992 First Schedule and shall continue to satisfy the performance requirements of the First Schedule, Clause B2.3.1 (b) of the Building Amendment Reg. 1997. Provided the system is installed as per specifications, designed plans – and Owner maintains the system as detailed in the Owners Manual so that the Septic Tank functions in an alive state.

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:Specifications:

Septic Tank and Land Application.

Applicant: Wala Investments Ltd

Date: 7th November 2017

Location: Part RS 14244 – Main North Rd

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**Discharge On-Site and Assessment
of effects on the Environment:**

The proposed complex on this site is a re-locatable temporary building ancillary to a construction project, then later a Maintenance building being added nearby.

- Therefore if complex is used to its full potential a maximum wastewater flow of up to 1250L/day could be reached. (Accommodating occupancy of up to 5 people in the temporary building and later up to 20 people in maintenance building, allowance for all at 50L/person).
- Sizing for effluent soakage area over top of treatment material in the soakage trench to be a minimum of 25sq/m area.
- The Design Loading Rate evenly spread over top of 600mm Filter treatment material will be 50mm/day for a maximum discharge of up to 1250L/day, into natural downward soakage.

Compliance: Due to the rate and even loading of effluent waste over treatment material and required separation from ground water, open drains and Wells, no adverse effects envisaged with discharge to environment or to Neighbors. Ground water under site has potential to be less than 1m below treatment material. Therefore a Resource Consent is required from Environment Canterbury.

Open Drains: There are no open drains within 20m of soakage mound over trench.

Soil Type: Excavated test hole revealed 500mm silty topsoil → 700mm sand → 200mm grey sand → into groundwater at 1.4m depth.

Wells: Well on-site. Proposed effluent disposal is outside Wells protection zone. No other domestic Wells within 50m of disposal. There are no known public Wells in affected area.

:Type of System:

1. Septic Tank / Pump Chamber,

Install an Austin Bluewater B52 Multi Chamber Septic Tank with Integral Pump Chamber, Ph 03-5952812 or Oasis Z54 Deluxe Multi Chamber Septic Tank with Integral Pump Chamber, Ph 03-3440262 or a Hansen 55 Multi Chamber Septic Tank with Integral Pump Chamber, Ph 03-3138418 or a Hynds Z5000 Multi Chamber Septic Tank with Integral Pump Chamber, Ph 03-3441370.

Deflector. Make sure a **gas-deflecting baffle** is fitted to bottom of tee on outlet of first chamber.

Filter. Make sure a **Polylok PL 625 Filter** or an **A300 Zabel Filter** is fitted to outlet of secondary chamber.

Pump. A **Davey D40A or a Pump with the same operating curve.**

Place pump on a brick 75 – 100mm off chambers base. Fit a non-return valve to prevent backflow.

NOTE: Waste Master (Garbage Grinder) **not** to be installed in dwelling.

I suggest pre-checking levels for tank depth so that tank supplier can pre-fit turrets and raise pump outlet pipe if lids need raised to be at ground level, which is required by this specification and AS/NZS 1547:2012.

(Pump outlet coupling to service pump MUST be reachable by hand from ground level).

Lids to service tank chambers to be at or above ground level.

Lids and rises (if needed) to achieve this are to be watertight.

As per requirement in AS/NZS 1546.1:1998 Standards [section 3: 3.10 & 3.11]

2. Effluent – Land Application Disposal,

- **This is pumped via 50mm dia LDPE pipe** to the midway point of the joining pipe connecting to the END of the **40mm Nominal dia with 38mm I.D drilled wastepipe or 32mm PN9 Nominal dia with 38.5mm I.D. drilled pressure pipe** soakage lines in soakage trench. (Choose preferred pipe size). Pipe to soakage trench to be buried at a depth that will protect it from damage and freezing.
- Refer to Drawing Detail and Site Plan attached for layout and construction. **NOTE:** The requirement to have **Signage (EFFLUENT DISPOSAL Within 4 White Pegs)** erected with 4 white corner pegs to demarcate the disposal trench.
- The correct separation distances to be maintained out of **Protection Zones** of Wells being (50m domestic & distance changes for public) and surface water resource (20m). As per Environment Canterbury's rules.

3. Water Entry,

No other surface or stormwater to enter system either before or after the septic tank stage.

4. Maintenance,

Refer to Owners Manual.

:Commissioning and Testing:

1. Cut a 4m long 40mm dia wastepipe or 32mm dia pressure pipe (to match pipe line size used in soakage trench) and glue a male adapter with a screw cap onto end of soakage pipe line. (At Inspection Maintenance Port).

Drill 2mm dia holes every 100mm along pipe. Use a suitable drill to provide a clean neat hole. Remove all swarf from pipe. (This pipe is called a 'Standpipe').

2. When job is completed unscrew cap off soakage pipe and screw on the 4m 'Standpipe'. Put water into pump chamber . When pump is activated record the level water rises up 'Standpipe'. This measurement with the 'Standpipe' be given to new Owner.

:Installation:

Septic tank and effluent system to be installed by a Registered Drainlayer. If when construction of soakage system, the profile of ground condition changes from what was stated in Specification and working drawings, contact **DC&D Ltd** immediately. (021 221 0043) or (03-323 9394).

:Producer Statement:

Upon completion of installation as per Specifications and Working Drawings, **Contractor to complete the 'Producer Statement – Construction Form' and "Take Photo of Pipe Work in relation to ground level - Signage & corner marker pegs as Required in Resource Consent Condition along with Signed as Laid Plan"**, These are Required to be sent to Drainage Consultancy & Design Ltd, within 7 days of completion. = (Via Post, Fax or Scan and E-Mail to malcolm@drainageconsultancydesign.co.nz). Which will then be filed and forward to required Councils.

:Site Clearance:

Upon completion of all drainage work, the site is to be left neat and tidy. (There will be a large volume of excavated material left over. Check with owner if it needs to be removed or stock piled.)

≈ **Drainage Consultancy and Design Ltd** ≈

210 Kainga Road – Christchurch 8083.

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Email = malcolm@drainageconsultancydesign.co.nz

Building Consent No: B.C. (Territorial Authority)

Resource Consent No: CRC (Environment Canterbury)

PRODUCER STATEMENT – CONSTRUCTION = PS3

(Job Reference Number = CD 156/17 - Chaney's)

Issued By: _____
(Contractor)

To: = Drainage Consultancy & Design Ltd Re: Wala Investments Ltd
(Designer) (Owner / Applicant)

In Respect Of: On-Site Sewage Disposal System

At: Main North Rd - Being - Part RS 14244 & Valuation: 2191804600
(Address) (Legal Description)

I: _____, being contracted to: _____
(Contractor) (Owner / Developer)

To construct the on-site sewage disposal system described by the *Working Drawings and Specifications* prepared by;

Drainage Consultancy & Design Ltd - Titled - Septic Tank & Land Application
(Design Firm) (Project)

Dated: 07/11/17. Plus authorized **Variations dated:** _____, (copies attached) issued by;
Drainage Consultancy & Design Ltd and other documents to which the on-site sewage disposal system is proposed to be constructed.

I: _____, a duly authorized agent of _____
(Duly authorized agent) (Contractor)

have sighted Building Consent No. _____ and the attached conditions of building consent with Working Drawings and Specifications prepared for construction by **D.C. & D. Ltd** and **Believe on reasonable grounds that** ____ **All**, ____ **Part only**, as specified in the attached particulars of the building work under the building consent has been completed to the extent required by that building consent. **(Complying with requirements within G13 & G13/VM4)**

Signed: _____ Date: _____
(Signature of duly authorized agent)

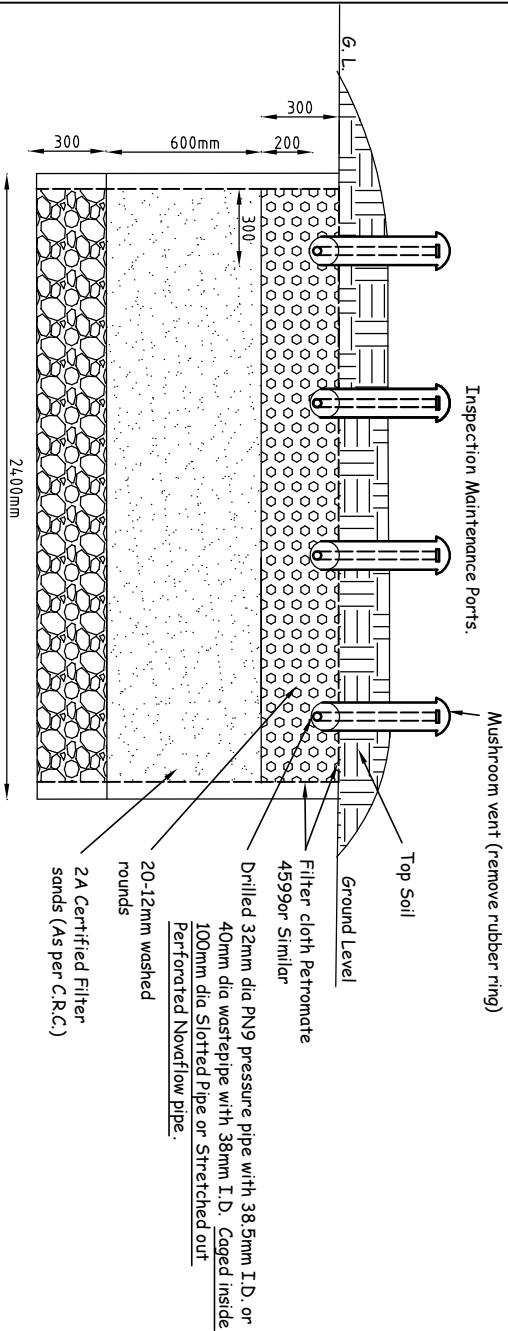
On behalf of:

(Contractor)

(Address)

Date Installed: _____ **Also Attach to this form when returning:**
Photo of Disposal Pipe in trench, Demarcation Signage & Corner Marker Pegs of the Trench, & As Laid Plan as per Condition Requirements of Resource Consent.

DETAIL A - TRENCH SYSTEM M6.4
SAND FILTER

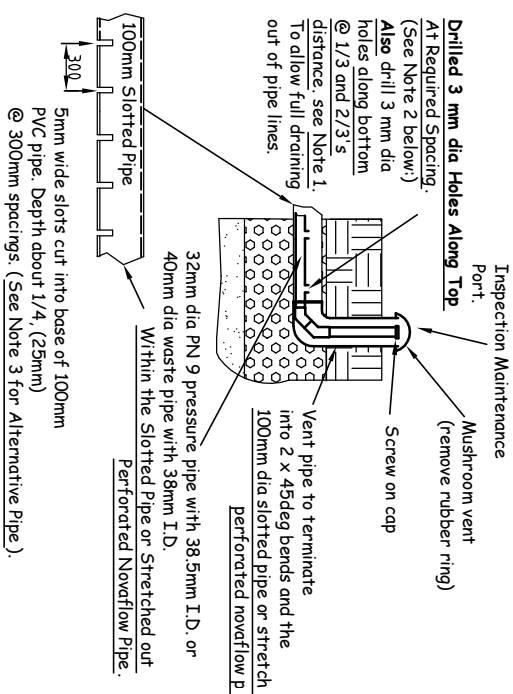


1. Minimum soakage **trench area 25sq/m** = Trench length x width.
For 4 pipe discharge maximum width = 2.4m)
2. Dimensions are minimum. (Except for topsoil).
3. Material & pipe to be laid level.
4. Refer to specification clause 2 for any other special requirements.
5. Pump line to connect to centre of joining pipe that connects to the end of drilled soakage pipe lines.
6. Excavated trench as per drawing.
7. Slightly mound topsoil over trench when finished.

2.4m Wide x 10.417m long
(refer to Note 1)

LAND APPLICATION

DETAIL B - DISTAL END & LPED
PIPELINE



1. When drilling the holes in the LPED pipes, use a suitable drill to provide a clean neat hole. Remove all swarf from pipe. Drill holes along top of pipe.
2. Note the 2 holes needed on bottom @ $\frac{1}{3}$ and $\frac{2}{3}$ s spacing to allow pipe to drain.
3. For Four-pipe discharge, drill 11 holes evenly spaced along top per pipe lines.
4. Perforated 100mm dia Nova Flow pipe can be used. NOTE the need to stretch the Nova Flow pipe when placing shingle over pipe, so that the perforated holes open up for better drainage.

NOTES:

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Drainage Consultancy & Design Ltd.

≈ **DRAINAGE CONSULTANCY & DESIGN LTD** ≈

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SYSTEM

TRENCH SYSTEM M6.4

WITH SAND FILTER

SYSTEM

Applicant

Wala Investments Ltd

Location

Part RS 14244
Main North Road

Job No
CD156/17 - Chaney's

Date 07/11/17

Designed By:

M.L

Date _____

As Indicated. n/s

Job No. CD

M.L

Date _____

As Indicated. n/s

Information in this map has been derived from various sources including the Kakoura District, Hurunui District, Waimakariri District, Christchurch District, Environment Canterbury Regional Council, Selwyn District, Ashburton District, Waimate District, Mackenzie District, Timaru District and Waitaki District's databases.

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0 0.025 0.05 0.075 0.1 Kilometres

Scale: 1:1,700 @A4

Map Created by Canterbury Maps on 6:53:27 a.m.



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:OWNERS MANUAL:

Applicant: Wala Investments Ltd
Location: Part RS 14244 – Main North Rd
Valuation: 2191804600

Date: 7th November 2017

**AS THE OWNER OF THIS SEPTIC TANK AND
EFFLUENT SYSTEM, YOU ARE RESPONSIBLE
FOR THE OPERATION AND MAINTENANCE;**

:LIFE OF SYSTEM:

A. Drains,

If drains are PVC, (normal product) which are of durable material and accepting accidents should last at least 80 years.

B. Septic Tank / Pump Chamber,

Concrete septic tanks are of durable material and should last at least 50 years.

C. Pump,

The pump being a mechanical item, therefore the pumps life is dependent on maintenance and use. Any misuse will invalidate the guarantee. With normal use and yearly maintenance the pump should last at least 5 years. (The more you pay in pump purchase, = longer life in pump).

D. Effluent Soakage Bed,

The life of soakage bed is dependent on a large number of factors, some of which are listed below;

1. The types of detergents used.
2. The types of other products flushed into the system. (What kills bugs in the house will kill bacterial bugs in your septic tank)
3. Volume of effluent discharged per day.
4. Volume of solid particles discharged per day. (Performance of septic tank - is tank alive or dead)?
5. The Maintenance of the system.
6. Variation of algae and bacterial growth in the bed.
7. Variation in rain fall.
8. Variation in the ground water height.
9. Normal long term clogging of the pores in the ground.

Do:

1. Use biodegradable household cleaners and synthetic laundry powders or liquids. (i.e. Petroleum based).
2. Recommend you use body washes, shower gels etc, as these produces are synthetic based, instead of soap.
3. Ensure you use water saver, sud saver cycles on your dishwasher and washing machine if fitted.
4. Do fix any leaking taps or toilet cisterns when noticed.
5. Recommend water saver devices to be fitted on all showers.
6. Recommend Owner place one sachet of Bio-Gest Bacteria Activator into the pump chamber of the septic tank each month. (See Maintenance section below)
7. Make sure you always have in place a 'Maintenance Service Contract', where servicing, checking and cleaning of septic tank, filter and disposal trench can be regularly monitored.

Don't:

1. Recommend you avoid using soap based washing powders.
2. Don't install a waste master disposal, (Garbage grinder).
3. Don't dispose egg shells, coffee grounds, tea bags etc as they are not biodegradable and should be disposed of in the rubbish. Generally compost food scrapes or dispose of them in the rubbish.
4. Don't dispose Napisan product or similar into drains.
5. Don't dispose of disposable nappies , sanitary napkins / panty shields or condoms into drains, nor cleaning wipes / cosmetic wipes / personal hygiene wipes / baby wipes / Wet Wipes etc.
6. Don't dispose of strong bleaches, chlorine compounds, antiseptics or disinfectants into drains.
7. Don't dispose of medicine pills etc into drains.
8. Don't allow fat to be poured down the sink.
9. Don't put petrol, oil, flammable / explosive substances or chemicals from garage e.g. pesticide, paint, cleaners, photographic chemicals or trade waste down drains.
10. Don't empty a spa or swimming pool into system.

:Helpful Hints:

To help reduce sludge building up in the septic tank;

1. Scrape all dishes to remove food material etc. before washing.
2. Keep all possible solids out of the system.

To help reduce the volume of effluent liquid required to soak away in the land application area;

1. As previous stated, install water saving devices.
2. Take showers (moderate length of time) instead of baths.
3. Only wash cloths when there is a full load / use dishwasher when there is a full load.
4. Try and avoid using the washing machine and dishwasher at the same time.
5. Endeavor to space out water use evenly as possible, so that the system is not over loaded with a large volume of water at the one time.

:Maintenance Requirements:

-And-

:Maintenance Service Contract:

:Maintenance:

- **Clean Septic Tank** as required. This however is dependent on the number of people your system caters for and the build up of sludge and crust layers. Tanks need to be pumped out when the **scum** layer, (*Layer of crust on top*) comes down to within 100mm of the bottom of the tee junction or filter at outlet, **or** when the **sludge**, (*Build up of material on bottom of tank*) and **scum** have accumulated to the extent that the **scum and sludge** has taken up 2/3rds of the volume of the tanks first chamber. (Check build up yearly).
The filter will need to be checked for blockage. Note the bio-mass build up on cartridge will aid filtration performance and is not required to be totally removed. Generally clean filter when tank gets emptied. (Hose down with water back into the 1st chamber of septic tank).
Vacuum Pump Chamber: Base of pump chamber gets a build-up of sludge which needs to be taken out before it reaches 60mm in depth.
- **MUST-YEARLY:** Remove cap off one end of soakage pipeline, (At Inspection Maintenance Port). Run fresh water into pump chamber so pump is activated to flush soakage pipeline out. When line runs clear, turn water off and screw on the 4m long 'Standpipe' given to you by installer of your system, with measurement the water rose up pipe when they commissioned it. Run water into Septic Tank until the pump is activated. Check level water rises up 'Standpipe' and if it is more than 1.5m higher than the level reached when commissioned, then clogging of soakage system is occurring. Contact Consultant / Designer Immediately.
(Repeat process at other end of pipeline in the soakage trench).
Remove pump yearly, clean and check intake grate. Vacuum base of pump chamber.
Check buildup of material in septic tank chambers as in first point above.
The above items will be checked and completed by person you contract to fulfill the maintenance service contract as required by Canterbury Regional Council, which is outlined below.
- **Each Month:** Recommend Dwelling Owner to **Place one sachet** of "Bio-Gest Bacteria Activator" **Into the pump chamber of the septic tank;**
Not in the house toilet.
Obtain Activator from merchandise stores; e.g. Mico Wakefield; Plumbing World; PGG Wrightson; CRT; Mega Mitre 10 etc.

:Maintenance Service Contract:

You will find as part of your "Resource Consent – Discharge Permit" from Canterbury Regional Council, you are required to have in place a "Maintenance Service Contract" which provides for servicing of septic tank and monitoring of the outfall effluent quality 'once every year'. In contract a requirement to take action, to ensure that the effluent treatment and disposal system is maintained and operated to insure compliance with the conditions of the discharge permit of C.R.C.

Septic Tank – Maintenance & Servicing Ltd can provide a 'Maintenance Service Contract' so you can comply with Regional Councils requirement. S.T. – M.S. Ltd will carry out servicing, testing, as outlined above and check that compliance is met with conditions on consent, and will supply council with a written servicing report when they request it.

Contact Malcolm Linton on 021 221 0043 – or – email: st.ms@xtra.co.nz for a 'Maintenance Service Contract'.