ABACUS
DESIGN
ARCHITECTS PROJECT MANAGERS ENGINEERS

RESOURCE CONSENT APPLICATION

for

EFFLUENT DISCHARGE

at

OYSTER BAY
PORT UNDERWOOD

For

D TAYLOR

NOVEMBER 2005

SJ152.2-AEE-01

ABACUS DESIGN

ARCHITECTS PROJECT MANAGERS ENGINEERS

ABACUS DESIGN LIMITED
EMAIL: abacusdesign@xtra.co.nz
TEL 03 577 8857
FAX 03 577 9966
PO BOX 309
141 HIGH STREET
BLENHEIM
NEW ZEALAND

To:	Marlborough District Council	**Attention:**	Jenny Coffing		
Fax:	BY HAND	**Pages:**	2	**Ref:**	SJ152.2
Date:	24 November 2005	**CC:**			
Re:	Taylor – U051127				

Dear Jenny

Further to your letter requesting further information we advise as follows:

- We have supplied the Lot and DP number which would be sufficient to locate the site, the plan you supplied marked no reference to the legal description however it appears to be located correctly.
- The plan SJ152-EFF as submitted with the application shows the "existing 1m deep open drain" along the west boundary. This is also described in the text regarding "The Site" on page 2
- Noted – matters regarding councils discretion are similar
- Noted – matters regarding councils discretion are similar
- Reserve areas are not required for secondary treated effluent discharged via drip irrigation (see MDC guidelines for wastewater... Pg 16) – irrigation lines and drippers can be replaced if blocked, field relies on evaporation thus ground will not fail as a conventional bed can do.
- Emitter spacing will be 1m, the 300mm spacing is for primary treated effluent (MDC Guidelines, Pg18&19).
- Page 6 of the soil evaluation report gives performance specifications required which meet the requirement defined in the MDC Guidelines (Pg21 (5)) – the Gould system will meet this requirement.
- Documentation revised for 20mm /week DLR and attached.
- Third paragraph Pg3 of assessment details that the drain is higher than the disposal field thus there is no risk of contamination. The remainder of the site is used for grazing stock, positioning of the field against the boundaries allows for more economic use of the rural land. Any alternative system will be of a lower quality thus the recommendation that the proposed system is the best practicable option for disposal on the site.

I hope this satisfies your requirements.

Regards

Richard Evans
Engineer

ABACUS DESIGN

ARCHITECTS PROJECT MANAGERS ENGINEERS

Site and Soil Evaluation Report

1.0 SITE INFOMATION

1.1 Location details:

Owner: Mr.Taylor

Location: Oyster Bay, Port Underwood

Address:

1.2 Site Description:

The property is located in Oyster Bay, Port Underwood. The site is developed with an existing dwelling located in the south western portion of the site. The area surrounding the dwelling slopes gently to the north east of the site and is planted in lawn and shrubs. There ia a small drain located on the west boundary of the site.

A site plan is attached for reference.

1.3 Climate:

Annual rainfall (mm): Unknown

Annual Evaporation (mm): Unknown

1.4 Intended water supply:

Rain Water (roof collection & community creek supply)

1.5 Existing on-site systems:

Satisfactory

Reasons / descriptions etc: Conventional septic tank and soakage line
The existing system requires upgrading as the number of bedrooms has increased.

1.6 Site Evaluator:

Name: Richard Evans

Company/agency: Abacus Design

Address: PO Box 309
Blenheim

Phone: 5778857

Fax: 5779966

2.0 ON-SITE EVALUATION

2.1 Work Undertaken:

Details: Site visit & effluent design

Date: November 2005

Weather (on day and preceding week): Sunny and dry

Photo Attached: YES

2.2 Topography:

Slope: gentle to the north east

Drainage Patterns: no natural, small drain along the west of the site.

Ground Cover: Lawn/ grass and native bush

Boundaries: Noted

Waterways: None on site

Well/Bores: None

Buildings: Existing dwelling

Other:

Site History (land Use): Dwelling 2 yrs

Site Plan Attached: YES

2.3 Site Exposure:

Site Aspect: North east

2.4 Environmental concerns: (e.g. High water table, wetlands, water ways etc.):

Proximity to small drain and soil category.

2.5 Site Stability:

Is expert assessment necessary: No – gentle site.

2.6 Drainage Controls:

Depth to seasonal water table: N/A

Need for cut off drains/diversion banks: cut off drains above field, existing drain will be suitable.

Need for surface water collector/cut off drains: N/A

2.7 Set back Distances:

2.0m from boundaries 1m between lines

Set back distance: No disposal within 2m of drain

Reserve area: Available

3.0 SOIL INVESTIGATION

3.1 Soil profile determination

Method: Test pit - Auger Hole

A range of soil properties have been assessed in accordance with the procedures outlined in Appendix 4.1D of NZS1547:2000

3.2 Reporting

Test Site 1- edge of existing field in paddock
E2602892 N5988541

Layer	Lower Depth	Moisture content	Colour (moist)	Field Texture	Coarse Fragments %	Structure	Other
1	150mm	Moist	Dark Brown	Loam	<2	Moderate	Topsoil
2	700	Moist	Yellow Brown	Clay Loam	<2	Moderate	Clay Loam, imperfectly drained Moderately plastic, smooth to manipulate, forms ribbon to 2cm

Test Site 2 – west of dwelling on bank adjacent to drain
E2602882 N 5988504

Layer	Lower Depth	Moisture content	Colour (moist)	Field Texture	Coarse Fragments %	Structure	Other
1	50mm	Moist	Dark Brown	Loam	<2	Moderate	Topsoil
2	700mm	Moist	Yellow Brown	Clay Loam	<10	Moderate	Clay Loam, imperfectly drained Moderately plastic, smooth to manipulate, forms ribbon to 2.5cm

Test Site 3 – north of dwelling adjacent to drain
E2602886 N5988524

Layer	Lower Depth	Moisture content	Colour (moist)	Field Texture	Coarse Fragments %	Structure	Other
1	75mm	Moist	Dark Brown	Loam	<2	Moderate	Topsoil
2	750mm	Moist	Yellow Brown	Clay Loam	<2	Moderate	Clay Loam, imperfectly drained Moderately plastic, smooth to manipulate, forms ribbon to 1.5cm some schist fragments

3.3 Estimated Soil Category:

Soil Test	1	2	3	4	5
Soil Category	5	5	5		

The estimated soil category has been determined based on Table 4.1.1 NZS 1547:2000 The assignment of soil category 5 is based on the texture and structure of the soil as described in 3.2 above and observations made during the site visit.

3.4 Recommended DLR / DIR

DIR: 2.8mm/day
DLR: 2.8mm/day
Reason: Values based on soil category and the proximity to drain

3.5 General Comments

4.0 DESIGN

4.1 Soil Category found on site: 5

4.2 Number of Bedrooms: 5

4.3 Average Daily Flow Rate (Q) (Litres): 1400L

Design Occupancy: 10 people
Flow Allowance: 140L per person per day (roof water collection).

4.4 Septic Tank Capacity (Litres): existing 3500L tank to be connected to a new treatment plant fitted with alarms and pump chamber.

Treatment Quality:

Faecal Colliforms:<10/100mls

BOD_5:<10g/m^3

Suspended Solids:<20g/m^3

4.5 Loading Rate (DLR): 2.8mm/day

4.6 Drip line Spacing (m): 1.0m

Note: lines should follow contours

5.0 CALCULATIONS

$$A = \frac{1400L}{2.8\ mm/day}$$

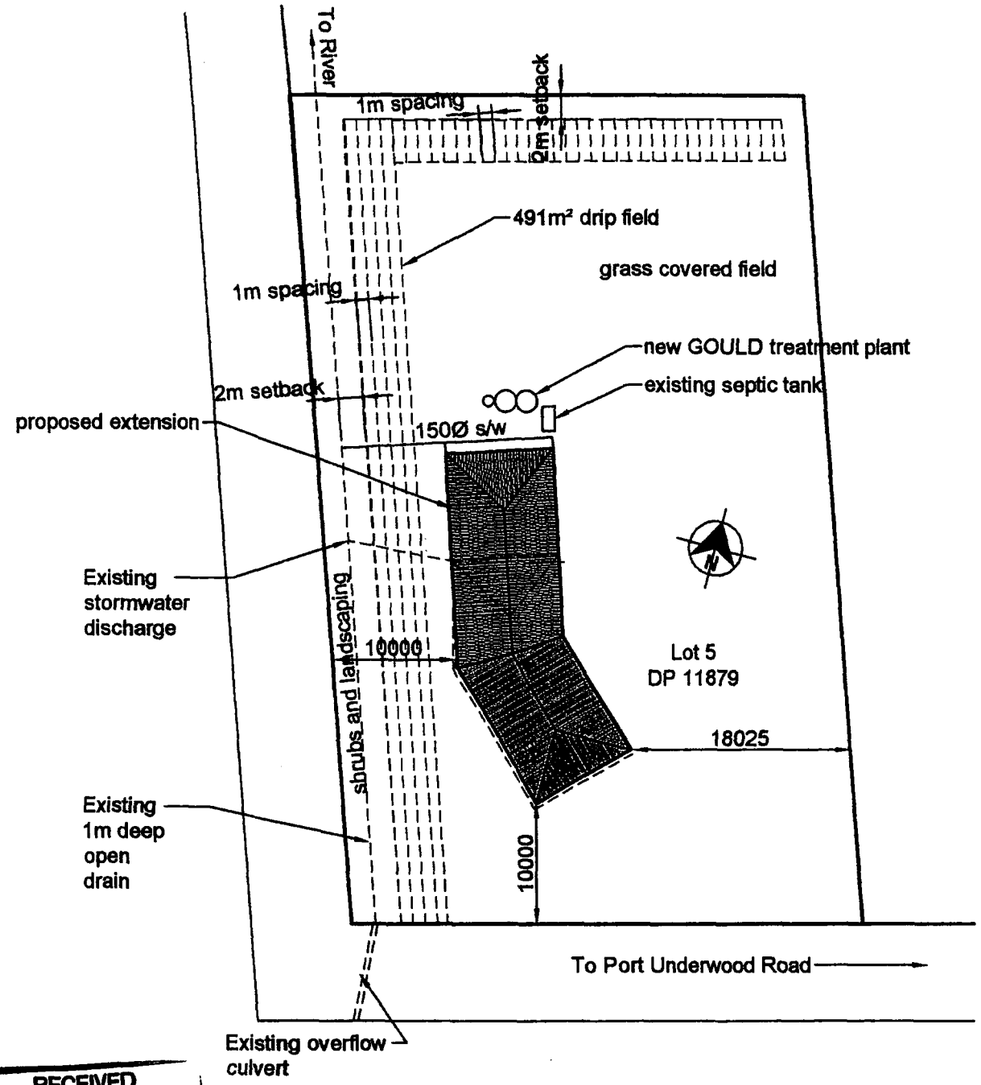
Disposal Area = 491 square meters, assumes 1m disposed width thus 491m drip line

6.0 Assessment of other possible systems:

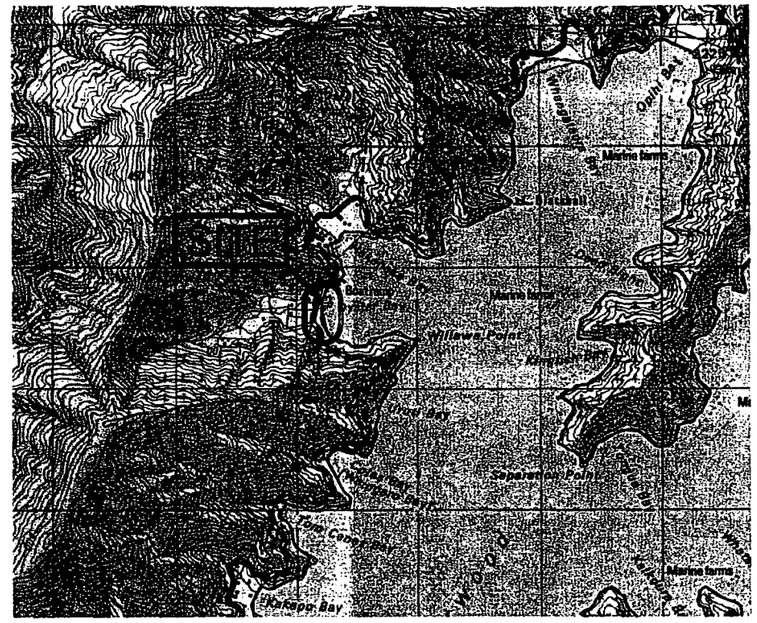
Possible to install composting system, however existing dwelling has water system to septic tank.
Disposal field located on perimeter of site to allow continued grazing of remainder of block.

7.0 Best Practical Option

The best practical option for management of domestic wastewater is through the use of the proposed system (as detailed in section 4.0 Above)
It is my opinion that this system is the best method for preventing or minimizing any adverse effects on the environment.



SITE PLAN
SCALE 1:500



LOCALITY PLAN

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DISTRICT COUNCIL

CONSENT

02 24-11-05 REVISED TO 491m² FIELD 02 11/11/05 ISSUED FOR CONSENT AMENDMENT DATE DETAILS	AMENDMENT DATE DETAILS	CONSULTANTS ABACUS DESIGN abacusdesign@xtra.co.nz - TEL 03 577 8857 - FAX 03 577 9966 - PO BOX 309 - 141 HIGH STREET - BLENHEIM - NEW ZEALAND	CLIENT MR D TAYLOR	PROJECT OYSTER BAY HOUSE ALTERATIONS DRAWING LOCATION & EFFLUENT PLAN	DATE 30/08/05 AMENDMENT 01 A3 DWG NO. SJ152-EFF SCALE AS NOTED (A3) CAD FILE REF: sj152-site.dwg

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RC APPLICATION

To:	Marlborough District Council	**Attention:**	Building Control		
Fax:	By hand	**Pages:**	1+ set	**Ref:**	SJ152.2
Date:	12 November 2005	**CC:**			
Re:	Taylor Alterations BC051746 - PIM051008				

Dear Sirs

Please find attached the revised effluent disposal information as determined in the application for resource consent.

Regards

Richard Evans
Engineer

LOCATED TO
JCo.
PEER REVIEW
Chris L. / JKe

SUPERSEDED

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APENDIX

Suitability Report

ABACUS DESIGN

ARCHITECTS PROJECT MANAGERS ENGINEERS

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Boundaries: Noted

Waterways: None on site

Well/Bores: None

Buildings: Existing dwelling

Other:

Site History (land Use): Dwelling 2 yrs

Site Plan Attached: YES

2.3 Site Exposure:

Site Aspect: North east

2.4 Environmental concerns: (e.g. High water table, wetlands, water ways etc.):

Proximity to small drain and soil category.

2.5 Site Stability:

Is expert assessment necessary: No – gentle site.

2.6 Drainage Controls:

Depth to seasonal water table: N/A

Need for cut off drains/diversion banks: cut off drains above field, existing drain will be suitable.

Need for surface water collector/cut off drains: N/A

2.7 Set back Distances:

2.0m from boundaries 1m between lines

Set back distance: No disposal within 2m of drain

Reserve area: Available

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3.4 Recommended DLR / DIR

DIR: 3mm/day
DLR: 3mm/day
Reason: Values based on soil category and the proximity to drain

3.5 General Comments

4.0 DESIGN

4.1 Soil Category found on site: 5

4.2 Number of Bedrooms: 5

4.3 Average Daily Flow Rate (Q) (Litres): 1400L

Design Occupancy: 10 people
Flow Allowance: 140L per person per day (roof water collection).

4.4 Septic Tank Capacity (Litres): existing 3500L tank to be connected to a new treatment plant fitted with alarms and pump chamber.

Treatment Quality:

Faecal Colliforms:<10/100mls

BOD_5:<10g/m^3

Suspended Solids:<20g/m^3

4.5 Loading Rate (DLR): 3mm/day

4.6 Drip line Spacing (m): 1.0m

Note: lines should follow contours

5.0 CALCULATIONS

$$A = \frac{1400L}{4\ mm/day}$$

Disposal Area = 350 square meters, assumes 1m disposed width thus 350m drip line

6.0 Assessment of other possible systems:

Possible to install composting system, however existing dwelling has water system to septic tank.

7.0 Best Practical Option

The best practical option for management of domestic wastewater is through the use of the proposed system (as detailed in section 4.0 Above)
It is my opinion that this system is the best method for preventing or minimizing any adverse effects on the environment.

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GOULD TANK SYSTEMS

Water Tanks • Sewage Systems • Water Pumps • Filtered Septic Tanks • Septic Filters

3rd November 2005

Dave Taylor
P O Box 652
PICTON

Dear Dave

Thank you for your enquiry regarding a sewage system for an up-grade of your existing septic tank on-site. As discussed, the Enviroclear Sewage System, which you will see on pages 3 and 4 of the enclosed catalogue, is a five stage biological sewage system which is designed, manufactured and installed by the Gould Company. This system has less maintenance and less running cost than that of aerated treatment plants or trickledown filtration systems. This system utilises drip irrigation lines as means of disposal field A cost for this system installed in your area is approximately

This cost includes:

1. One Gould Enviroclear Sewage System
2. Delivery of the concrete sewage treatment plant to the site
3. Excavation for burial of the concrete plant
4. The electrical system
5. Alarm Panels
6. Supply and installation of the drip irrigation lines
7. A two year guarantee on the pumps
8. A three year no-cost service and maintenance contract
9. Preparation of plans and report for council.
10. After the initial 3 year service contract there is a fee of $65.00 + GST for a six monthly service.

The above cost does not include:

1. Council Permit fees
2. Removal of any excess soil from the site, which will be left in a tidy manner and will therefore remain available to fill any depressions that may appear as the disturbed area settles.
3. Connection of sewage from the dwelling to the concrete tank and of electricity from an appropriate source to the concrete tank's electrical box.

This quote is valid for 60 days from the date on the quote. If you require any further information please do not hesitate to contact me on 0800 253 273.

Regards

Warrick Gould

FREEPHONE 0800 253 273
TEL 64 6 353·6157 • FAX 64 6 353·3020 • MOBILE 021 505·198
email: gouldtanks@xtra.co.nz • website: gouldtanks.com
PO BOX 4196 • PALMERSTON NORTH

GOULD

GT SYSTEMS

Specialist Manufacturers of Wastewater Treatment Plants and Septic Tank Filters

Company Profile

Gould GT Systems (NZ) Ltd is a private company committed to wastewater research and the development of sewage treatment plants that produce the highest quality of treated effluent. And because we sell only sewage processing systems you can be sure the disposal of your wastewater is our sole focus.

We take pride in our products and our service. Each one of our sewage treatment systems carries a three year service contract at no additional cost, allowing owners to call us out whenever they need us during the system's initial establishment period.

Gould GT Systems (NZ) Ltd is based in Palmerston North and has Approved Installers in many parts of the country. Our sewage treatment systems are installed throughout the length and breadth of New Zealand, so whether your region is serviced by an Approved Installer or not you can still choose a Gould plant for your property.

Each Gould sewage treatment plant is sold as a complete unit containing our own septic filters, pumps and electrical systems. Not only do we deliver each Gould treatment plant to your property, but we also install the plant ensuring that it is correctly placed to optimise disposal.

So when you choose to install a Gould treatment plant to service your home or business you need only to arrange the connection of electricity and sewer to the systems electrical switch and sewage inlet. We do the rest!

All of our concrete products comply with the latest rigorous AS/NZS 1546.1:1998 and AS/NZS 1547:2000 standards. What's more the company is committed to providing the best solution for you and the environment, and has received environmental awards from one of the toughest regional authorities in New Zealand.

Mission Statement

We believe the service you expect and deserve from us is much more than a purchased commodity.

It incorporates an attitude that:

- Recognises your needs
- Respects your rights to proper service
- Realizes your problem as ours

Perfect service, of course is utopian.

But excellent service is another matter.

It should be quick and practical with systems that last and recommendations that are useful.

It must realize that you have environmental responsibilities, budget responsibilities and regulatory responsibilities.

We must be above all else, what you expect and deserve.

And that's what we pledge to provide.

FREEPHONE 0800 253 273

TEL: 64-6-353-6157 • FAX: 64-6-353-3020 • MOBILE: 021-505-198
• PO BOX 4196 • PALMERSTON NORTH
• EMAIL: gouldsystems@xtra.co.nz
• WEBSITE: www.gouldgtsystems.com

GOULD

GT SYSTEMS

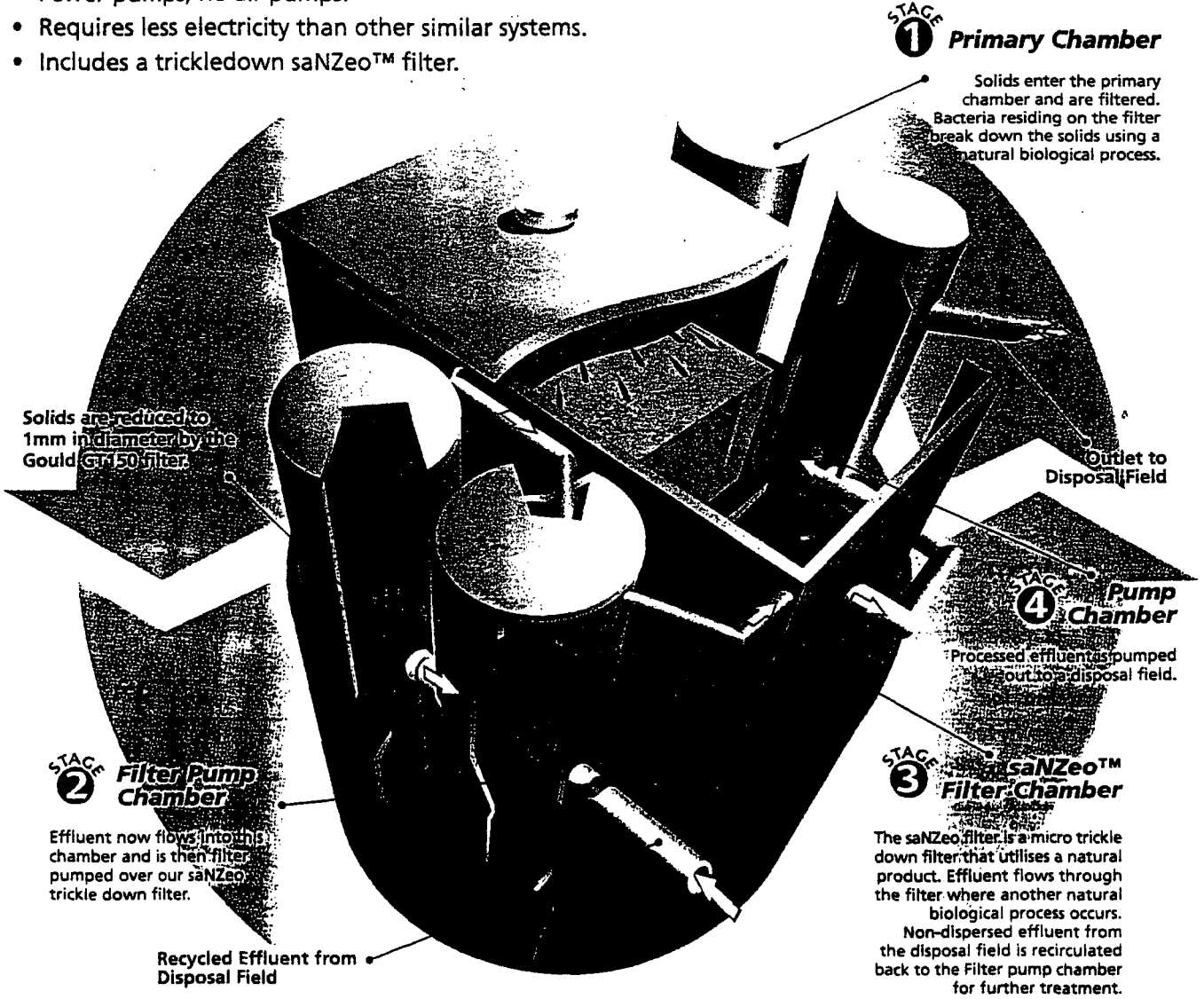
Specialist Manufacturers of Wastewater Treatment Plants and Septic Tank Filters

The Gould Enviroclear™ Sewage System

(Recirculating Progressive Filtration)

specifically has the following benefits:

- Less maintenance than other advanced systems.
- Fewer pumps, no air pumps.
- Requires less electricity than other similar systems.
- Includes a trickledown saNZeo™ filter.



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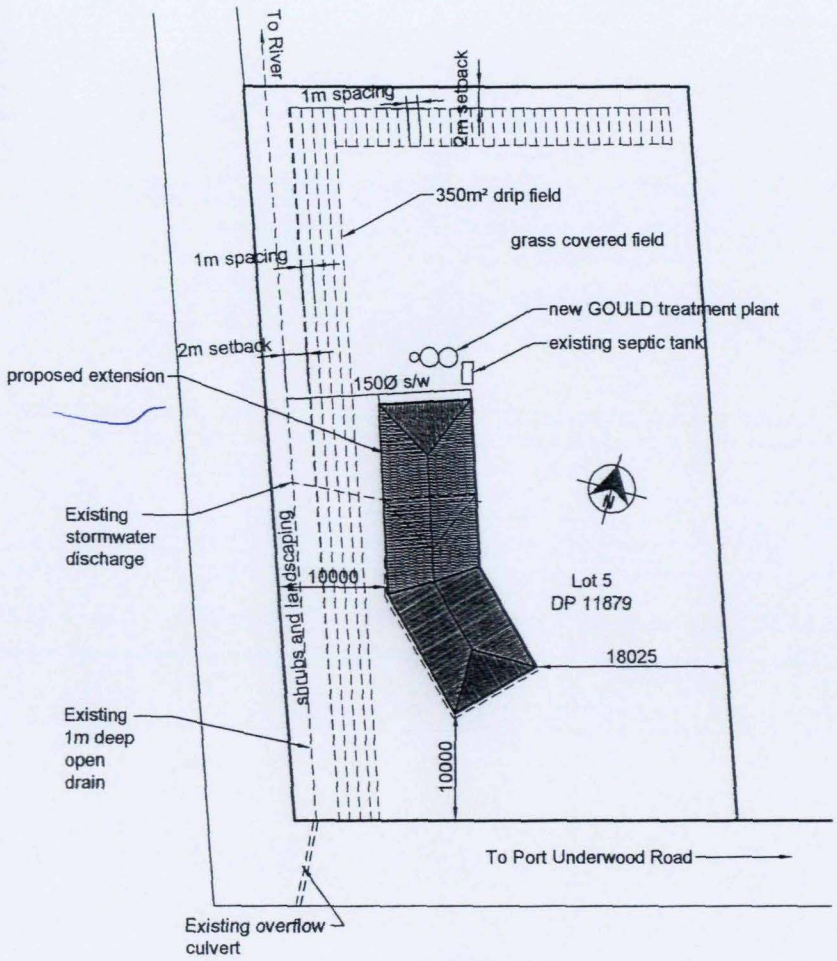

SITE PLAN
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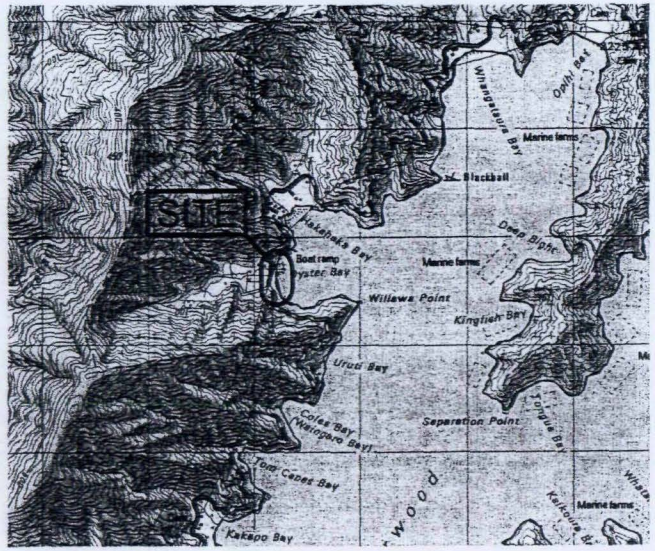

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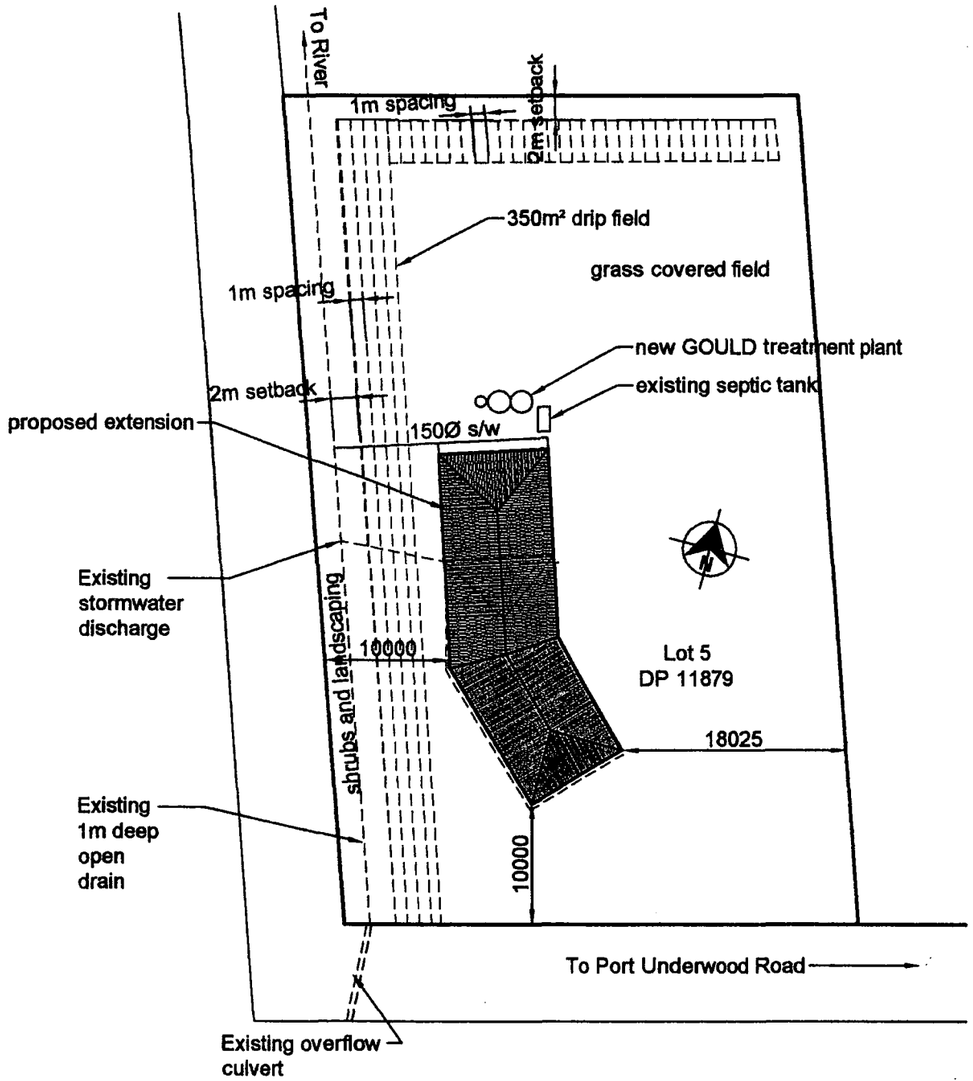

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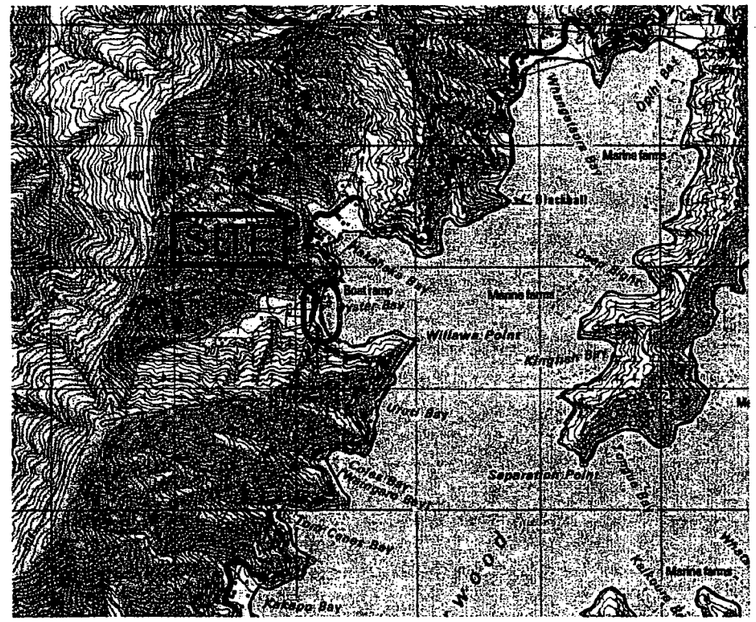

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