GeoEnviro Consultancy Pty Ltd
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20th March 2015

Our Reference: JT14758C-r1

RPS Australia Asia Pacific
Suite 2, 668 Princess Highway
SUTHERLAND NSW 2232

Attention: Ms Katrina Griffin

Dear Madam

Re **Proposed Subdivision Lot 1 DP 1144668**
Andromeda Drive, Cranebrook
Pavement Testing

Please find attached field density test results for work performed at Lot 1 DP 1144668 - Andromeda Drive, Cranebrook from the 16th January to 10th March 2015.

The approximated test locations are shown on the attached certificate. If you have any queries regarding the above, please contact the undersigned.

Yours faithfully
GeoEnviro Consultancy Pty Ltd

Allan Fong
Laboratory Manager

Attachment: Density Test Results – Test Nos 1 to 16

C:\14JOB\758\JT14758C-r1.DOC

GeoEnviro Consultancy Pty Ltd
Unit 5, 39-41 Fourth Avenue, Blacktown NSW 2148, Australia
Tel: (02) 96798733 Fax: (02) 96798744

FIELD DENSITY REPORT

Client / Address: RPS Australia Asia Pacific / Suite 2, 668 Princess Highway, Sutherland, NSW, 2232 — Job No: JT14758C

Project: Proposed Subdivision Lot 1 DP 1144668 — Date: 20/03/15

Location: Andromeda Drive, Cranebrook — Report No: R 01A

Test Results

Test Number		1	2	3	4	5
Date Tested		16-Jan-15	16-Jan-15	22-Jan-15	22-Jan-15	11-Feb-15
Time of Test		15:54	16:03	14:43	15:51	16:05
Lab No.		758C / 1	758C / 2	758C / 3	758C / 4	758C / 5
Depth Tested		150 mm	150 mm	150 mm	150 mm	200 mm
Location of Test		Cassar Crescent (North) Chainage 180	Cassar Crescent (North) Chainage 130	Cassar Crescent (North) Chainage 80	Cassar Crescent (North) Chainage 30	Cassar Crescent (North) Chainage 130
Depth of Density Test	RL (m)	Replacement Subgrade	Replacement Subgrade	Replacement Subgrade	Replacement Subgrade	Sub - base
Material Type		Sandstone	Sandstone	Sandstone	Sandstone	Crushed Sandstone
Density Ratio	%	101.0	104.0	100.0	103.5	101.0
Moisture Variation	%	1.0 drier	2.0 drier	1.0 drier	0.5 drier	1.0 wetter
Compaction Requirement	%	100 Standard	100 Standard	100 Standard	100 Standard	98 Modified
Moisture Requirement	%	-	-	-	-	-

Field and Laboratory Data

AS 1289 2.1.1, 5.8.1						
Field Wet Density	t/m^3	2.27	2.27	2.15	2.28	2.27
Field Dry Density	t/m^3	2.13	2.14	1.99	2.09	2.09
Field Moisture Content	%	6.5	6.5	8.0	9.0	8.5
AS 1289 5.4.1						
Sieve Size	mm	19	19	19	19	37.5
Wet Oversize	%	15	17	14	9	12
Dry Oversize	%	15	17	13	9	12
Laboratory Procedure		AS 1289 1.1, 1.2.1 (6.4 (b)) 5.1.1 (A Mould)	AS 1289 1.1, 1.2.1 (6.4 (b)) 5.1.1 (A Mould)	AS 1289 1.1, 1.2.1 (6.4 (b)) 5.1.1 (A Mould)	AS 1289 1.1, 1.2.1 (6.4 (b)) 5.1.1 (A Mould)	AS 1289 1.1, 1.2.1 (6.3) 5.2.1 (B Mould), 5.4.2
Lab Compaction ex test No.		1	2	3	4	AEW V 75 CSS - 4
Maximum Dry Density	t/m^3	2.08	2.01	1.98	1.99	2.06
Optimum Moisture Content	%	9.0	10.5	10.5	10.5	8.5
Adjusted Maximum Dry Density	t/m^3	2.11	2.05	1.99	2.02	2.08
Adjusted Optimum Moisture Content	%	7.5	8.5	9.0	9.5	7.5

Remarks

NATA ACCREDITED FOR TECHNICAL COMPETENCE

Accredited for compliance with ISO/IEC 17025.

NATA Accredited Laboratory Number: 14208.

Authorised Signatory _____ Allan Fong Date 20/03/2015

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FIELD DENSITY REPORT

Client / Address: RPS Australia Asia Pacific / Suite 2, 668 Princess Highway, Sutherland, NSW, 2232 — Job No: JT14758C

Project: Proposed Subdivision Lot 1 DP 1144668 — Date: 20/03/15

Location: Andromeda Drive, Cranebrook — Report No: R 02A

Test Results

Test Number		6	7	8	9	10
Date Tested		11-Feb-15	16-Mar-15	16-Mar-15	27-Feb-15	02-Mar-15
Time of Test		16:13	13:28	13:35	9:15	8:32
Lab No.		758C / 6	758C / 7	758C / 8	758C / 9	758C / 10
Depth Tested		200 mm	200 mm	200 mm	150 mm	100 mm
Location of Test		Cassar Crescent (North) Chainage 180	Cassar Crescent (North) Chainage 80	Cassar Crescent (North) Chainage 30	Cassar Crescent Chainage 15 Retested by test No. 12	Cassar Crescent (North) Chainage 180
Depth of Density Test	RL (m)	Sub - base	Sub - base	Sub - base	Replacement Subgrade	Base Course
Material Type		Crushed Sandstone	Crushed Sandstone	Crushed Sandstone	Recycled Concrete & Sandstone	Unbound base
Density Ratio	%	99.0	100.5	99.5	96.0	99.5
Moisture Variation	%	2.0 wetter	Nil	Nil	1.0 drier	2.5 drier
Compaction Requirement	%	98 Modified	98 Modified	98 Modified	100 Standard	98 Modified
Moisture Requirement	%	-	-	-	-	-

Field and Laboratory Data

AS 1289 2.1.1, 5.8.1						
Field Wet Density	t/m^3	2.25	2.25	2.23	2.06	2.11
Field Dry Density	t/m^3	2.07	2.09	2.07	1.90	1.93
Field Moisture Content	%	8.5	7.5	8.0	8.0	9.0
AS 1289 5.4.1						
Sieve Size	mm	37.5	37.5	37.5	19	19
Wet Oversize	%	17	10	8	13	-
Dry Oversize	%	18	10	8	13	-
Laboratory Procedure		AS 1289 1.1, 1.2.1 (6.3) 5.2.1 (B Mould), 5.4.2	AS 1289 1.1, 1.2.1 (6.3) 5.2.1 (B Mould), 5.4.2	AS 1289 1.1, 1.2.1 (6.3) 5.2.1 (B Mould), 5.4.2	AS 1289 1.1, 1.2.1 (6.4 (b)) 5.1.1 (A Mould)	AS 1289 1.1, 1.2.1 (6.3) 5.2.1 (A Mould), 5.4.2
Lab Compaction ex test No.		AEW V 75 CSS - 4	AEW V 75 CSS - 4	AEW V 75 CSS - 4	9	B P UB 20 - 62
Maximum Dry Density	t/m^3	2.06	2.06	2.06	1.98	1.94
Optimum Moisture Content	%	8.5	8.5	8.5	10.5	12.0
Adjusted Maximum Dry Density	t/m^3	2.09	2.08	2.08	1.98	-
Adjusted Optimum Moisture Content	%	7.0	7.5	7.5	9.0	-

Remarks

NATA ACCREDITED FOR TECHNICAL COMPETENCE

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Authorised Signatory _____ Allan Fong Date 20/03/2015

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FIELD DENSITY REPORT

Client / Address: RPS Australia Asia Pacific / Suite 2, 668 Princess Highway, Sutherland, NSW, 2232 — Job No: JT14758C

Project: Proposed Subdivision Lot 1 DP 1144668 — Date: 20/03/15

Location: Andromeda Drive, Cranebrook — Report No: R 03A

Test Results

Test Number		11	12	13	14	15
Date Tested		02-Mar-15	02-Mar-15	03-Mar-15	06-Mar-15	06-Mar-15
Time of Test		8:44	14:27	13:32	16:55	16:59
Lab No.		758C / 11	758C / 12	758C / 13	758C / 14	758C / 15
Depth Tested		100 mm	150 mm	200 mm	100 mm	100 mm
Location of Test		Cassar Crescent (North) Chainage 130	Cassar Crescent Chainage 15 Retest of test No. 9	Cassar Crescent Chainage 16	Cassar Crescent (North) Chainage 80	Cassar Crescent (North) Chainage 30
Depth of Density Test	RL (m)	Base Course	Replacement Subgrade	Sub - base	Base Course	Base Course
Material Type		Unbound base	Recycled Concrete & Sandstone	Crushed Sandstone	Unbound base	Unbound base
Density Ratio	%	101.0	100.0	100.0	98.5	101.0
Moisture Variation	%	3.0 drier	Nil	2.0 drier	2.5 drier	3.5 drier
Compaction Requirement	%	98 Modified	100 Standard	98 Modified	98 Modified	98 Modified
Moisture Requirement	%	-	-	-	-	-

Field and Laboratory Data

AS 1289 2.1.1, 5.8.1						
Field Wet Density	t/m^3	2.13	2.23	2.19	2.10	2.14
Field Dry Density	t/m^3	1.96	2.03	2.08	1.92	1.97
Field Moisture Content	%	9.0	10.0	5.5	9.5	8.5
AS 1289 5.4.1						
Sieve Size	mm	19	19	37.5	19	19
Wet Oversize	%	-	13	9	-	-
Dry Oversize	%	-	13	9	-	-
Laboratory Procedure		AS 1289 1.1, 1.2.1 (6.3) 5.2.1 (A Mould), 5.4.2	AS 1289 1.1, 1.2.1 (6.4 (b)) 5.1.1 (A Mould)	AS 1289 1.1, 1.2.1 (6.3) 5.2.1 (B Mould), 5.4.2	AS 1289 1.1, 1.2.1 (6.3) 5.2.1 (A Mould), 5.4.2	AS 1289 1.1, 1.2.1 (6.3) 5.2.1 (A Mould), 5.4.2
Lab Compaction ex test No.		B P UB 20 - 62	12	AEW V 75 CSS - 4	B P UB 20 - 64	B P UB 20 - 64
Maximum Dry Density	t/m^3	1.94	2.02	2.06	1.95	1.95
Optimum Moisture Content	%	12.0	11.0	8.5	12.0	12.0
Adjusted Maximum Dry Density	t/m^3	-	2.03	2.08	-	-
Adjusted Optimum Moisture Content	%	-	10.0	7.5	-	-

Remarks

Authorised Signatory _____ Allan Fong Date 20/03/2015

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FIELD DENSITY REPORT

Client / Address: RPS Australia Asia Pacific / Suite 2, 668 Princess Highway, Sutherland, NSW, 2232	Job No: JT14758C
Project: Proposed Subdivision Lot 1 DP 1144668	Date: 20/03/15
Location: Andromeda Drive, Cranebrook	Report No: R 04A

Test Results

Test Number		16				
Date Tested		10-Mar-15				
Time of Test		15:35				
Lab No.		758C / 16				
Depth Tested		100 mm				
Location of Test		Cassar Crescent Chainage 13				
Depth of Density Test	RL (m)	Base Course				
Material Type		Unbound base				
Density Ratio	%	105.5				
Moisture Variation	%	5.5 drier				
Compaction Requirement	%	98 Modified				
Moisture Requirement	%	-				

Field and Laboratory Data

AS 1289 2.1.1, 5.8.1						
Field Wet Density	t/m^3	2.19				
Field Dry Density	t/m^3	2.04				
Field Moisture Content	%	7.5				
AS 1289 5.4.1						
Sieve Size	mm	19				
Wet Oversize	%	-				
Dry Oversize	%	-				
Laboratory Procedure		AS 1289 1.1, 1.2.1 (6.3) 5.2.1 (A Mould), 5.4.2				
Lab Compaction ex test No.		B P UB 20 - 66				
Maximum Dry Density	t/m^3	1.94				
Optimum Moisture Content	%	13.0				
Adjusted Maximum Dry Density	t/m^3	-				
Adjusted Optimum Moisture Content	%	-				

Remarks

Authorised Signatory _____ Allan Fong Date 20/03/2015