JOB NO: ML20/105 **MAY 2021**

HALL CONTRACTING PTY LTD
LEVEL ONE COMPLIANCE REPORT FOR EARTHWORKS FILLING OPERATIONS
NORTH HARBOUR PHASE 4B (STAGES 25 & 27)
BURPENGARY EAST

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MORRISON GEOTECHNIC

Brisbane | Gold Coast | **Maroochydore**
Unit 4, 81 Wises Road, Maroochydore Q 4558 **P** (07) 5443 9522 **Mob:** 0499 601506
ABN 51 009 878 899
www.morrisongeo.com.au

Sunshine Coast Office
Job Number: ML20/105
Ref No: 3265
Author: D. Taylor

19th May 2021

Hall Contracting Pty Ltd
PO Box 519
Buderim QLD 4006

ATTENTION: MR NELSON RIDDLE
Email: NelsonRiddle@hallcontracting.com.au

Dear Sir,

RE: LEVEL ONE COMPLIANCE REPORT FOR EARTHWORKS FILLING OPERATIONS NORTH HARBOUR PHASE 4B - STAGES 25 AND 27

Table of Contents

1.0 INTRODUCTION

1.1 General

This report presents results of Level One Earthworks Inspections and associated Compaction Compliance testing carried out on Earthworks Fill constructed to form filled residential building platforms and filled embankments below subgrade at the North Harbour Phase 4B (Stages 25 and 27) Development.

The work was commissioned by Mr. Nelson Riddle represented Hall Contracting (The Client).

Earthworks were carried out by The Client.

Earthworks filling operations were carried out between the following dates: -

- December 2020 and February 2021

The extent of fill covered by this report is presented on the site plan attached as Appendix A.

Picture 1: Aerial View of the Site

1.2 Previous Earthworks

No previous earthworks filling was present at The Site.

1.3 The Project

The Purpose for filling at The Site is to construct filled building platforms to support proposed residential dwellings and embankment fill supporting subgrades proposed pavements.

The approximate extent of fill covered by this report is presented on the attached marked up Site Plan.

The actual thickness of fill on an individual Lot can be obtained from the Developer as a Lot Disclosure Plan.

The Site is bounded by existing developments to the North, West and South and undeveloped land to the East.

2.0 THE BRIEF

The Brief from the Client was limited to:

- Level One Inspection and Testing of the placement and compaction of fill materials in accordance with AS3798 2007 – "Guidelines on Earthworks for Commercial and Residential Developments",
- Relative Density Control Testing in accordance with AS1289 – Testing of Soils for Engineering Purposes and at frequencies required in AS3798 Table 8.1.
- KN Group drawings and notes on drawings.

All other design requirements such as CBR and Quality of Materials, site classification, material, settlement assessments and existing filling were not included in the Brief and are therefore excluded from this Report.

3.0 METHODOLOGY

Earthworks Inspections and Testing was carried out on the stripped and exposed ground surfaces and during the placement and compaction of fill materials.

Field and laboratory testing included a walk over assessments of the existing ground conditions, observation of filling and compaction activities and compaction testing.

3.1 Stripped Surface Assessment

The areas to be filled at The Site were observed to be stripped and cleared of all visible organic matter, deleterious, loose, unsuitable materials and sediments in an old dam to depths exposing natural soils suitable for the support of the construction of new fill.

The materials forming the fill foundation exposed after the stripping and clearing can be summarised as:

- Sandy Clay (CI-CH) at least very stiff, medium to high plasticity, fine to medium grained sands, orange grey brown and red brown

Following the stripped surface assessment of the fill areas, the fill foundation was approved for filling using the following process:

- Walk over assessments confirming that the competent natural ground was exposed.
- Proof roll testing an Articulated Dump Truck confirming no discernible movement of the exposed natural foundation.

On this basis, the compliant assessments in accordance with above indicate that the exposed natural ground forming the fill foundation is capable of supporting new fill materials.

3.2 Filling Operations

Fill material was sourced from onsite cuts within the North Harbour Development and Hastings Deering borrow pit.

Fill materials can be broadly summarised as:

- Onsite – Sandy Clay (CI - CH) medium to high plasticity, fine to medium grained sands, red grey brown and moist.

Placement and compaction of the fill materials was carried out using the following plant:

- Excavator
- Grader
- Articulated dump Trucks
- Water Cart
- 815 Compactor
- Pad Foot Roller

The fill materials were moisture conditioned at the source and during placement to moisture contents suitable for compaction. Deleterious materials such as organics, sticks, roots and over size particles were sorted and removed during placement or were rejected for use.

Placement of the fill materials was carried in layers appropriate for the above plant and compacted using the above plant carrying out multiple passes. Fill placed against slopes was placed on prepared benches and well as keyed into the slope with each lift.

Our representative observed the filling process as described above and it was assessed to be consistent for the entire thickness of fill.

Compaction Testing was carried out on the compacted fill materials in accordance with Table 5.1 and 8.1 of AS3798 2007 (Guidelines on Earthworks for Commercial and Residential Developments) and tested to AS1289 test methods (Testing of Soils for Engineering Purposes). Testing achieved the required specification of 95% of the Hilf Density.

Fill placed and compacted at measured density ratios less than 95% were tyned, moisture conditioned and re-compacted until the required specification was achieved. Retesting was carried out using Random Stratified Location methods.

The Location of the field density tests are shown on the Site Plan contained in Appendix A. These test locations and levels were not obtained by survey and therefore should only be considered as approximate.

4.0 STATEMENT OF COMPLIANCE

Our representative observed all the relevant earthworks operations including the stripped surfaces, filling operations and carried out compaction tests in accordance with the required standard.

It is confirmed that Level 1 Inspection has been carried out on the earthworks fill at this project.

Based on the observations made by our Geotechnicians and the results of the field and laboratory tests, the placed and compacted fill at the above project has, as far as we have been able to assess, been constructed in general accordance with the intent of AS3798.

The fill can be deemed as “Controlled” in accordance with AS2870 (Residential Slabs and Footings).

5.0 EXCLUSIONS

This statement does not include any topsoil, which may be placed for use as dressing, backfill to services, fill outside the area shown on the attached site plan, fill constructed by others or any other subsequent earthworks after February 2021.

Assessments of material quality such as soaked CBR and site classifications are excluded from this commission.

Our on-site attendance specifically excludes assessments of fill material quality and engineering properties that are outside the requirements of AS3798 - 2007, including soil or fill reactivity and soaked CBR values. We note that the fill materials used may result in unfavourable site classifications and low subgrade design strengths.

This report is not to be relied upon for settlement analysis and soft soils engineering advice. This is beyond the scope of this report and outside our engagement.

6.0 LIMITATIONS

This Report has been prepared by Morrison Geotechnic Pty Ltd (**Morrison Geotechnic**) and may include contributions from Morrison Geotechnic’s officers and employees, sub-contractors, sub-consultants or agents (**Contributors**).

This Report is for the sole benefit and use of **Hall Contracting** (**Client**), its designers, clients and relevant statutory authorities for the sole purpose of providing geotechnical advice and recommendations in respect of the Proposed Residential Development at North Harbour Phase 4B [Stages 25 and 27] **(Project)**. The Report is only intended to address those issues expressly described in the Brief/ Work Instructions in this Report.

This Report should not be used or relied upon for any other purpose without Morrison Geotechnic’s prior written consent. Morrison Geotechnic and the Contributors do not accept any responsibility or liability in any way whatsoever for the use or reliance of this Report by anyone other than the **Client**, its designers, its clients and relevant statutory authorities or by anyone else for any purpose other than that for which it has been prepared.

Except with Morrison Geotechnic’s prior written consent, this Report may not be:

(a) released to any other party, whether in whole or in part (other than to the Client’s officers, employees, advisers, designers, clients and relevant statutory authorities);
(b) used or relied upon by any other party.

Morrison Geotechnic and the Contributors, do not accept any liability or responsibility whatsoever for, or in respect of, any use or reliance upon this Report by any other party. Morrison Geotechnic is not obliged to enter into discussions with any third party in respect of this Report.

The information (including technical information and information obtained through discussions) on which this report is based has been provided by the Client and third parties. Morrison Geotechnic and the Contributors:

(a) have relied upon and presumed the accuracy of this information;
(b) have not verified the accuracy or reliability of this information (other than as expressly stated in this Report);

(c) have not made any independent investigations or enquiries in respect of those matters of which it has no actual knowledge at the time of giving this Report to the Client; and

(d) make no warranty or guarantee, expressed or implied, as to the accuracy or reliability of this information.

Morrison Geotechnic and the Contributors do not accept responsibility or liability for any incorrect assumptions related to this Report. For the avoidance of doubt, this Report:

(a) is not an environmental, contamination or hazardous materials assessment; may be invalid, incomplete or inaccurate (including errors in the scope of work, investigation methodology, observations, opinions and advice) where the information provided to Morrison Geotechnic was invalid, incomplete or inaccurate;

(b) is limited to observations of those parts of the site described in Section 1.0.

No warranty or guarantee, whether express or implied, is made in respect of the geotechnical data, information, advice, opinions and recommendations present in this Report.

If further information becomes available, or additional assumptions need to be made, Morrison Geotechnic reserves its right to amend this Report.

If you have any queries regarding the above, please contact our Brisbane office.

Yours faithfully,

DAVID TAYLOR
For and on behalf of
MORRISON GEOTECHNIC PTY LIMITED

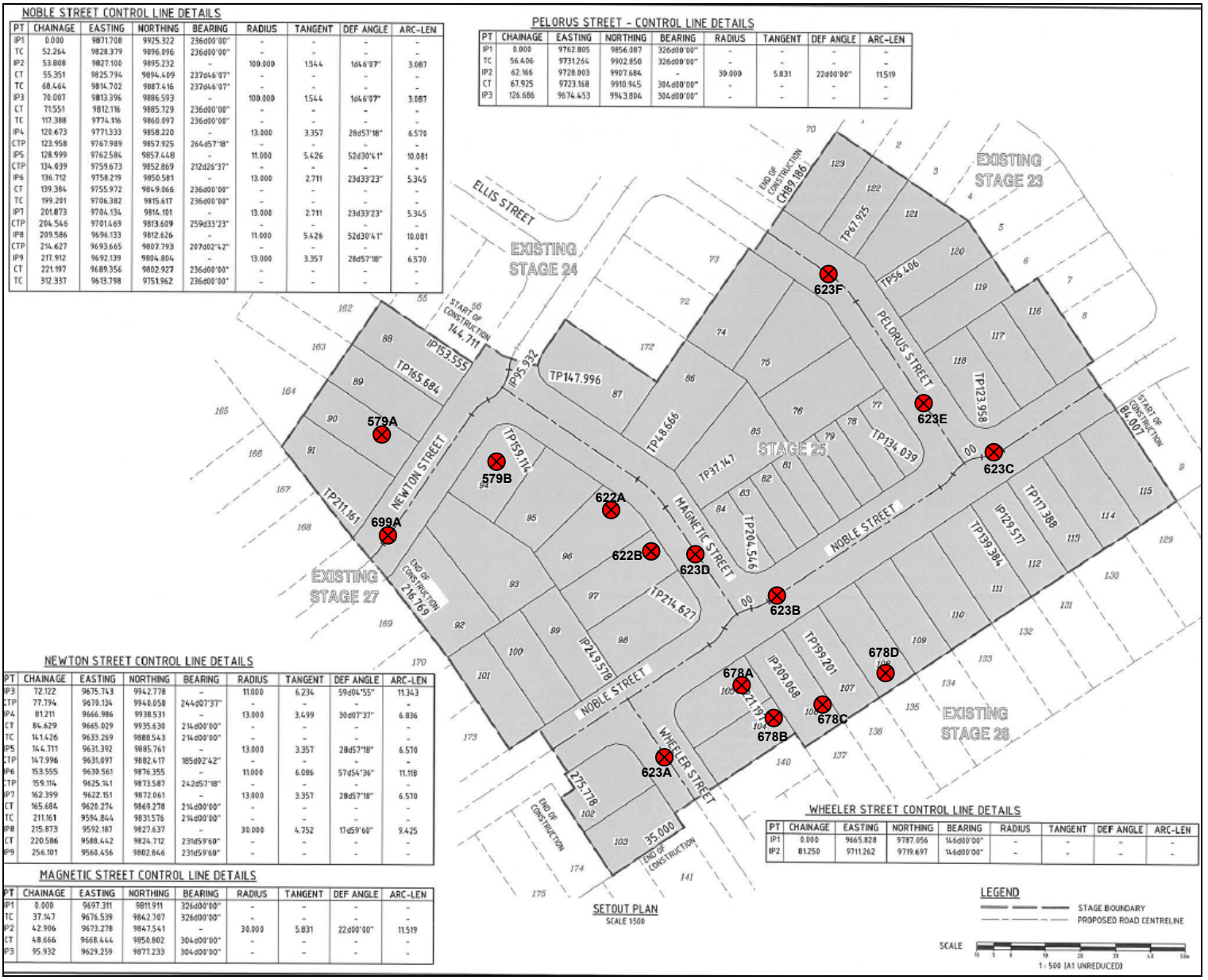
Reviewed by

GINA FLETT
For and on behalf of
MORRISON GEOTECHNIC PTY LIMITED

Encl: Appendix A – Site Plan Showing Test Location
Appendix B - Laboratory Test Reports

APPENDIX A

Site Plans Showing Test Locations



MORRISON GEOTECHNIC Solid thinking. Grounded results.	***MORRISON GEOTECHNIC PTY LTD*** *ABN: 51 009 878 899* Unit 4/81 Wises Rd, Maroochydore Qld 4558 Ph: 5443 9522 Office Mob: 0499 601506 Email: maroochydorelab@mgeo.com.au	Client :	Hall Contracting Pty Ltd
		Project :	Residential Development – Phase 4B (Stages 25, 27) North Harbour Burpengary
		Job No :	ML20/105 — Drawing No: ML20/105
		Legend	Approx. Bulk Fill Test Location
			Date: 19th May 2021
			Drawing Not To Scale

MORRISON GEOTECHNIC Solid thinking. Grounded results.	***MORRISON GEOTECHNIC PTY LTD*** *ABN: 51 009 878 899* Unit 4/81 Wises Rd, Maroochydore Qld 4558 Ph: 5443 9522 Office Mob: 0499 601506 Email: maroochydorelab@mgeo.com.au	Client :	Hall Contracting Pty Ltd	
		Project :	Residential Development – Phase 4B (Stages 25, 27) North Harbour Burpengary	
		Job No :	ML20/105	Drawing No: ML20/105
		Legend	Approx. Bulk Fill Test Location	Date: 19th May 2021
			⊗	**Drawing Not To Scale**

APPENDIX B

Laboratory Test Reports

Material Test Report

Morrison Geotechnic Pty Ltd
Base Facility No:17071
North Harbour Annex Facility No:24234
Unit 4 / 81 Wises Road Maroochydore QLD 4558
Phone: (07) 5443 9522
Email: dtaylor@mgeo.com.au

Report Number: ML20/105-47
Issue Number: 1
Date Issued: 24/02/2021
Client: HALL CONTRACTING PTY LTD
PO BOX 519, BUDERIM QLD 4556
Contact: Greg Busse
Project Number: ML20/105
Project Name: Phase 4B - Level 1 Bulk Earthworks
Project Location: North Harbour, Burpengary
Client Reference: N4B1/F20C
Work Request: 562
Date Sampled: 08/02/2021 9:0
Dates Tested: 08/02/2021 - 22/02/2021
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD
Material: Sandy Clay. Brown
Material Source: Hasting Deering Borrow Pit

Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: David Taylor
Senior Technician
NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1					
Sample Number	N21-562A	N21-562B	N21-562C	N21-562D	N21-562E
Test Number	539	540	541	542	543
Date Tested	08/02/2021	08/02/2021	08/02/2021	08/02/2021	08/02/2021
Time Tested	10:00	10:05	10:10	10:15	10:20
Test Request #/Location	Brooke Cresent	Brooke Cresent	Brooke Cresent	Noble Street	Clerke Street
Chainage (m)	560	610	460	360	70
Location Offset (m)	C/L	C/L	C/L	C/L	C/L
Layer / Reduced Level	.5m BFL	.3m BFL	.2m BFL	.5m BFL	.2m BFL
Soil Description	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown
Test Depth (mm)	150	150	150	150	150
Sieve used to determine oversize (mm)	19.0	19.0	19.0	19.0	19.0
Percentage of Wet Oversize (%)	**	**	**	**	**
Field Wet Density (FWD) t/m^3	2.09	2.05	2.10	2.12	2.14
Field Moisture Content %	16.0	15.7	15.9	15.3	15.5
Field Dry Density (FDD) t/m^3	1.80	1.77	1.82	1.84	1.85
Peak Converted Wet Density t/m^3	2.04	2.06	2.03	2.04	2.08
Adjusted Peak Converted Wet Density t/m^3	**	**	**	**	**
Moisture Variation (Wv) %	0.0	0.0	0.5	0.5	0.5
Adjusted Moisture Variation %	**	**	**	**	**
Hilf Density Ratio (%)	**102.5**	**99.5**	**103.5**	**104.0**	**103.0**
Compaction Method	**Standard**	**Standard**	**Standard**	**Standard**	**Standard**
Report Remarks	**	**	**	**	**

Moisture Variation Note:
Positive values = test is dry of OMC
Negative values = test is wet of OMC

Material Test Report

Morrison Geotechnic Pty Ltd
Base Facility No:17071
North Harbour Annex Facility No:24234
Unit 4 / 81 Wises Road Maroochydore QLD 4558
Phone: (07) 5443 9522
Email: dtaylor@mgeo.com.au

Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: David Taylor
Senior Technician
NATA Accredited Laboratory Number: 1169

Report Number: **ML20/105-48**
Issue Number: 1
Date Issued: 24/02/2021
Client: HALL CONTRACTING PTY LTD
PO BOX 519, BUDERIM QLD 4556
Contact: Greg Busse
Project Number: ML20/105
Project Name: Phase 4B - Level 1 Bulk Earthworks
Project Location: North Harbour, Burpengary
Client Reference: N4B1/F20C
Work Request: 564
Date Sampled: 10/02/2021 10:00
Dates Tested: 10/02/2021 - 23/02/2021
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD
Material: Sandy Clay. Brown
Material Source: Onsite

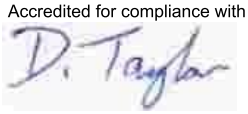
Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1			
Sample Number	N21-564A		
Test Number	544		
Date Tested	10/02/2021		
Time Tested	09:00		
Test Request #/Location	Brook		
Chainage (m)	420		
Location Offset (m)	C/L		
Layer / Reduced Level	.9m BFL		
Soil Description	Sandy Clay. Brown		
Test Depth (mm)	150		
Sieve used to determine oversize (mm)	19.0		
Percentage of Wet Oversize (%)	**		
Field Wet Density (FWD) t/m^3	2.15		
Field Moisture Content %	11.9		
Field Dry Density (FDD) t/m^3	1.92		
Peak Converted Wet Density t/m^3	2.25		
Adjusted Peak Converted Wet Density t/m^3	**		
Moisture Variation (Wv) %	0.0		
Adjusted Moisture Variation %	**		
Hilf Density Ratio (%)	**95.5**		
Compaction Method	**Standard**		
Report Remarks	**		

Moisture Variation Note:
Positive values = test is dry of OMC
Negative values = test is wet of OMC

Material Test Report

Morrison Geotechnic Pty Ltd
Base Facility No:17071
North Harbour Annex Facility No:24234
Unit 4 / 81 Wises Road Maroochydore QLD 4558
Phone: (07) 5443 9522
Email: dtaylor@mgeo.com.au

Accredited for compliance with ISO/IEC 17025 - Testing



Approved Signatory: David Taylor
Senior Technician
NATA Accredited Laboratory Number: 1169

Report Number: **ML20/105-49**
Issue Number: 1
Date Issued: 24/02/2021
Client: HALL CONTRACTING PTY LTD
PO BOX 519, BUDERIM QLD 4556
Contact: Greg Busse
Project Number: ML20/105
Project Name: Phase 4B - Level 1 Bulk Earthworks
Project Location: North Harbour, Burpengary
Client Reference: N4B1/F20C
Work Request: 566
Date Sampled: 11/02/2021 8:00
Dates Tested: 11/02/2021 - 23/02/2021
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD
Material: Sandy Clay. Brown
Material Source: onsite

Compaction Control AS 1289 5.1.1 & 5.4.1 & 5.8.1 & 2.1.1			
Sample Number	N21-566A		
Test Number	545		
Date Tested	11/02/2021		
Time Tested	08:00		
Test Request #/Location	Bulk Fill		
Line / Offset	Refer to plans		
Offset	**		
Layer / Reduced Level	1m BFL		
Soil Description	Sandy Clay. Brown		
Test Depth (mm)	200		
Fraction Tested (mm)	19.0		
Oversize (wet basis) %	0		
Oversize (dry basis) %	0		
Curing Hours	**		
Method used to Determine Plasticity	**		
Field Wet Density t/m^3	2.21		
Field Moisture Content %	14.9		
Field Dry Density t/m^3	1.92		
Maximum Dry Density t/m^3	1.88		
Adjusted Maximum Dry Density t/m^3	**		
Optimum Moisture Content (OMC) %	14.0		
Adjusted Optimum Moisture Content (OMC) %	**		
Moisture Variation %	-1.0		
Moisture Ratio %	105.5		
Density Ratio %	**102.0**		
Compaction Method	**Standard**		

Moisture Variation Note:
Positive values = test is dry of OMC
Negative values = test is wet of OMC

Material Test Report

Morrison Geotechnic Pty Ltd
Base Facility No:17071
North Harbour Annex Facility No:24234
Unit 4 / 81 Wises Road Maroochydore QLD 4558
Phone: (07) 5443 9522
Email: dtaylor@mgeo.com.au

Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: David Taylor
Senior Technician
NATA Accredited Laboratory Number: 1169

Report Number: **ML20/105-50**
Issue Number: 1
Date Issued: 04/03/2021
Client: HALL CONTRACTING PTY LTD
PO BOX 519, BUDERIM QLD 4556
Contact: Greg Busse
Project Number: ML20/105
Project Name: Phase 4B - Level 1 Bulk Earthworks
Project Location: North Harbour, Burpengary
Client Reference: N4B1/F20C
Work Request: 579
Date Sampled: 17/02/2021 10:00
Dates Tested: 17/02/2021 - 03/03/2021
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD
Material: Sandy Clay. Brown
Material Source: Onsite

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1			
Sample Number	N21-579A	N21-579B	
Test Number	546	547	
Date Tested	17/02/2021	17/02/2021	
Time Tested	10:15	10:20	
Test Request #/Location	Lot 94 Stg 25	Lot 94 Stg 25	
Line / Offset	**	**	
Offset	**	**	
Layer / Reduced Level	.5m BFL	F/L	
Soil Description	Sandy Clay. Brown	Sandy Clay. Brown	
Test Depth (mm)	200	200	
Sieve used to determine oversize (mm)	19.0	19.0	
Percentage of Wet Oversize (%)	**	**	
Field Wet Density (FWD) t/m^3	2.09	2.10	
Field Moisture Content %	10.9	11.5	
Field Dry Density (FDD) t/m^3	1.89	1.88	
Peak Converted Wet Density t/m^3	2.12	2.11	
Adjusted Peak Converted Wet Density t/m^3	**	**	
Moisture Variation (Wv) %	2.0	2.0	
Adjusted Moisture Variation %	**	**	
Hilf Density Ratio (%)	**99.0**	**100.0**	
Compaction Method	**Standard**	**Standard**	
Report Remarks	**	**	

Moisture Variation Note:
Positive values = test is dry of OMC
Negative values = test is wet of OMC

Material Test Report

Report Number: **ML20/105-53**
Issue Number: 1
Date Issued: 08/04/2021
Client: HALL CONTRACTING PTY LTD
PO BOX 519, BUDERIM QLD 4556
Contact: Greg Busse
Project Number: ML20/105
Project Name: Phase 4B - Level 1 Bulk Earthworks
Project Location: North Harbour, Burpengary
Client Reference: N4B1/F20C
Work Request: 622
Date Sampled: 30/03/2021
Dates Tested: 30/03/2021 - 07/04/2021
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD
Location: Stg 25 V Drain Backfill
Material: Sandy Clay. Brown
Material Source: Onsite

MORRISON GEOTECHNIC
Morrison Geotechnic Pty Ltd
Base Facility No:17071
North Harbour Annex Facility No:24234
Unit 4 / 81 Wises Road Maroochydore QLD 4558
Phone: (07) 5443 9522
Email: dtaylor@mgeo.com.au

NATA WORLD RECOGNISED ACCREDITATION
Accredited for compliance with ISO/IEC 17025 - Testing
Approved Signatory: David Taylor
Senior Technician
NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1			
Sample Number	N21-622A	N21-622B	
Test Number	551	552	
Date Tested	30/03/2021	30/03/2021	
Time Tested	09:10	09:15	
Test Request #/Location	Lot 96	Lot 97	
Chainage (m)	V Drain Backfill	V Drain Backfill	
Location Offset (m)	**	**	
Layer / Reduced Level	1m BFL	F/L	
Soil Description	Sandy Clay. Brown	Sandy Clay. Brown	
Test Depth (mm)	200	200	
Sieve used to determine oversize (mm)	19.0	19.0	
Percentage of Wet Oversize (%)	**	**	
Field Wet Density (FWD) t/m^3	2.13	2.15	
Field Moisture Content %	14.1	15.3	
Field Dry Density (FDD) t/m^3	1.87	1.86	
Peak Converted Wet Density t/m^3	2.11	2.15	
Adjusted Peak Converted Wet Density t/m^3	**	**	
Moisture Variation (Wv) %	2.0	2.0	
Adjusted Moisture Variation %	**	**	
Hilf Density Ratio (%)	**100.5**	**100.0**	
Compaction Method	**Standard**	**Standard**	
Report Remarks	**	**	

Moisture Variation Note:
Positive values = test is dry of OMC
Negative values = test is wet of OMC

Material Test Report

MORRISON GEOTECHNIC
Morrison Geotechnic Pty Ltd
Base Facility No:17071
North Harbour Annex Facility No:24234
Unit 4 / 81 Wises Road Maroochydore QLD 4558
Phone: (07) 5443 9522
Email: dtaylor@mgeo.com.au

Report Number: ML20/105-54
Issue Number: 1
Date Issued: 19/04/2021
Client: HALL CONTRACTING PTY LTD
PO BOX 519, BUDERIM QLD 4556
Contact: Greg Busse
Project Number: ML20/105
Project Name: Phase 4B - Level 1 Bulk Earthworks
Project Location: North Harbour, Burpengary
Client Reference: N4B1/F20C
Work Request: 623
Date Sampled: 30/03/2021 9:30
Dates Tested: 30/03/2021 - 13/04/2021
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD
Location: Stg 25 Rd Embankment
Material: Sandy Clay. Brown
Material Source: Onsite

NATA WORLD RECOGNISED ACCREDITATION

Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: David Taylor
Senior Technician
NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1						
Sample Number	N21-623A	N21-623B	N21-623C	N21-623D	N21-623E	N21-623F
Test Number	553	554	555	556	557	558
Date Tested	30/03/2021	30/03/2021	30/03/2021	30/03/2021	30/03/2021	30/03/2021
Time Tested	08:55	09:00	09:03	09:07	09:10	09:13
Test Request #/Location	Wheeler Street	Noble Street	Noble Street	Magnetic Street	Pelorus Street	Pelorus Street
Chainage (m)	20	200	120	25	20	60
Location Offset (m)	**	**	**	**	**	**
Layer / Reduced Level	.3m F/L	.6m F/L	.5m F/L	.3m F/L	.6m F/L	.3m F/L
Soil Description	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown
Test Depth (mm)	150	150	150	150	150	150
Sieve used to determine oversize (mm)	19.0	19.0	19.0	19.0	19.0	19.0
Percentage of Wet Oversize (%)	**	**	**	**	**	**
Field Wet Density (FWD) t/m^3	2.13	2.14	2.14	2.14	2.16	2.15
Field Moisture Content %	11.7	11.8	12.2	11.8	15.9	11.2
Field Dry Density (FDD) t/m^3	1.90	1.92	1.91	1.92	1.87	1.93
Peak Converted Wet Density t/m^3	2.06	2.08	2.04	2.04	2.05	2.04
Adjusted Peak Converted Wet Density t/m^3	**	**	**	**	**	**
Moisture Variation (Wv) %	2.0	2.5	4.5	2.5	2.0	2.5
Adjusted Moisture Variation %	**	**	**	**	**	**
Hilf Density Ratio (%)	**103.5**	**103.5**	**105.5**	**105.0**	**105.5**	**105.0**
Compaction Method	**Standard**	**Standard**	**Standard**	**Standard**	**Standard**	**Standard**
Report Remarks	**	**	**	**	**	**

Moisture Variation Note:
Positive values = test is dry of OMC
Negative values = test is wet of OMC

Material Test Report

MORRISON GEOTECHNIC
Morrison Geotechnic Pty Ltd
Base Facility No:17071
North Harbour Annex Facility No:24234
Unit 4 / 81 Wises Road Maroochydore QLD 4558
Phone: (07) 5443 9522
Email: dtaylor@mgeo.com.au

Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: David Taylor
Senior Technician
NATA Accredited Laboratory Number: 1169

Report Number: **ML20/105-58**
Issue Number: 1
Date Issued: 13/05/2021
Client: HALL CONTRACTING PTY LTD
PO BOX 519, BUDERIM QLD 4556
Contact: Greg Busse
Project Number: ML20/105
Project Name: Phase 4B - Level 1 Bulk Earthworks
Project Location: North Harbour, Burpengary
Client Reference: N4B1/F20C
Work Request: 678
Date Sampled: 28/04/2021
Dates Tested: 28/04/2021 - 13/05/2021
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD
Location: Bulk Fill V Drain Std 25/26
Material: Sandy Clay. Brown
Material Source: Onsite

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1					
Sample Number	N21-678A	N21-678B	N21-678C	N21-678D	N21-678E
Test Number	564	565	566	567	568
Date Tested	28/04/2021	28/04/2021	28/04/2021	28/04/2021	28/04/2021
Time Tested	**	**	**	**	**
Test Request #/Location	Bulk Fill Stg 25/26 V Drain Lot 105	Bulk Fill Stg 25/26 V Drain Lot 104	Bulk Fill Stg 25/26 V Drain Lot 106	Bulk Fill Stg 25/26 V Drain Lot 108	Bulk Fill Stg 25/26 V Drain Lot 134
Line / Offset	Refer to plans	Refer to plans	Refer to plans	Refer to plans	Refer to plans
Offset	**	**	**	**	**
Layer / Reduced Level	F/L	.5m BFL	F/L	.5m BFL	F/L
Soil Description	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown
Test Depth (mm)	200	200	200	200	200
Sieve used to determine oversize (mm)	19.0	19.0	19.0	19.0	19.0
Percentage of Wet Oversize (%)	**	**	**	**	**
Field Wet Density (FWD) t/m^3	2.07	2.04	2.31	2.34	2.24
Field Moisture Content %	12.0	14.5	6.0	6.3	8.7
Field Dry Density (FDD) t/m^3	1.85	1.78	2.18	2.20	2.06
Peak Converted Wet Density t/m^3	2.18	2.13	2.39	2.35	2.22
Adjusted Peak Converted Wet Density t/m^3	**	**	**	**	**
Moisture Variation (Wv) %	-0.5	0.0	0.0	0.0	0.0
Adjusted Moisture Variation %	**	**	**	**	**
Hilf Density Ratio (%)	**95.0**	**96.0**	**96.5**	**99.5**	**100.5**
Compaction Method	**Standard**	**Standard**	**Standard**	**Standard**	**Standard**
Report Remarks	**	**	**	**	**

Moisture Variation Note:
Positive values = test is dry of OMC
Negative values = test is wet of OMC

Material Test Report

Morrison Geotechnic Pty Ltd
Base Facility No:17071
North Harbour Annex Facility No:24234
Unit 4 / 81 Wises Road Maroochydore QLD 4558
Phone: (07) 5443 9522
Email: dtaylor@mgeo.com.au

Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: David Taylor
Senior Technician
NATA Accredited Laboratory Number: 1169

Report Number: **ML20/105-61**
Issue Number: 1
Date Issued: 19/05/2021
Client: HALL CONTRACTING PTY LTD
PO BOX 519, BUDERIM QLD 4556
Contact: Greg Busse
Project Number: ML20/105
Project Name: Phase 4B - Level 1 Bulk Earthworks
Project Location: North Harbour, Burpengary
Client Reference: N4B1/F20C
Work Request: 699
Date Sampled: 17/05/2021 9:00
Dates Tested: 17/05/2021 - 18/05/2021
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD
Location: Bulk Fill Rd Embankment
Material: Sandy Clay. Brown
Material Source: Onsite

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1						
Sample Number	N21-699A	N21-699B	N21-699C	N21-699D	N21-699E	N21-699F
Test Number	571	572	573	574	575	576
Date Tested	17/05/2021	17/05/2021	17/05/2021	17/05/2021	17/05/2021	17/05/2021
Time Tested	**	**	**	**	**	**
Test Request #/Location	Bulk Fill Embankment Stg 25) Newton St	Bulk Fill Embankment Stg 27) Newton St	Bulk Fill Embankment Stg 27) Noble St	Bulk Fill Embankment Stg 26) Wheeler St	Bulk Fill Embankment Stg 26) Fraser Drive	Bulk Fill Embankment Stg 26) Fraser Drive
Chainage (m)	205	235	285	60	620	720
Location Offset (m)	C/L	C/L	C/L	C/L	C/L	C/L
Layer / Reduced Level	.6m BFL	.3m BFL	.4m BFL	.6m BFL	.4m BFL	.5m BFL
Soil Description	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown
Test Depth (mm)	200	200	200	200	200	200
Sieve used to determine oversize (mm)	19.0	19.0	19.0	19.0	19.0	19.0
Percentage of Wet Oversize (%)	**	**	**	**	**	**
Field Wet Density (FWD) t/m^3	2.10	2.10	2.12	2.13	2.12	2.12
Field Moisture Content %	17.3	17.1	17.8	17.6	16.7	17.0
Field Dry Density (FDD) t/m^3	1.79	1.79	1.80	1.81	1.82	1.81
Peak Converted Wet Density t/m^3	2.11	2.12	2.12	2.13	2.12	2.12
Adjusted Peak Converted Wet Density t/m^3	**	**	**	**	**	**
Moisture Variation (Wv) %	0.0	-0.5	0.0	0.0	0.0	0.0
Adjusted Moisture Variation %	**	**	**	**	**	**
Hilf Density Ratio (%)	**99.0**	**99.0**	**100.5**	**100.0**	**100.0**	**100.0**
Compaction Method	**Standard**	**Standard**	**Standard**	**Standard**	**Standard**	**Standard**
Report Remarks	**	**	**	**	**	**

Moisture Variation Note:
Positive values = test is dry of OMC
Negative values = test is wet of OMC