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Report on
Imported Fill Assessment Summary

Bringelly Road Business Hub
50 Bringelly Road, Horningsea Park

Prepared for
CIP Constructions (NSW) Pty Ltd

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The undersigned, on behalf of Douglas Partners Pty Ltd, confirm that this document and all attached drawings, logs and test results have been checked and reviewed for errors, omissions and inaccuracies.

Signature	Date
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Report on Imported Fill Assessment Summary

Bringelly Road Business Hub

50 Bringelly Road, Horningsea Park

1. Introduction

This report presents a summary of the assessment findings for each individual external source site assessed for the potential importation of fill to the Bringelly Road Business Hub (BRBH) industrial development site located at 50 Bringelly Road, Horningsea Park. This summary report was requested by Madeleine Iles of CIP Constructions (NSW) Pty Ltd (CIP) and was undertaken in accordance with the contract terms between DP and CIP.

The individual assessments of each source site were undertaken by Douglas Partners Pty Ltd (DP) during the fill importation period of January to November 2019. The importation of fill was required to raise ground surface levels to design levels and to form large level pads for the construction of industrial warehouses. The BRBH project includes the development of five new industrial sites and the construction of a new fronting access road (Skyline Crescent). The layout of the site is presented as Drawing 1, in Appendix B.

2. Fill Importation Protocol

At the start of the project DP prepared a Fill Importation Protocol (FIP) to manage and guide the importation assessment process for this development. The FIP is referenced 85917.05.R.001.Rev0 and is dated 19 February 2019.

The FIP set out the minimum requirements for acceptance of imported soil and rock and provided guidance on the management of imported materials. For acceptance, the imported materials had to be classifiable as either virgin excavated natural material (VENM), excavated natural material (ENM), or excavated soil/rock that is the subject of a specified EPA Resource Recovery Order (and associated exemption). The minimum sampling, testing and reporting requirements for each classification were set out within the FIP.

In addition, minimum geotechnical requirements were also established within the FIP and included limits on soil salinity, aggressivity, maximum particle size and plasticity.

3. Source Site Assessment Categories

The findings of the assessment process were varied with nine different assessment finding categories determined by DP, which are defined as:

- **Approved** – A satisfactory assessment outcome was achieved for this source.

- **Approved (Partial)** - A satisfactory assessment outcome was achieved for part of the source (e.g. Stage 1 of a development site only).
- **Approved (With Conditions)** - A satisfactory assessment outcome was achieved for this source provided certain works were undertaken prior to commencement of fill delivery (e.g. removal of fill or stockpiles from a site before underlying VENM was received).
- **More information Requested** - A satisfactory assessment outcome was not achieved, although with appropriate responses to assessment queries, or with the supply of additional supporting information a satisfactory assessment was deemed likely (e.g. additional laboratory test results, or clarification of ambiguous or missing information).
- **Site Inspection Required (Not Done)** – A satisfactory assessment outcome was not achieved, although if a site visit to the source site was undertaken a satisfactory assessment was deemed possible (e.g. a site inspection to confirm removal of known contaminants, or to confirm excavations had already progressed below the base of known contaminants). Sites with this assessment category were not inspected at the instruction of CIP.
- **Further Assessments Required (Not Done)** – A satisfactory assessment outcome was not achieved, although if additional waste classification work was undertaken a satisfactory assessment was deemed possible (e.g. additional test pits and/or additional laboratory testing to confirm the claimed waste classification due to missing information or insufficient data). Further assessments of these sites were not undertaken at the instruction of CIP.
- **Not Assessed (Report too Old)** – A satisfactory assessment outcome was not achieved, as the supporting waste classification documents provided by the source site were deemed too old and therefore no longer representative of the source site (e.g. waste classification reports that were more than 12 months old). Sites with this assessment category had their assessment truncated early in the assessment process.
- **Cancelled by Client** – Sites with this assessment category were not fully assessed due to the client instructing DP to cease the assessment due to other project matters (e.g. contractual, lack of supply or similar).
- **Rejected** – A satisfactory assessment outcome was not achieved and was deemed unlikely even with additional investigations and testing (e.g. source materials did not comply with the requirements of the FIP).

4. Source Sites Assessed

A total of 85 external sites were proposed as potential source sites. For each site, a representative from CIP provided waste classification reports and other available environmental documents to DP to assist the assessment process. It is understood that all documents were obtained from the source site. DP assessed each site, to varying degrees, for compliance with the FIP. Sites that clearly did not comply had their assessment process truncated. Others were assessed in greater detail.

Table 1 presents a summary of all sites that were assessed by DP for the BRBH project, together with their assessment finding category.

Table 1: Summary List of Assessed Sites and Assessment Findings

Site	Address	Assessment Outcome
1	Barangaroo Station Site, Hickson Road, Sydney	Approved
2	Sydney Metro Station Site, Crows Nest	Approved
3	Victoria Cross Station, McLaren Street, North Sydney	Approved
4	Victoria Cross Station, Miller Street & Berry Street	Approved
5	Victoria Cross Station, Miller Street, North Sydney	Approved
6	Sydney Metro, Chatswood Corridor	Approved
7	Sydney Metro, Waterloo	Approved
8	48-50 Copeland Street, Liverpool	Rejected
9	Central Railway Station Metro Box, Chippendale	Approved
10	6-8 Cross Street, Hurstville	Approved
11	17-21 Mary Street, Auburn	Approved
12	119 Glengarry Drive, Glenmore Park	Cancelled by Client
13	Kingsgrove Construction Compound, M5, Kingsgrove	Rejected
14	6-14 Walker Street, Rhodes	Approved
15	717-727 Canterbury Road, Belmore	Approved
16	Cut 12, The Northern Road, Bringelly	Approved
17	Campbelltown Road, Bardia Park	Approved (Partial)
18	13-19 Glen Street, Eastwood	Approved
19	2-4 Mintaro Avenue, Strathfield	Approved
20	71 Hill Road, Lurnea	More Information Requested

Site	Address	Assessment Outcome
21	134-150 Pitt Street, Redfern	More Information Requested
22	41 Hawkesview Street, Guildford	Approved
23	13 Booralla Rd, Edensor Park	Approved (Stage 1 Only)
24	882 Woodville Road, Villawood	More Information Requested
25	433-439 Princes Highway, Rockdale	Approved
26	86-88 Mimosa Road, Greenacre	Rejected
27	459-463 Liverpool Road, Strathfield	Approved
28	659-661 Victoria Road, Melrose Park (Stage 1)	More Information Requested
29	231-235 Queen Street, Concord West	Site Inspection Required (Not Done)
30	100-102 King Street, Randwick	Cancelled by Client
31	454-456 Forest Road, Hurstville	Cancelled by Client
32	7 Deane Street, Burwood	Approved
33	1 Zoe Place, Mount Druitt	Approved
34	Blues Point Road, McMahons Point	Approved
35	Barangaroo Station Site, Barangaroo	Approved
36	16 Colless Street, Penrith	Approved
37	37-39 Punchbowl Road, Belfield	More Information Requested
38	678 Victoria Road, Ryde	More Information Requested
39	198 Albert Road, Strathfield	Rejected
40	12-14 Northumberland Avenue, Auburn	Approved
41	137-143 Herring Road, Macquarie Park	Approved

Site	Address	Assessment Outcome
42	Bernera Road Upgrade, Edmondson Park	Rejected
43	The Northern Road Upgrade, Bringelly	More Information Requested
44	6A, 8, 8B & 8C Monash Road, Gladesville	More Information Requested
45	501 Cowpasture Road, Hoxton Park	More Information Requested
46	BMD Skyline Crescent Occupancy	Rejected
47	(Menai Site 3) 49 Lodges Road, Narellan	Approved (With Conditions)
48	3 Bathurst Street, Liverpool	Approved
49	14-38 Cowper Street, Granville	More Information Requested
50	13-15 Farm Road, Gladesville	Approved
51	35 Ingleburn Road, Leppington	More Information Requested
52	150 Mersey Road, Leppington	Rejected
53	195-199 Great North Road, Five Dock	Rejected
54	157A-159 Old Northern Road, Castle Hill	More Information Requested
55	BMD Adjoining Site, Bringelly	Approved
56	St Peters Interchange, St Peters	More Information Requested
57	100 Fairway Drive, Kellyville	More Information Requested
58	(Menai Site 13) 184 Restwell Road, Prairiewood	Rejected
59	589-591 New Canterbury Road, Dulwich Hill	Rejected
60	37-41 Charles Street, Liverpool	Not Assessed (Report too Old)
61	88 Burwood Road, Burwood	Approved
62	88 Christie Street, St Leonards	More Information Requested

Site	Address	Assessment Outcome
63	VRS Stage 2, Victoria Road, Melrose Park	Approved
64	69 Wattle Street, Haberfield (M4-M5 Tunnel Spoil Order)	Approved
65	Kingsgrove Construction Compound M5, Kingsgrove	Rejected
66	41B Kurrajong Road, Prestons	More Information Requested
67	258-264 Pennant Hills Road, Thornleigh	More Information Requested
68	(Menai Site 22) 30-36 Warby Street, Campbelltown	Approved (With Conditions)
69	North Shore Health Hub Stage 1, St Leonards (Parts 1-3)	Rejected (Pts.1&2), More Info. Required (Pt.3)
70	7 Powdrill Road, Prestons	More Information Requested
71	Campbelltown Hospital, Campbelltown	Site Inspection Required (Not Done)
72	40 Craik Avenue, Austral	Approved
73	Barangaroo TBM Slurry, Barangaroo to Blues Point	More Information Requested
74	Campbelltown Road, Edmondson Park	Approved (With Conditions)
75	225-241A Hume Hwy, Greenacre	More Information Requested
76	Pyrmont Bridge Road (M4-M5 Tunnel Link Spoil Order)	Further Assessments Required (Not Done)
77	St Peters Interchange (M4-M5 Tunnel Link Spoil Order)	Approved (With Conditions)
78	159 Queen Street, St Marys	More Information Requested
79	(Menai Site 7) St Peters Interchange	More Information Requested
80	50 Brennan Way, Edmondson Park	More Information Requested
81	37 Wollongong Road, Arncliffe	More Information Requested
82	180 George Street, Parramatta	More Information Requested
83	18-20 Leonard Street, Bankstown	Approved

Site	Address	Assessment Outcome
84	21-41 East Street, Granville	More Information Requested
85	Pitt St Nth Station Site, Pitt Street & Park Street, Sydney	More Information Requested

Table 2: Number of Sites in Each Category

Assessment Finding Category	No. of Sites
Approved	34
Approved (Partial)	2
Approved (With Conditions)	4
More Information Requested	27
Site Inspection Required (Not Done)	2
Further Assessments Required (Not Done)	2
Not Assessed (Report too Old)	1
Cancelled by Client	3
Rejected	10
Total	85

5. Approved Source Import Volumes

DP's involvement with the importation of filling was limited to the assessment of source sites in accordance with the FIP. All other importation and management processes were undertaken by CIP, including records keeping, gate keeping, material inspection, material tracking and import volume recording and control.

Table 3 provides a summary of the volume of material received from each approved source site. Volumes are recorded in 'bin numbers' and as an estimated cubic metre conversion rate based on an assumed 7 m³ of material per bin. A bin is defined as either one truck or trailer storage tray. The following data was provided to DP by CIP.

Table 3: Summary of Imported Material for Each Approved Source

Site	Loads Received	Bins / Load	No. of Bins	Volume (m ³)
Sites 1 & 35 – Barangaroo (Truck & Dog)	3924	2	7848	54,936
Sites 1 & 35 – Barangaroo (Truck Only)	6	1	6	42
Site 2 – Crows Nest (Truck & Dog)	1246	2	2492	17,444
Site 2 – Crows Nest (Truck Only)	100	1	100	700
Sites 3, 4 & 5 – Victoria Cross (Truck & Dog)	41	2	82	574
Site 6 – Chatswood (Truck Only)	26	1	26	182
Site 6 – Chatswood (Truck & Dog)	350	2	700	4900
Site 6 – Chatswood (B) (Truck & Dog)	120	2	240	1680
Site 6 – Chatswood (B) (Truck Only)	1	1	1	7
Site 6 – Chatswood (G) (Truck & Dog)	22	2	44	308
Site 6 – Chatswood (N) (Truck & Dog)	27	2	54	378
Site 6 – Chatswood (N) (Truck Only)	9	1	9	63
Site 9 – Chippendale (Truck & Dog)	821	2	1642	11,494
Site 9 – Chippendale (Truck Only)	98	1	98	686
Site 10 – Hurstville (Truck & Dog)	764	2	1528	10,696
Site 10 – Hurstville (Truck Only)	145	1	145	1015
Site 11 – Auburn (Truck & Dog)	4210	2	8420	58,940
Site 11 – Auburn (Truck Only)	203	1	203	1421
Site 14 – Rhodes (Truck & Dog)	557	2	1114	7798
Site 14 – Rhodes (Truck Only)	39	1	39	273
Site 15 – Belmore (Truck & Dog)	1933	2	3866	27,062
Site 18 – Eastwood (Truck Only)	142	1	142	994
Site 19 – Strathfield (Truck & Dog)	144	2	288	2016

Site	Loads Received	Bins / Load	No. of Bins	Volume (m ³)
Site 25 – Rockdale (Truck Only)	754	1	754	5278
Site 32 – Burwood (Truck & Dog)	326	2	652	4564
Site 32 – Burwood (Truck Only)	22	1	22	154
Site 33 – Mt Druitt (Truck & Dog)	1373	2	2746	19,222
Site 33 – Mt Druitt (Truck Only)	1	1	1	7
Site 33 – Mt Druitt (after 18/4/19) (Truck & Dog)	2007	2	4014	28,098
Site 33 – Mt Druitt (after 18/4/19) (Truck Only)	66	1	66	462
Site 34 – Blues Point (Truck & Dog)	28	2	56	392
Site 36 – Penrith (Truck Only)	308	1	308	2156
Site 40 – Auburn (Truck Only)	636	1	636	4452
Site 48 – Liverpool (Truck & Dog)	1911	2	3822	26,754
Site 48 – Liverpool (Truck Only)	189	1	189	1323
Site 50 – Gladesville (Truck Only)	529	1	529	3703
Site 55 – Bringelly Gate 5 (Truck & Dog)	273	2	546	3822
Site 55 – Bringelly Gate 7 (Moxy Loads)	788	2	1576	11,032
Site 61 – Burwood (Truck Only)	244	1	244	1708
Site 68 – Campbelltown (Truck & Dog)	12	2	24	168
Site 68 – Campbelltown (Truck Only)	236	1	236	1652
Site 72 – Austral (Truck & Dog)	77	2	154	1078
Site 77 – St Peters (Truck & Dog)	799	2	1598	11,186
Site 77 – St Peters (Truck Only)	14	1	14	98
Totals			47,274	330,918

Notes: The cubic metre volumes are based on an estimated average of 7 cubic metres per bin.

6. Closing

Based on the results of all individual source site assessments it is considered that those sites categorised as 'Approved', 'Approved (Partial)' and 'Approved (With Conditions)' satisfy the requirements of the FIP. Provided the materials actually imported to the BRBH site were only derived from sites categorised as one of the three approved categories, the requirements relating to the 'Partial' and 'With Conditions' assessment findings were satisfied and materials were sourced from only those sites listed in Table 3, then the imported materials are considered to comply with the FIP.

In making the above statement DP does not intend to relieve CIP of their responsibilities for the control or management of the physical importation process.

7. Limitations

Douglas Partners (DP) has prepared this report for this project at 50 Bringelly Road, Horningsea Park NSW in accordance with instructions received from Madeleine Iles of CIP Constructions (NSW) Pty Ltd. The work was carried out under the agreed contractual terms for this project. This report is provided for the exclusive use of CIP Constructions (NSW) Pty Ltd for this project only and for the purposes as described in the report. It should not be used by or relied upon for other projects or purposes on the same or other site or by a third party. Any party so relying upon this report beyond its exclusive use and purpose as stated above, and without the express written consent of DP, does so entirely at its own risk and without recourse to DP for any loss or damage. In preparing this report DP has necessarily relied upon information provided by the client and/or their agents.

DP's advice is based upon the reported conditions and documentation made available to us during each individual source site assessment. The accuracy of the advice provided by DP in this report may be affected by undetected variations in ground conditions across the source sites between and beyond the sampling and/or testing locations. The advice may also be limited by budget constraints imposed by others or by site accessibility.

This report must be read in conjunction with all of the attached notes and should be kept in its entirety without separation of individual pages or sections. DP cannot be held responsible for interpretations or conclusions made by others unless they are supported by an expressed statement, interpretation, outcome or conclusion stated in this report.

This report, or sections from this report, should not be used as part of a specification for a project, without review and agreement by DP. This is because this report has been written as advice and opinion rather than instructions for construction.

Douglas Partners Pty Ltd

Appendix A

About This Report

About this Report

Douglas Partners



Introduction

These notes have been provided to amplify DP's report in regard to classification methods, field procedures and the comments section. Not all are necessarily relevant to all reports.

DP's reports are based on information gained from limited subsurface excavations and sampling, supplemented by knowledge of local geology and experience. For this reason, they must be regarded as interpretive rather than factual documents, limited to some extent by the scope of information on which they rely.

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This report is the property of Douglas Partners Pty Ltd. The report may only be used for the purpose for which it was commissioned and in accordance with the Conditions of Engagement for the commission supplied at the time of proposal. Unauthorised use of this report in any form whatsoever is prohibited.

Borehole and Test Pit Logs

The borehole and test pit logs presented in this report are an engineering and/or geological interpretation of the subsurface conditions, and their reliability will depend to some extent on frequency of sampling and the method of drilling or excavation. Ideally, continuous undisturbed sampling or core drilling will provide the most reliable assessment, but this is not always practicable or possible to justify on economic grounds. In any case the boreholes and test pits represent only a very small sample of the total subsurface profile.

Interpretation of the information and its application to design and construction should therefore take into account the spacing of boreholes or pits, the frequency of sampling, and the possibility of other than 'straight line' variations between the test locations.

Groundwater

Where groundwater levels are measured in boreholes there are several potential problems, namely:

- In low permeability soils groundwater may enter the hole very slowly or perhaps not at all during the time the hole is left open;

- A localised, perched water table may lead to an erroneous indication of the true water table;
- Water table levels will vary from time to time with seasons or recent weather changes. They may not be the same at the time of construction as are indicated in the report; and
- The use of water or mud as a drilling fluid will mask any groundwater inflow. Water has to be blown out of the hole and drilling mud must first be washed out of the hole if water measurements are to be made.

More reliable measurements can be made by installing standpipes which are read at intervals over several days, or perhaps weeks for low permeability soils. Piezometers, sealed in a particular stratum, may be advisable in low permeability soils or where there may be interference from a perched water table.

Reports

The report has been prepared by qualified personnel, is based on the information obtained from field and laboratory testing, and has been undertaken to current engineering standards of interpretation and analysis. Where the report has been prepared for a specific design proposal, the information and interpretation may not be relevant if the design proposal is changed. If this happens, DP will be pleased to review the report and the sufficiency of the investigation work.

Every care is taken with the report as it relates to interpretation of subsurface conditions, discussion of geotechnical and environmental aspects, and recommendations or suggestions for design and construction. However, DP cannot always anticipate or assume responsibility for:

- Unexpected variations in ground conditions. The potential for this will depend partly on borehole or pit spacing and sampling frequency;
- Changes in policy or interpretations of policy by statutory authorities; or
- The actions of contractors responding to commercial pressures.

If these occur, DP will be pleased to assist with investigations or advice to resolve the matter.

About this Report

Site Anomalies

In the event that conditions encountered on site during construction appear to vary from those which were expected from the information contained in the report, DP requests that it be immediately notified. Most problems are much more readily resolved when conditions are exposed rather than at some later stage, well after the event.

Information for Contractual Purposes

Where information obtained from this report is provided for tendering purposes, it is recommended that all information, including the written report and discussion, be made available. In circumstances where the discussion or comments section is not relevant to the contractual situation, it may be appropriate to prepare a specially edited document. DP would be pleased to assist in this regard and/or to make additional report copies available for contract purposes at a nominal charge.

Site Inspection

The company will always be pleased to provide engineering inspection services for geotechnical and environmental aspects of work to which this report is related. This could range from a site visit to confirm that conditions exposed are as expected, to full time engineering presence on site.

Appendix B

Drawings

