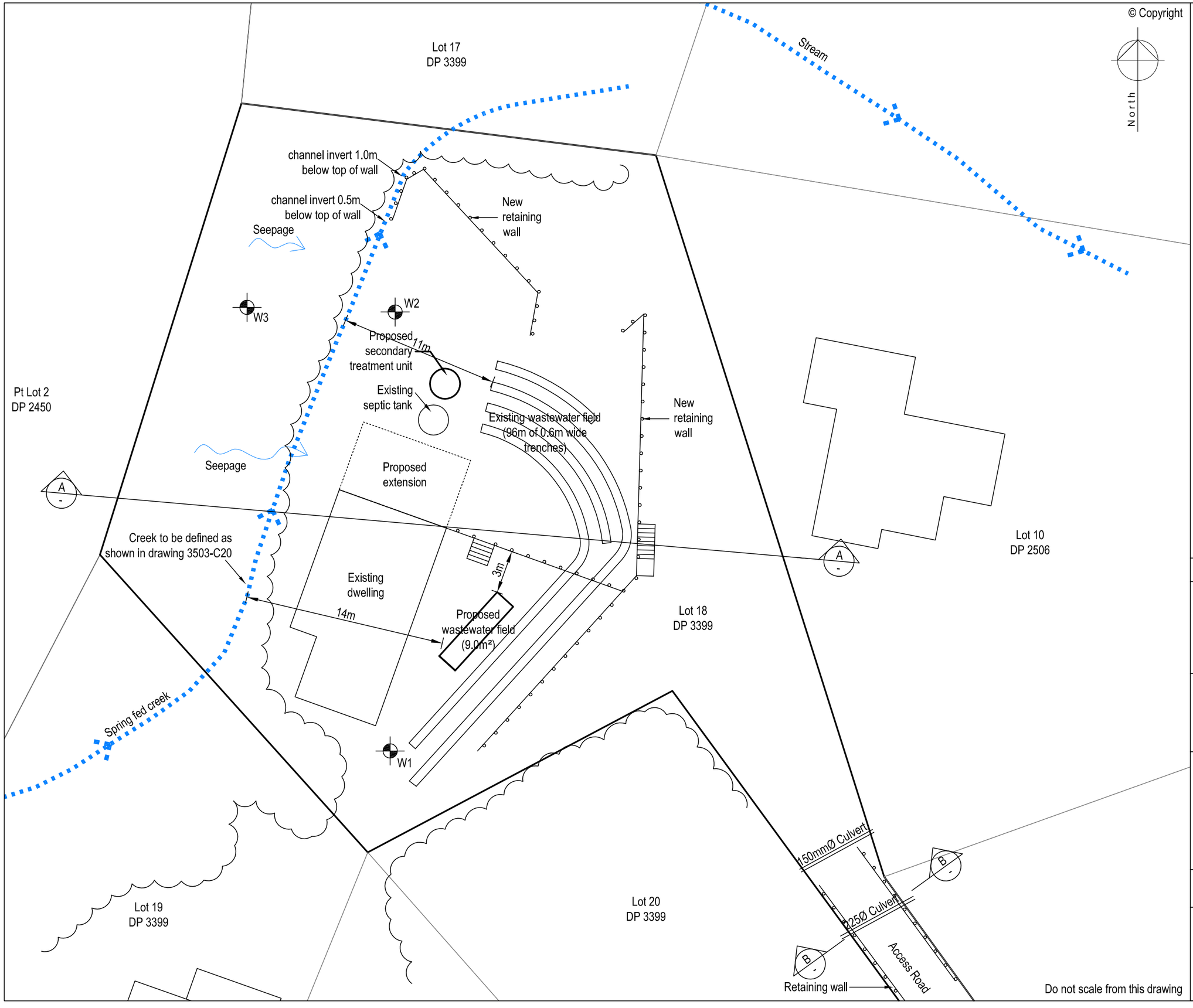

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NOTES

REV	DATE	DETAILS
E	04/10/12	MOVE NEW FIELD
D	23/10/12	RETAINING WALL ORIENTATION
C	18/09/12	REQUEST FOR FURTHER INFO
B	06/09/12	STREAM SHOWN
A	03/09/12	SECTION ADDED

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MARK PROSSER

PROJECT
DWELLING EXTN / ALT
WEST BAY, LOCHMARA BAY

DRAWING
SITE LAYOUT

ISSUE
REPORT

DATE	SCALE (A3)
2 JULY 2012	1:250
DRAWN	REVISION
KL	**E**
APPROVED	DWG NO.
KS	**3503-C01**

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21 September 2012

Alan Anderson
Marlborough District Council
PO Box 449
Blenheim 7240

Dear Alan

Subject: Request for Further Information – U120390 – West Bay, Lochmara
Our ref: 3503

We respond to your request for further information.

1. The waterway setbacks outlined in Appendix R of AS/NZS 1547:2012 are provided as a guideline to ensure contamination of watercourses does not occur. The guideline refers often to the regulatory authorities (the Marlborough District Council's) discretion. We have not received the updated Guidelines from the Council in line with the new standard and have not been provided with any indication of minimum setbacks however, our reasons as outlined in the first paragraph on page 8 of our report, state the ephemeral stream is located above the field, to clarify, it is unlikely given the difference in level, that the wastewater will be drawn up the soil into the creek channel in a capillary action over the 5m distance. The site constraints are at the lower end of the constraint scale (Table R2) and therefore the minimum setback distances are considered appropriate for this proposal. Given the secondary treatment of the wastewater and level in comparison to the ephemeral creek, we do not expect there to be contamination of this water course.

2. The fill behind the timber retaining walls is material excavated from the site. The soil is fairly uniform throughout the property and the material used as fill behind the walls therefore has the same soil category and has been compacted to a similar density as the insitu soil. The soil behind the wall is similar to that naturally on the site. We do not anticipate the fill becoming a problem for onsite wastewater disposal.

3. Vehicles (ATV etc) are to be prohibited over the field. The trenches are 600mm below ground level and are covered in a filter fabric, we do not expect the field to be impacted by people walking over the fileds or do we expect any effluent residues given the soil type and depth of field.

4. Please find attached the cross section you request. Please note the new field is 1m closer to the retaining wall than recommended in Table R1 of AS/NZS 1547:2012. Once again the guideline refers often to the regulatory authorities (the Marlborough District Council's) discretion. We have not received the updated Guidelines from the Council and have not been provided with any indication of minimum setbacks. Given the height of the retaining wall and the location of the field in relation to the existing ground we consider the 2m setback suitable in this instance. We also assume the Council finds this suitable as it was not identified in the request for additional information.

5. The cross section location is indicated on the revised site plan – Revision B, dated 6 September 2012 sent in with previous correspondence and shown with cross section markers labeled A. The attached revised cross section shows the information you request.

6. The site plan has been revised to show the driveway culverts and a cross section is attached.

7. There is no secondary flow path. There is another smaller culvert towards the end of the wall (and shown on the revised site plan drawing). If both culverts were blocked, it is expected to pond behind the retaining wall that has been built to form the road. If the road is overtopped the stormwater will cross the road and will re-enter the water course should the water get to that height (given the very small catchment size of around 0.5ha, this amount of ponding is very unlikely).

8. I have forwarded this letter and documents attached to this letter to Helen Woodward she will provide you with the updated information in its entirety. (only change in our report are the drawings in appendix A are replaced with the set attached to this letter).

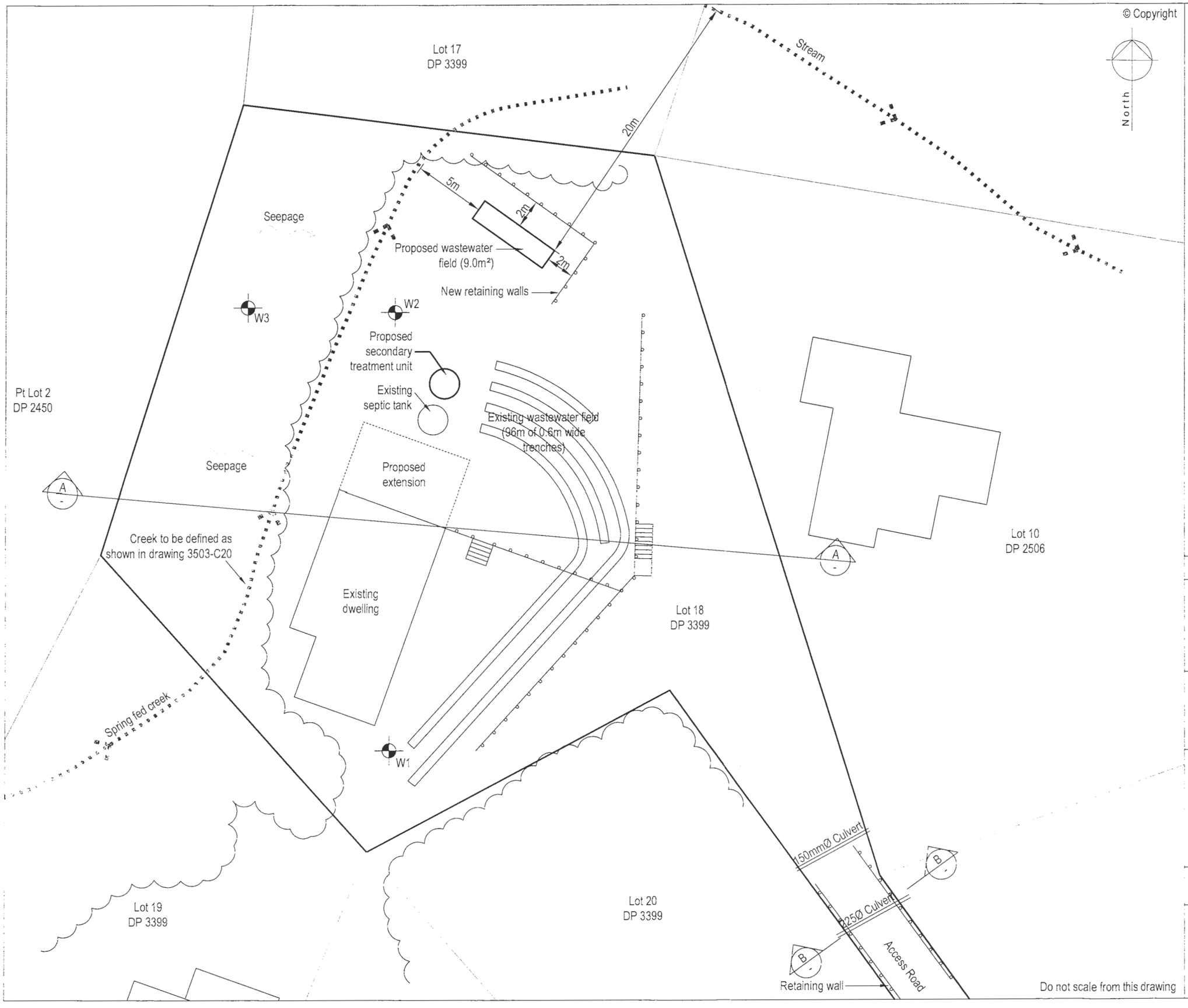
We trust this information addresses your concerns.

Please do not hesitate to contact the undersigned should you require any clarification or additional information.

Yours sincerely

Khalid Suleiman
Engineer

Encl Drawings:
3503-C01 Site Layout
3503-C02 Cross Sections
3503-C11 Trench and bed Details
3503-C12 Trench & Retaining wall
3503-C20 Cut off Trench



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NOTES

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REV	DATE	DETAILS
C	18/09/12	REQUEST FOR FURTHER INFO
B	06/09/12	STREAM SHOWN
A	03/09/12	SECTION ADDED

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DRAWING
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DATE	SCALE (A3)
2 JULY 2012	1:250
DRAWN	REVISION
KL	C
APPROVED	DWG NO.
KS	**3503-C01**

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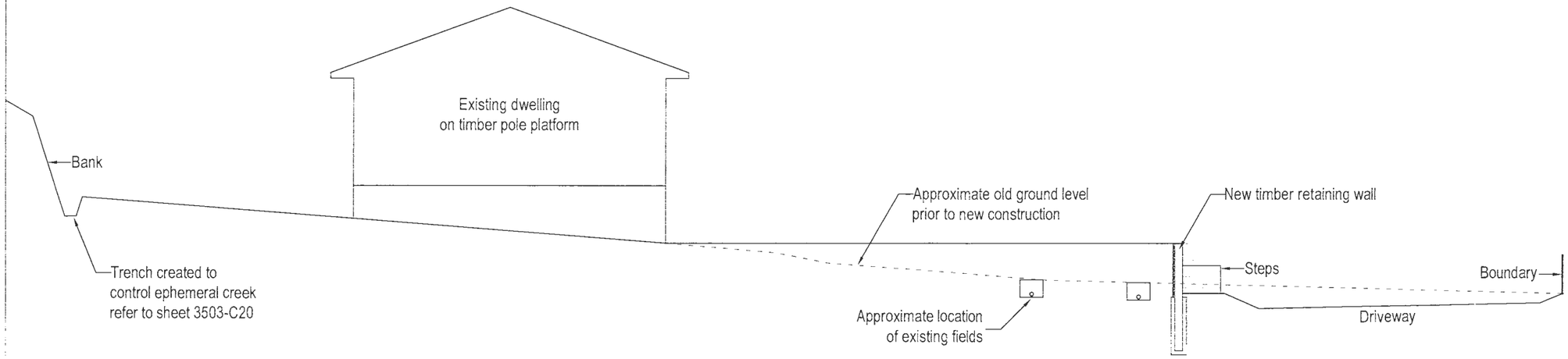

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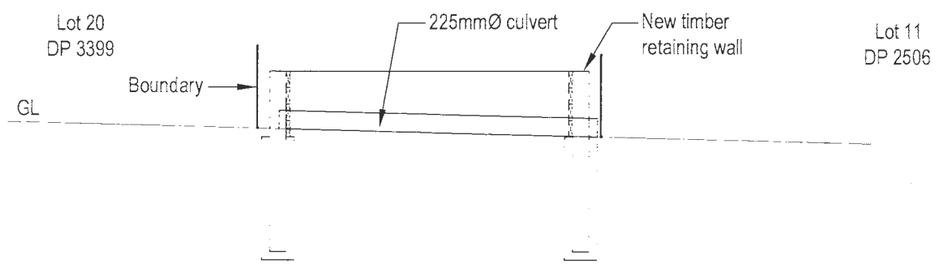

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NOTES

REV	DATE	DETAILS
A	18.09.12	Existing ground and fields shown

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SECTION A-A

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APPROVED	DWG NO.
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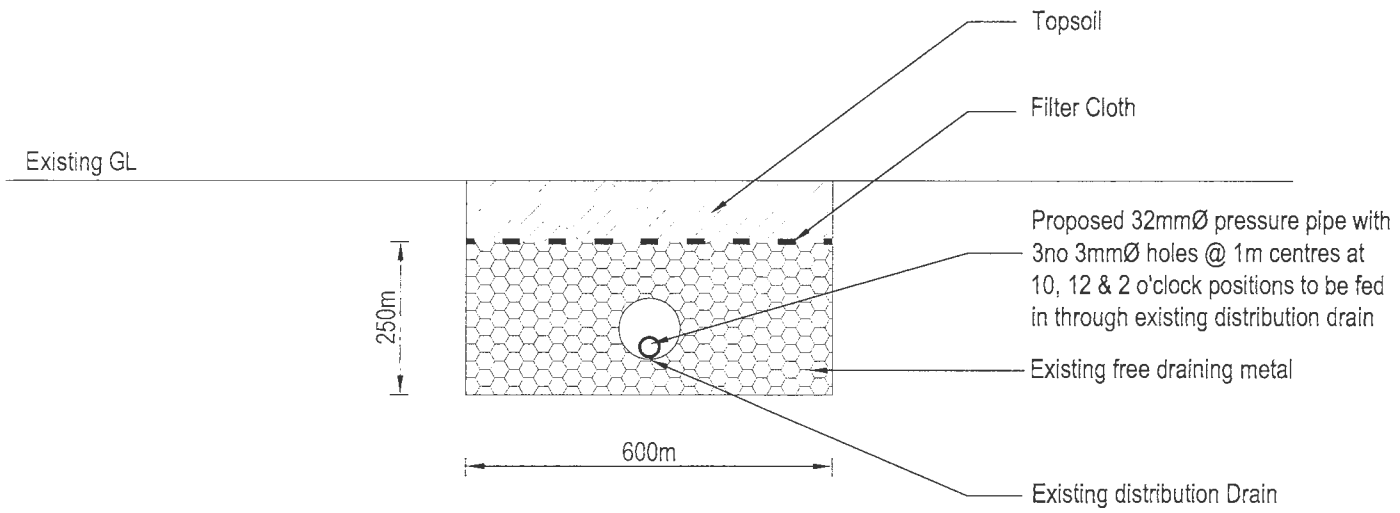

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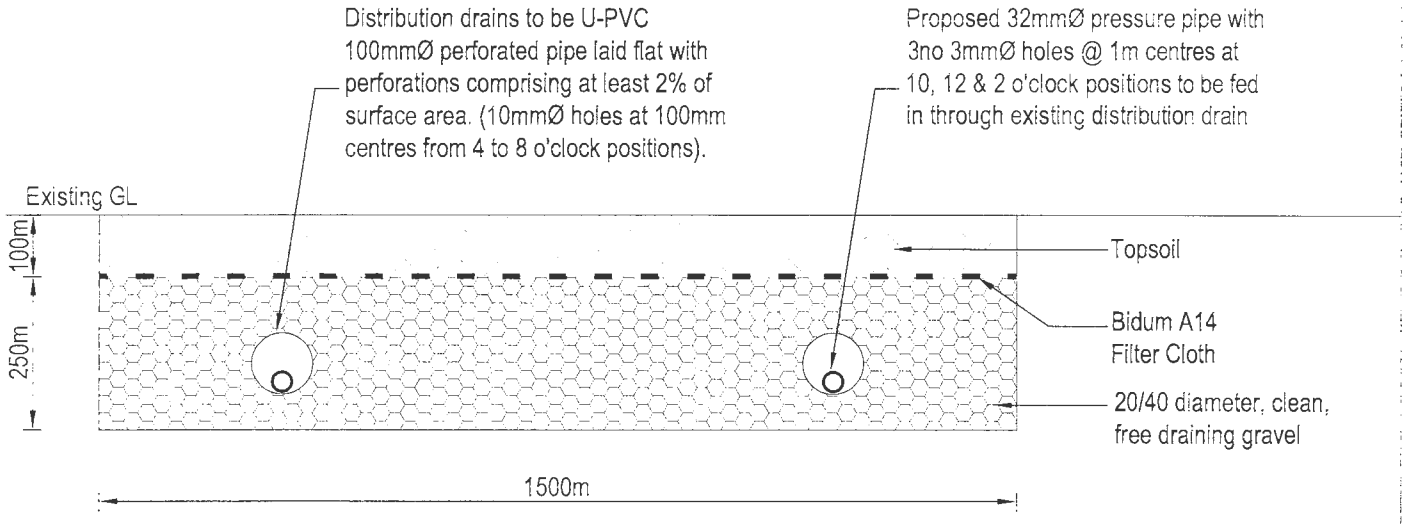
TYPICAL EXISTING TRENCH CONSTRUCTION

N.T.S



2

PROPOSED BED CONSTRUCTION

N.T.S

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PROJECT
WASTEWATER
WEST BAY

DRAWING
TRENCH AND BED DETAIL

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29 AUG 2012	1:25
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KS	3503-C11

REV	DATE	DETAILS

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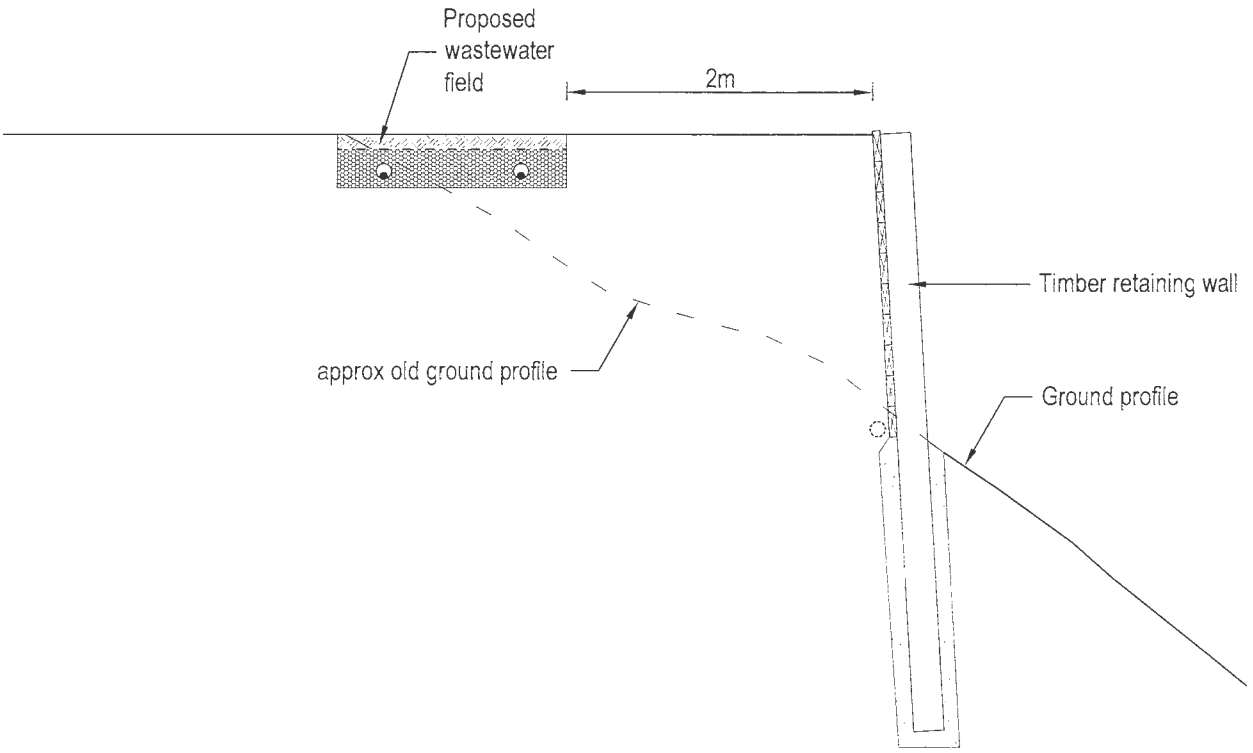

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PROJECT
WASTEWATER
WEST BAY

DRAWING
TRENCH AND
RETAINING WALL

ISSUE
REPORT

DATE	SCALE (A4)
29 AUG 2012	1:50
DRAWN	REVISION
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APPROVED	DWG NO.
KS	3503-C12

REV	DATE	DETAILS

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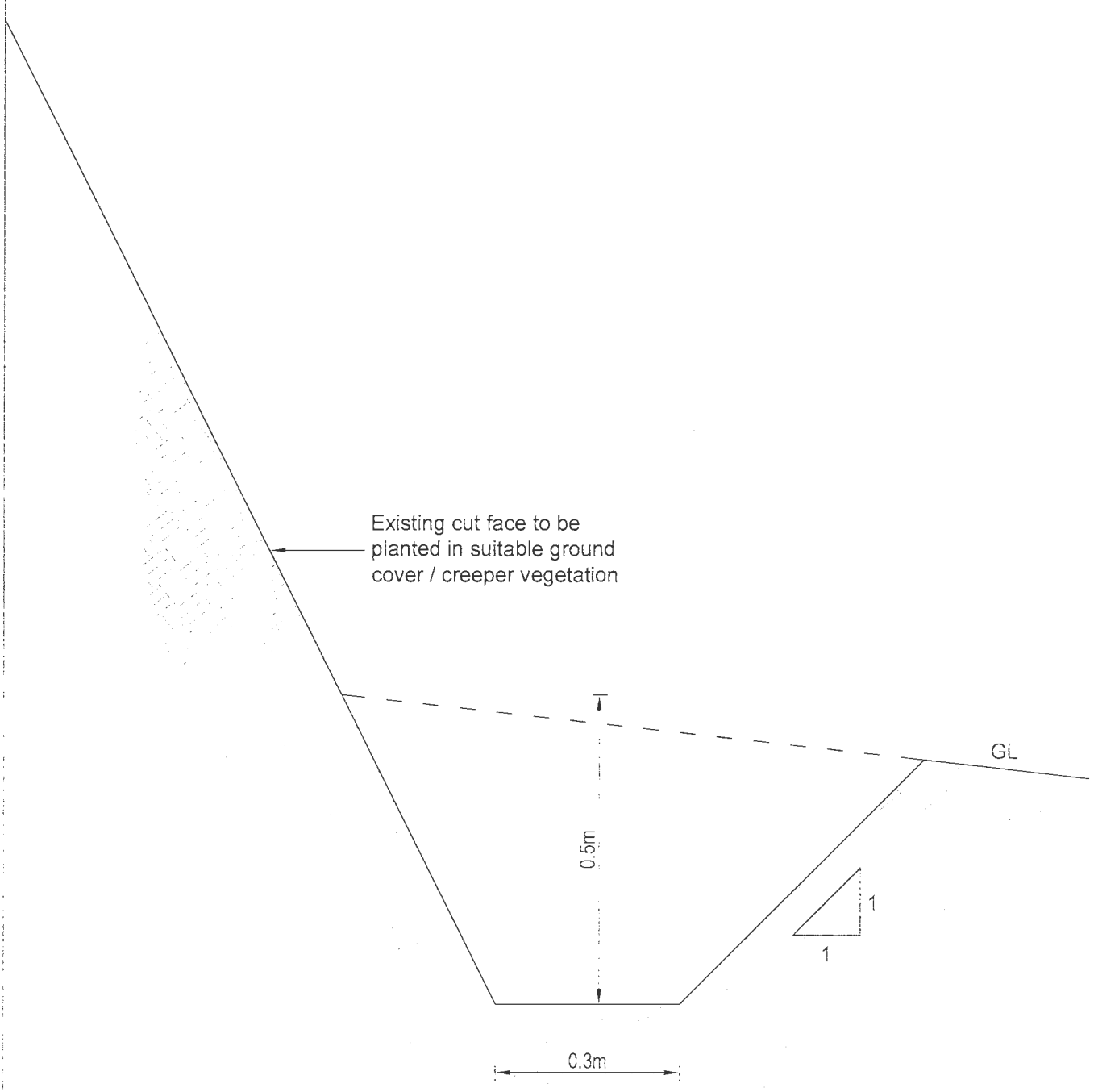

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PROJECT
WASTEWATER
WEST BAY

DRAWING
CUT-OFF TRENCH
FOR SPRING ETC

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21 NOV 11	1:10
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KS	3503-C20

REV	DATE	DETAILS

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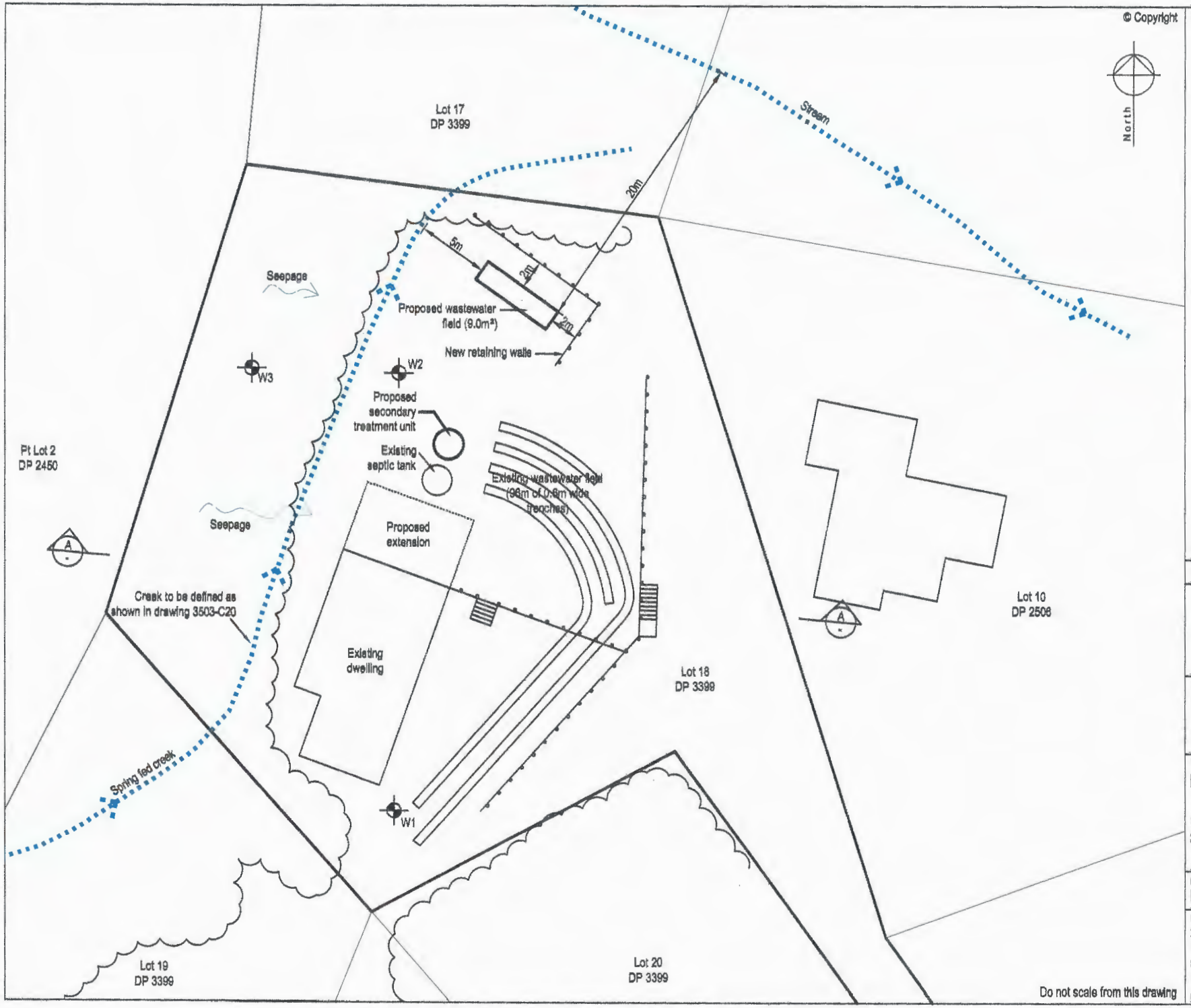
APPENDIX 2

Smart Alliances

Site Layout Map



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B	06/09/12	STREAM SHOWN
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KS	3503-C01

CAD FILE REF: P:\3503-C01

APPENDIX 3

Design HQ Plans

A-02: Site Plan & Drainage Schedule
A-03: Existing Floor Plans
A-04-06: Floor Plans
A-07, A-08: Elevation Plans
A-09, A-10: Cross Sections
A-29: Excavation Calculations

APPENDIX 4

Smart Alliances
Onsite Wastewater Management Report

Revised September 2012

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Mark Prosser

Dwelling Extensions & Alterations

- On-Site Wastewater Management Assessment

Lot 18, D.P.3399 West Bay, Lochmara Bay West, QC Sound

21 September 2012 Our ref: 3503

Mark Prosser
Dwelling Extension / Alterations
West Bay, Lochmara Bay, Queen Charlotte Sound

Contents

Issue No.	1	2	3	4	5	6
Date	02.07.12	29.08.12	21.09.12			
Prepared By	KS	KS	KS			
Approved By	RE	RE	RE			

1 Executive Summary

Smart Alliances have carried out an engineering appraisal of the on-site wastewater management criteria for the proposed dwelling extension and alterations for Mark Prosser (the client) at Lot 18, D.P.3399, West Bay, Lochmara Bay, Queen Charlotte Sound.

The client wishes to extend and alter his existing dwelling to create a five (5) bedroom dwelling on the property, the total discharge on the site will be 1650L/day.

The existing onsite wastewater treatment system is primary treatment (septic tank) with trench distribution field and is not suitable to treat the entire new load.

A secondary treatment unit is recommended to treat the wastewater prior to distribution to the fields.

It is proposed to retain the existing trench field (96m long, 0.6m wide), installing pressureised pipe inside the existing distribution pipe to insure even distribution. The existing field can accommodate 1436 litres per day of wastewater, but is not large enough to accommodate all the proposed flow created from the additions (1650 litres per day total).

An additional field bed of $9m^2$ in area is required to treat the remaining discharge (214 litres per day). It is proposed to install the bed in the northern part of the property, behind a newly constructed retaining wall.

A sequencing valve is to be installed to alternatively load the trenches / bed. There should be 4 sectors in the valve and the field should be divided up evenly.

The existing field is to be fenced to ensure no vehicle load is applied.

The small creek is to be defined as shown in drawing 3503-C20 attached.

Installation is to be in accordance with the requirements and recommendations of AS/NZS 1547:2012.

The recommendations listed above should not be taken in isolation and must be read in conjunction with the balance of this report and the context of the proposed residential development at the site.

2 Introduction

Mark Prosser proposes to extend and alter his existing dwelling to create a five (5) bedroom dwelling on his property at Lot 18, D.P.3399, West Bay, Lochmara Bay, Queen Charlotte Sound.

The purpose of this report is to present the results of site investigations carried out in relation to the on-site wastewater treatment and land application. A site walkover and investigations were undertaken on 25 June 2012 and further investigations on 23 August 2012.

3 Location & Site Description

The property is located in the middle of West Bay at the head of Lochmara Bay and accessed by boat only.

The property borders six (6) privately owned properties and a Department of Conservation property to the west (upslope).

The property has a single dwelling, located on an excavated soil platform. Associated landscaping, retaining walls and power pole for power supply are visible on site indicating highly development property.

The property consists of gentle to steep slopes. Slopes are vegetated primarily in grass with the western side of the property regenerating native bush, some exotic plant landscaping is associated with the building.

A small spring fed ephemeral creek runs behind the dwelling, the creek would have originally aligned through the centre of the dwelling and has been diverted in the past.

The water course is not well treated and needs defining, parts of the channel through the property have been filled with drainage chip to act like a cut off drain. The drainage chip restricts flow and does not allow for easy observation and maintenance of the channel / flow. It is recommended the drainage chip is removed and the channel defined as shown in drawing 3503-C20 attached.

Locations of all the features of the property are shown on the site plan attached in Appendix A.

4 Wastewater Assessment

An assessment of the best practical option has determined that secondary treatment unit using the existing trenches and an additional bed land application area is appropriate for the site conditions and constraints, and soil conditions are taken into account.

No reticulated wastewater system is available on or near the property, however domestic wastewater can be collected, treated and disposed on the site.

A Primary treated wastewater system (septic tank) and trenched field (96m of 0.6m wide trench) is used to treat the wastewater from the existing house. The fields were located during the second site visit and found to be in good order. From our inspection of the field trenches we discovered no clogging and no saturation. The trench appeared to be near new. The trenches are relatively deep and generally not subject to the shrinkage channels in clay caused by the drying of the soils in the upper layers. Photographs of the existing trenches have been provided by the contractor.

Primary treated effluent distributed through trenches is not recommended for wastewater treatment on this property for the following reasons:

- Limited area available for wastewater discharge.

- Long trenches and uneven distribution of wastewater.
- High loading.
- Proximity to neighbouring properties and wastewater fields.
- The built up nature of West Bay.
- Difficulty in constructing the large amount of additional trenching through vegetation.
- Location of the field to surface water.

The proposed land application area is located on gentle slopes associated with a newly constructed retaining wall to the north of the house and is currently vegetated in grass.

Three hand augered boreholes, were put down in the property and the house benched area cut face was observed. The test locations are shown on the appended site plan, the test results are shown in Appendix B.

Based on the on site soil assessment an average drainage category of 4 has been adopted. In the previous design, a category 2 soil was determined, we are of the opinion that this determination was incorrect and subsequently the wastewater field is too small.

Groundwater was not encountered within the subsurface investigation and is expected to be generally located at a depth greater than one metre beneath the existing ground surface. Surface water was encountered along the western side of the property and a small seepage located in the middle of the cut slope.

A secondary treatment system involves aerobic biological processing and settling or filtering of effluent received from a primary unit which is required to equal or better the following standards:

BOD after 5 days (average) < 20 g/m^3
Suspended solids (average) < 30 g/m^3

Any system that has been tested and meets the above standard is satisfactory, such systems include (but are not limited to) Biolytix, or Oasis Clearwater Texass. These systems are most suitable for a holiday home situation where the house is unoccupied for extended periods and as a consequence there is no flow of effluent going into the system.

The intermittent use of a building can result in variable wastewater flow and can affect the performance of certain treatment units. It is stated in AS/NZS 1547:2012 that intermittent use of aerated treatment units can result in substandard secondary treatment of domestic wastewater.

It is our opinion that the wastewater from such systems is suitable, provided the owner buries the lines as specified below, and is aware that in periods of inactivity the system becomes dormant, taking a period of time before full functionality is restored after inactivity.

Grid power supply is located on the property, which will provide power to any blower / pump.

A wastewater design sheet is provided in Appendix B with the design calculation based on the following criteria for the proposed development:

- 5 bedroom with permanent occupation by 10 people.
- Stream water supply.
- Total design flow of 1650 litres/day (10 persons and 165 litres/head/day).
- Soil category 4 and a design loading rate 25mm.
- Standard water reduction fixtures

Standard water reduction fixtures are to be installed in accordance with Appendix 4.2D of AS/NZS 1547:2012 to assist in minimising water usage, such fixtures include:

Dual flush 11/5.5 litre water closets, shower-flow restrictors, aerator faucets (taps) and water conserving automatic washing machines.

Prior to the proposed system becoming operational the system installer must certify that the system has been constructed according to the design. This certification must then be forwarded to Council.

As the design satisfies G13/VM4 of the NZ Building Code, a PS1 and monitoring schedule for the wastewater installation at the site is not required. Boat access to the system for maintenance will be available.

The Marlborough District Council requires that the owner of any advanced wastewater treatment system enters into and retains a maintenance contract with the supplier of the system, or with a recognised maintenance contractor, for maintenance to be carried out at yearly intervals.

Records of the maintenance are required to be forwarded to the Council as soon as practicable following the completion of the inspection or, in the case of remedial works being required, on completion of those remedial works.

Resource and building consent will be required for the installation of the on-site wastewater system.

5 Environmental Assessment

An onsite wastewater system is required on this property as there is no reticulation in the area.

Because of the following reasons we do not envisage the wastewater becoming an environmental risk:

- Reduced water usage

- Secondary treatment wastewater
- Restrictive soil qualities
- The environmental buffering capacity of land

Field percolation rates vary according to the soil type. We have classified the soil as a category 4 type soil which has limitations for on-site disposal due to a low percolation rate.

The soil is prone to biological slime clogging of the clay pores, in dry weather shrinkage channels form in the upper layers of clay and effluent passes through the cracks without effective treatment. In order to overcome this issue adequate disposal area is required to provide long term disposal capacity.

The risk from the wastewater system contaminating drinking water is negligible. While there are streams in close proximity to the proposed field location and take from the streams is located much higher up the catchments.

Health risks from an underperforming on-site wastewater system in this location would affect the neighbouring properties down slope. The proposed system is secondary treated and evenly distributed by pump, therefore the system has a much higher treatment and disposal than the existing septic tank system.

The property is not permanently occupied and used mainly in the summer months as a holiday home. The effluent disposal system will work more efficiently during summer due to higher soakage and evaporation rates.

In a system failure, it is likely the wastewater will seep onto the flat grassed area adjacent to the house or track through the soils and create a seepage further down the slope along the access track. There will be an unpleasant odour and saturated unusable areas.

The effects will be easily identifiable, inhibit the applicant's use of the land and be generally unpleasant. owner will want to address the failure and repair / install a new wastewater system. There is limited room available for a new field should the existing field fail, usable areas currently used for recreation will be required to accommodate a new field.

The effect of a failed system will primarily affect the applicant's property. The land predominately falls towards the applicant's access and a neighbouring property down slope, probable infiltration into the topsoil before reaching those areas as well as the highly treated wastewater and environmental buffering capacity of the land between the field and affected areas will produce very minor effects.

Regular maintenance and inspection by the owner will ensure the onsite wastewater system is operating to a suitable standard.

The wastewater will have a positive effect on the environment by providing additional water and nurturance for the vegetation.

The distance between the new field and the ephemeral creek is only 5m, the field is slightly below the ephemeral creek at its closest point and therefore there is very little chance of the wastewater contamination. The main stream is 20m north east of the field the higher treatment of wastewater and the environmental buffering capacity of land (see below) is sufficient to treat the wastewater to a suitable standard and avoid risk to public health.

Coliform numbers, the indicators used to measure the various pathogens present in sewage effluent are not considered to be a concern as bacterial, (and viral etc), numbers are reduced exponentially with passage of effluent, whether primary-treated through mid-range textured soils. The distributed system will assist the effectiveness of this by reducing the quantity of effluent required to be treated by the soil in a single location. This will also provide a greater safety margin for accommodation of any fluctuations in discharge that may not be able to be accommodated or adequately treated by the soil within the existing field.

It is generally accepted that a path length of 0.3 – 0.4 metres would be sufficient to reduce (bacterial) numbers to insignificant levels in normal soils i.e. soils that are of a mid-range texture, not too sandy or too clayey, and not saturated all the time.

The upper layers of soil on the property fall into this mid-range soil category. It is therefore our opinion that no significant adverse effect on the environment will result from reduced proximity to the sea.

Provided the proposed system is installed, operated and maintained any effects on the environment will be in accordance with the environmental outcome provided for by the Council guidelines. Analysis against each of the criteria from these rules is provided in the tables supplied in Appendix C.

6 Conclusion

The existing onsite wastewater treatment system has been designed for the wrong soil category and is not sufficient to treat the new load. It is proposed to install a secondary treatment unit after the septic tank and use the existing field as well as an additional dripper line field.

It is confirmed that there is sufficient area available for the adequate treatment and application of effluent for the accommodation on site provided the conditions and recommendations specified in this report are implemented.

Prior to the proposed system becoming operational the system installer must certify that the system has been constructed according to the foregoing design. This certification must then be forwarded to Council.

As the foregoing design satisfies G13/VM4 of the NZ Building Code, a PS1 and monitoring schedule for the wastewater installation at the site is not required.

7 Limitations

This report is valid for five years from the date of issue and covers the onsite wastewater treatment at Lot 18, D.P.3399, West Bay, Lochmara Bay, Queen Charlotte Sound for Mark Prosser. 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.

8 References

1. NZS 1547:2012 On-site Domestic Wastewater Management.
2. Marlborough District Council Guidelines for New On-site Wastewater Management Systems, July 2005.
3. Marlborough Sounds Resource Management Plan
4. On-site Wastewater Management course 2003.
5. Hydraulics and Irrigation for On-site Wastewater Management course 12-13 September 2011.
6. Resource Consent Application and approvals – U070075 & U060075

SMART ALLIANCES LTD

Khalid Suleiman
Engineer

21 September 2012

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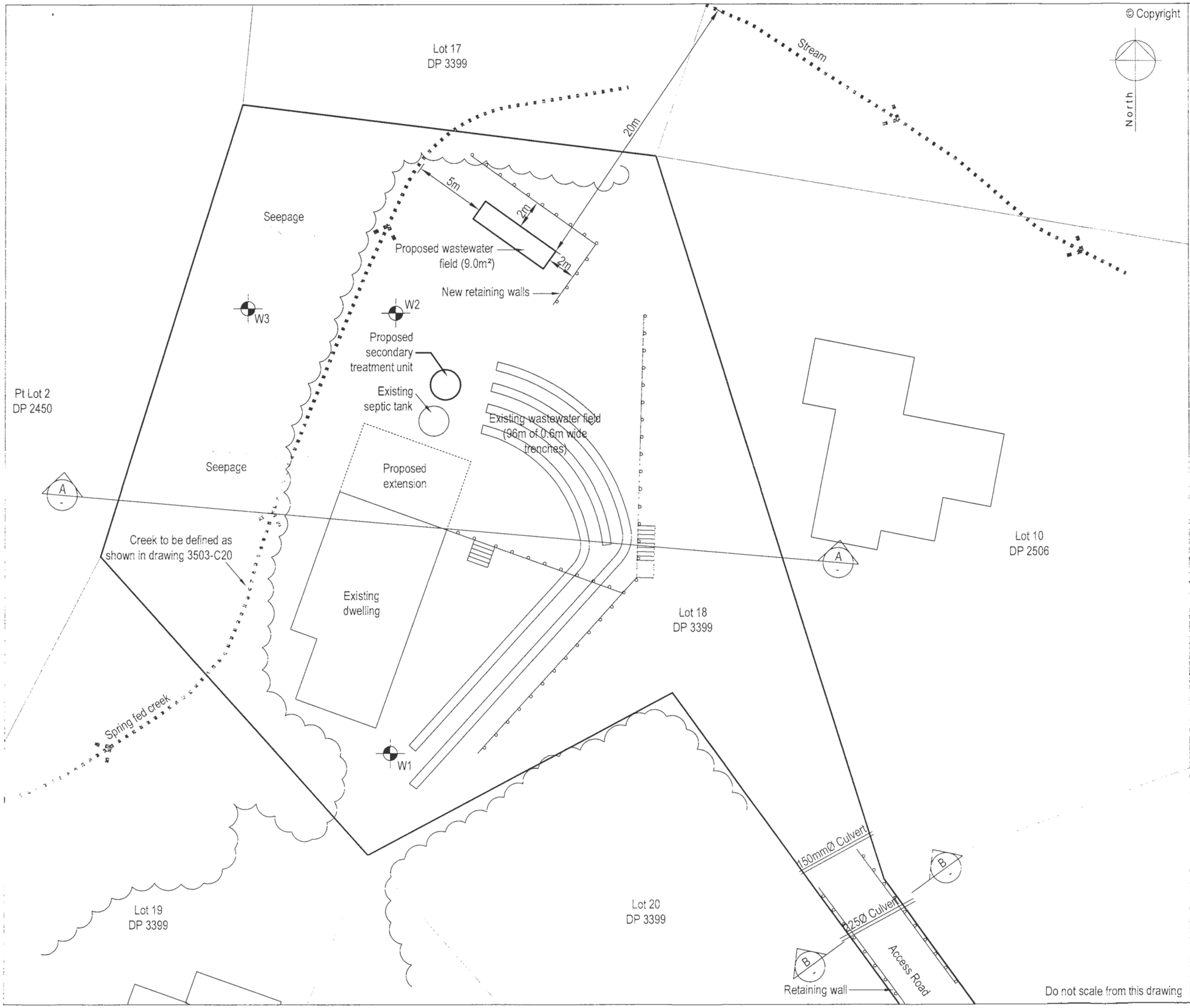
Appendix A - Drawings

- Site Plan Drawing
- Typical Field Area Details

NOTES



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C	18/09/12	REQUEST FOR FURTHER INFO
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MARK PROSSER

PROJECT
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SITE LAYOUT

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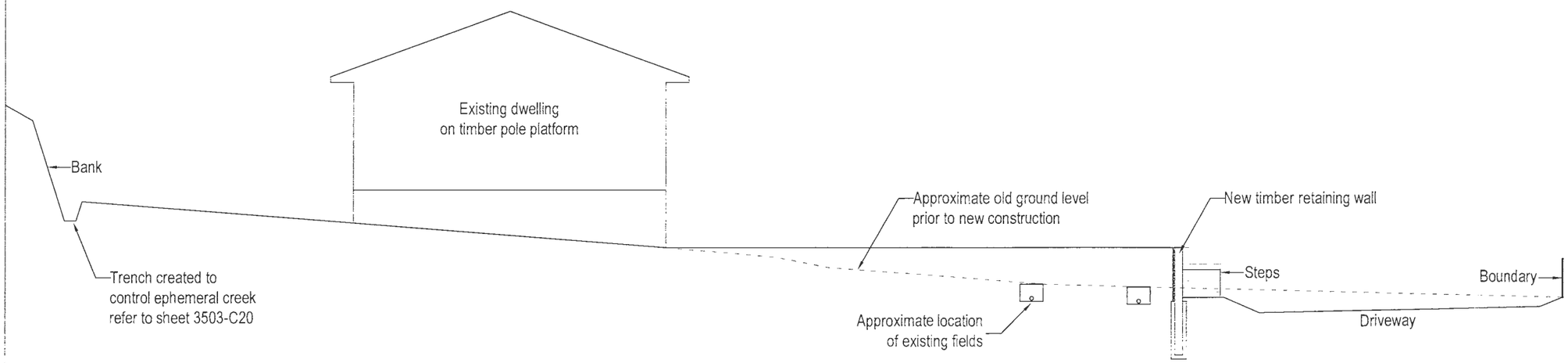
KS	**3503-C01**

CAD FILE REF: P:/ 3503-C01

NOTES



1 SECTION A-A
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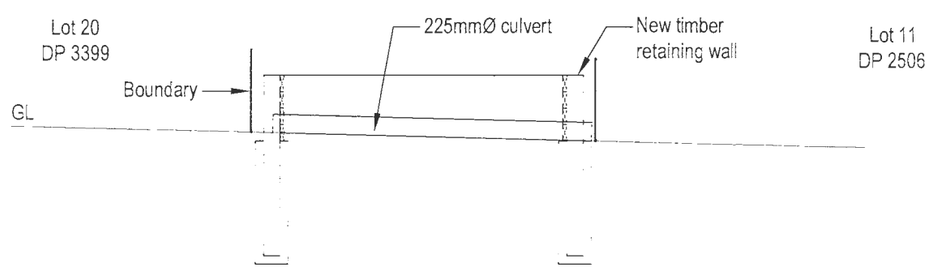

2 SECTION B-B
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Do not scale from this drawing

REV	DATE	DETAILS
A	18.09.12	Existing ground and fields shown

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CLIENT
MARK PROSSER

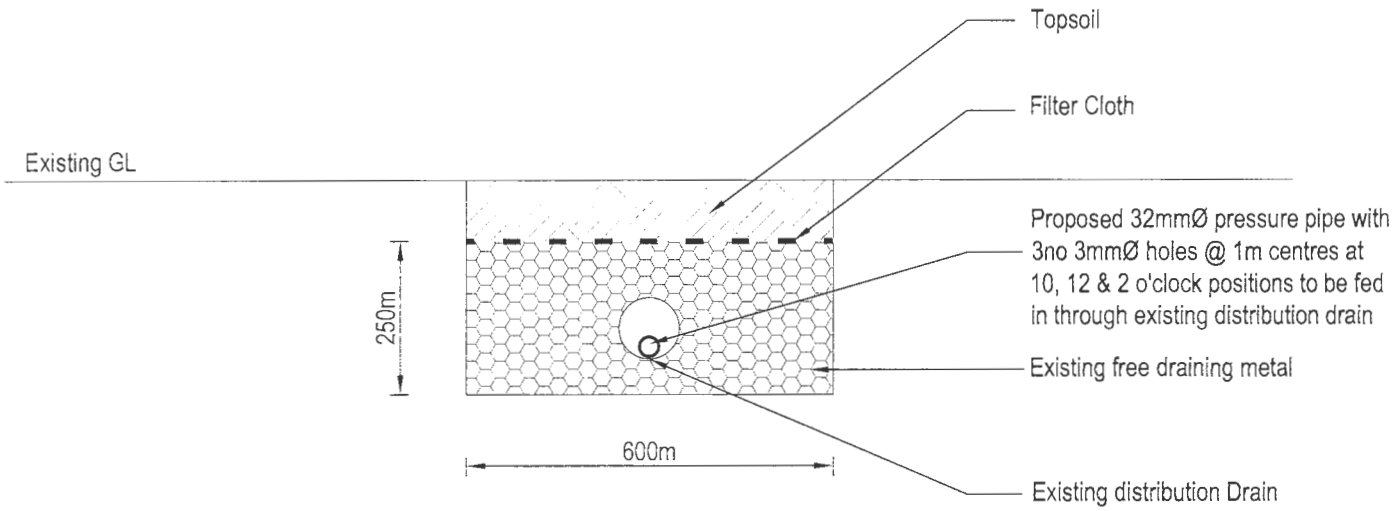
PROJECT
DWELLING EXTN / ALT
WEST BAY, LOCHMARA BAY

DRAWING
SECTION A-A

ISSUE
REPORT

DATE	SCALE (A3)
2 JULY 2012	1:125
DRAWN	REVISION
KL	**A**
APPROVED	DWG NO.
KS	**3503-C02**

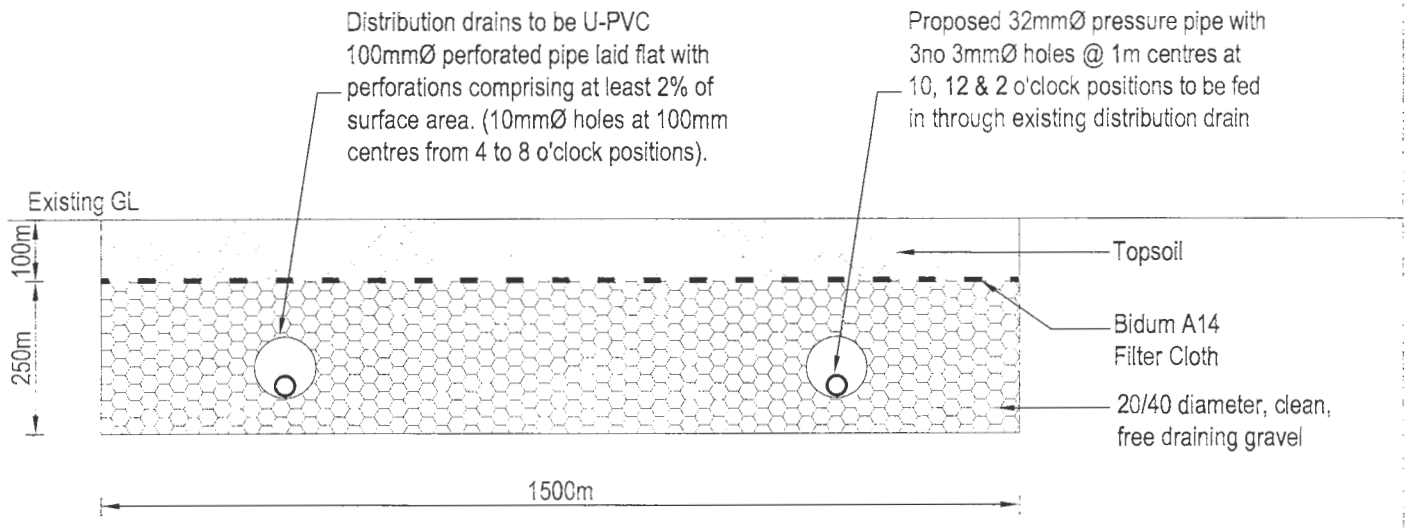
CAD FILE REF: P:/ 3503-C01



1

TYPICAL EXISTING TRENCH CONSTRUCTION

N.T.S



2

PROPOSED BED CONSTRUCTION

N.T.S

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REV	DATE	DETAILS

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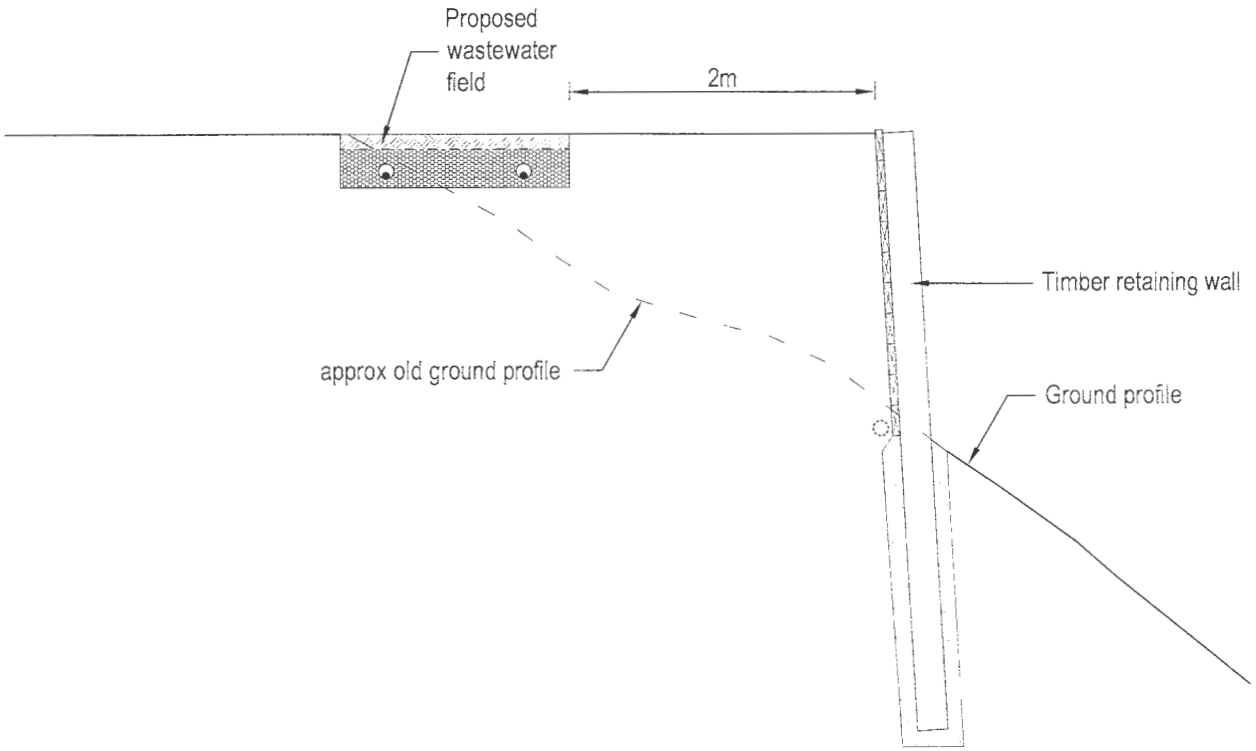
PROJECT
WASTEWATER
WEST BAY

DRAWING
TRENCH AND BED DETAIL

ISSUE
REPORT

DATE	SCALE (A4)
29 AUG 2012	1:25
DRAWN	REVISION
KL	0
APPROVED	DWG NO.
KS	3503-C11

CAD FILE REF: P:/3503



Do not scale from this drawing

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PROJECT
WASTEWATER
WEST BAY

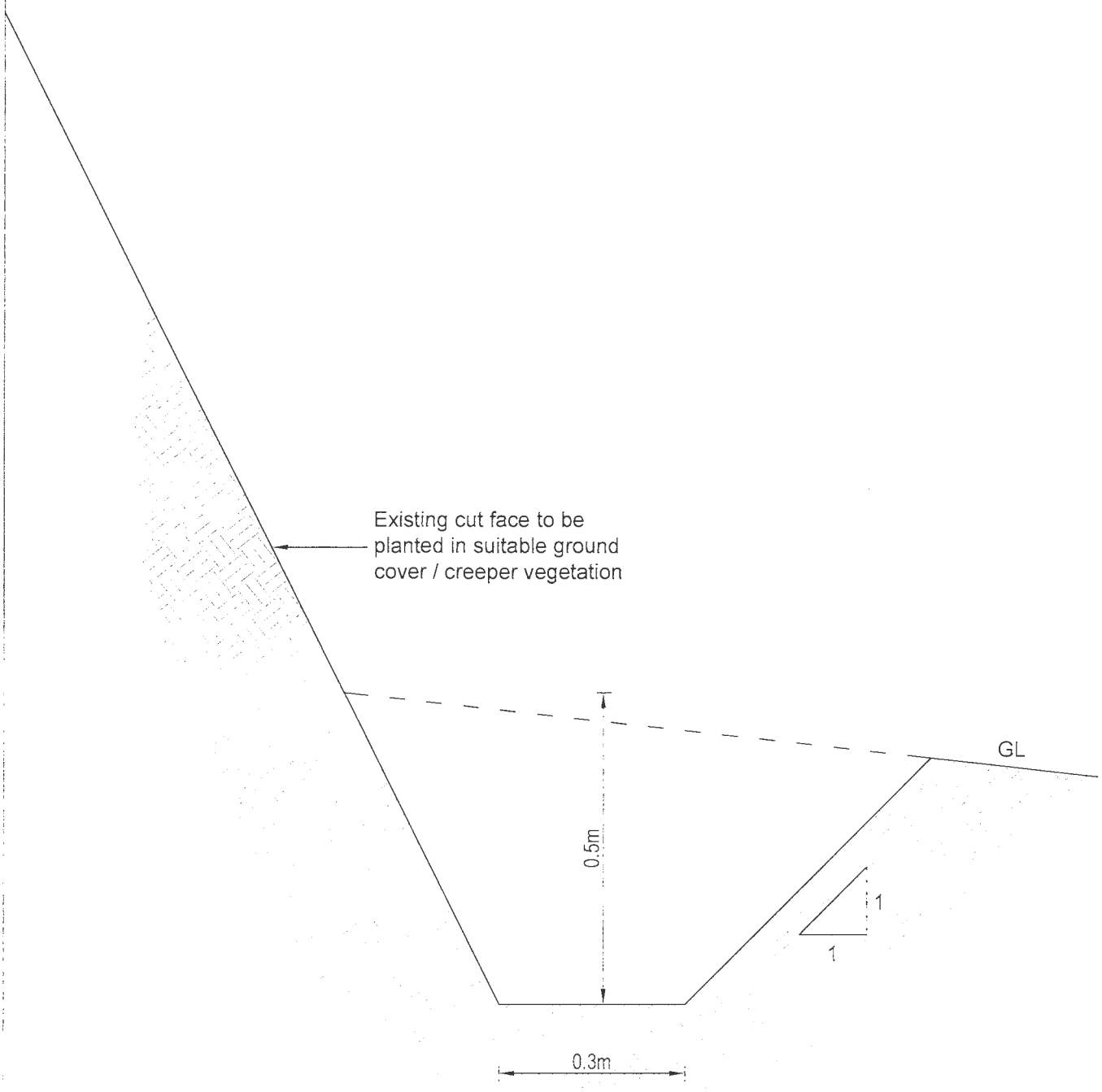
DRAWING
TRENCH AND
RETAINING WALL

ISSUE
REPORT

DATE	SCALE (A4)
29 AUG 2012	1:50
DRAWN	REVISION
KL	0
APPROVED	DWG NO.
KS	3503-C12

REV	DATE	DETAILS

CAD FILE REF: P:/3503



Do not scale from this drawing

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PROJECT
WASTEWATER
WEST BAY

DRAWING
CUT-OFF TRENCH
FOR SPRING ETC

ISSUE
REPORT

DATE	SCALE (A4)
21 NOV 11	1:10
DRAWN	REVISION
KL	0
APPROVED	DWG NO.
KS	3503-C20

REV	DATE	DETAILS

CAD FILE REF: P:/3503

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Project:	Dwelling Extension
Client:	Mark Prosser
Location:	West Bay
Date:	2/06/2012
File No:	3503

WASTEWATER SYSTEM DESIGN SHEET

To AS/NZS 1547:2012

Intended water Supply:

~~Public Supply~~ Bore/Stream/Dam ~~Rain water (roof collection)~~

Site Conditions:

Moderate slopes, grassed and regerating native
The site is exposed to both wind and sun - northwest facing slopes

Septic Tank or similar (Primary treatment):

OK when installed properly with a correctly sized level drainage area and maintained.

Secondary treatment:

Produce high quality effluent suitable for irrigation. Increased loading rate can be used if trench disposal is used - less disposal area required

Recommendation for this site: *Combination of secondary treatment system utilising trenches and another field of dripper line*

DRAINAGE CONTROLS:

Need for surface water collector / cut-off drains? *Yes - treatment of spring fed ephemeral stream*

AVAILABILITY OR RESERVE / SETBACK AREAS

Reserve area available for extensions, % of design area: *100%*

Setback distance? (between development and disposal system): *N/A*

Ksat, (m/day): ESTIMATED SOIL CATEGORY: *Category 4*

Design

Design Loading Rate: *25.0* mm/day

Occupancy:	**8.7** persons	*165*	**1436**	L/day from Table L1 AS/NZS 1547:2012
DESIGN DAILY FLOW:			**1436**	L/day
AREA REQUIRED:			**57.42**	m²
LENGTH REQUIRED:			**96** m with **0.6**	metre wide beds
RESERVE AREA REQUIRED:			*100%*	of specified drainage area

RECOMMENDATION :

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Appendix B – Wastewater Details, Calculations and Logs

W1

Lower Depth (m)	Horizon or Layer Boundary	Genesis	Description							Drainage Category
			Colour	Field Texture	% + 2mm Fragments	Compactness	Consistency	Structure	Moisture Condition	
0.25	A	Topsoil	Dark Brown	Silt loam	None	Loose	Firm	Strong	Moist	2
0.80	B	Residual	Yellow-brown	Silty Clay loam	2%	Tight	Stiff	Strong	Slightly Moist	4

Smooth plastic ball that can be rolled into a rod; slight resistance to shearing between thumb and forefinger; forms a ribbon 50-75mm long

W2

Lower Depth (m)	Horizon or Layer Boundary	Genesis	Description							Drainage Category
			Colour	Field Texture	% + 2mm Fragments	Compactness	Consistency	Structure	Moisture Condition	
0.20	A	Topsoil	Dark Brown	Silt loam	None	Loose	Firm	Strong	Moist	2
0.90	B	Residual	Yellow-brown	Silty Clay loam	2%	Tight	Stiff	Strong	Slightly Moist	4

Smooth plastic ball that can be rolled into a rod; slight resistance to shearing between thumb and forefinger; forms a ribbon 50-75mm long

W3

Lower Depth (m)	Horizon or Layer Boundary	Genesis	Description							Drainage Category
			Colour	Field Texture	% + 2mm Fragments	Compactness	Consistency	Structure	Moisture Condition	
0.15	A	Topsoil	Dark Brown	Silt loam	None	Loose	Firm	Strong	Moist	2
0.85	B	Residual	yellow-brown	Silty Clay loam	2%	Tight	Stiff	Strong	Slightly Moist	4

Smooth plastic ball that can be rolled into a rod; slight resistance to shearing between thumb and forefinger; forms a ribbon 50-75mm long

Site conditions – Sunny, early winter, exposed to wind, moderate slopes, and saturated soils following prolonged rain.

Appendix C – Photographs

Aerial view of the property and surrounding area

Dwelling extension, native bush in the west of the property and cut face observed

Retaining wall in front of dwelling, where part of the existing field is located

Cut face behind the dwelling observed

Photograph from contractor – Trench construction

Inspection of existing trenches – no sign of clogging – field relatively new

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Appendix D – Assessment of Resource Management Conditions

30.3.6 The Discharge of Domestic Wastewater Authorized by Resource Consent Prior to 21 April 2005, or the Discharge of Domestic Wastewater, Through any On-site Wastewater Management System Installed after 21 April 2005, into or onto Land.

30.3.6.1 Standards and Terms

(a) The domestic wastewater shall not be discharged into soil determined to be Category 1, 4, 5 or 6 soil (in accordance with the Council's guidelines for the investigation, design, installation and maintenance of on-site wastewater management systems) if it is proposed to use a conventional on-site wastewater management system; and

(b) The term of the discharge permit shall not exceed 15 years;

30.3.6.2 Matters to Which the Council has Restricted the Exercise of its Discretion:

(a) The proximity of the discharge to any surface water, groundwater or coastal water and any actual or potential adverse effects of the discharge on water quality;	***Water Source:***	***Offset:***
	Surface Water	**Min 5m**
	Ground Water	**>1m**
	Coastal Water	**>70m**
(b) The proximity of the discharge to any public sewer;	**No public sewer in close proximity to the site**	
(c) The proximity of the discharge to other discharges of domestic wastewater and the potential for cumulative effects;	**<30m, existing field primary, un even distribution. Currently no effect outside property boundary, secondary treatment and even distribution will improve system – unlikely cumulative effect.**	
(d) The potential for the discharge to adversely affect the quality of water in any river or aquifer, or in the coastal marine area;	**Low – Secondary treated wastewater, refer to Section 5 of the report**	
(e) The potential for the discharge to initiate instability or make existing instability worse;	**Moderate slopes, minor signs of instability on cut face only, low risk of the discharge to initiate instability.**	
(f) The extent to which the proposed on-site wastewater management system complies with the Council's guidelines for the investigation, design, installation and maintenance of on-site wastewater management systems;	**The new system complies with NZS1547:2012 and the Councils Guidelines for New On-Site Wastewater Management Systems.**	
(g) The site conditions, including the nature of the soil and soil depth;	**Refer to Sections 3, 4 & 5 of the Engineering Report.**	
(h) The nature of the on-site wastewater management system and the appropriateness of the system to the site conditions;	**The on-site wastewater management system is a secondary treatment system with a dripper lines. The system has been designed to suit the site conditions.**	
(i) The capacity of the treatment unit and the	**Secondary treatment systems generally have a capacity of greater**	

level of treatment;	**than 4000 litres (depends on the type of system chosen) The treatment level expected from this type of system is in the order of 20g/m^3 BOD_5 and 30g/m^3 SS.**	
(j) The rate and method of discharge;	**Dose loaded, 1650 litres total daily**	
(k) The size of the land application area and alternative locations for the land application area;	**The land application area consists of the existing field (96m long, 0.6m wide) and a new 9m2 bed. The best location is as shown on the site plan.**	
(l) The necessity for monitoring the performance of the on-site wastewater management system; and	**As required by the system manufacturer.**	
(m) The management and maintenance of the on-site wastewater management system, including the ability to access the on-site system for maintenance purposes; and	**The access to the property is boat. Management of the system is the owners responsibility, of there are issues with the system that cannot be resolved by owner they must contact a recognized maintenance contractor to service the system.**	
(n) Alternative on-site wastewater management systems.	***Type of system:***	***Reasons:***
	Trenches & Beds	**Used on this site**
	Dripper Line (secondary treatment)	**Large area required – not used because the site is too restricted**
	ETS Trenches & Beds	**Used where there are low permeability soils, not the case on this site.**
	Mound	**Used where there is low permeability or rapidly draining soils or high ground water, not the case on this site**