

Reference
No.: 1917-071

LEVEL ONE

SURVEILLANCE

AND INSPECTION REPORT

*Carried Out
By*



PREPARED FOR: -

DRAPERS CIVIL CONTRACTING PTY LTD



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Appendix A Construction Drawings

Appendix B Daily Field Compaction Summary Results



Client Name: Drapers Civil Contracting Pty Ltd

Project Name: The Quay 2 Estate Stage 8

Date: 3rd of July 2018

Author: Mr. Sam Loza

Reference No.: 1917-071

Revision: 0

Project Manager: Mr. Matthew Jackman

1. Introduction & Scope

At the request of Drapers Civil Contracting Pty Ltd, Geotechnical Laboratories has carried out inspection and testing of the above-mentioned site on the 24th of May 2018 and the 1st of June 2018 where a residential development is being constructed. Inspection and testing of stripping, material quality and compaction control tests were carried out to comply with the requirements of AS 3798 Appendix B, Level 1.

The following documentation was submitted to Geotechnical Laboratories by Drapers Civil Contracting Pty Ltd and was used to determine compliance of earthworks in conjunction with the requirements of AS 3798 – 2007 (See Appendix A).

(1). Reeds Consulting Standard Faceplan Layout Reference No. 21437E/8.

General site works involved the placement of fill, using on-site derived clay, to bring the fill region to the required finished levels as indicated on the faceplan drawings.

2. Site Preparation

Site inspections were undertaken on the 24th of May 2018 confirming that selected areas to be filled were completely stripped of topsoil prior to filling. The brown silty topsoils had been stockpiled around the site for later removal off-site.

Initial proof roll inspections were performed and subsequently throughout the project duration to ensure no significant soft areas were present prior to filling.

3. Fill Material

It is understood that the fill material used was sourced from on-site excavations, mainly service trenches and road boxing.



The fill material is best described as a CLAY, brown, grey-brown, medium plasticity, slightly silty, slightly moist to moist with basalt gravel and cobbles.

The fill material is consistent with the naturally occurring soils for this region.

Source material was deemed a **Suitable Material** in accordance with guidelines set out in AS 3798 - 2007 Section 4.4.

4. Fill Construction Procedure

The following plant (but not always limited to) were engaged in the fill placement process:

- Dump trucks and / or highway trucks
- A watercart
- A sheepsfoot compactor (815)

The sheepsfoot compactor placed material in horizontal loose layers of approximately 250mm-300mm. The sheepsfoot compactor also performed compaction of the clay fill operating in a criss-cross pattern.

The moisture condition of the fill was closely monitored and moisture conditioning procedures were applied to bring the material closer to its Standard Optimum Moisture Content (AS 1289 5.7.1).

5. Compaction Control Testing

Compaction control testing was performed on-site using a Nuclear Densometer in accordance with AS 1289 5.8.1. Laboratory reference densities were determined from material sampled at each test site location using the Hilf Rapid Compaction Method in accordance with AS 1289 5.7.1.

A total of twenty-eight compaction tests were performed on the fill construction. Results are presented in Appendix B of this report.

6. Testing Frequency

Testing frequencies were in accordance with **AS 3798 - 2007 Table 8.1** for **Large Scale Operations**.

Acceptance of fill layers for compaction was based on the requirements of **AS 3798 - 2007 Table 5.1 Item 1. Residential**. As a result, the compliance criteria adopted by Geotechnical Laboratories was a hilf density ratio not less than 95 percent of the maximum hilf density value as determined by the Standard Hilf Rapid Compaction Method in accordance with AS 1289 5.7.1.



Test results indicate that the above-mentioned requirements have been successfully achieved.

No moisture criteria was specified.

7. Statement of Compliance

So far as can be determined, Drapers Civil Contracting Pty Ltd has satisfactorily complied with the compaction and construction processes required for the structural filling of this site. As such, structural filling placed on this site by Drapers Civil Contracting Pty Ltd from the 25th of May 2018 to the 1st of June 2018 can be categorised as CONTROLLED FILL in accordance with AS 2870-2011.

8. Limitations and Liability of this Report

This report has been produced for and remains the property of Drapers Civil Contracting Pty Ltd.

The release of this report to a third party will only occur if Geotechnical Laboratories Pty Ltd has received, in writing, the authority to do so by our client.

Geotechnical Laboratories Pty Ltd will not engage in any third-party communication regarding this report.

Where information has been supplied by the client or third party, the assumption is made that this is correct. Geotechnical Laboratories Pty Ltd will not be held responsible for any inaccuracies supplied.

Test results and controlled fill compliance relates only to fill placed by Drapers Civil Contracting Pty Ltd and for earthworks completed at the time of inspection and testing. Any previous or subsequent earthworks will require a separate evaluation.

For & on behalf of
Geotechnical Laboratories Pty Ltd.

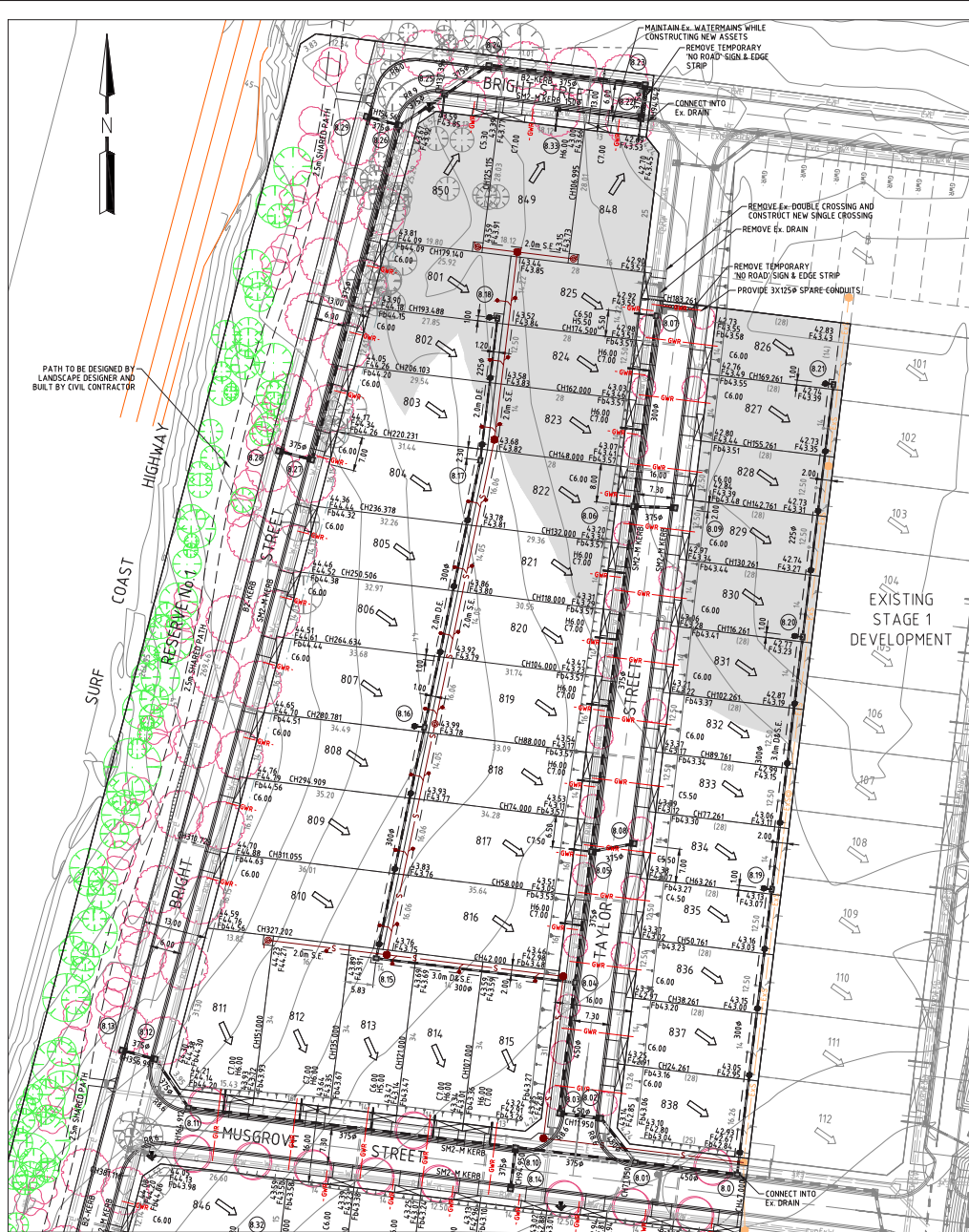
Sam Loza
Laboratory Manager.



LEVEL ONE
SURVEILLANCE
AND INSPECTION REPORT

APPENDIX A

MUSGRAVE RESERVE (LAYOUT, SETTING AND DRAINAGE) (A1) - BR-18.DWG



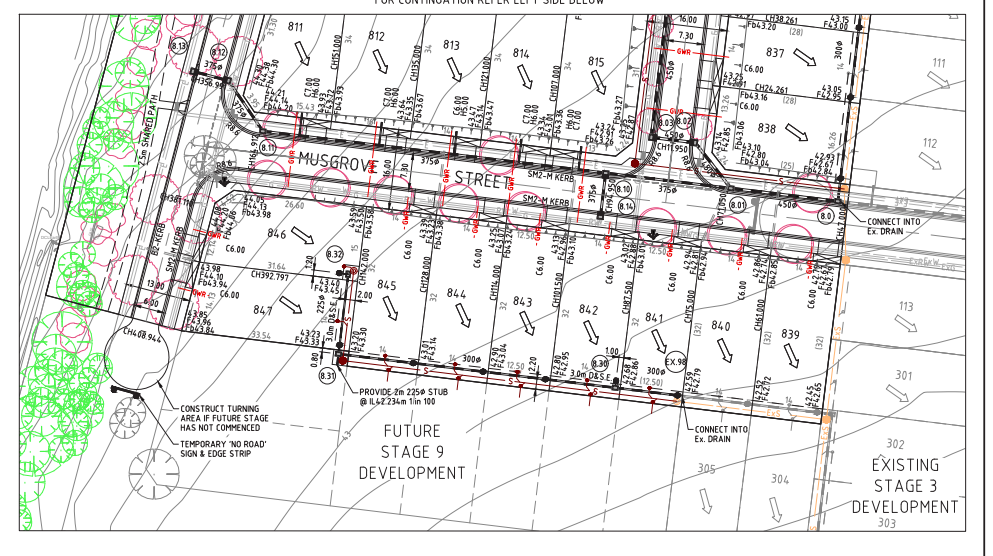
DESCRIPTION OF ABBREVI
 X 950 - EDGE OF VEHICLE CROSSING AT 0.50m OFFSET (ONLY SHOWN WHERE NON-STD)
 H 5.5 - PROPERTY DRAIN AT 5.5m OFFSET
 WHERE DRAIN IS NON-PERPENDICULAR, O/S REFERS TO INTERS. OF DRAIN & B/L
 C75 - G&W CONDUITS AT 7.5m OFFSET

LEGEND

- 170.0 — EXISTING SURFACE CONTOURS (0.20m INT.)
- 170.2 —
- TCSI - REFER TO IDM S0200
- OVERALL DIRECTION TO LEGAL POINT OF DISCHARGE
- FILL IN EXCESS OF 200mm
- TREE PROTECTION ZONES
- TREES TO BE REMOVED
- TREES TO BE RETAINED NOT REQUIRING TREE PROTECTION
- PROPOSED STREET TREES, REFER TO LANDSCAPE PLAN

TYPICAL TEMPORARY TURN AREA DETAIL
 NOT TO SCALE

CONCRETE EDGE STRIP WITH SUBSOIL DRAIN
 200mm DEPTH 40mm NOM. SIZE CLASS 4 FCR
 NOT TO BE CONSTRUCTED WITHOUT SUPERINTENDENT APPROVAL
 "NO ROAD" SIGN AND BARRIER KERB



WARNING
 BEWARE OF UNDERGROUND SERVICES
 THE LOCATIONS OF UNDERGROUND SERVICES ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE PROVEN ON SITE. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN.

CONSTRUCTION PLAN

THIS DRAWING IS NOT TO BE COPIED OR SCALED

VERSION	REMARKS	DATE	BY
C	PROPOSED STREET TREES SHOWN	20.03.18	JZ
B	CONSTRUCTION ISSUE	19.03.18	JZ
A	PRELIMINARY ISSUE	19.02.18	JZ

SYMBOL	DESCRIPTION
—	DRAIN, PROPERTY INLET & PIT
—	EX. DRAIN & PIT
—	HOUSE DRAIN
—	SEWER AND MAINTENANCE HOLE
—	EX. SEWER AND MAINTENANCE HOLE
—	WATER MAIN
—	EX. WATER MAIN, VALVE & HYDRANT
—	GAS MAIN
—	EX. GAS MAIN
—	TELESTRA SERVICES & PITS
—	EX. TELESTRA SERVICES & PITS
—	LEGEND
—	RECYCLED WATER
—	EX. RECYCLED WATER
—	ELECTRICAL U/G SERVICES
—	EX. ELECTRICAL U/G SERVICES
—	ELECTRICAL SERVICE & PIT
—	EX. ELECTRICAL SERVICES
—	LIGHT POLE - PIT
—	EX. ELECTRICAL OVERHEADS
—	GAS WATER CONDUITS
—	TOP OF BATTER
—	EX. WALL OR BUILDING
—	FINISHED SURFACE AFTER CUTTING OR FILLING
—	TOP OF PROPOSED BATTER
—	PROPOSED PAVEMENT OR FOOTPATH SURFACE
—	EXISTING OR PROPOSED INVERT LEVEL OF PIPE
—	STREET SIGN
—	DRAINAGE PIT No.
—	TEMP
—	EX. FENCE
—	EX. WALL OR BUILDING

DRAWN BY	NKASHA	DESIGNED BY	JZHU
MELWAY	493 D12	CHECKED BY	-
DATUM	AHD	AUTHORISED BY	S.RAVIDA

REEDS CONSULTING
 LAND SURVEYING
 CIVIL ENGINEERING
 PLANNING
 DEVELOPMENT CONSULTING

100, 101 & 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000

SURF COAST SHIRE
 THE QUAY 2 ESTATE
 STAGE 8
 LAYOUT PLAN

DRAWING No.	8R2	VERSION	C
REFERENCE	21437E/8		
SHEET	2 OF 15		



LEVEL ONE
SURVEILLANCE
AND INSPECTION REPORT

APPENDIX B



GEOTECHNICAL LABORATORIES
 ACN 102 571 077
 Factory 1/8-10 Catalina Drive, Tullamarine Vic 3043
 PO Box 2693 Gladstone Park VIC 3043
 PH: (03) 9335 1225

DAILY SUMMARY - FIELD DENSITY TESTS

REPORT NO.: # 1916/240

LOCATION: DRAPERS - The Quay Estate Stage 8

DATE OF TESTS	TEST NUM.	TEST LOCATION	FIELD WET DENSITY (t/m ³)	FIELD MOISTURE CONTENT (%)	HILF DENSITY RATIO STANDARD (%)	STANDARD PCWD OR APCWD (t/m ³)	STANDARD OPTIMUM MOISTURE CONTENT (%)	PROBE DEPTH SETTING (mm)	VARIATION FROM OPTIMUM MOISTURE CONTENT (%)	MOISTURE RATIO (%)	WET +19mm (%)	WET +37.5mm (%)	APPROX. DEPTH BELOW FINISH LEVEL (mm)
25/05/18	1	<i>Refer to #1916/241 for approx. test site locations.</i>	2.02	21.0	100.0	2.01	20.5	175	0.5 Wetter	103.5	0	0	600
25/05/18	2		2.01	21.0	100.5	2.00	20.5	175	0.5 Wetter	102.5	0	0	600
25/05/18	3		2.10	17.5	107.0	1.97	19.5	175	2.0 Drier	90.5	0	0	600
-	-		-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-

NOTES: Clayey Fill Ex. Onsite

Test sites located - Geolab Procedure 4, Part 4.4.

Compaction specimens sampled after compaction.

Start Time: 12.49pm Finish Time: 1.00pm

A Hilf Rapid Compaction test was carried out on a sample taken from each Field Density location to obtain the Compaction Parameters tabulated on this Report.

Moisture Content: AS 1289 2.1.1

Compaction Test: AS 1289 5.7.1

Soil Layer thickness: 200mm

Hilf Density Ratio and Hilf Moisture Variation ,Hilf Adjusted (APCWD) & Peak (PCWD) Converted Wet Density AS 1289 5.7.1

Field Density, Nuclear Gauge: AS 1289 5.8.1

Materials Sampled : AS 1289 1.2.1 Clause 6.4(b)

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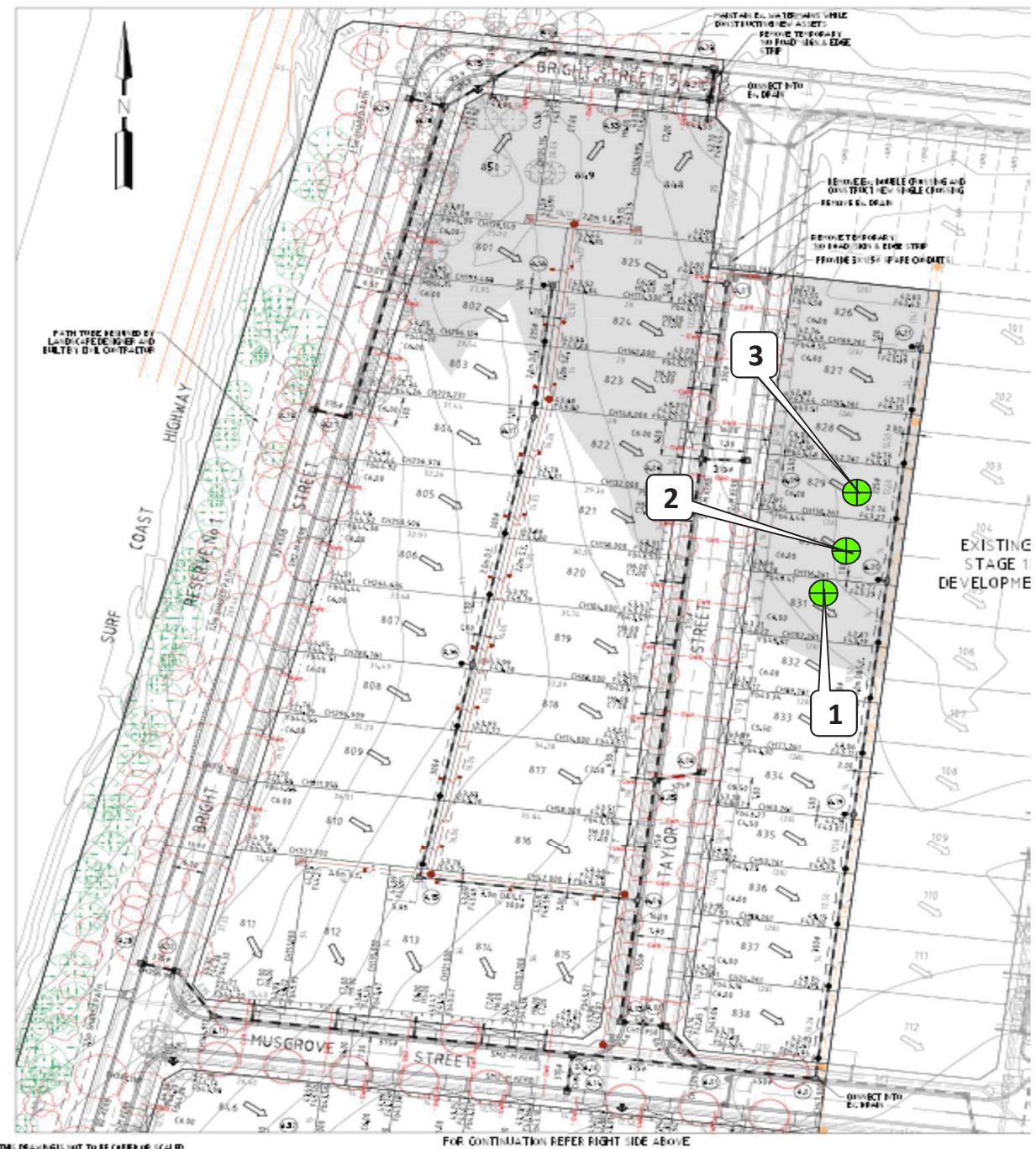


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NATA Accredited Laboratory Number 14561

MICK CROWE
(Approved Signatory)

Issue Date: 29/5/2018



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REV	DATE	DESCRIPTION	BY	CHKD
C	25/5/18	PREPARED STREET TREES SYMBOL	JT	
B	20/5/18	CONTRACTOR'S NAME	JT	
A	19/2/18	FRESH BARY SIGN	JT	

SYMBOL	DESCRIPTION
[Red circle]	PROPOSED STREET TREES SYMBOL
[Red line]	CONTRACTOR'S NAME
[Red line]	FRESH BARY SIGN
[Red line]	...

SYMBOL	DESCRIPTION
[Green circle]	PROPOSED STREET TREES SYMBOL
[Green circle]	CONTRACTOR'S NAME
[Green circle]	FRESH BARY SIGN
[Green circle]	...



GEOTECHNICAL LABORATORIES
 ACN 102 571 077
 Factory 1/8-10 Catalina Drive, Tullamarine Vic 3043
 PO Box 184 Keilor VIC 3036
 PH: (03) 9335 1225 Fax: (03) 9335 1775

CLIENT: DRAPERS

DATE: 25/5/18

JOB No.: 1916/241

LOCATION: The Quay 2 Estate Stage 8

OPERATOR: NW

CHECKED: EG

Sketch indicating compaction test locations

SCALE: NTS

FIGURE No: -



GEOTECHNICAL LABORATORIES
 ACN 102 571 077
 Factory 1/8-10 Catalina Drive, Tullamarine Vic 3043
 PO Box 2693 Gladstone Park VIC 3043
 PH: (03) 9335 1225

DAILY SUMMARY - FIELD DENSITY TESTS

REPORT NO.: # 1916/242

LOCATION: DRAPERS - The Quay 2 estate Stage 8

DATE OF TESTS	TEST NUM.	TEST LOCATION	FIELD WET DENSITY (t/m ³)	FIELD MOISTURE CONTENT (%)	HILF DENSITY RATIO STANDARD (%)	STANDARD PCWD OR APCWD (t/m ³)	STANDARD OPTIMUM MOISTURE CONTENT (%)	PROBE DEPTH SETTING (mm)	VARIATION FROM OPTIMUM MOISTURE CONTENT (%)	MOISTURE RATIO (%)	WET +19mm (%)	WET +37.5mm (%)	APPROX. DEPTH BELOW FINISH LEVEL (mm)
26/05/18	1	<i>Refer to #1916/243 for approx. test site locations.</i>	1.94	22.0	100.0	1.94	22.5	175	0.5 Drier	98.0	0	0	200
26/05/18	2		1.96	18.0	101.0	1.95	19.0	175	1.0 Drier	94.0	0	0	200
26/05/18	3		1.98	20.5	101.0	1.96	21.0	175	0.5 Drier	96.5	0	0	200
-	-		-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-

NOTES: Clayey Fill Ex. Onsite Compaction specimens sampled after compaction.
 Test sites located - Geolab Procedure 4, Part 4.4. Start Time: 9.55am Finish Time: 10.07am

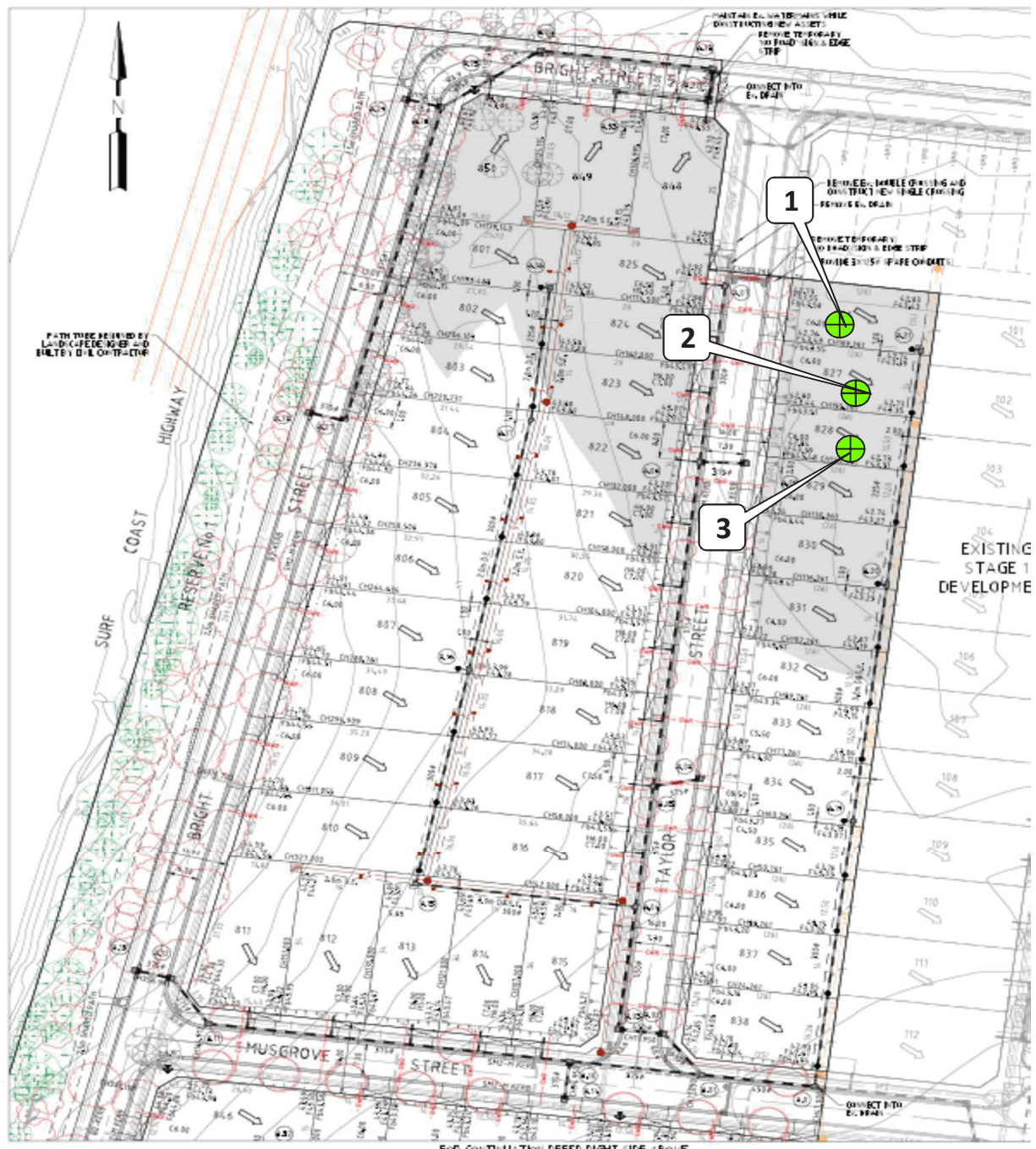
A Hilf Rapid Compaction test was carried out on a sample taken from each Field Density location to obtain the Compaction Parameters tabulated on this Report.

Soil Layer thickness: 200mm Moisture Content: AS 1289 2.1.1
 Hilf Density Ratio and Hilf Moisture Variation ,Hilf Adjusted (APCWD) & Peak (PCWD) Converted Wet Density AS 1289 5.7.1 Compaction Test: AS 1289 5.7.1

Field Density, Nuclear Gauge: AS 1289 5.8.1 M.C.
 Materials Sampled : AS 1289 1.2.1 Clause 6.4(b) MICK CROWE
(Approved Signatory)

Issue Date: 29/5/2018

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C PREPARED STREET TREES SHOWN 25/5/18 JT		1. 100mm DIA. 100mm DIA. 100mm DIA. 2. 150mm DIA. 150mm DIA. 150mm DIA. 3. 200mm DIA. 200mm DIA. 200mm DIA.	LEGEND 1. 100mm DIA. 100mm DIA. 100mm DIA. 2. 150mm DIA. 150mm DIA. 150mm DIA. 3. 200mm DIA. 200mm DIA. 200mm DIA.	4. 100mm DIA. 100mm DIA. 100mm DIA. 5. 150mm DIA. 150mm DIA. 150mm DIA. 6. 200mm DIA. 200mm DIA. 200mm DIA.	DRAWN BY: J.T. CHECKED BY: J.T. DATE: 26/5/18
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GEOTECHNICAL LABORATORIES

GEOTECHNICAL LABORATORIES
 ACN 102 571 077
 Factory 1/8-10 Catalina Drive, Tullamarine Vic 3043
 PO Box 184 Keilor VIC 3036
 PH: (03) 9335 1225 Fax: (03) 9335 1775

CLIENT: DRAPERS

DATE: 26/5/18

JOB No.: 1916/243

LOCATION: The Quay 2 Estate Stage 8

OPERATOR: NW

CHECKED: EG

Sketch indicating compaction test locations

SCALE: NTS

FIGURE No: -



GEOTECHNICAL LABORATORIES
 ACN 102 571 077
 Factory 1/8-10 Catalina Drive, Tullamarine Vic 3043
 PO Box 2693 Gladstone Park VIC 3043
 PH: (03) 9335 1225

DAILY SUMMARY - FIELD DENSITY TESTS

REPORT NO.: # 1916/244

LOCATION: DRAPERS - The Quay 2 Estate Stage 8

DATE OF TESTS	TEST NUM.	TEST LOCATION	FIELD WET DENSITY (t/m ³)	FIELD MOISTURE CONTENT (%)	HILF DENSITY RATIO STANDARD (%)	STANDARD PCWD OR APCWD (t/m ³)	STANDARD OPTIMUM MOISTURE CONTENT (%)	PROBE DEPTH SETTING (mm)	VARIATION FROM OPTIMUM MOISTURE CONTENT (%)	MOISTURE RATIO (%)	WET +19mm (%)	WET +37.5mm (%)	APPROX. DEPTH BELOW FINISH LEVEL (mm)	
28/05/18	1	<i>Refer to #1916/245 for approx. test site locations.</i>	2.04	18.5	101.0	2.02	19.0	175	0.5 Drier	97.5	0	0	200	
28/05/18	2		2.08	15.0	100.0	2.08	15.0	175	0.0 Wetter	101.5	0	0	200	
28/05/18	3		1.96	13.0	96.5	2.04	15.0	175	2.5 Drier	85.0	0	0	200	
-	-		-	-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-	-

NOTES: Clayey Fill Ex. Onsite

Test sites located - Geolab Procedure 4, Part 4.4.

Compaction specimens sampled after compaction.

Start Time: 9.30am Finish Time: 9.44am

A Hilf Rapid Compaction test was carried out on a sample taken from each Field Density location to obtain the Compaction Parameters tabulated on this Report.

Soil Layer thickness: 200mm

Hilf Density Ratio and Hilf Moisture Variation, Hilf Adjusted (APCWD) & Peak (PCWD) Converted Wet Density AS 1289 5.7.1

Field Density, Nuclear Gauge: AS 1289 5.8.1

Materials Sampled : AS 1289 1.2.1 Clause 6.4(b)

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Moisture Content: AS 1289 2.1.1

Compaction Test: AS 1289 5.7.1



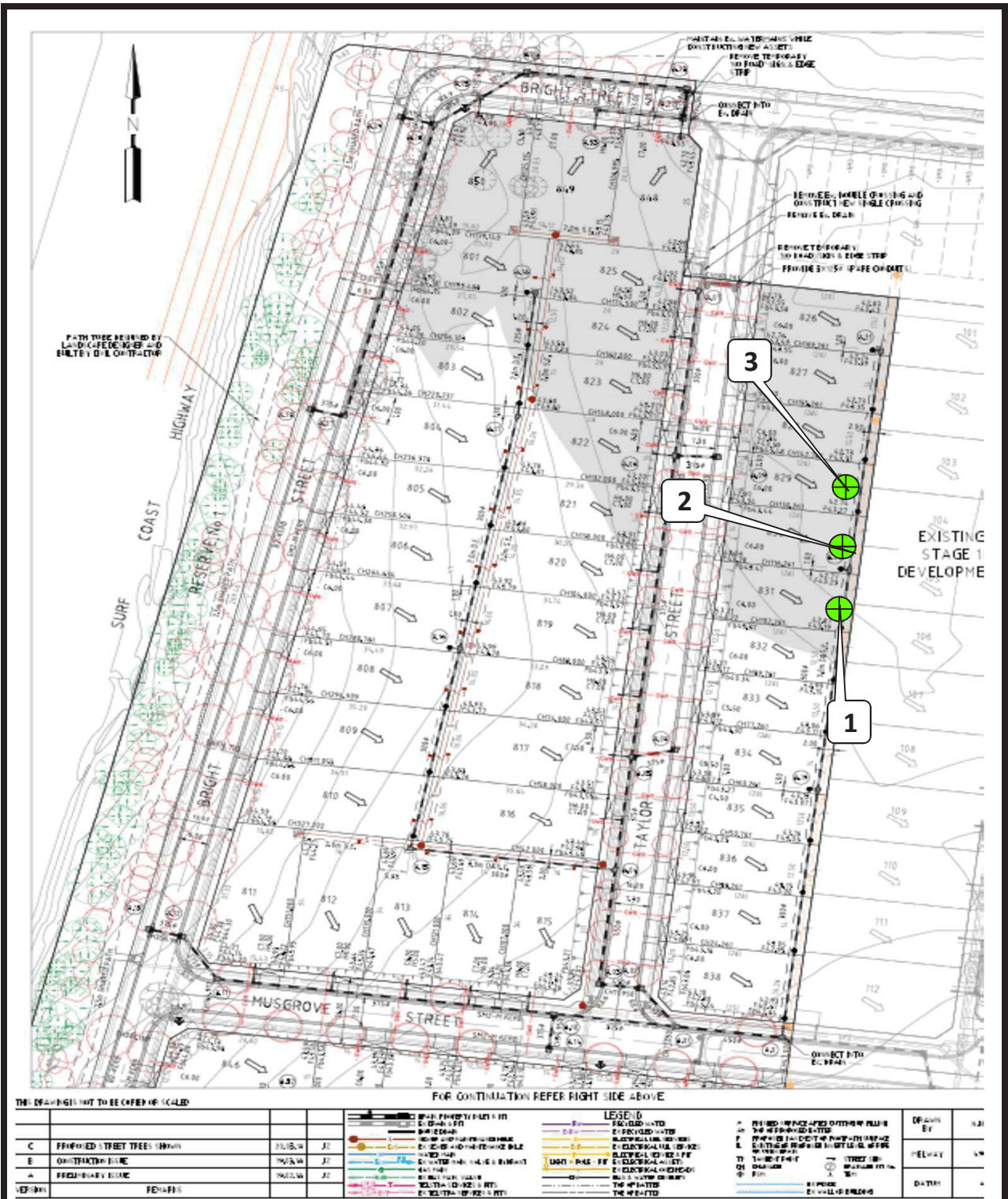
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NATA Accredited Laboratory Number 14561

SAM LOZA

(Approved Signatory)

Issue Date: 30/5/2018



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 ACN 102 571 077
 Factory 1/8-10 Catalina Drive, Tullamarine Vic 3043
 PO Box 184 Keilor VIC 3036
 PH: (03) 9335 1225 Fax: (03) 9335 1775

CLIENT: DRAPERS

LOCATION: The Quay 2 Estate Stage 8

Sketch indicating compaction test locations

DATE: 28/5/18

OPERATOR: NW

SCALE: NTS

JOB No.: 1916/245

CHECKED: EG

FIGURE No: -



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 Factory 1/8-10 Catalina Drive, Tullamarine Vic 3043
 PO Box 2693 Gladstone Park VIC 3043
 PH: (03) 9335 1225

DAILY SUMMARY - FIELD DENSITY TESTS

REPORT NO.: # 1916/246

LOCATION: DRAPERS - The Quay 2 Estate Stage 8

DATE OF TESTS	TEST NUM.	TEST LOCATION	FIELD WET DENSITY (t/m ³)	FIELD MOISTURE CONTENT (%)	HILF DENSITY RATIO STANDARD (%)	STANDARD PCWD OR APCWD (t/m ³)	STANDARD OPTIMUM MOISTURE CONTENT (%)	PROBE DEPTH SETTING (mm)	VARIATION FROM OPTIMUM MOISTURE CONTENT (%)	MOISTURE RATIO (%)	WET +19mm (%)	WET +37.5mm (%)	APPROX. DEPTH BELOW FINISH LEVEL (mm)
29/05/18	1	<i>Refer to #1916/247 for approx. test site locations.</i>	2.09	19.5	103.5	2.02	20.0	175	0.5 Drier	97.5	0	0	200
29/05/18	2		2.10	20.0	103.0	2.03	20.5	175	0.0 Drier	99.0	0	0	200
29/05/18	3		2.04	20.0	101.5	2.02	20.5	175	0.5 Drier	97.5	0	0	200
-	-		-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-

NOTES: Clayey Fill Ex. Onsite

Test sites located - Geolab Procedure 4, Part 4.4.

Compaction specimens sampled after compaction.

Start Time: 9.40am Finish Time: 10.00am

A Hilf Rapid Compaction test was carried out on a sample taken from each Field Density location to obtain the Compaction Parameters tabulated on this Report.

Soil Layer thickness: 200mm

Hilf Density Ratio and Hilf Moisture Variation ,Hilf Adjusted (APCWD) & Peak (PCWD) Converted Wet Density AS 1289 5.7.1

Field Density, Nuclear Gauge: AS 1289 5.8.1

Materials Sampled : AS 1289 1.2.1 Clause 6.4(b)

✘

❖

Moisture Content: AS 1289 2.1.1

Compaction Test: AS 1289 5.7.1



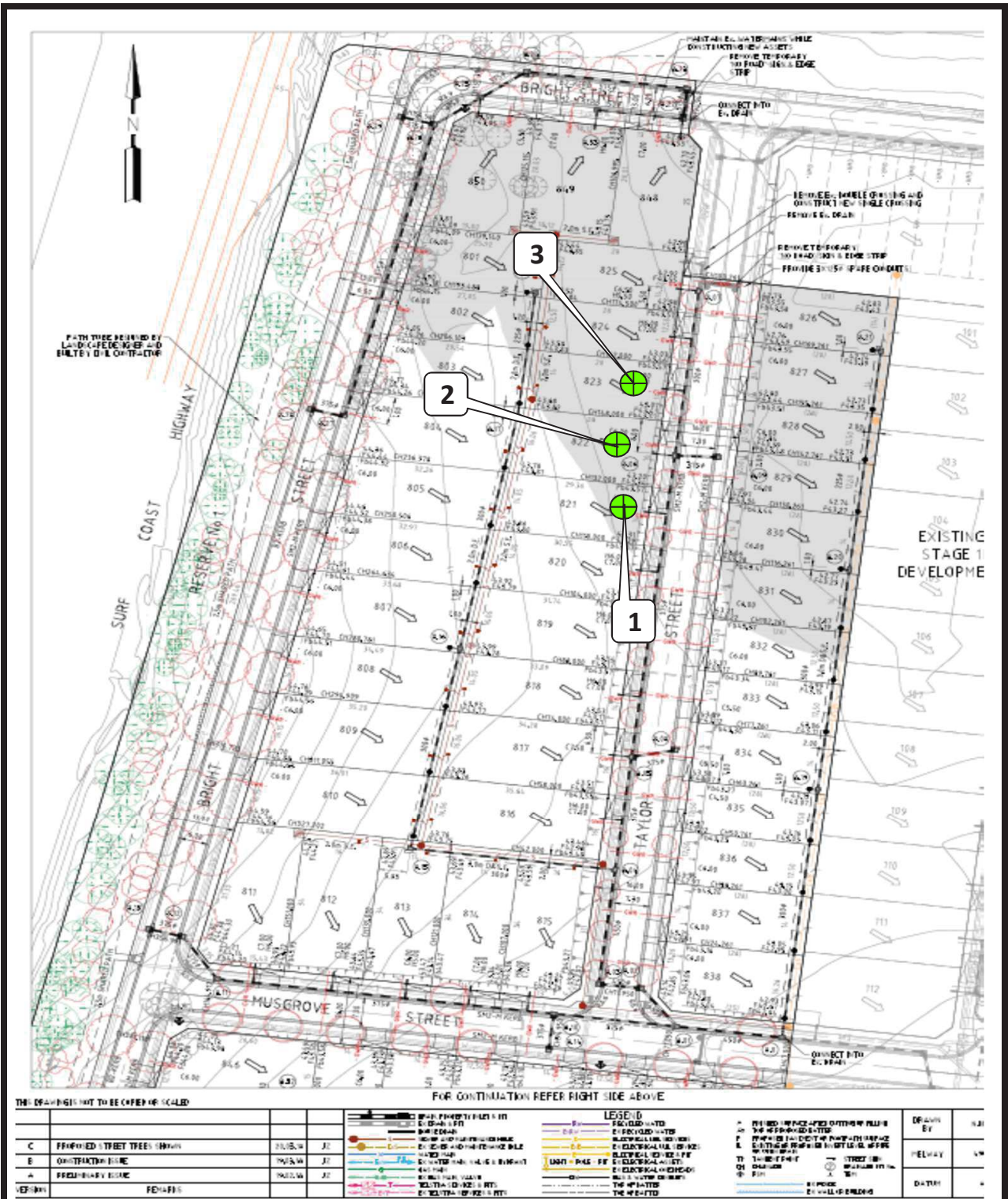
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Issue Date: 30/5/2018



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REV	DATE	BY	CHKD	DESCRIPTION
C	25/05/18	JT		PREPARED STREET TREE SYMBOLS
B	19/05/18	JT		CONTRACTOR ISSUE
A	06/03/18	JT		PRELIMINARY ISSUE

SYMBOL	DESCRIPTION
(Red circle)	PROPOSED STREET TREE SYMBOL
(Red line)	CONTRACTOR ISSUE
(Red line)	PRELIMINARY ISSUE

SYMBOL	DESCRIPTION
(Green circle)	PROPOSED STREET TREE SYMBOL
(Green line)	CONTRACTOR ISSUE
(Green line)	PRELIMINARY ISSUE

SYMBOL	DESCRIPTION
(Green circle)	PROPOSED STREET TREE SYMBOL
(Green line)	CONTRACTOR ISSUE
(Green line)	PRELIMINARY ISSUE



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 PO Box 184 Keilor VIC 3036
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CLIENT: DRAPERS

LOCATION: The Quay 2 Estate Stage 8

Sketch indicating compaction test locations

DATE: 29/5/18

OPERATOR: NW

SCALE: NTS

JOB No.: 1916/247

CHECKED: EG

FIGURE No: -



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 PO Box 2693 Gladstone Park VIC 3043
 PH: (03) 9335 1225

DAILY SUMMARY - FIELD DENSITY TESTS

REPORT NO.: # 1916/248

LOCATION: DRAPERS - The Quay 2 Estate Stage 8

DATE OF TESTS	TEST NUM.	TEST LOCATION	FIELD WET DENSITY (t/m ³)	FIELD MOISTURE CONTENT (%)	HILF DENSITY RATIO STANDARD (%)	STANDARD PCWD OR APCWD (t/m ³)	STANDARD OPTIMUM MOISTURE CONTENT (%)	PROBE DEPTH SETTING (mm)	VARIATION FROM OPTIMUM MOISTURE CONTENT (%)	MOISTURE RATIO (%)	WET +19mm (%)	WET +37.5mm (%)	APPROX. DEPTH BELOW FINISH LEVEL (mm)
30/05/18	1	<i>Refer to #1916/249 for approx. test site locations.</i>	2.07	19.0	100.5	2.06	18.5	175	0.0 Wetter	101.5	0	0	200
30/05/18	2		2.23	13.5	103.0	✘ 2.16	15.0	175	1.5 Drier	89.5	16	0	200
30/05/18	3		2.02	19.0	100.5	2.02	19.0	175	0.0 Drier	99.0	0	0	200
-	-		-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-

NOTES: Clayey Fill Ex. Onsite

Test sites located - Geolab Procedure 4, Part 4.4.

Compaction specimens sampled after compaction.

Start Time: 11.44am Finish Time: 11.57am

A Hilf Rapid Compaction test was carried out on a sample taken from each Field Density location to obtain the Compaction Parameters tabulated on this Report.

Moisture Content: AS 1289 2.1.1

Compaction Test: AS 1289 5.7.1

Soil Layer thickness: 200mm

Hilf Density Ratio and Hilf Moisture Variation ,Hilf Adjusted (APCWD) & Peak (PCWD) Converted Wet Density AS 1289 5.7.1

Field Density, Nuclear Gauge: AS 1289 5.8.1

Materials Sampled : AS 1289 1.2.1 Clause 6.4(b)

✘ Indicates APCWD

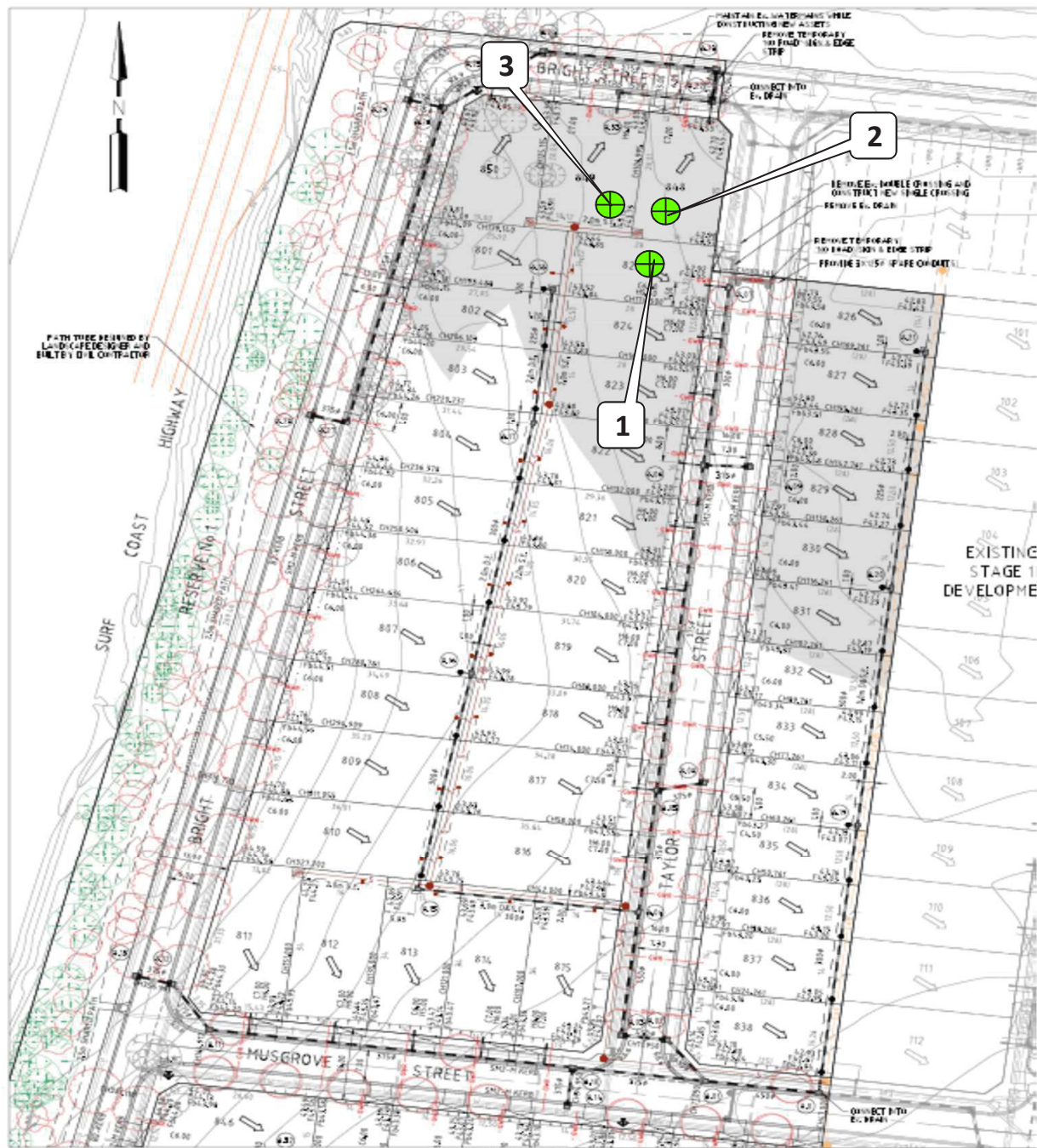


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MICK CROWE
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Issue Date: 31/5/2018



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REV	DATE	BY	CHKD	DESCRIPTION
C	25/05/18	JT		PREPARED STREET TREE SYMBOLS
B	19/05/18	JT		CONTRACTOR'S NAME
A	06/03/18	JT		FRESH BINARY LOGIC

SYMBOL	DESCRIPTION
(Green circle)	PROPOSED COMPACTOR TEST POINT
(Red circle)	EXISTING COMPACTOR TEST POINT
(Blue circle)	EXISTING WATER METER
(Yellow circle)	EXISTING ELECTRICAL METER
(Black circle)	EXISTING TELEPHONE METER
(Red line)	EXISTING WATER MAIN
(Yellow line)	EXISTING ELECTRICAL MAIN
(Blue line)	EXISTING TELEPHONE MAIN
(Black line)	EXISTING GAS MAIN
(Red line)	EXISTING WATER MAIN
(Yellow line)	EXISTING ELECTRICAL MAIN
(Blue line)	EXISTING TELEPHONE MAIN
(Black line)	EXISTING GAS MAIN

SYMBOL	DESCRIPTION
(Red line)	PROPOSED WATER MAIN
(Yellow line)	PROPOSED ELECTRICAL MAIN
(Blue line)	PROPOSED TELEPHONE MAIN
(Black line)	PROPOSED GAS MAIN
(Red line)	PROPOSED WATER MAIN
(Yellow line)	PROPOSED ELECTRICAL MAIN
(Blue line)	PROPOSED TELEPHONE MAIN
(Black line)	PROPOSED GAS MAIN



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 PO Box 184 Keilor VIC 3036
 PH: (03) 9335 1225 Fax: (03) 9335 1775

CLIENT: DRAPERS

DATE: 30/5/18

JOB No.: 1916/249

LOCATION: The Quay 2 Estate Stage 8

OPERATOR: NW

CHECKED: EG

Sketch indicating compaction test locations

SCALE: NTS

FIGURE No: -



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DAILY SUMMARY - FIELD DENSITY TESTS

REPORT NO.: # 1916/250

LOCATION: DRAPERS - The Quay 2 Estate Stage 8

DATE OF TESTS	TEST NUM.	TEST LOCATION	FIELD WET DENSITY (t/m ³)	FIELD MOISTURE CONTENT (%)	HILF DENSITY RATIO STANDARD (%)	STANDARD PCWD OR APCWD (t/m ³)	STANDARD OPTIMUM MOISTURE CONTENT (%)	PROBE DEPTH SETTING (mm)	VARIATION FROM OPTIMUM MOISTURE CONTENT (%)	MOISTURE RATIO (%)	WET +19mm (%)	WET +37.5mm (%)	APPROX. DEPTH BELOW FINISH LEVEL (mm)
31/05/18	1	<i>Refer to #1916/251 for approx. test site locations.</i>	2.07	20.0	100.0	2.07	17.5	175	2.5 Wetter	113.5	0	0	200
31/05/18	2		1.97	21.0	97.5	2.02	21.0	175	0.0 Drier	99.0	0	0	200
31/05/18	3		2.02	18.5	96.5	2.09	16.5	175	2.0 Wetter	111.5	0	0	200
-	-		-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-

NOTES: Clayey Fill Ex. Onsite

Test sites located - Geolab Procedure 4, Part 4.4.

Compaction specimens sampled after compaction.

Start Time: 2.32pm Finish Time: 2.50pm

A Hilf Rapid Compaction test was carried out on a sample taken from each Field Density location to obtain the Compaction Parameters tabulated on this Report.

Moisture Content: AS 1289 2.1.1

Compaction Test: AS 1289 5.7.1

Soil Layer thickness: 200mm

Hilf Density Ratio and Hilf Moisture Variation ,Hilf Adjusted (APCWD) & Peak (PCWD) Converted Wet Density AS 1289 5.7.1

Field Density, Nuclear Gauge: AS 1289 5.8.1

Materials Sampled : AS 1289 1.2.1 Clause 6.4(b)

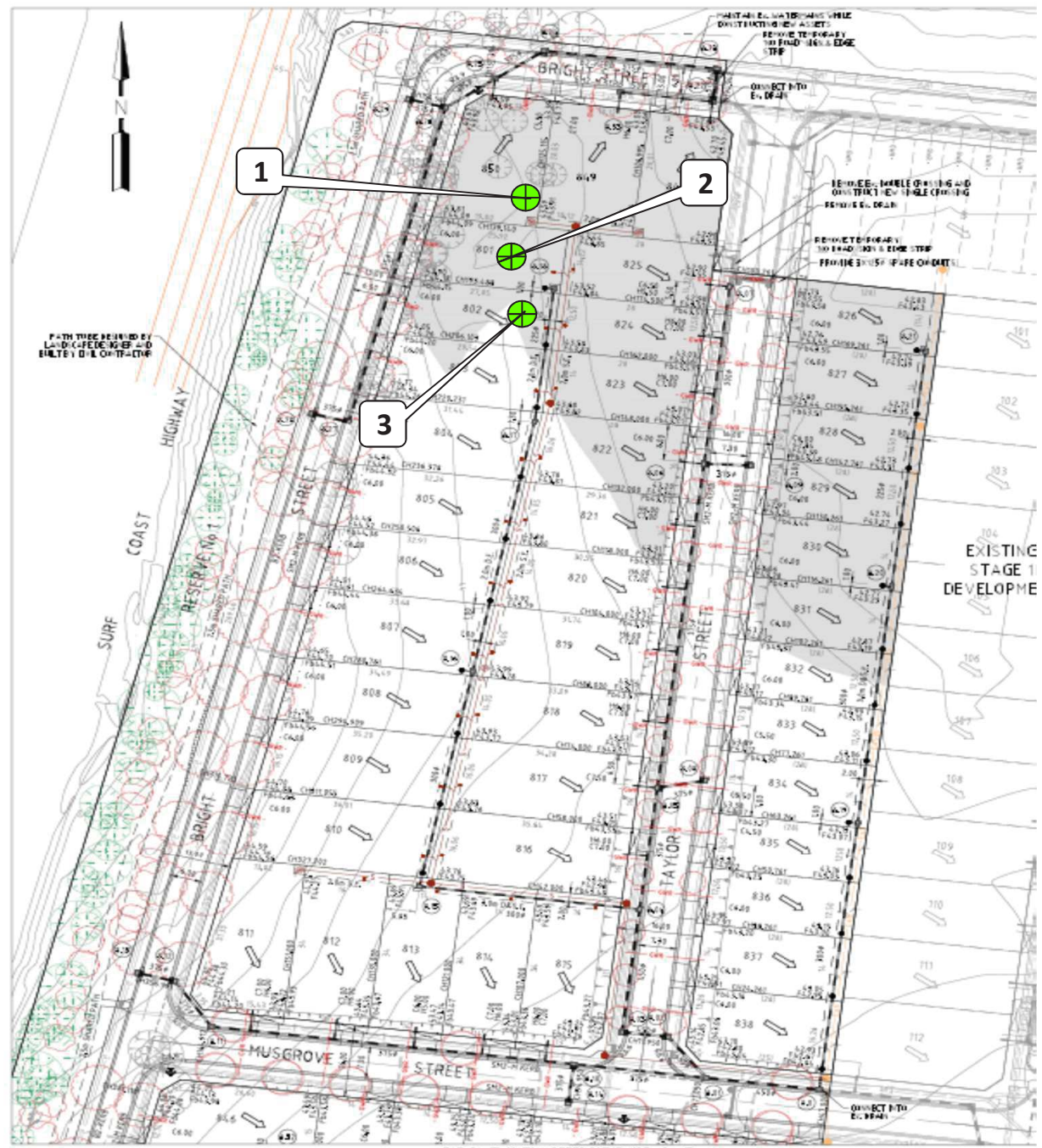


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MICK CROWE
(Approved Signatory)

Issue Date: 4/6/2018



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REV	DESCRIPTION	DATE	BY	CHECKED	SCALE
C	PROPOSED STREET TREES SHOWN	23/05/18	JT		
B	CONTRACTOR'S SCHEMATIC	19/05/18	JT		
A	PROPOSED DRIVE	06/03/18	JT		

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
(Red circle)	PROPOSED STREET TREE	(Green circle)	PROPOSED TEST POINT
(Red line)	PROPOSED DRIVE	(Green line)	PROPOSED TEST POINT
(Blue line)	PROPOSED DRIVE	(Green line)	PROPOSED TEST POINT
(Red line)	PROPOSED DRIVE	(Green line)	PROPOSED TEST POINT
(Red line)	PROPOSED DRIVE	(Green line)	PROPOSED TEST POINT



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 PO Box 184 Keilor VIC 3036
 PH: (03) 9335 1225 Fax: (03) 9335 1775

CLIENT: DRAPERS

LOCATION: The Quay 2 Estate Stage 8

Sketch indicating compaction test locations

DATE: 31/5/18

OPERATOR: NW

SCALE: NTS

JOB No.: 1916/251

CHECKED: EG

FIGURE No: -



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 Factory 1/8-10 Catalina Drive, Tullamarine Vic 3043
 PO Box 2693 Gladstone Park VIC 3043
 PH: (03) 9335 1225

DAILY SUMMARY - FIELD DENSITY TESTS

REPORT NO.: # 1916/252

LOCATION: DRAPERS - The Quay 2 Estate Stage 8

DATE OF TESTS	TEST NUM.	TEST LOCATION	FIELD WET DENSITY (t/m ³)	FIELD MOISTURE CONTENT (%)	HILF DENSITY RATIO STANDARD (%)	STANDARD PCWD OR APCWD (t/m ³)	STANDARD OPTIMUM MOISTURE CONTENT (%)	PROBE DEPTH SETTING (mm)	VARIATION FROM OPTIMUM MOISTURE CONTENT (%)	MOISTURE RATIO (%)	WET +19mm (%)	WET +37.5mm (%)	APPROX. DEPTH BELOW FINISH LEVEL (mm)	
2/06/18	1	<i>Refer to #1916/253 for approx. test site locations.</i>	2.10	19.5	102.5	2.06	18.5	175	1.0 Wetter	105.0	0	0	0	
2/06/18	2		2.05	20.5	101.5	2.02	20.0	175	0.0 Wetter	101.0	0	0	0	
2/06/18	3		2.11	19.5	105.0	2.02	19.5	175	0.0 Drier	100.0	0	0	0	
-	-		-	-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-	-

NOTES: Clayey Fill Ex. Onsite Compaction specimens sampled after compaction.
 Test sites located - Geolab Procedure 4, Part 4.4. Start Time: 12.04pm Finish Time: 12.26pm

A Hilf Rapid Compaction test was carried out on a sample taken from each Field Density location to obtain the Compaction Parameters tabulated on this Report.


Moisture Content: AS 1289 2.1.1
 Compaction Test: AS 1289 5.7.1

Soil Layer thickness: 200mm

Hilf Density Ratio and Hilf Moisture Variation ,Hilf Adjusted (APCWD) & Peak (PCWD) Converted Wet Density AS 1289 5.7.1

Field Density, Nuclear Gauge: AS 1289 5.8.1


Materials Sampled : AS 1289 1.2.1 Clause 6.4(b)



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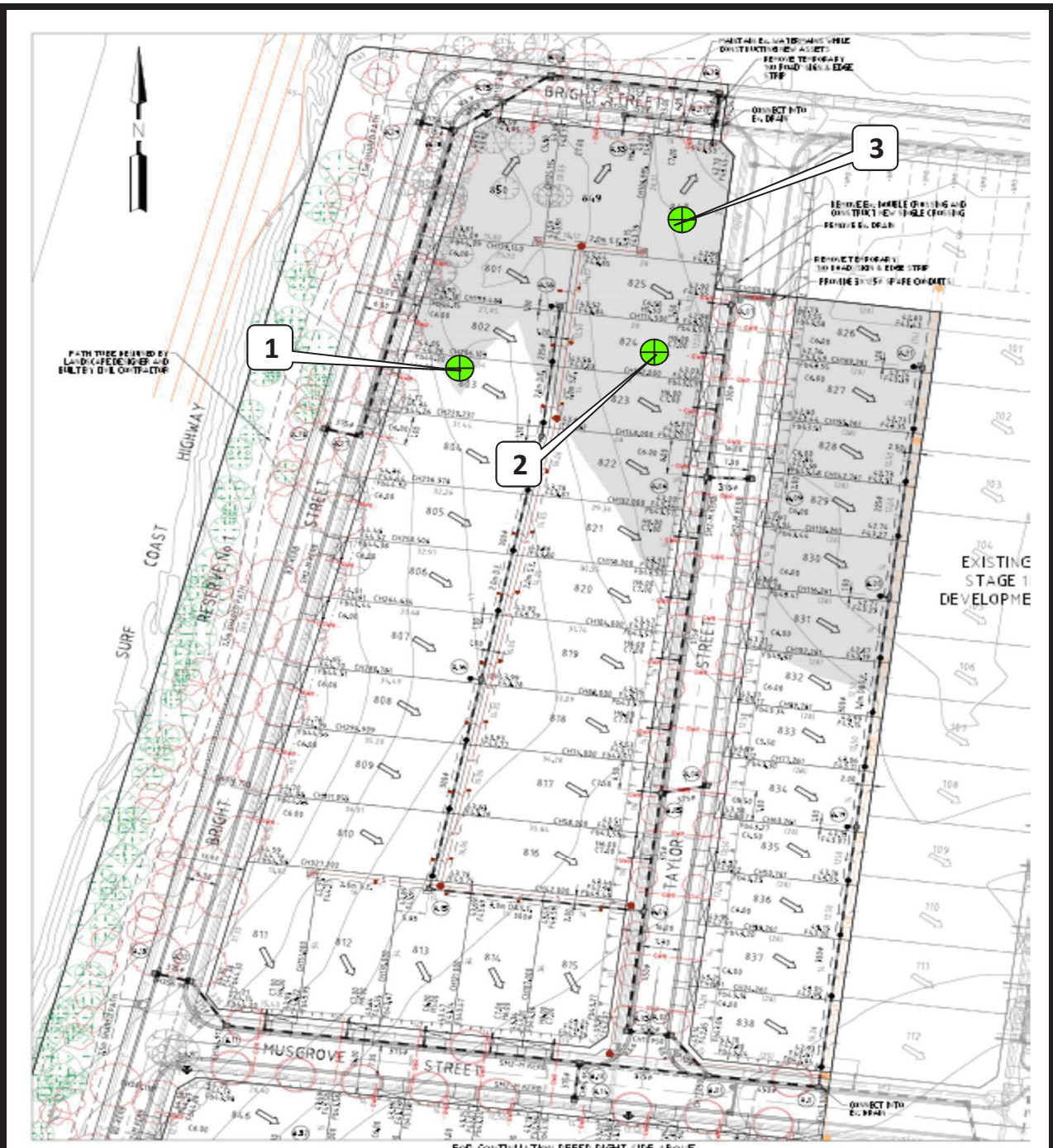
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<p>LEGEND</p> <p>— 100mm PVC PIPE 150mm DIA — 150mm PVC PIPE 200mm DIA — 200mm PVC PIPE 250mm DIA — 250mm PVC PIPE 300mm DIA — 300mm PVC PIPE 350mm DIA — 350mm PVC PIPE 400mm DIA — 400mm PVC PIPE 450mm DIA — 450mm PVC PIPE 500mm DIA — 500mm PVC PIPE 550mm DIA — 550mm PVC PIPE 600mm DIA — 600mm PVC PIPE 650mm DIA — 650mm PVC PIPE 700mm DIA — 700mm PVC PIPE 750mm DIA — 750mm PVC PIPE 800mm DIA — 800mm PVC PIPE 850mm DIA — 850mm PVC PIPE 900mm DIA — 900mm PVC PIPE 950mm DIA — 950mm PVC PIPE 1000mm DIA</p>		<p>LEGEND</p> <p>— 100mm PVC PIPE 150mm DIA — 150mm PVC PIPE 200mm DIA — 200mm PVC PIPE 250mm DIA — 250mm PVC PIPE 300mm DIA — 300mm PVC PIPE 350mm DIA — 350mm PVC PIPE 400mm DIA — 400mm PVC PIPE 450mm DIA — 450mm PVC PIPE 500mm DIA — 500mm PVC PIPE 550mm DIA — 550mm PVC PIPE 600mm DIA — 600mm PVC PIPE 650mm DIA — 650mm PVC PIPE 700mm DIA — 700mm PVC PIPE 750mm DIA — 750mm PVC PIPE 800mm DIA — 800mm PVC PIPE 850mm DIA — 850mm PVC PIPE 900mm DIA — 900mm PVC PIPE 950mm DIA — 950mm PVC PIPE 1000mm DIA</p>		<p>LEGEND</p> <p>— 100mm PVC PIPE 150mm DIA — 150mm PVC PIPE 200mm DIA — 200mm PVC PIPE 250mm DIA — 250mm PVC PIPE 300mm DIA — 300mm PVC PIPE 350mm DIA — 350mm PVC PIPE 400mm DIA — 400mm PVC PIPE 450mm DIA — 450mm PVC PIPE 500mm DIA — 500mm PVC PIPE 550mm DIA — 550mm PVC PIPE 600mm DIA — 600mm PVC PIPE 650mm DIA — 650mm PVC PIPE 700mm DIA — 700mm PVC PIPE 750mm DIA — 750mm PVC PIPE 800mm DIA — 800mm PVC PIPE 850mm DIA — 850mm PVC PIPE 900mm DIA — 900mm PVC PIPE 950mm DIA — 950mm PVC PIPE 1000mm DIA</p>		<p>LEGEND</p> <p>— 100mm PVC PIPE 150mm DIA — 150mm PVC PIPE 200mm DIA — 200mm PVC PIPE 250mm DIA — 250mm PVC PIPE 300mm DIA — 300mm PVC PIPE 350mm DIA — 350mm PVC PIPE 400mm DIA — 400mm PVC PIPE 450mm DIA — 450mm PVC PIPE 500mm DIA — 500mm PVC PIPE 550mm DIA — 550mm PVC PIPE 600mm DIA — 600mm PVC PIPE 650mm DIA — 650mm PVC PIPE 700mm DIA — 700mm PVC PIPE 750mm DIA — 750mm PVC PIPE 800mm DIA — 800mm PVC PIPE 850mm DIA — 850mm PVC PIPE 900mm DIA — 900mm PVC PIPE 950mm DIA — 950mm PVC PIPE 1000mm DIA</p>	
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 PO Box 184 Keilor VIC 3036
 PH: (03) 9335 1225 Fax: (03) 9335 1775

CLIENT: DRAPERS

DATE: 2/6/18

JOB No.: 1916/253

LOCATION: The Quay 2 Estate Stage 8

OPERATOR: DR

CHECKED: EG

Sketch indicating compaction test locations

SCALE: NTS

FIGURE No: -



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 PO Box 2693 Gladstone Park VIC 3043
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DAILY SUMMARY - FIELD DENSITY TESTS

REPORT NO.: # 1916/254

LOCATION: DRAPERS - The Quay 2 Estate Stage 8

DATE OF TESTS	TEST NUM.	TEST LOCATION	FIELD WET DENSITY (t/m ³)	FIELD MOISTURE CONTENT (%)	HILF DENSITY RATIO STANDARD (%)	STANDARD PCWD OR APCWD (t/m ³)	STANDARD OPTIMUM MOISTURE CONTENT (%)	PROBE DEPTH SETTING (mm)	VARIATION FROM OPTIMUM MOISTURE CONTENT (%)	MOISTURE RATIO (%)	WET +19mm (%)	WET +37.5mm (%)	APPROX. DEPTH BELOW FINISH LEVEL (mm)
1/06/18	1	<i>Refer to #1916/256 for approx. test site locations.</i>	2.08	19.0	102.5	2.04	19.0	175	0.0 Drier	100.0	0	0	0
1/06/18	2		2.03	20.5	100.5	2.02	21.0	175	0.0 Drier	99.0	0	0	0
1/06/18	3		2.08	17.5	103.0	2.02	18.0	175	0.5 Drier	96.0	0	0	0
1/06/18	4		2.07	20.5	104.5	1.98	21.0	175	0.5 Drier	97.5	0	0	0
1/06/18	5		2.06	22.0	105.0	1.96	22.5	175	0.5 Drier	98.0	0	0	0
1/06/18	6		2.08	20.0	105.0	1.98	20.5	175	0.0 Drier	99.0	0	0	0

NOTES: Clayey Fill Ex. Onsite Compaction specimens sampled after compaction.
 Test sites located - Geolab Procedure 4, Part 4.4 Start Time: 11.00am Finish Time: 12.00pm

A Hilf Rapid Compaction test was carried out on a sample taken from each Field Density location to obtain the Compaction Parameters tabulated on this Report.


Moisture Content: AS 1289 2.1.1
 Compaction Test: AS 1289 5.7.1

Soil Layer thickness: 200mm

Hilf Density Ratio and Hilf Moisture Variation ,Hilf Adjusted (APCWD) & Peak (PCWD) Converted Wet Density AS 1289 5.7.1

Field Density, Nuclear Gauge: AS 1289 5.8.1


Materials Sampled : AS 1289 1.2.1 Clause 6.4(b)



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 PH: (03) 9335 1225

DAILY SUMMARY - FIELD DENSITY TESTS

REPORT NO.: # 1916/255

LOCATION: DRAPERS - The Quay 2 Estate Stage 8

DATE OF TESTS	TEST NUM.	TEST LOCATION	FIELD WET DENSITY (t/m ³)	FIELD MOISTURE CONTENT (%)	HILF DENSITY RATIO STANDARD (%)	STANDARD PCWD OR APCWD (t/m ³)	STANDARD OPTIMUM MOISTURE CONTENT (%)	PROBE DEPTH SETTING (mm)	VARIATION FROM OPTIMUM MOISTURE CONTENT (%)	MOISTURE RATIO (%)	WET +19mm (%)	WET +37.5mm (%)	APPROX. DEPTH BELOW FINISH LEVEL (mm)	
1/06/18	7	<i>Refer to #1916/256 for approx. test site locations.</i>	2.07	20.5	104.5	1.99	20.5	175	0.0 Drier	99.0	0	0	0	
-	-		-	-	-	-	-	-	-	-	-	-	-	
-	-		-	-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-	-

NOTES: Clayey Fill Ex. Onsite Compaction specimens sampled after compaction.
 Test sites located - Geolab Procedure 4, Part 4.4. Start Time: 11.00am Finish Time: 12.00pm

A Hilf Rapid Compaction test was carried out on a sample taken from each Field Density location to obtain the Compaction Parameters tabulated on this Report.

Soil Layer thickness: 200mm Moisture Content: AS 1289 2.1.1
 Hilf Density Ratio and Hilf Moisture Variation ,Hilf Adjusted (APCWD) & Peak (PCWD) Converted Wet Density AS 1289 5.7.1 Compaction Test: AS 1289 5.7.1
 Field Density, Nuclear Gauge: AS 1289 5.8.1
 Materials Sampled : AS 1289 1.2.1 Clause 6.4(b)

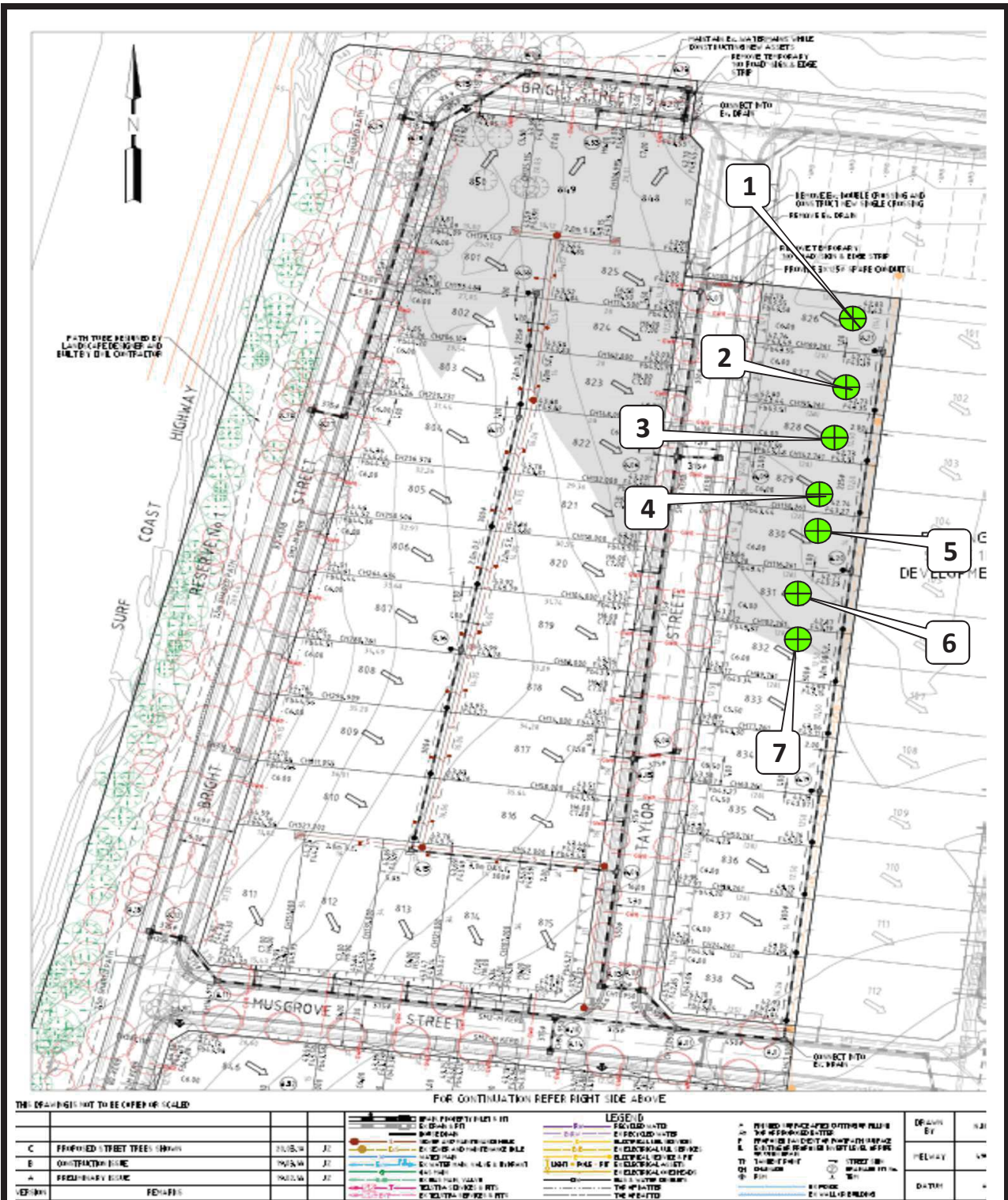


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 (Approved Signatory)

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ACN 102 571 077
Factory 1/8-10 Catalina Drive, Tullamarine Vic 3043
PO Box 184 Keilor VIC 3036
PH: (03) 9335 1225 Fax: (03) 9335 1775

CLIENT: DRAPERS

LOCATION: The Quay 2 Estate Stage 8

Sketch indicating compaction test locations

DATE: 1/6/18

OPERATOR: MV

SCALE: NTS

JOB No.: 1916/256

CHECKED: EG

FIGURE No: -