ZAMMATARO PLUMBING PTY LTD

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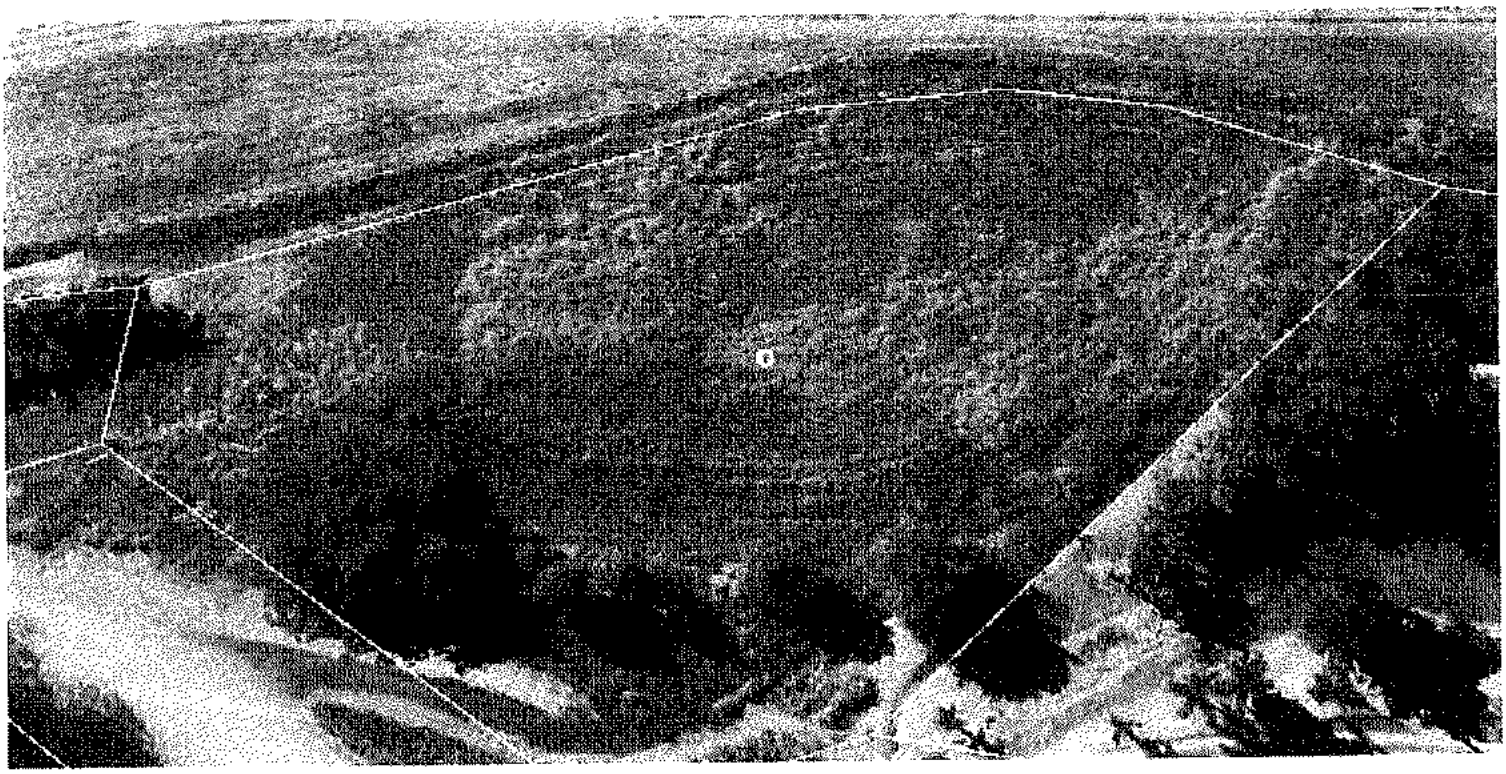
Soil Site Assessment

March – 2016

6 FRANCIS ROAD, KILLALOE

LOT 6
RP 907338



A

ON SITE SEWERAGE FACILITY
SITE AND SOIL EVALUATION REPORT

A: SITE EVALUATOR

Name: Anthony Zammataro

Signature: _____ Date: 7th February 2016

B: SITE INFORMATION ~~(desk-top evaluation)~~

Location Details

Locality:	Francis Road Mossman 4873		
Owner:	Denise Cockrane / Chris Roberts		
Phone:	0437364394		
Survey Plan Detail	907338	Lot No: 6	
Local Government:	Parish: Victory	County: Solander	
Site plan	**Attached**		
Soil Type from Soil Maps etc:	**N/A**		

Climate

Annual Rainfall: **2013** mm Annual Potential Evapotranspiration: **2239** mm

Intended Water Supply Source:

Town Water Supply **** Rainwater (Roof Collection)

Dam Bore/Well

Other

SITE AND SOIL EVALUATION REPORT

C: SITE ASSESSMENT

Topography

Slope: Slightly sloping

Ground Cover: yes

Geology: **N/A**

Drainage Patterns: **N\A**

Available Clearances: (Site Plan details attached)

Boundaries **Not within 2 metres (Refer to site plan)**

Wells, Bores: Not within 30 metres off disposal area (refer to site plan)

Embankments: No

Stands of Trees, Not within disposal area

Buildings: More then **2Meters (refer to site plan)**

Other: _____

Site History (Land Use) **Old cane field**

Environmental Concerns: No

Site Stability:

Is expert Evaluation Necessary? ~~Yes~~ / No

If yes, attach stability report and give details here of:

Author: _____ Designation: _____

Company: _____ Date: _____

Drainage Controls

Depth of Seasonal water table: Dug to depth off 2.5 m (did not strike water)

WINTER: Records not avail. SUMMER: Records not avail.

Need for groundwater cut-off drains? No

Need for surface water collection / cut-off drains Yes

Availability of Reserve / Setback Areas

Reserve Area available for disposal: N/a (Secondary effluent to be used)

Evaluator's Photographs attached ~~Yes~~ / No

D: SUBSOIL INVESTIGATION

Soil Profile Determination

Method:	Falling Water	*	
	Test Pit	□	
	Other	*	**Soil Texture Test \ Soil Classification Test**

Estimated Soil Category:

Soil Category	**Description**	**Tick One**
1.	Gravels and Sand	
2	Sandy Loams	
3	Loams	******
4.	Clay Loams	
5	Light Clays	
6.	Medium to Heavy Clays	

Reasons for placing in Stated Soil Category: **On Site Test**

Reasons for Long term acceptance (DLR) recommendation: **Based on Test and have assumed DLR of 15 from AS 1547:2000 .**

General Comments

Need for Groundwater Quality Protection: No

Type of Land Application Facility considered best suited to site. 2000 litre W.W.T.P.

To bed (Secondary Effluent)

Evaluators preliminary assessment. 40 sq metres of bed

Estimated Daily Flow: **Based on 3 bedroom house = 4 Person x 150 lt. (water saving fac.) per day = 600 lt. Per day**

Design Considerations: Cat.3 Soil, Water saving facilities, Secondary Effluent, Ksat 2.2

Consultation with other parties:

Neighbours	Local Environment Groups	
Environment Agencies	Not Applicable	*****
Report Attached	Yes / No	

DISPOSAL SYSTEMS for EFFLUENT from DOMESTIC PREMISES A.S 1547-2000

SIZING OF DISPOSAL AREA CALCULATIONS
(Secondary Treatment)

1. ABSORPTION AREA OR TRENCH

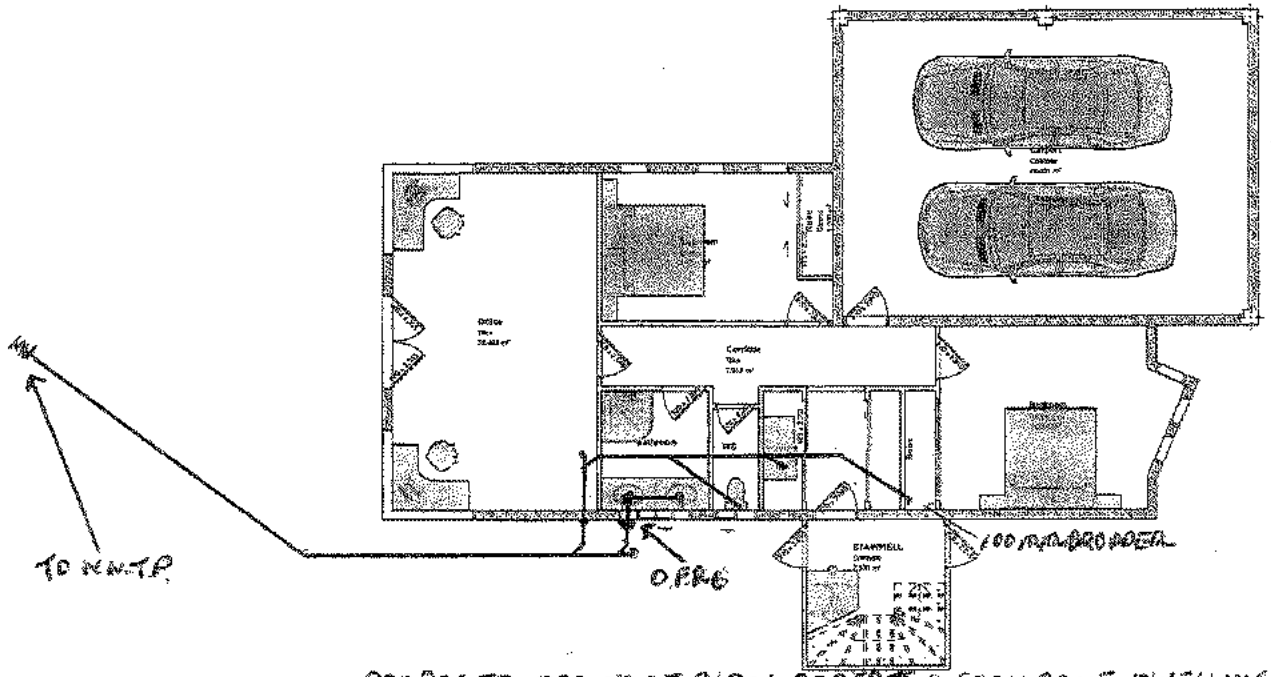
Aw = Q / DLR

Aw = wetted area in square meters
Q = daily flow in litres
DLR = long term acceptance rate in litres per day

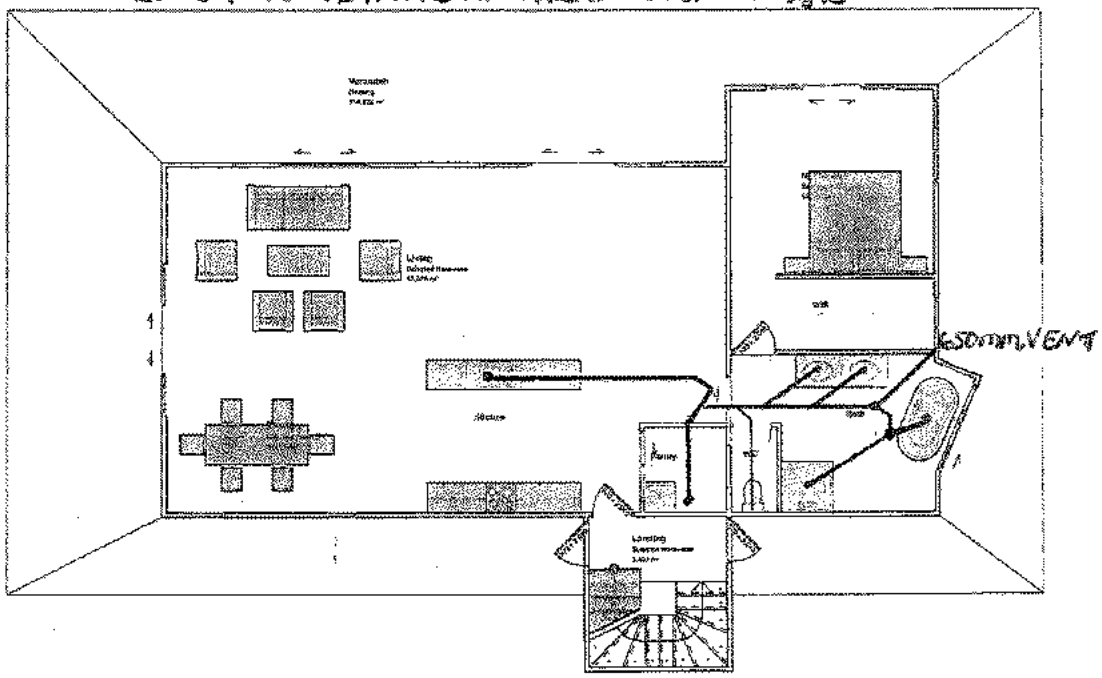
Aw= 3 bedrooms\ 4 persons x 150 = 600 / DLR 15

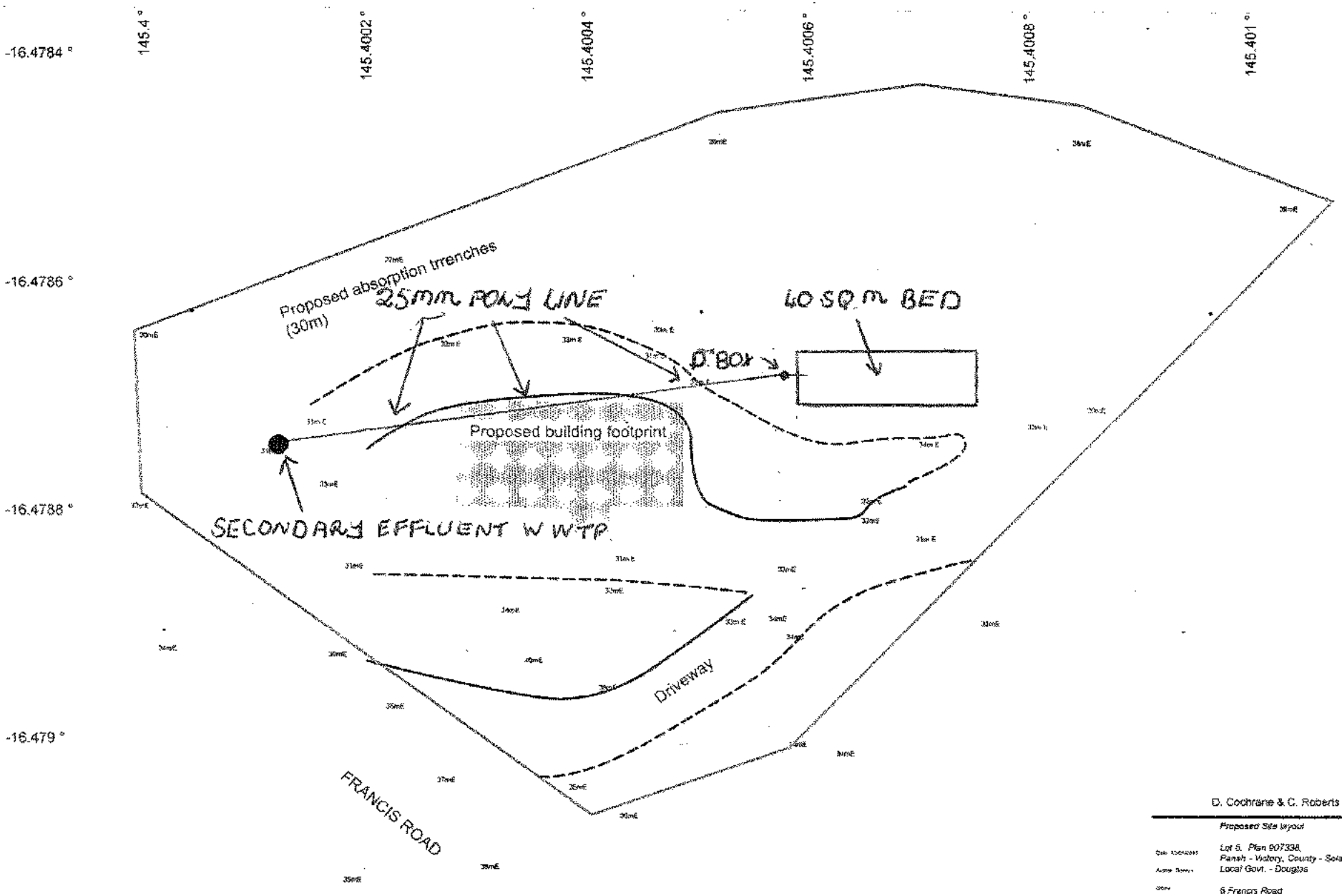
Aw = 600 \ 15

Aw = 40 Square metres of wetted area required (10 M x 4 M)



PROPOSED DRAINAGE PLAN ROBERTS & COCKRANE DWELLING
LOT 6 FRANCIS ROAD KILLALOE MOSSMAN 4873





D. Cochrane & C. Roberts

Proposed Site layout

Lot 5, Plan 907338,
Parish - Victory, County - Solander,
Local Govt. - Douglas

6 Francis Road
Kirrabe Qld 4877

0 5 10 20

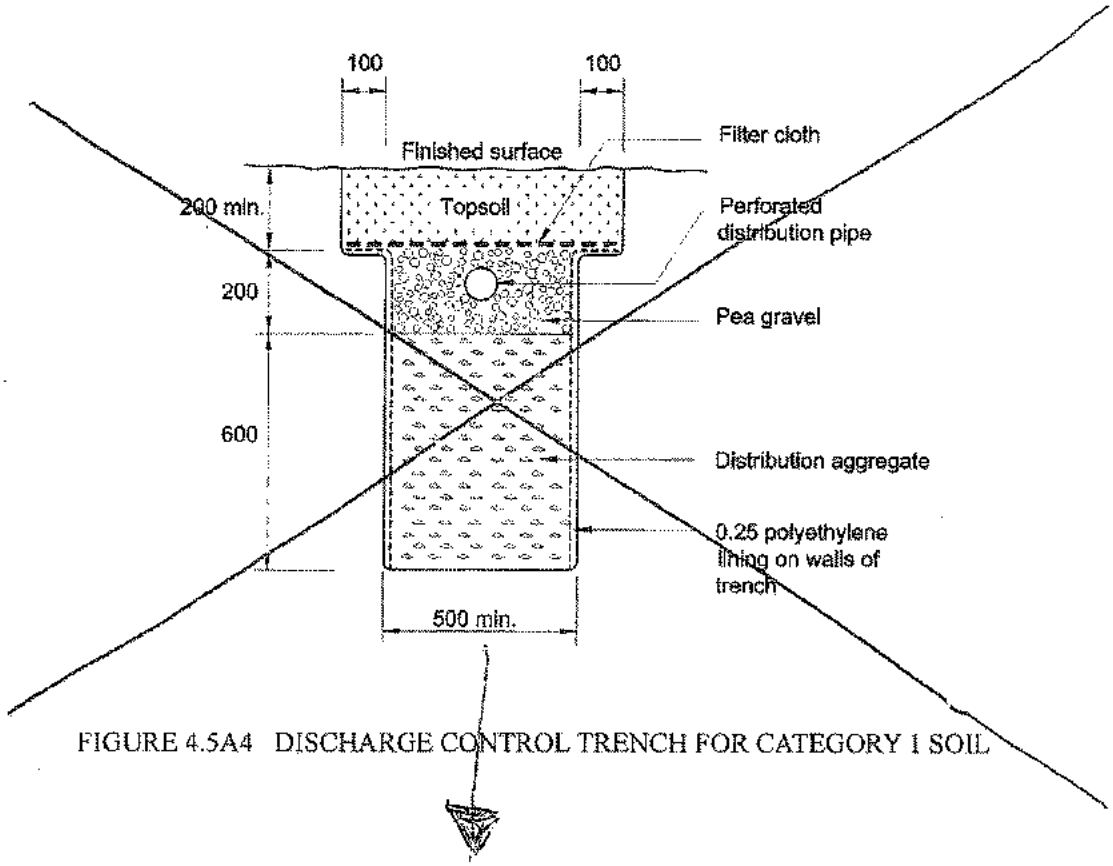


FIGURE 4.5A4 DISCHARGE CONTROL TRENCH FOR CATEGORY 1 SOIL

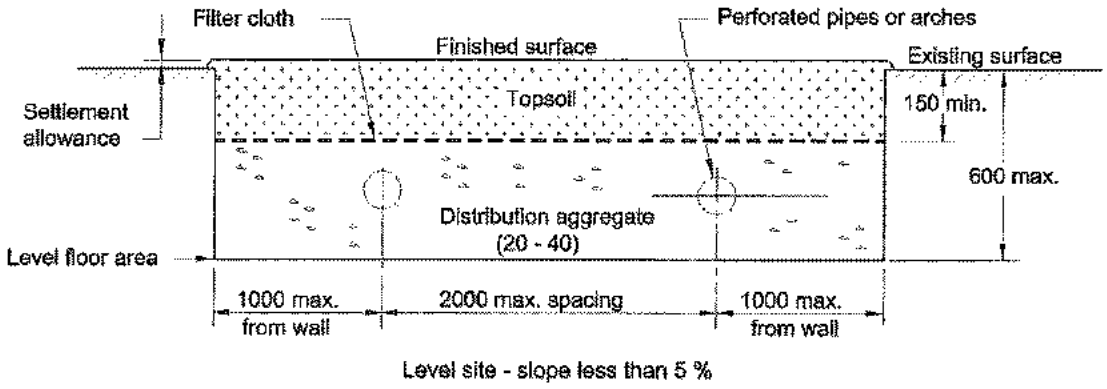


FIGURE 4.5A5 CONVENTIONAL BED

NOTICE TO LAND OWNER

Your sanitary drainage installation consists of a septic tank and land application system. To ensure the operational effectiveness of this installation the following advise should be adhered to.

OPERATION AND MAINTENANCE:
GENERALLY

On-site sewerage treatment plants and the associated land application facilities are complex systems that are prone to failure if operated and maintained incorrectly. All on-site sewerage facilities require a high degree of user dedication in terms of operation and maintenance to ensure that the design performance of the facility is achieved for the expected life of the facility.

All on-site sewerage facilities or components of the facility have a finite life. For instance, septic tanks may have an expected life of 25 years, whilst the associated land application facility may have an expected life of 5 to 15 years depending on the nature of the specific site.

OPERATION & MAINTENANCE PROCEDURES

Operation and maintenance procedures are undertaken to a regular schedule appropriate to the nature and type of treatment and land application facility and in accordance with any manufacturers instructions; and
Continuity of operation and maintenance is achieved throughout changes of ownership and\or changes in use or development of the site.

OPERATION

Practice water conservation, and avoid exceeding the hydraulic capacity of the facility.

Minimise the input of cleaning agents, detergents, disinfectants, bleaches, alkalis, oil, petrol, acids, degreasers, photography chemicals, cosmetics, lotions, pesticides and herbicides into the facility.

Not place materials such as disposal nappies, female napkins, paper towels, cigarette butts, bones and coffee grounds into the facility.

Be observant regarding signs of unsatisfactory performance, including unusual odours, leaks from the facility or choking.

Contact the service agent following observation of unsatisfactory performance or breakdown.

Protect facility components from structural damage, such as from vehicles.

Be familiar with safety procedures.

Establish a time pattern of desludging.

Keep the area in the vicinity of the on-site sewerage facility tidy to facilitate ease of operation and maintenance.

Where appropriate, or required by a condition of approval, enter into an annual service contract with a service agent, and

Retain copies of all service reports.

SEPTIC TANKS

It is recommended that septic tanks be inspected at two yearly intervals. The inspection should include an assessment of the sludge and scum levels and checking of the outlet and inlet square junctions for blockages. Septic Tanks should be desludged when:

- The scum layer is within 100mm of the bottom of the inlet square junction or the sludge layer is within 200mm from the bottom of the inlet.
- The sludge occupies the basic allowance of the septic tank; or
- The sludge scum occupy two-thirds the volume of the tank (or first stage of a two stage system).

The desludging procedure should ensure that 400-500mm of liquid is retained in the tank, and that the tank is immediately refilled with water to the outlet level.

LAND APPLICATION SYSTEMS

Regular visual checking of correct system operation by households, and an annual inspection by service contractors should be undertaken. Signs of system failure include:

- Surface ponding and run-off of treated effluent;
- Degrading of soil structure (Sheet or Rill erosion, surface crusts, hard surface);
- Poor vegetation growth; and
- Unusual odours.

SUITABLE VEGETATION FOR WET SOILS

(Informative)

TYPES OF VEGETATION

(a) **CLIMBERS**

Bougainvillea
Hardenbergia
Hibbertia Scandens
Kennedia
Lonicera Japonica
Pandorea Jasminoides

(b) **GRASSES**

Buffalo
Kikuyu

(c) **GROUND COVER**

Acanthus Mollis
Coprosma X Kirki
Grevillea Poorinda
Liriope Muscari
Ophiopogon
Royal Mantle

(d) **PERENNIALS**

Agapanthus Preaecox
Astor Novi-Belgii
Canna X Generalis
Chrysanthemum Maximum
Gazania X Hybrida
Salvia X Superba
Stokesia Laevis
Viola Hederacea

(e) **SHRUBS**

Abelia X Grandiflora
Acacia Longifolia
Callistemon Citrinus
Cassia Bicapsularis
Ceratostigma
Chaenomeles Lagenaria
Correa Alba
Cotoneaster Glaucophyllus
Cotoneaster Lacteus
Cotoneaster Pannosus
Caphea Ignea
Euonymus Japonicus
Euphorbia Millii
Euphorbia Pulcherrima
Hebe Speciosa
Jasminum Mesnyi
Jasminum Officinale
Jasminum Polyanthum
Lantana Camara
Lantana Montevidensis
Leptospermum Flavescens
Narium Oleander
Plumbago Auriculate
Pyracantha Fortuneana
Thunbergia Alata
Westringia Fruticosa

(f) **TREES**

Angophora Costata
Banksia Integrifolia
Callistemon Salignus
Callistemon Viminalis
Casuarina Glauca
Casuarina Stricta
Eucalyptus Botryoides
Eucalyptus Robusta
Hakea Salicifolia
Hakea Saligna
Leptospermum Laevigatum
Leptospermum Petersonii
Melaleuca Armillaris – Sandy Soil
Melaleuca Linariifolia – Clay Soil
Melaleuca Quinquenervia – Sandy Soil
Melaleuca Styphelioides – Clay Soil
Nyssa Sylvatica
Photinea X Frasieri 'Robusta'
Tristaniopsis Laurina

All vegetation should be checked with Local Authorities and Nurseries prior to installation for suitability to each region.