

Elite SOIL TESTING PTY LTD

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ABN: 97 113 538 748

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INDUSTRIAL PLANT HIRE



Spring Mountain Estate – Stage 13

Bellbird Drive, Greenbank



Report Date: 17 February 2014
Job Number: J13143
Contractor: Industrial Plant Hire
Superintendent: Yeats

Job No.J13143
Monday, 17 February 2014

Industrial Plant Hire
Po Box 20
Jimboomba Q 4280

Attn: Brian Moore

RE: Spring Mountain Estate – Stage 13.

SCOPE

Elite Soil Testing was commissioned by Industrial Plant Hire to provide Geotechnical Inspection and Testing on a “Level 1” basis in accordance with SECTION 8 of AS 3798-2007 “Guidelines on Earthworks for Commercial and Residential Developments”.

Site supervision, inspections and testing were carried out in compliance with the Australian Standard, project specifications and the local authority testing requirements.

This report is provided to show conformity with the “Level 1” specification for the various stages of earthworks associated with this project.

The project encompasses the construction of 10 residential building pads.

Some filling was required as part of the development and for this work the scope of the Level 1 inspection and testing was:

- (i) Carry out inspection of proposed cut and fill areas to check adequacy of fill foundation.
- (ii) Provide supervision and compaction control testing of placed fill materials.

SITE INSPECTION AND COMPACTION CONTROL TESTING

The stripped surfaces of proposed fill areas were inspected and proof rolled prior to placement and compaction of fill. Compliance of the fill foundation and approval to begin filling these areas was granted when inspections showed completion of removal of topsoil, organics and remediation of any uncontrolled fill material as well as soundness (minimum deflection) under test rolling.

Material from cut areas of the site was considered suitable for use as controlled fill. This fill material was moisture conditioned and placed in near-horizontal layers of uniform thickness across the fill area. Each fill layer was compacted with a vibrating pad foot roller.

Field density test locations were selected at random, and staggered across the fill areas. The test locations as described on the Field Density Report were not professionally surveyed and should only be considered as the approximate location.

Test results on controlled fill placed under supervision indicate that the minimum specification requirement of greater than 98% Dry Density Ratio in accordance with AS1289 .5.3.1, 5.8.1, 5.1.1, 5.4.1 & 2.1.1 (standard compaction test) was achieved. Refer to Annex A for Individual Lot Certificates.

CONCLUSION

We confirm that vegetation, topsoil, and any unsuitable materials were removed and that a sound base for the proposed filling was provided. We confirm that the results obtained from compaction control testing, together with observations made during supervised earthworks operations, indicate that the fill materials placed to design levels can be termed as "Controlled Fill".

The limitations on Level 1 Certification unless otherwise stated in this report do not address or include; slope stability, soft, reactive or contaminated soils, backfill to trenches and/or retaining walls and topsoil placed after controlled filling.



Anthony Jeffrey
Managing Director



Annex A

Level One Certificate

Elite SOIL TESTING PTY LTD

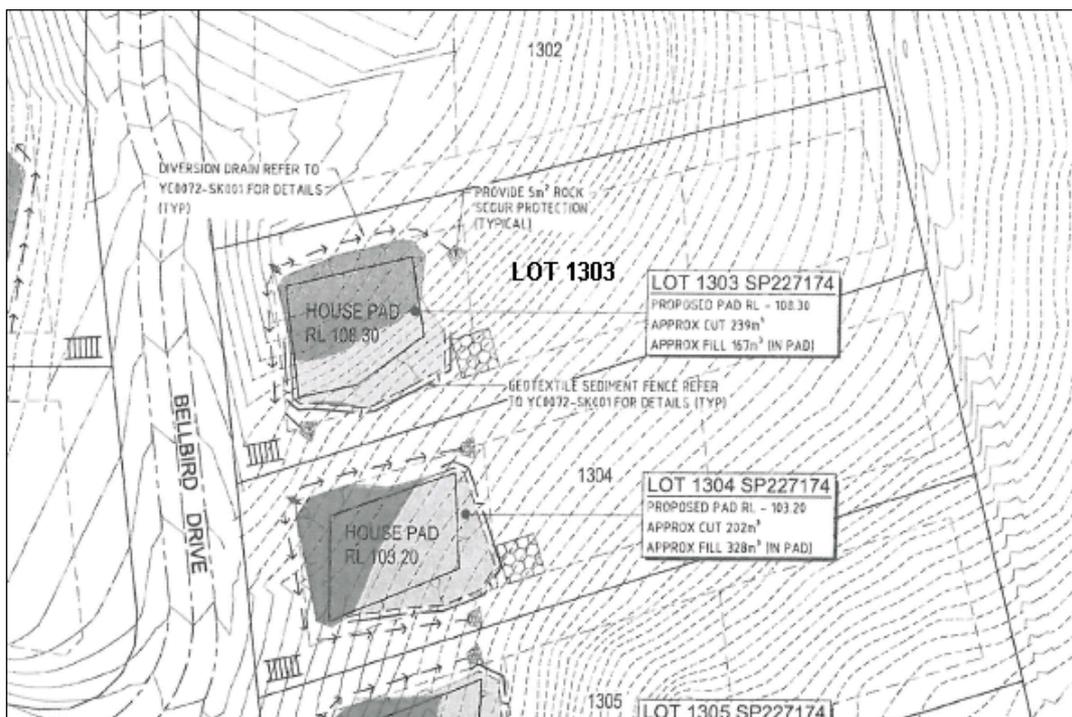
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CERTIFICATE OF CONTROLLED FILLING EARTHWORKS OPERATIONS (AS3798-2007 SECTION B – Level 1) LOT 1303 Spring Mountain Estate – Stage 13 Bellbird Drive, Greenbank.



- Approximate lateral extent and maximum depth of controlled filling to 1.5m.
- Level 1 Certification is limited to within this area.

Filling in the areas defined above have been carried out to meet the requirements of the specification and Level 1 Certification as per AS3798 – 2007 “Guidelines on Earthworks for Commercial and Residential Developments”.

A geotechnical site investigation and foundation design for the specific ground conditions should be carried out on this lot prior to building, when house type and location is known.



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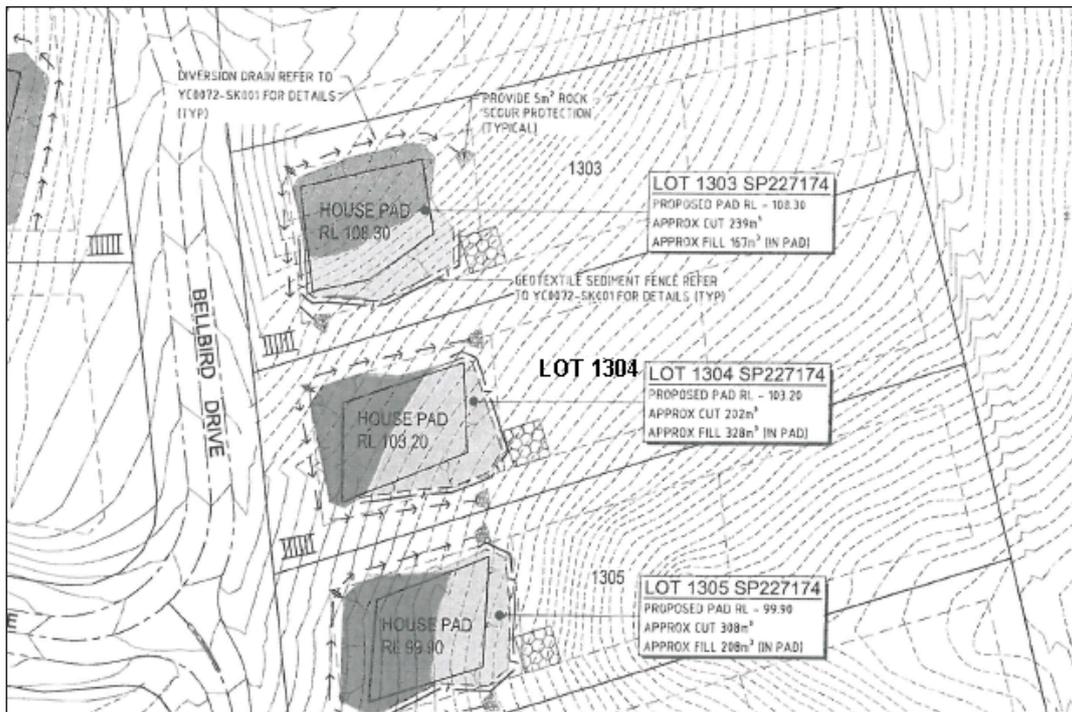
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CERTIFICATE OF CONTROLLED FILLING EARTHWORKS OPERATIONS (AS3798-2007 SECTION B – Level 1) LOT 1304 Spring Mountain Estate – Stage 13 Bellbird Drive, Greenbank.



Approximate lateral extent and maximum depth of controlled filling to 1.5m.
Level 1 Certification is limited to within this area.

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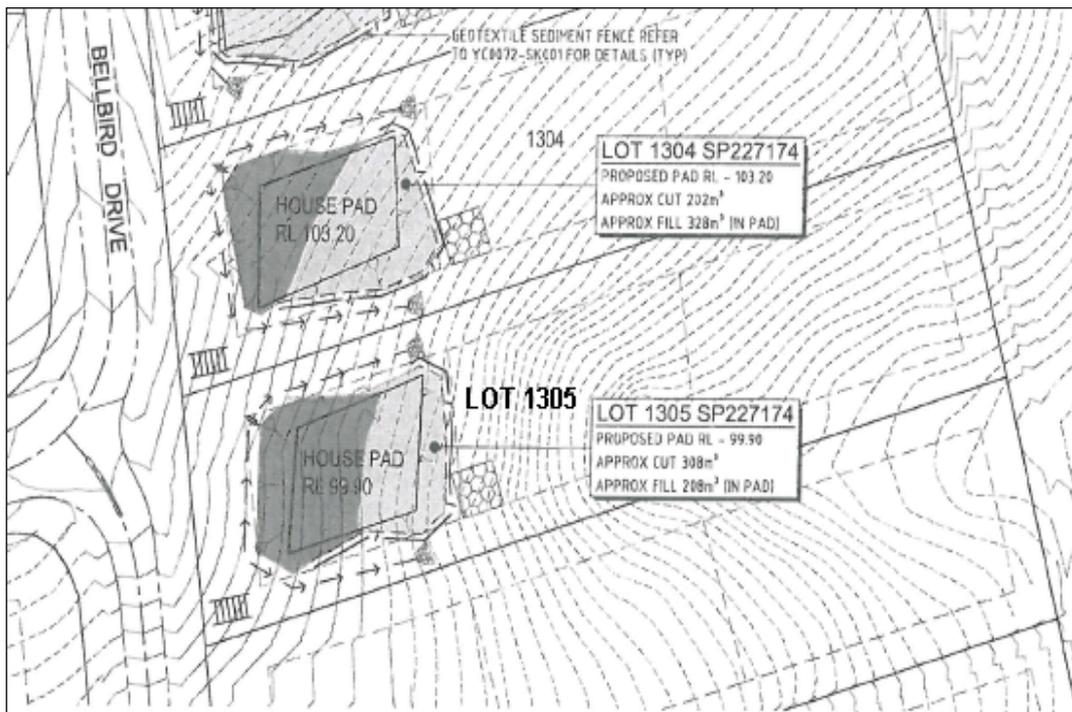
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**CERTIFICATE OF CONTROLLED FILLING
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LOT 1305 Spring Mountain Estate – Stage 13
Bellbird Drive, Greenbank.**



Approximate lateral extent and maximum depth of controlled filling to 1.5m.
Level 1 Certification is limited to within this area.

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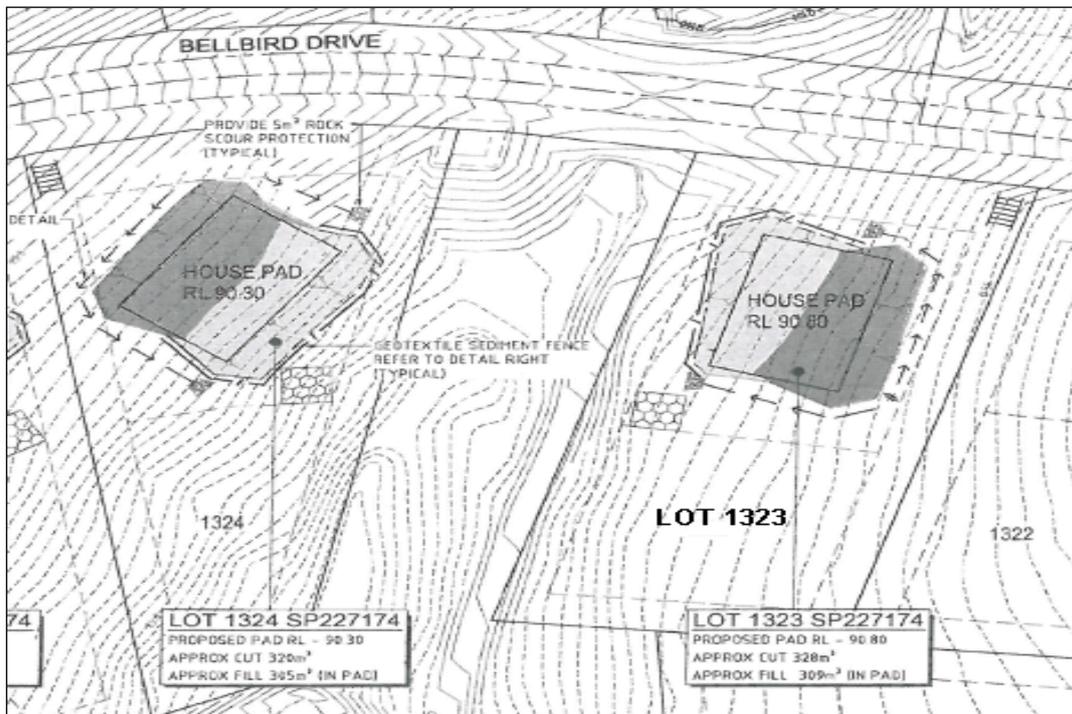
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**CERTIFICATE OF CONTROLLED FILLING
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LOT 1323 Spring Mountain Estate – Stage 13
Bellbird Drive, Greenbank.**



Approximate lateral extent and maximum depth of controlled filling to 1.5m.
Level 1 Certification is limited to within this area.

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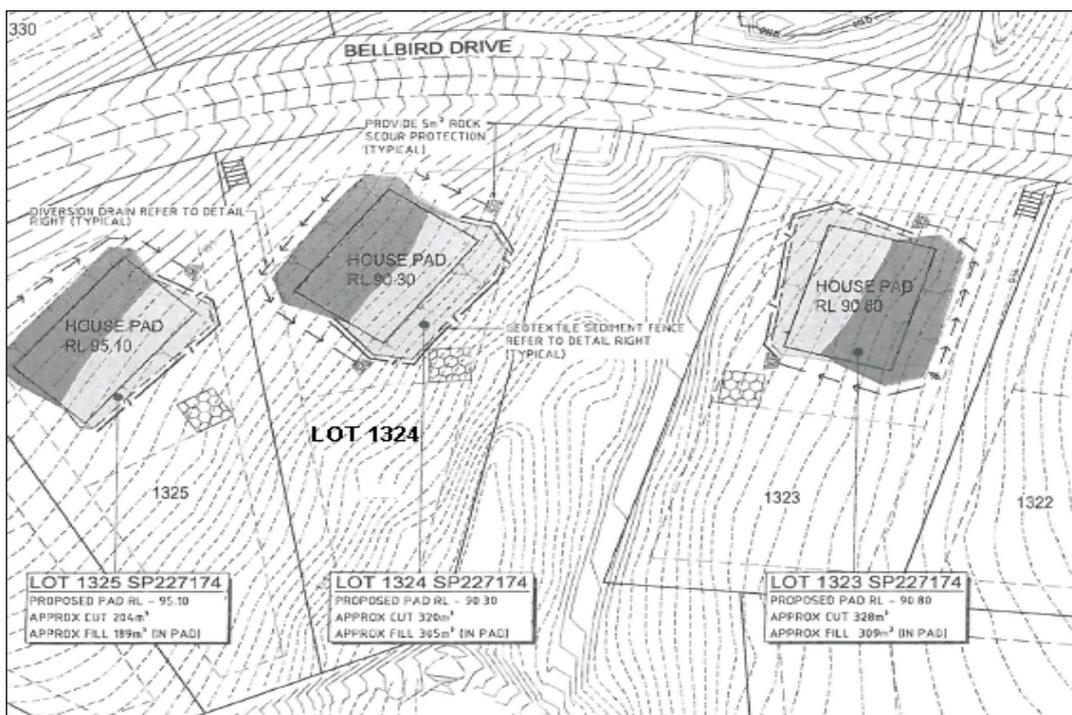
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CERTIFICATE OF CONTROLLED FILLING EARTHWORKS OPERATIONS (AS3798-2007 SECTION B – Level 1) LOT 1324 Spring Mountain Estate – Stage 13 Bellbird Drive, Greenbank.



Approximate lateral extent and maximum depth of controlled filling to 1.5m.
Level 1 Certification is limited to within this area.

Filling in the areas defined above have been carried out to meet the requirements of the specification and Level 1 Certification as per AS3798 – 2007 “Guidelines on Earthworks for Commercial and Residential Developments”.

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CERTIFICATE OF CONTROLLED FILLING EARTHWORKS OPERATIONS (AS3798-2007 SECTION B – Level 1) LOT 1325 Spring Mountain Estate – Stage 13 Bellbird Drive, Greenbank.



Approximate lateral extent and maximum depth of controlled filling to 1.5m.
Level 1 Certification is limited to within this area.

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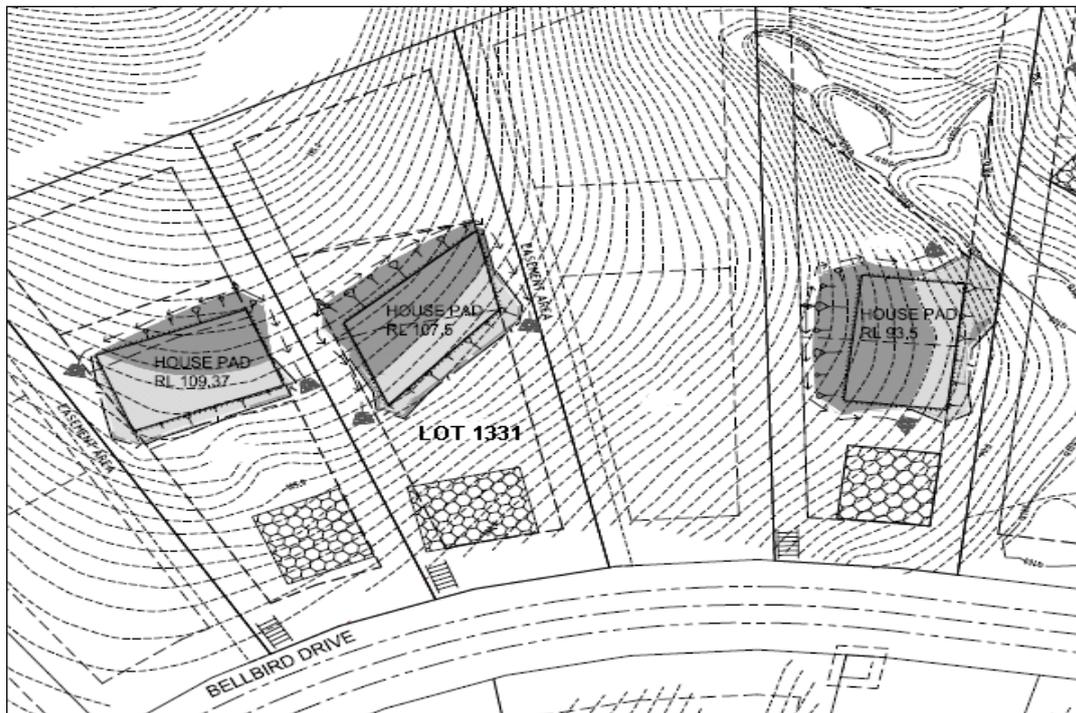
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**CERTIFICATE OF CONTROLLED FILLING
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LOT 1331 Spring Mountain Estate – Stage 13
Bellbird Drive, Greenbank.**



Approximate lateral extent and maximum depth of controlled filling to 1.6m.
Level 1 Certification is limited to within this area.

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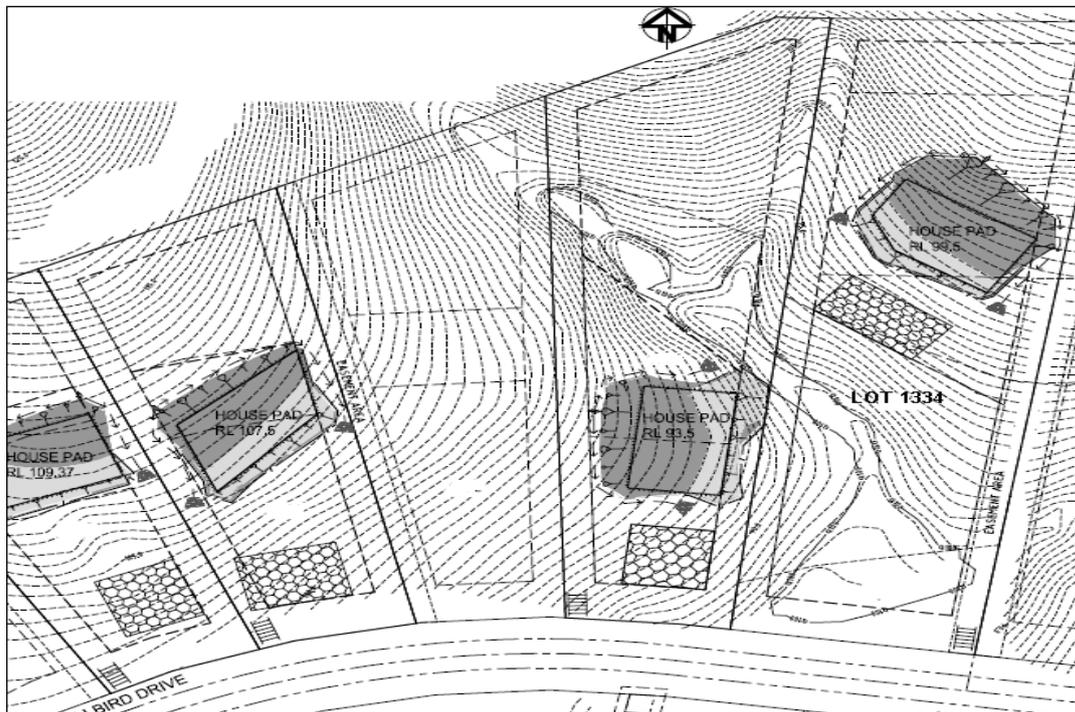
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LOT 1334 Spring Mountain Estate – Stage 13
Bellbird Drive, Greenbank.**



 Approximate lateral extent and maximum depth of controlled filling to 1.5m.
Level 1 Certification is limited to within this area.

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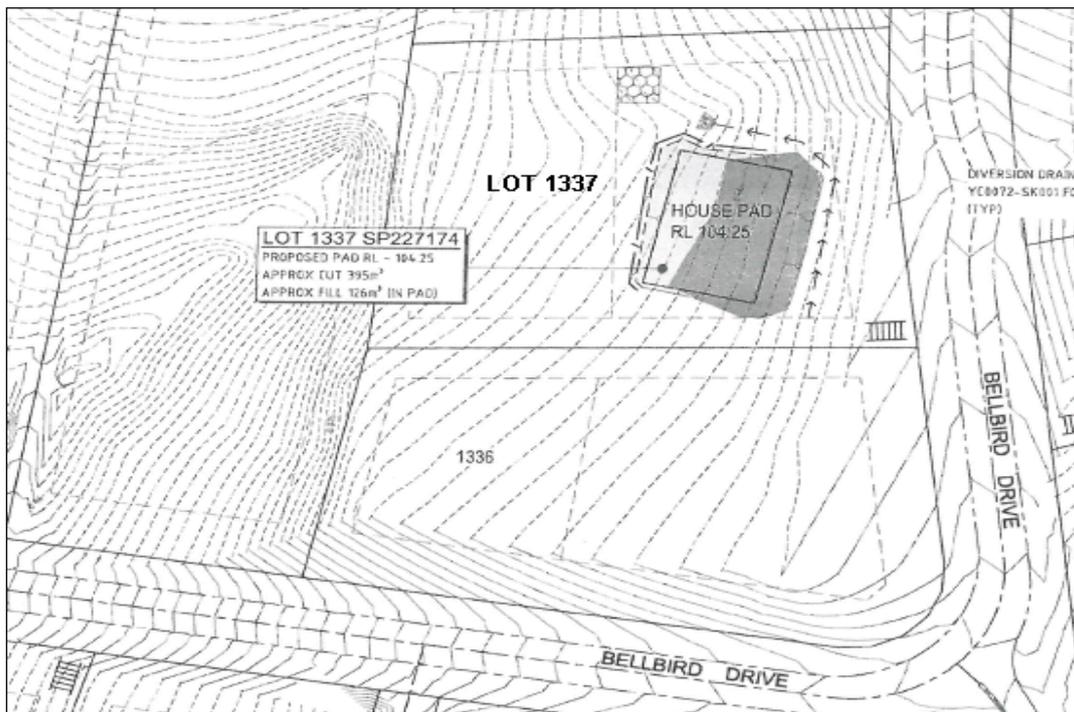
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LOT 1337 Spring Mountain Estate – Stage 13
Bellbird Drive, Greenbank.**



 Approximate lateral extent and maximum depth of controlled filling to 1.5m.
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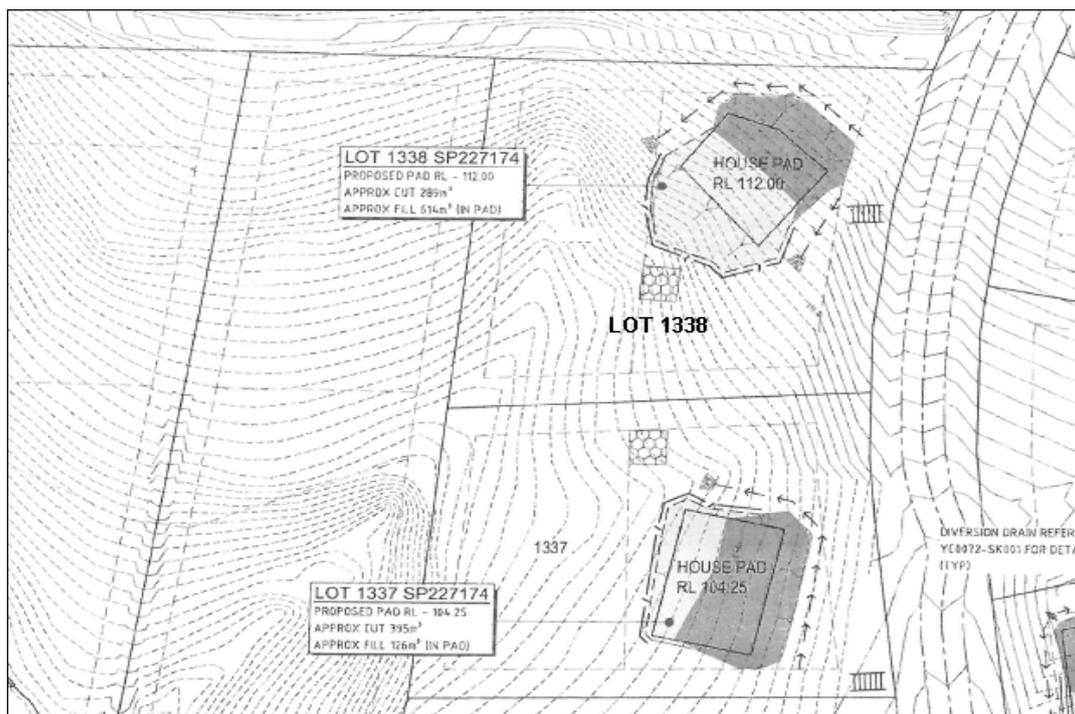
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**CERTIFICATE OF CONTROLLED FILLING
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LOT 1338 Spring Mountain Estate – Stage 13
Bellbird Drive, Greenbank.**



Approximate lateral extent and maximum depth of controlled filling to 1.5m.
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Anthony Jeffrey
Managing Director

MORRISON GEOTECHNIC PTY LTD

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Nuclear Hilf Density Ratio Report

Client :	INDUSTRIAL PLANT HIRE PTY LTD	Report Number:	DL13/188 - 3
Client Address:	P O BOX 20 JIMBOOMBA QLD 4280	Report Date:	16/08/2013
Job Number :	DL13/188	Folder Number:	BELLBIRD DRIVE
Project :	EARTHWORKS - LOTS 1330 & 1333	Test Method:	AS1289.5.8.1 & 5.7.1
Location :	BELLBIRD DRIVE , SPRING MOUNTAIN	Page 1 of 1	

Lab No :	174282	174283	174284	
ID No :	7	8	9	
Lot No :	1333	1333	1333	
Sampling Method :	-	-	-	
Date Sampled :	13/8/2013	13/8/2013	13/8/2013	
Date Tested :	13/8/2013	13/8/2013	13/8/2013	
Material Source :	On Site	On Site	On Site	
For Use As :	Allotment Fill	Allotment Fill	Allotment Fill	
Sample Location :	Lot 1333 4m From South Boundary 3m From East Boundary 0.5m Below Final Level	Lot 1333 9m From South Boundary 6m From East Boundary Final Level	Lot 1333 3m From North Boundary 3m From East Boundary 0.3m Below Final Level	
Test Depth/Layer (mm)	150 /	150 /	150 /	
Max Size (mm) :	19	19	19	
Percent Oversize (%) :	0.0	0.0	0.0	
Field Wet Density (t/m ³) :	2.08	2.04	2.07	
Field Moisture Cont (%) :	14.5	11.8	11.8	
PCWD (t/m ³) :	2.10	2.05	2.07	
Field Dry Density (t/m ³) :	1.82	1.82	1.85	
Optimum Moisture Content (%) :	15.0	13.5	13.5	
Apparent OMC (%) :	0.7	1.9	1.8	
Compactive Effort :	Standard	Standard	Standard	
Relative Compaction (%) :	99.0	99.5	100.0	
Minimum Specification (%) :	95	95	95	
Moisture Ratio / Spec :	96.7 / -	87.4 / -	87.4 / -	
Moisture Variation (%) :	0.5% (dry)	2% (dry)	2% (dry)	

Remarks:

Lab Number:	Soil Description
174282	
174283	
174284	

	<p>This document is issued in accordance with NATA's accreditation requirements. Accredited for compliance with ISO/IEC 17025. Corporate Site No: 1162 Darra.</p>	APPROVED SIGNATORY  Liam McDowall (Brisbane) NATA Accred No:1162 / 1169	FORM NUMBER REP AHNUC-1-4

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Nuclear Hilf Density Ratio Report

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Client Address:	P O BOX 20 JIMBOOMBA QLD 4280	Report Date:	15/08/2013
Job Number :	DL13/188	Folder Number:	BELLBIRD DRIVE
Project :	EARTHWORKS - LOTS 1330 & 1333	Test Method:	AS1289.5.8.1 & 5.7.1
Location :	BELLBIRD DRIVE , SPRING MOUNTAIN	Page 1 of 1	

Lab No :	174105	174106	174107	
ID No :	4	5	6	
Lot No :	1330	1330	1330	
Sampling Method :	-	-	-	
Date Sampled :	9/8/2013	9/8/2013	9/8/2013	
Date Tested :	9/8/2013	9/8/2013	9/8/2013	
Material Source :	On Site	On Site	On Site	
For Use As :	Allotment Fill	Allotment Fill	Allotment Fill	
Sample Location :	Lot 1330 5m From South Boundary 6m From East Boundary Final Level	Lot 1330 3m From South Boundary 10m From East Boundary Final Level	Lot 1330 8m From South Boundary 5m From West Boundary Final Level	
Test Depth/Layer (mm)	150 /	150 /	150 /	
Max Size (mm) :	19	19	19	
Percent Oversize (%) :	0.0	0.0	0.0	
Field Wet Density (t/m ³) :	2.24	2.23	2.20	
Field Moisture Cont (%) :	9.7	9.9	10.0	
PCWD (t/m ³) :	2.15	2.14	2.14	
Field Dry Density (t/m ³) :	2.04	2.03	2.00	
Optimum Moisture Content (%) :	11.0	11.5	11.5	
Apparent OMC (%) :	1.6	1.4	1.6	
Compactive Effort :	Standard	Standard	Standard	
Relative Compaction (%) :	104.5	104.0	102.5	
Minimum Specification (%) :	95	95	95	
Moisture Ratio / Spec :	88.2 / -	86.1 / -	87.0 / -	
Moisture Variation (%) :	1.5% (dry)	1.5% (dry)	1.5% (dry)	

Remarks:

Lab Number:	Soil Description
174105	
174106	
174107	

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		<p><i>Liam A Mcdowell</i></p> <p>Liam Mcdowell (Brisbane) NATA Accred No:1162 / 1169</p>	<p>REP AHNUC-1-4</p>