



**RESPONSE TO SUBMISSIONS  
State Significant Development SSD-5746**

**Proposed Expansion of Existing Mainfreight Facility  
including Storage of Dangerous Goods (Chemical Storage Facility)**

**30-50 Yarrowa St, Prestons  
(Lots 101 & 102 DP 1117691 and Lot 2 DP 28729)**



**July 2013**

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## Response to Submissions

Expansion to Existing Mainfreight Facility including Storage of Dangerous Goods  
30-50 Yarrowa Street, Prestons NSW

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# PART A PRELIMINARY

## 1.1 INTRODUCTION

This Response to Submissions (RTS) has been prepared by McKenzie Group Consulting on behalf of the Proponent, Goodman Property Service (Aust) Pty Ltd, and is submitted to the New South Wales Department of Planning and Infrastructure (DoP&I) in support of development at 30-50 Yarrowa Street, Prestons, New South Wales.

The project is a State Significant Development (SSD) under *State Environmental Planning Policy (State and Regional Development) 2011* (Reference: SSD-5746). This Report responds to, and addresses, the submissions received following the public exhibition of the Environmental Impact Statement (EIS) prepared for this proposal.

Clause 85A of the *Environmental Planning and Assessment Regulation 2000* permits the Director-General of the DoPI to require the Applicant to provide a written response to issues raised in submissions. This Response to Submission (RTS) report aims to fulfil the request from the Director General.

This RTS report is structured as follows:

- Part A** Introduction, Overview of the Proposed Development and the Site
- Part B** Overview of the exhibition period and Summary of the submissions received.
- Part C** Response to the submissions.
- Part D** Revised Statement of Commitments.
- Part E** Conclusion.

## 1.2 SITE LOCATION

Land which is the subject of this application is identified as Lots 101 & 102 DP 1117691 and Lot 2 DP 28729, being 30-50 Yarrowa Street, Prestons NSW (**Figure 1**).

The allotments that make up the site are detailed in **Table 1**.

| <b>Property Description</b> | <b>Address</b>          | <b>Area (approximate)</b> | <b>Road Frontage (approximate)</b> |
|-----------------------------|-------------------------|---------------------------|------------------------------------|
| Lot 101 DP 1117691          | 50 Yarrowa St, Prestons | 4.8ha                     | 242m                               |
| Lot 102 DP 1117691          | 40 Yarrowa St, Prestons | 2.0ha                     | 80m                                |
| Lot 2 DP 28729              | 30 Yarrowa St, Prestons | 1.6ha                     | 100m                               |
| <b>TOTAL</b>                |                         | <b>8.4ha</b>              | <b>422m</b>                        |

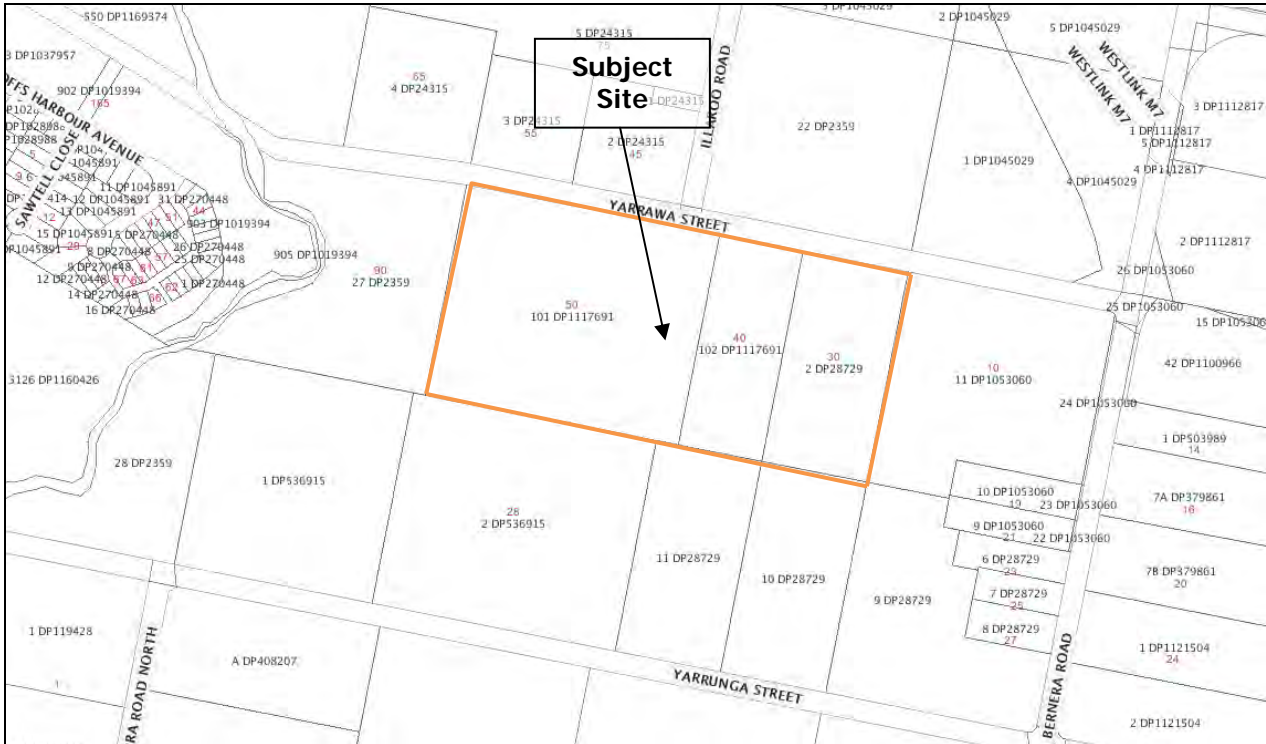
The development area forms part of a larger industrial estate, in which there are three (3) sites (**Figure 2**). At the time of this application, only Site 1 has been developed and accommodates the Mainfreight Distribution Centre. The proposal will seek to expand this facility onto 30-40 Yarrowa Street which lies immediately to the east and is known as Site 2. Site 3 lies to the south of Sites 1 and 2, with frontage to Yarrunga Street, and is subject to a separate application lodged by Southern Logistics.

An aerial photograph of the site is provided as **Figure 3**.



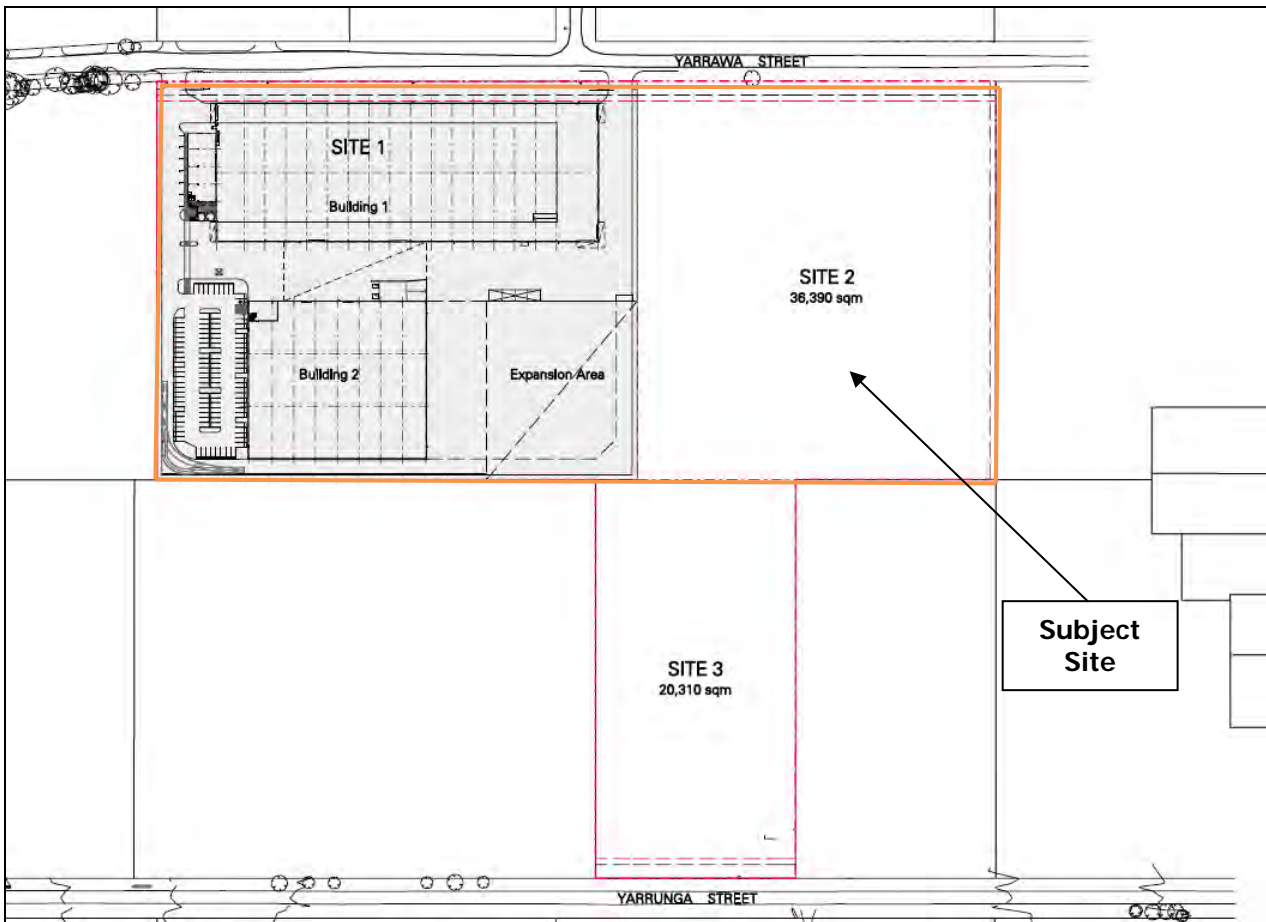
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**Figure 1. Site Location**

(Source: Land and Property Information, 2012)



**Figure 2. Estate Layout**

(Source: Land and Property Information, 2012)



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**Figure 3. Aerial Photograph of Subject Site**  
(Source: Google, 2012)



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# PART B EXHIBITION AND SUBMISSIONS

An Environmental Impact Statement (EIS) was prepared to assess the environmental impacts of the Project. The EIS was placed on public exhibition between 11 July 2012 and 27 August 2012. The EIS was also made available on the NSW Department of Planning and Infrastructure (DoPI) website. During this period, submissions were invited from anyone with an interest in the Project.

A summary of all the submissions received by the Public is outlined in **Table 2**. A summary of all the submissions received by agencies is outlined in **Table 3**. These Tables also indicate which Section in Part C of this RTS each matter raised in the relevant submission is addressed.

In total, two (2) submissions were received by the Public.

An additional six (6) submissions were received by the following Agencies:

1. Liverpool City Council (FCC);
2. Environmental Protection Authority (EPA);
3. TransGrid
4. Roads and Maritime Services (RMS);
5. Rural Fire service; and
6. Department of Planning and Infrastructure (DoPI).

An additional (1) submission was received following the exhibition period:

7. Sydney Water.

A full copy of each submission is provided as **Appendix 1**.

The submissions that were received generally fall into the following categories:

- Hazards and Risks
- Transport, Traffic and Parking
- Flooding and Stormwater Management
- General Planning Matters
- TransGrid Easement
- Bushfire Risk

Part C of this RTS provides responses to each of these items.

It is noted that further consultation was undertaken with Liverpool City Council, the Environmental Protection Authority and TranGrid on a number of matters that were raised in initial submissions. This RTS therefore demonstrates how these issues have been addressed.



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**TABLE 2 – Summary of Public Submissions Received**

| # | Name/s        | Summary of Submission  | Category         | Response             |
|---|---------------|--|------------------|----------------------|
| 1 | Name Withheld | <p>Not opposed to the expansion, but objects to the size and quantity of proposed storage of dangerous goods. Specific concerns raised in relation to:</p> <ul style="list-style-type: none"> <li>- Quantity of the proposed storage of dangerous (reference made to quantity exceeding the criteria for a Major Hazard Facility under the definition of the OH&amp;S Regulation 2001 and potentially hazardous development under State Environmental Planning Policy No. 33).</li> <li>- Suggested reduction in quantity of dangerous goods stored to reduce level of risk.</li> <li>- Storage of dangerous goods in proximity to residential property, Cabramatta Creek and surrounding floodplains, businesses/industrial development.</li> <li>- Impact on land values.</li> </ul> | Hazards and Risk | Part C – Section 3.1 |
| # | Name/s        | Summary of Submission  | Category         | Response             |
| 2 | Name Withheld | Objection to the storage of dangerous goods in proximity to residential property due to possible risk in the event of an accident.   | Hazards and Risk | Part C – Section 3.1 |

**TABLE 3 – Summary of Agency Submissions Received**

| # | Agency                 | Summary of Submission   | Category                       | Response             |
|---|------------------------|---|--------------------------------|----------------------|
| 3 | Liverpool City Council | The site is small to be able to accommodate such an intense operation which would lead to queuing of trucks.  | Transport, Traffic and Parking | Part C – Section 3.2 |
|   |                        | The Traffic Impact Assessment does not provide an assessment of whether the existing roundabout would be affected by the proposed development. Additional intersection performance analysis requested, including future performance 10 years after the proposed development.  | Transport, Traffic and Parking | Part C – Section 3.2 |
|   |                        | Request that a condition be placed on any consent to prohibit the storage of heavy vehicles within the Yarrowa Street carriageway fronting the development site. (Specific recommendation made for line marking of Yarrowa Street from its intersection with Bernera Road up to the western extent of the development site along with no parking on the section fronting the development site). | Transport, Traffic and Parking | Part C – Section 3.2 |
|   |                        | Line marking plan of the above condition is required to be submitted to Council's Local Traffic Committee for its approval. Approval must be obtained from the Committee prior to occupation of the proposed extension.   | Transport, Traffic and Parking | Part C – Section 3.2 |



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|  |   |                                    |                      |
|--|---|------------------------------------|----------------------|
|  | Noted that the existing street is an approved B-double route and can accommodate the expected traffic increase from the proposed development.   | Transport, Traffic and Parking     | Part C – Section 3.2 |
|  | Small vehicle parking approach is supported, so long as the 40 provisional spaces are maintained to ensure all car parking demand can be accommodated on site.  | Transport, Traffic and Parking     | Part C – Section 3.2 |
|  | Plans provided do not indicate that the internal layout is able to accommodate all of the trucks that would be required to be stored at the development site. Request for applicant to demonstrate how this can be achieved.  | Transport, Traffic and Parking     | Part C – Section 3.2 |
|  | Internal layout and proposed driveways to be in accordance with AS2890. Plan is required to demonstrate the truck storage can accommodate the swept path of a 26m B-double truck and ensure trucks can enter and leave the site in a forward direction.   | Transport, Traffic and Parking     | Part C – Section 3.2 |
|  | Recommendation made in relation to conditions to implement the above comments.  | Transport, Traffic and Parking     | Part C – Section 3.2 |
|  | Works as Executed Plans and CCTV survey of the existing drainage line at Yarrawa Street are to be provided.   | Flooding and Stormwater Management | Part C – Section 3.3 |
|  | On-site Detention (OSD) to be provided at the development site.   | Flooding and Stormwater Management | Part C – Section 3.3 |
|  | Flood Impact Assessment to be provided demonstrating that no private properties will be adversely affected up to and including the 100 year ARI event as a result of the development.   | Flooding and Stormwater Management | Part C – Section 3.3 |
|  | Safety measures provided in the Preliminary Hazard Analysis (PHA) in accordance with AS3833-2007: The storage and handling of mixed classes of dangerous goods, in packages and intermediate bulk containers to be conditions as part of the development consent. The operation is to be consistent with the safety measures outlined in Section 2.2 of the PHA as well as all commitments contained in the Draft Statement of Commitments. | Hazards and Risks                  | Part C – Section 3.1 |
|  | All planning matters outlined in the letter sent to the Department of Planning and Infrastructure on 04 April 2013 remain to be considered.   | General Planning Matters           | Part C – Section 3.4 |
|  | Section 94 Contributions to be conditioned as part of consent. Contributions are to be paid prior to the release of a Construction Certificate.   | General Planning Matters           | Part C – Section 3.4 |



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| # | Agency                             | Summary of Submission  | Category   | Response  |
|---|------------------------------------|--|--|---|
| 4 | Environmental Protection Authority | Confirmed that the EPA has reviewed the proposal, including additional information and that the agency can issue an Environment Protection Licence (EPL) for the scheduled activities proposed to be carried out.  | Hazards and Risks and Flooding and Stormwater Management | Part C – Section 3.1<br>And<br>Part C – Section 3.3 |
|   |                                    | Suggested Conditions of Consent have been provided.  | General Planning Matters                                 | Part C – Section 3.4                                |
| # | Agency                             | Summary of Submission  | Category   | Response  |
| 5 | TransGrid                          | Advised that notification was not made and that approval is required from TransGrid.   | TransGrid Easement                                       | Part C – Section 3.5                                |
|   |                                    | Recommendation that the TransGrid Guidelines for Easement Activities and Restriction are followed with restriction as to what activities may and may not occur on Lot 2 DP 28729.  | TransGrid Easement                                       | Part C – Section 3.5                                |
|   |                                    | Vertical and horizontal clearances need to be verified. Detailed plans and specification to state the design Reduced Levels (RL) using Australian Height Datum. Horizontal distances from the stanchion (Feed 12 Structure 350) also need to be clearly specified on the plan (including unit measure), to ensure the proposed placement of the hardstand areas and other development works within the easement do not pose a risk to the transmission line and/or the stanchion's earthing systems. | TransGrid Easement                                       | Part C – Section 3.5                                |
|   |                                    | Development design discussed with proponent permits a 15 metre horizontal clearance from the stanchion conditional upon: <ul style="list-style-type: none"> <li>- Alteration of the transmission tower's earthing system at Goodman's cost</li> <li>- Developed to construct a protection barrier around the Stanchion at 15 metres from the nearest part of the structure's legs.</li> <li>- Hardstand drainage to be designed to prevent flooding to the base of the tower.</li> </ul>             | TransGrid Easement                                       | Part C – Section 3.5                                |
|   |                                    | Vertical and horizontal clearance also apply to any preliminary civil works. Existing earth mounds should be cleared from the easement immediately.  | TransGrid Easement                                       | Part C – Section 3.5                                |
|   |                                    | Storage or movement of dangerous goods prohibited within the easement irrespective of whether the dangerous goods are combustible, explosive or the goods as a collective could be deemed dangerous. Vehicles carrying dangerous goods are prohibited in the easement.   | TransGrid Easement                                       | Part C – Section 3.5                                |



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| # | Agency                                    | Summary of Submission  | Category   | Response  |
|---|---|--|--|---|
| 6 | Roads and Maritime Services               | RMS has reviewed the proposed expansion of the warehouse and distribution facility and has no objections to the proposal subject to the a number of conditions.  | Transport, Traffic and Parking                           | Part C – Section 3.2                                |
| # | Agency                                    | Summary of Submission  | Category   | Response  |
| 7 | Rural Fire Service                        | At the commencement of building works and in perpetuity, the entire property shall be managed as an inner protection area (IPA) as outlined within Section 4.1.3 and Appendix 5 of Planning for Bushfire Protection 2006 and the NSW Rural Fire Service's document Standards for asset protection zones. | Bushfire Risk  | Part C – Section 3.6                                |
|   |   | The reticulated water supply provision for the proposed development shall comply with AS 2419.1-2005   | Bushfire Risk  | Part C – Section 3.6                                |
| # | Agency                                    | Summary of Submission  | Category   | Response  |
| 8 | Department of Planning and Infrastructure | Confirmation that the matters raised in the Environmental Protection Authorities email dated 02 May 2013 have been resolved but that the RTS may include this detail.  | Hazards and Risks and Flooding and Stormwater Management | Part C – Section 3.1<br>And<br>Part C – Section 3.3 |
|   |   | RTS to address issued raised by NSW Rural Fire Service.  | Bushfire Risk  | Part C – Section 3.6                                |
|   |   | Matters raised in the two (2) public submissions received to be addressed in RTS.  | Hazards and Risk   | Part C – Section 3.1                                |
|   |   | Acknowledgement that earth works have commenced. Information on status of the works completed at the site.   | General Planning Matters                                 | Part C – Section 3.4                                |
|   |   | Confirmation of the number of construction staff that will be employed for the construction of the proposal.   | General Planning Matters                                 | Part C – Section 3.4                                |
|   |   | Confirmation requested from the applicant that they are aware of the potential impacts to the proposed operations that would result from the construction of another TransGrid transmission tower within their site.   | TransGrid Easement                                       | Part C – Section 3.5                                |
|   |   | While <i>State Environmental Planning Policy (State and Regional Development) 2011</i> adopts the definition of Major Hazards Facility (MHF) from the repealed Regulations, the new WHS Regulation is the relevant legislation that is required to be addressed.   | General Planning Matters                                 | Part C – Section 3.4                                |



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|          |               |  |                                |                      |
|----------|---------------|--|--------------------------------|----------------------|
|          |               | Clause 45 of <i>State Environmental Planning Policy (Infrastructure) 2007</i> is relevant to the application. It requires consideration of issues raised by the electricity supply authority for the easement that crosses the land (i.e. TransGrid)   | General Planning Matters       | Part C – Section 3.4 |
|          |               | Swept Path Drawing No. TX.03 appears to show a truck exiting the site using the existing driveway which is proposed to be located and reinstated.  | Transport, Traffic and Parking | Part C – Section 3.2 |
|          |               | Swept Path Drawing No. TX.03 shows trucks exiting the site only, while the architectural plans show this as a combined truck entry/exit point. Truck movements through this access point needs to be clarified, especially in light of the commitment given that no dangerous goods will transported through the TransGrid easement.   | Transport, Traffic and Parking | Part C – Section 3.2 |
|          |               | Swept Path Drawing No. TX.04 shows trucks entering the site only, while the intersection is marked as a combined truck entry/exit point on the architectural plans.  | Transport, Traffic and Parking | Part C – Section 3.2 |
|          |               | Swept Path Drawing No. TX.04 shows that trucks entering the site cross the centre line of the road to access the site.   | Transport, Traffic and Parking | Part C – Section 3.2 |
|          |               | A diagram should be provided demonstrating that trucks carrying dangerous goods can enter and leave the site without requiring access through the TransGrid easement.  | Transport, Traffic and Parking | Part C – Section 3.2 |
|          |               | While not included in the formal submission, the Department of Planning and Infrastructure has also identified that the proposed construction noise level is predicted to be 84dB(A) at the eastern industrial boundary.   | General Planning Matters       | Part C – Section 3.4 |
|          |               | While not included in the formal submission, the Department of Planning and Infrastructure has also requested confirmation as to why consideration has been given to the Threatened Species Conservation Act 1995 and whethe further investigation would be required (i.e. a Species Impact Statement). A conclusion is required to be provided for this section of the EIS. | General Planning Matters       | Part C – Section 3.4 |
|          |               | While not included in the formal submission, the Department of Planning and Infrastructure has also requested confirmation of <i>Draft State Government Metropolitan Strategy for Sydney 2031</i> .  | General Planning Matters       | Part C – Section 3.4 |
|          |               | While not included in the formal submission, the Department of Planning and Infrastructure has also requested confirmation that noise impacts from construction activities can be less than the maximum 75dB(A).   | General Planning Matters       | Part C – Section 3.4 |
| <b>#</b> | <b>Agency</b> | <b>Summary of Submission</b>   | <b>Category</b>                | <b>Response</b>      |
| 7        | Sydney Water  | Requirement for a Section 73 Certificate to be imposed as a condition of consent.  | Sydney Water                   | Part C – Section 3.7 |



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# PART C RESPONSE TO SUBMISSIONS

This Part provides responses to each of the issues raised in the submissions.

## 3.1 HAZARDS AND RISKS

| <b>Public Submission No. 1</b> |  |
|--------------------------------|--|
| Summary of Submission          | <p>Not opposed to the expansion, but objects to the size and quantity of proposed storage of dangerous goods. Specific concerns raised in relation to:</p> <ul style="list-style-type: none"><li>- Quantity of the proposed storage of dangerous (reference made to quantity exceeding the criteria for a Major Hazard Facility under the definition of the OH&amp;S Regulation 2001 and potentially hazardous development under State Environmental Planning Policy No. 33).</li><li>- Suggested reduction in quantity of dangerous goods stored to reduce level of risk.</li><li>- Storage of dangerous goods in proximity to residential property, Cabramatta Creek and surrounding floodplains, businesses/industrial development.</li><li>- Impact on land values.</li></ul>  |
| Response                       | <p>The type of dangerous goods intended for storage in the Prestons extension are consumer hair care products. They are sold to Coles, Woolworths , pharmacy's and salons. This includes but is not limited to hair spray, hair dye, shampoos, colouring, gels etc. These products whilst stored in volume are contained in limited quantities packaging. This means that if an items is damaged the spill is limited in size i.e. a 100ml bottle of hair dye. The risk of a spill entering a drain is negligible. The largest packaging type falls in the non-hazardous space and is a 400ml shampoo.</p> <p>The proposed hair spray storage medium has been designed to meet global fire risk management standards, this is above and beyond local legislative requirements. This means they are contained in a caged area with each pallet stored under a sprinkler head ensuring that in the unlikely event of a fire it is contained before being able to spread.</p> <p>In relation to "exceeding the criteria for a Major Hazards Facility", it should be recognised that there is no limit or cap to the amount of dangerous goods that can be stored. In this case, these can be not exceeding the quantity permitted in a Major Hazards Facility under the OHS Regulation. Rather, the terminology used is to explain that the quantity proposed to be stored has triggered the definition of a Major Hazard Facility as it has surpassed the criteria which governs what must be subject to the State Significant Development (SSD) approvals process (i.e. quantities below the nominated criteria are not SSD and those quantities that are above the criteria must be assessed as SSD).</p> <p>The Preliminary Hazard Analysis has identified the most suitable mitigation measures to address risks associated with the proposed storage of dangerous goods. Simply reducing the quantity would not reduce the risk by any significant degree. The risk that has been mitigated relates to the potential for impacts on location beyond the site boundary, including waterways, other businesses and residential development.</p> <p>The impact on land values is a matter that must be addressed between the private owner and the Department of Planning and Infrastructure; however, it is noted that the site proposed to accommodate the expansion and dangerous facility is zone for heavy industrial purposes within which the development is permissible.</p> |



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| <b>Public Submission No. 2</b> |  |
|--------------------------------|--|
| Summary of Submission          | Objection to the storage of dangerous goods in proximity to residential property due to possible risk in the event of an accident. |
| Response                       | Refer to above response to Public Submission No. 1.  |

| <b>Liverpool City Council Submission</b> |   |
|--|---|
| Summary of Submission                    | Safety measures provided in the Preliminary Hazard Analysis (PHA) in accordance with AS3833-2007: The storage and handling of mixed classes of dangerous goods, in packages and intermediate bulk containers to be conditions as part of the development consent. The operation is to be consistent with the safety measures outlined in Section 2.2 of the PHA as well as all commitments contained in the Draft Statement of Commitments. |
| Response                                 | Noted. The proposal will be carried out in accordance with the findings of the PHA, relevant Australian Standards, and Statement of Commitments.<br><br>Further consultation was undertaken with Lisa Mackay of Liverpool City Council on 07 June 2013 in which the above matter was discussed. Council confirmed that this item has been address by this response.   |

| <b>Environmental Protection Authority Submission</b> |   |
|--|---|
| Summary of Submission - Item 1                       | Confirmed that the EPA has reviewed the proposal, including additional information and that the agency can issue an Environment Protection Licence (EPL) for the scheduled activities proposed to be carried out.   |
| Response   | The formal submission provided by the EPA follows further consultation that was carried out. In particular, a meeting was held with Rod Fox of the EPA on to discuss the following matters of relevance to hazards and risks: <ul style="list-style-type: none"><li>▪ The sizing of bunded areas serving the dangerous goods storage areas.</li></ul> It is noted that additional matters relating to stormwater management were also addressed and are discussed in Section 3.3 below.<br><br><b>Appendix 2</b> of this RTS includes a copy of the additional information that was provided to the EPA to address these matters and to which the final EPA submission relates. |
| Summary of Submission - Item 2                       | Suggested Conditions of Consent have been provided.   |
| Response   | Noted.  |

| <b>Department of Planning and Infrastructure Submission</b> |   |
|---|---|
| Summary of Submission – Item 1                              | Confirmation that the matters raised in the Environmental Protection Authorities email dated 02 May 2013 have been resolved but that the RTS may include this detail. |
| Response  | The matters raised by the EPA have been addressed as outlined above and detailed in <b>Appendix 2</b> .   |
| Summary of Submission - Item 2                              | Matters raised in the two (2) public submissions received to be addressed in RTS.   |
| Response  | The matters raised in the public submission have been addressed as outlined above.  |



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### 3.2 TRANSPORT TRAFFIC AND PARKING

| <b>Roads and Maritime Services Submission</b> |   |
|---|---|
| Summary of Submission                         | <p>RMS reviewed the proposed expansion of the warehouse and distribution facility and has no objections to the proposal subject to the following conditions:</p> <ol style="list-style-type: none"><li><i>The layout of the proposed car parking areas associated with the subject development (including, driveways, grades, turn paths, sight distance requirements, aisle widths, aisle lengths, and parking bay dimensions) should be in accordance with AS 2890.1-2004 and AS 2890.2 - 2002 for heavy vehicle usage.</i></li><li><i>The swept path of the longest vehicle (to service the site) entering and exiting the subject site, as well as manoeuvrability through the site, shall be in accordance with AUSTRROADS. In this regard, a plan shall be submitted to the Department for approval, which shows that the proposed development complies with this requirement.</i></li><li><i>All vehicles are to enter and leave the site in a forward direction.</i></li><li><i>Car parking provision to the Department of Planning and Infrastructure's satisfaction.</i></li><li><i>Heavy vehicle parking is to be in accordance with the Truck Parking Management Plan (TPMP) - Drawing No: TX.07; Dated: 08/04/13, depicted within Appendix C of the Traffix Traffic Impact Assessment report (12.424r01v3).</i></li><li><i>As the TPMP will result in stacked parking, such spaces will need to be managed in an orderly manner. To address the management of stacked parking, the proponent will need to prepare and submit a Truck Operational Management Plan to the Department and Council for approval prior to the issue of an Occupation Certificate.</i></li><li><i>The proposed loading areas are to be kept clear of any obstacles, including parked vehicles, at all times.</i></li><li><i>A Construction Traffic Management Plan detailing construction vehicle routes, number of trucks, hours of operation, access arrangements and traffic control should be submitted to the Department prior to the issue of the Construction Certificate for the warehouse developments.</i></li><li><i>All works/regulatory signposting associated with the proposed development are to be at no cost to RMS.</i></li></ol> |
| Response                                      | <p>It is noteworthy that RMS has no objection to the proposal, subject to compliance with a number of conditions that are listed in their letter. Most of these conditions are standard requirements and all of the RMS conditions are acceptable.</p> <p>Points 5 and 6 of the RMS letter refer to the proposed on-site truck parking and note that much of the parking would be provided in stacked formation. To address this, RMS recommends that the NSW Department of Planning and Infrastructure (DPI) condition the approval such that the proponent would, "need to prepare and submit a Truck Operational Management Plan to the Department and Council for approval prior to the issue of an Occupation Certificate".</p>  |



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|  | <p>In addition, it is noteworthy that RMS raised no objection to the traffic analysis provided within the TIA. In this regard, the TIA determined that the expansion proposal would result in an increase of 61 traffic movements during the morning peak hour (equivalent to just one new trip per minute) and an increase of just eight (8) trips during the evening peak hour (equivalent to one new trip every 7.5 minutes).</p> <p>It can be concluded that RMS agrees with the position taken by the TIA that, based on the traffic generation forecasts, the net traffic impacts associated with the expansion would be negligible and that further analysis, such as intersection performance testing, is not warranted in these circumstances. Presumably, the RMS is also aware of the extensive spare capacity that is presently available at the critical (roundabout) intersection of Yarrowa Street and Bernera Road, which serves all traffic accessing the subject site.</p> |
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| <b>Liverpool City Council Submission</b> |   |
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| Summary of Submission – Item 1           | The site is small to be able to accommodate such an intense operation which would lead to queuing of trucks.  |
| Response                                 | The proposal is being undertaken on land zoned for heavy industrial purposes. The ability of Mainfreight to manage on-site operations has been evidenced at a number of existing sites across Australia and is outlined in the Truck Parking Management Plan (TPMP) and would also be further addressed in a Truck Operating Management Plan mentioned in the Traffic Impact Assessment. Further details are outlined in response to the additional items raised by Council below.  |
| Summary of Submission – Item 2           | The Traffic Impact Assessment does not provide an assessment of whether the existing roundabout would be affected by the proposed development. Additional intersection performance analysis requested, including future performance 10 years after the proposed development.  |
| Response                                 | <p>Council's first request is two-fold consisting of (1) standard intersection performance testing of the roundabout's current operation with the expansion development traffic and (2) intersection performance testing of the roundabout's operation in 10 years after the development's completion.</p> <p>The Traffic Impact Assessment submitted for exhibition determined that the volume of additional traffic on the road network would equate to just one additional trip every minute during the morning peak hour and just one additional trip every 7.5 minutes during the evening peak hour. The TIA concluded that the additional trips would be of such a low order that the expansion would have no material traffic impact on the surrounding road network and, in particular, at the Bernara Road / Yarrowa Street Roundabout. Therefore, standard intersection performance analysis of the roundabout is not warranted because of the negligible traffic generation anticipated for the expansion.</p> <p>In this context, the requirement to undertake surveys and additional modelling is considered both onerous and unnecessary; while it's highly unlikely that the conclusions reached in the TIA would change in any event.</p> <p>With regard to performance analysis of the intersection in 10 years from completion, it can be concluded that due to the negligible traffic generation volumes anticipated for the expansion, the operation of the roundabout 10 years from now would be generally the same regardless of whether the expansion was completed or not. Therefore, such future performance analysis is also not warranted. In our view it is</p> |



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|                                | <p>unreasonable to attempt to link the expansion project to future improvements of this roundabout that may or may not be required as a result of on-going industrial development surrounding the subject site; and/or growth in 'background' traffic more generally. In this regard it is considered that should a strategic assessment of traffic conditions be required (which is a view not shared by the RMS), then this is the responsibility of Council.</p> <p>Notwithstanding, it is noted that Bernera Road is an RMS Regional Road and the subject roundabout forms part of the Westlink M7 Interchange. The roundabout is thus a key component of the RMS road network and it can be assumed, with some confidence, that RMS would have carefully considered the impact of the development on the subject roundabout. Thus, the RMS support for the approach taken in the TIA indicates that Council's concerns are misplaced; and that further analysis is not warranted.</p> <p>Council has acknowledged this response in its letter dated 25 June 2013 at <b>Appendix 3</b>.</p>   |
| Summary of Submission – Item 3 | Request that a condition be placed on any consent to prohibit the storage of heavy vehicles within the Yarrowa Street carriageway fronting the development site. (Specific recommendation made for line marking of Yarrowa Street from its intersection with Bernera Road up to the western extent of the development site along with no parking on the section fronting the development site).   |
| Response                       | Noted.  |
| Summary of Submission – Item 4 | Line marking plan of the above condition is required to be submitted to Council's Local Traffic Committee for its approval. Approval must be obtained from the Committee prior to occupation of the proposed extension.   |
| Response                       | Noted.  |
| Summary of Submission – Item 5 | Noted that the existing street is an approved B-double route and can accommodate the expected traffic increase from the proposed development.   |
| Response                       | Noted.  |
| Summary of Submission – Item 6 | Small vehicle parking approach is supported, so long as the 40 provisional spaces are maintained to ensure all car parking demand can be accommodated on site.  |
| Response                       | Noted.  |
| Summary of Submission – Item 7 | Plans provided do not indicate that the internal layout is able to accommodate all of the trucks that would be required to be stored at the development site. Request for applicant to demonstrate how this can be achieved.  |
| Response                       | <p>The TIA does demonstrate that the internal layout of the site can accommodate all trucks that would serve the development, as evidenced by a number of swept-path plans that were attached to the TIA report at Appendix D. It is noteworthy that these plans focus on the 'critical' manoeuvres that warrant swept-path analysis to demonstrate compliance, whilst other internal manoeuvres that can clearly be accommodated or their compliance can be inferred from the critical swept-path analysis, are omitted as is standard practise.</p> <p>With regard to the additional truck storage information requested, the TIA report addressed the issue of truck parking at Section 5.2: <i>Truck Parking – Transport Shed Operation</i>. This section also referred to a Truck Parking Management Plan (TPMP) that was attached to the TIA report at Appendix C. Section 5.2 and the TPMP clearly demonstrate that full provision has been made on site for the storage of all trucks and therefore parking on Yarrowa Street would not be required.</p> <p>Section 5.2 provides details of how the stacked parking would be managed, including the use of a small towing vehicle to 'break-up' 26 metre B-Double trucks so the front and rear units can be parked separately. The Truck Parking Management</p> |



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|                                | <p>Plan (TPMP) also demonstrates (using swept-path analysis) that trucks parked in the storage area on the hardstand would not obstruct trucks from entering and exiting the adjacent loading docks and the breezeway.</p> <p>The TIA report also referred to the subsequent preparation of a detailed Truck Operational Management Plan (TOMP) that would build upon the truck storage and parking measures detailed in Section 5.2 and the TPMP. Consequently, RMS in its response has recommended to DPI that the preparation and issue of a TOMP, prior to Occupation Certificate, be included as a condition of consent and this is appropriate.</p> <p>In summary, the TIA provided sufficient information to demonstrate that necessary provision has been made to park/store trucks wholly within the site. As requested by RMS a TOMP can be prepared and submitted prior to issue of an Occupation Certificate; therefore, no additional information with regard to storage of trucks is required.</p> |
| Summary of Submission – Item 8 | Internal layout and proposed driveways to be in accordance with AS2890. Plan is required to demonstrate the truck storage can accommodate the swept path of a 26m B-double truck and ensure trucks can enter and leave the site in a forward direction.  |
| Response                       | <p>As stated in Section 5.2 and as shown on the TPMP, B-Doubles will have the rear unit uncoupled and parked separately using a small towing vehicle specifically designed to enter and exit the storage parking in a forward direction. The 15.6 metre articulated front unit (with prime mover) would then park separately. It is noteworthy that the TPMP shows swept-paths for the B-Double front unit. The swept-paths have been based upon a 19.0 metre articulated truck; therefore, the analysis of the 15.6 metre front unit conservatively estimates the manoeuvring space required.</p> <p>In summary, there is no requirement to show swept-paths for a 26 metre B-Double entering and exiting the storage parking as these vehicles will be parked as two separate front and rear units as demonstrated by the TPMP.</p>  |
| Summary of Submission – Item 9 | Recommendation made in relation to conditions to implement the above comments  |
| Response                       | Conditions should be amended in consideration of the above responses.  |

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| <b><i>Department of Planning and Infrastructure Submission</i></b> |  |
| Summary of Submission – Item 1                                     | Swept Path Drawing No. TX.03 appears to show a truck exiting the site using the existing driveway which is proposed to be located and reinstated.  |
| Response   | Drawing TX.03 is being updated to remove the swept path that is erroneously shown on the left hand side of the plan. A revised plan is provided as <b>Appendix 4</b> .   |
| Summary of Submission – Item 2                                     | Swept Path Drawing No. TX.03 shows trucks exiting the site only, while the architectural plans show this as a combined truck entry/exit point. Truck movements through this access point needs to be clarified, especially in light of the commitment given that no dangerous goods will transported through the TransGrid easement. |
| Response   | The plan will remain as indicated on the architectural plan as it is expected the latest round of consultation with TransGrid will remove the restriction of prohibiting trucks carrying dangerous goods within the easement.  |
| Summary of Submission – Item 3                                     | Swept Path Drawing No. TX.04 shows trucks entering the site only, while the intersection is marked as a combined truck entry/exit point on the architectural plans.  |
| Response   | The plan will remain as indicated on the architectural plan to allow flexibility for vehicle movements where required.   |



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| Summary of Submission – Item 4 | Swept Path Drawing No. TX.04 shows that trucks entering the site cross the centre line of the road to access the site.   |
| Response                       | Figure 3.2 of AS2890.2 - 2002 – Minimum Design for a Major Access Driveway Catering for HRVs and AVs – states at Note 1: <i>The design (19.0m) AV specified in this Standard can turn into the driveway by using the second lane out from the kerb as permitted by the Australian Road Rules 2000.</i> |
| Summary of Submission – Item 5 | A diagram should be provided demonstrating that trucks carrying dangerous goods can enter and leave the site without requiring access through the TransGrid easement.  |
| Response                       | The requirement for a new plan is redundant as it is expected the latest round of consultation with TransGrid will remove the restriction of prohibiting trucks carrying dangerous goods within the easement.  |



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### 3.3 FLOODING AND STORMWATER MANAGEMENT

| <b>Liverpool City Council Submission</b> |   |
|--|---|
| Summary of Submission – Item 1           | Works as Executed Plans and CCTV survey of the existing drainage line at Yarrowa Street are to be provided.   |
| Response                                 | Further consultation was undertaken with Lisa Mackay, Maruf Hossain, Waliminipelli Siripala and Stephen Monte of Liverpool City Council on 07 June 2013 in which the above matters were discussed. Council's letter of 25 June 2013 ( <b>Appendix 3</b> ) notes that this matter will be dealt with as a separate compliance matter.  |
| Summary of Submission – Item 2           | On-site Detention (OSD) to be provided at the development site.   |
| Response                                 | <p>Council has advised via email dated 18 June 2013 that the following condition can be imposed to satisfy this requirement:</p> <p><i>On site detention (OSD) shall be provided to attenuate peak stormwater runoff leaving the site to its pre-development levels, for all storm events up to and including the 100 year ARI storm if sufficient drainage modelling can not be provided to clearly show that the proposed development will not have any negative impact of the existing Council stormwater drainage system. If OSD is found to be required the volume of OSD shall be determined using appropriate drainage modelling to demonstrate that the surrounding properties in Bernera Road are not adversely affected. The drainage modelling and flood impact assessment report along with detailed calculation shall be submitted for Council review and approval prior to the issue of a Construction Certificate.</i></p> <p>This condition is reflected in Council's letter dated 25 June 2013 at <b>Appendix 3</b>.</p> |
| Summary of Submission – Item 3           | Flood Impact Assessment to be provided demonstrating that no private properties will be adversely affected up to and including the 100 year ARI event as a result of the development.   |
| Response                                 | Council has since confirmed that no Flood Impact Assessment is required for the proposal (meeting dated 17 June 2013)   |

| <b>Environmental Protection Authority Submission</b> |  |
|--|--|
| Summary of Submission - Item 1                       | Confirmed that the EPA has reviewed the proposal, including additional information and that the agency can issue an Environment Protection Licence (EPL) for the scheduled activities proposed to be carried out.  |
| Response   | <p>The formal submission provided by the EPA follows further consultation that was carried out. In particular, a meeting was held with Rod Fox of the EPA on to discuss the following matters of relevance to hazards and risks:</p> <ul style="list-style-type: none"> <li>▪ Stormwater management of the breezeway.</li> <li>▪ Stormwater management of the trafficable areas of the premises.</li> <li>▪ The location of the proposed stormwater isolation valves.</li> <li>▪ The location of Stormwater 360 Vortech Hydrodynamic Separation Unit.</li> <li>▪ The wastewater management of the proposed vehicle washing facility.</li> <li>▪ The location of the forklift vehicle servicing area.</li> <li>▪ The stormwater management of the loading dock.</li> <li>▪ The sizing of the proposed sediment dam.</li> </ul> <p>It is noted that additional matters relating to hazards and risks were also addressed and are discussed in Section 3.1 above.</p> |



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|  | <p><b>Appendix 2</b> of this RTS includes a copy of the additional information that was provided to the EPA to address these matters and to which the final EPA submission relates.</p> <p>The information provided to the EPA results in the replacement of the existing Civil Engineering Report and Plans with those attached to the correspondence at <b>Appendix 2</b>.</p> |
| Summary of Submission - Item 2                                     | Suggested Conditions of Consent have been provided.  |
| Response   | Noted.   |
| <b><i>Department of Planning and Infrastructure Submission</i></b> |  |
| Summary of Submission  | Confirmation that the matters raised in the Environmental Protection Authorities email dated 02 May 2013 have been resolved but that the RTS may include this detail.  |
| Response   | The matters raised by the EPA have been addressed as outlined above and detailed in <b>Appendix 2</b> .  |



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### 3.4 GENERAL PLANNING MATTERS

| <i>Liverpool City Council Submission</i> |   |
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| Summary of Submission – Item 1           | All planning matters outlined in the letter sent to the Department of Planning and Infrastructure on 04 April 2013 remain to be considered.   |
| Response                                 | <p>The matters referred to in the 04 April 2013 letter from Council are dealt with individually below:</p> <ul style="list-style-type: none"><li>▪ <i>Acoustic Report to provide measures to manage the 24 hour access of trucks to the site.</i></li></ul> <p>The acoustic report included an assessment of the truck movement associated with the proposal and did not identify a need for mitigation of management.</p> <p>Further, the proposal only relates to 24-hour operations relating to warehousing and administration facilities. Section 3.2.2 of the Environmental Impact Statement (EIS) states:</p> <p><i>The proposed hours of operation for the facility are 24-hours, seven (7) days per week, as per the existing facility.</i></p> <p><i>However, while the facility will have 24-hour activities, the heavy vehicle movements (deliveries/loading) will only occur between 5am and 7pm. Within this period, the peak hours for the heavy vehicles will be 6am-9am (morning peak) and 3pm-7pm (afternoon peak). As such, the period between 7pm and 5am will only involve warehouse operations.</i></p> <p>Council's letter dated 25 June 2013 (<b>Appendix 3</b>) notes that this matter is now satisfied.</p> <ul style="list-style-type: none"><li>▪ <i>The EIS should clearly discuss the design guidelines that have informed all aspects of the development.</i></li></ul> <p>As outlined in the EIS, the Clause 11 of State Environmental Planning Policy (State and Regional Development) 2011 provides that development control plans (whether made before or after the commencement of the SEPP) do not apply to state significant development. Notwithstanding, the proposal is generally consistent with the provisions of the Liverpool Development Control Plan 2008 (LDCP) as applicable to industrial development. The relevant provisions are addressed in detail within Section 4.4.2 of the EIS.</p> <p>No other controls have been used to guide the design of the facility.</p> <ul style="list-style-type: none"><li>▪ <i>All issues previously outlined in the Pre-DA meeting minutes dated 02 February 2013 still apply and should be addressed as part of the EIS.</i></li></ul> <p>The matters referred to in the Letter dated 02 April 2013 have been included within the EIS that was placed on exhibition.</p> <ul style="list-style-type: none"><li>▪ <i>At a minimum, concurrence is required with the NSW Rural Fire Service and the NSW Roads and Maritime Services</i></li></ul> |



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|                                | <p>Referral has been undertaken to both organisations.</p> <ul style="list-style-type: none"> <li>▪ <i>Traffic Matters</i><br/>See Traffic and Transport Section of this RTS.</li> <li>▪ <i>Traffic Matters</i><br/>See Traffic and Transport Section of this RTS.</li> <li>▪ <i>Risk Management Matters</i><br/>A Peer Review of the Preliminary Hazard analysis is not required as the proposal is being assessed in detail by the Department of Planning's Hazards Unit.<br/>Council has previously assessed the stockpile material (which has been removed) as part of the approve civil works DA.<br/>The management measures identified have been addressed in the respective reports (i.e. acoustic report and PHA).</li> <li>▪ <i>Flooding Matters</i><br/>See Flooding and Stormwater Management Section of the RTS.</li> <li>▪ <i>Section 94 Contributions</i><br/>See below item and response.</li> </ul> <p>Further consultation was undertaken with Lisa Mackay of Liverpool City Council on 07 June 2013 in which the above matters were discussed. Council confirmed that these items have been address by this response.</p> |
| Summary of Submission – Item 2 | Section 94 Contributions to be conditioned as part of consent. Contributions are to be paid prior to the release of a Construction Certificate.  |
| Response                       | As outlined above, the requirement for payment of contributions included as a condition of consent.  |

| <b><i>Department of Planning and Infrastructure Submission</i></b> |   |
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| Summary of Submission – Item 1                                     | Acknowledgement that earth works have commenced. Information on status of the works completed at the site.  |
| Response   | It is confirmed that earth works have commenced and will continue for an estimated period of a further 3 weeks (beginning of July, 2013). No element of the earth works or infrastructure has been completed at the time of writing.  |
| Summary of Submission – Item 2                                     | Confirmation of the number of construction staff that will be employed for the construction of the proposal.  |
| Response   | It is estimated that a total 50 construction jobs will be provided throughout the entire duration of the construction schedule. The number of persons on site at any one time would be lower than this total amount.  |
| Summary of Submission – Item 3                                     | While <i>State Environmental Planning Policy (State and Regional Development) 2011</i> adopts the definition of Major Hazards Facility (MHF) from the repealed Regulations, the new Work Health and Safety Regulation is the relevant legislation that is required to be addressed. |
| Response   | Pursuant to the definitions of the new Work Health and Safety Regulation 2011, a major hazard facility means:<br><br><i>a facility:</i><br><i>(a) at which Schedule 15 chemicals are present or likely to be present in a</i>   |



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|                                | <p><i>quantity that exceeds their threshold quantity, or</i></p> <p><i>(b) that is determined by the regulator under Part 9.2 to be a major hazard facility</i></p> <p>The aerosol and oxidising goods proposed to be stored within the development exceed the threshold quantity for compressed and liquefied gases under Schedule 15 of the new Regulation, which remains consistent with the former (repealed) 2001 regulation.</p> <p>The proposal is therefore defined as a Major Hazard Facility under the new Regulation. Following determination, and prior to occupation, the requirements for licensing and WorkCover notification and approval under the OHS Regulation for Major Hazard Facilities will be initiated.</p> <p>No additional matters than that already addressed in the EIS or Preliminary Hazard Analysis needs to be considered in light of the new legislative context.</p>  |
| Summary of Submission – Item 4 | Clause 45 of <i>State Environmental Planning Policy (Infrastructure) 2007</i> is relevant to the application. It requires consideration of issues raised by the electricity supply authority for the easement that crosses the land (i.e. TransGrid)  |
| Response                       | <p>Clause 45 of <i>State Environmental Planning Policy (Infrastructure) 2007</i> provides an onus on the consent authority to give written notice to the electricity supply authority for the area in which development, that is the subject of that clause, is to be carried out. The authority must then consider any response received in relation to such a notice.</p> <p>To assist in providing notification to TransGrid, a covering letter and CD was issued to TransGrid via express post on 17 April 2013. This was the same time that all other authorities were issued with notification, including DoPI. This notice followed previous consultation with TranGrid by Goodman.</p> <p>Further consultation between Goodman and TranGrid is currently being undertaken to address matters raised during the exhibition period within which TranGrid provided a formal response (see <b>Section 3.5</b> below).</p> <p>It is also noted that Clause 45 only requires the Department of Planning and Infrastructure to "<i>take into consideration any response to the notice that is received within 21 days after the notice is given</i>". There is no requirement under this SEPP requiring 'approval' by TransGrid.</p> <p>No further action or consideration is required by the applicant under Clause 45 of the instrument.</p> |
| Summary of Submission – Item 5 | While not included in the formal submission, the Department of Planning and Infrastructure has also identified that the proposed construction noise level is predicted to be 84dB(A) at the eastern industrial boundary.  |
| Response                       | Noted. It is requested that a requirement to comply with the maximum permitted construction noise be imposed as a condition of consent.   |
| Summary of Submission – Item 6 | While not included in the formal submission, the Department of Planning and Infrastructure has also requested confirmation as to why consideration has been given to the Threatened Species Conservation Act 1995 and whether further investigation would be required (i.e. a Species Impact Statement). A conclusion is required to be provided for this section of the EIS.   |
| Response                       | The Threatened Species Conservation Act 1995 (TSC Act) was considered as part of the EIS for the proposed development as this matter was initially raised by Council during the assessment of the earthworks and civil infrastructure under DA 11-1095. It was determined at that time that while scattered vegetation included significant   |



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|                                | <p>species, there was no significance for the site given the previous disturbance and lack of connectivity with the densely vegetated land to the east, adjacent to Bernera Road.</p> <p>This vegetation has since been approved for clearing under DA 11-1095 and does not warrant any further investigation under the TSC Act.</p>  |
| Summary of Submission – Item 7 | <p>While not included in the formal submission, the Department of Planning and Infrastructure has also requested confirmation of <i>Draft State Government Metropolitan Strategy for Sydney 2031</i>.</p>   |
| Response                       | <p>On 19 March 2013, NSW Planning and Infrastructure released a 'Draft Metropolitan Strategy for Sydney to 2031' (draft Metro Strategy). The Metro Strategy focuses on building the role of cities across the metropolitan area through integrating transport and land use planning, concentrating growth in centres to improve access to jobs, facilities and services.</p> <p>In particular, the draft Metro Strategy includes increased targets for both housing and jobs when compared to the existing Metro Strategy 2036. In total, it is expected that 625,000 more jobs will be provided from 2013 to 2031.</p> <p>Improved transport connectivity will also be provided, with a key link being identified between Liverpool and Sydney Airport, benefitting warehousing and distributions facilities such as the proposed development.</p> <p>Liverpool is identified as a regional city under the draft strategy for the South West Subregion which will support a significant growth centre centred around Leppington. It is expected that new residences will seek employment within the employment zones established, including Prestons.</p> <p>The existing employment provision for the subregion is estimated at 298,000 jobs. The target for subregion to 2031 is 432,000 jobs (an increase of 134,000 jobs).</p> <p>This project supports the draft Metropolitan Plan for Sydney 2031 by providing industry jobs and facilitating supply and distribution services for the region. It is an effective use of the approved industrial warehouse, suitable for the location and is compatible with other industrial uses on the site. The site is also within a strategic Employment Lands area of the Metropolitan Region which is designated for increased employment opportunity.</p> |
| Summary of Submission – Item 7 | <p>While not included in the formal submission, the Department of Planning and Infrastructure has also requested confirmation that noise impacts from construction activities can be less than the maximum 75dB(A).</p>   |
| Response                       | <p>It is requested that a requirement to comply with the maximum permitted construction noise be imposed as a condition of consent.</p>   |



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### 3.5 TRANSGRID EASEMENT

| <b>TransGrid Submission</b>    |  |
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| Summary of Submission – Item 1 | Advised that notification was not made and that approval is required from TransGrid  |
| Response                       | Notification was provided by McKenzie Group Planning on behalf of the Department of Planning and Infrastructure (DPI) on 17 April 2013. Copy of correspondence provide to DoPI. See also comments on referral to TransGrid as part of the response to the General Planning Matters in <b>Section 3.5</b> above.<br>TransGrid letter dated 17 June 2013 acknowledges the consultation undertaken ( <b>Appendix 5</b> ).   |
| Summary of Submission – Item 2 | Recommendation that the TransGrid Guidelines for Easement Activities and Restriction are followed with restriction as to what activities may and may not occur on Lot 2 DP 28729.  |
| Response                       | TransGrid correspondence dated 17 June 2013 ( <b>Appendix 5</b> ) states that the plans submitted are acceptable.  |
| Summary of Submission – Item 3 | Vertical and horizontal clearances need to be verified. Detailed plans and specification to state the design Reduced Levels (RL) using Australian Height Datum. Horizontal distances from the stanchion (Feed 12 Structure 350) also need to be clearly specified on the plan (including unit measure), to ensure the proposed placement of the hardstand areas and other development works within the easement do not pose a risk to the transmission line and/or the stanchion's earthing systems. |
| Response                       | As above.  |
| Summary of Submission – Item 4 | Development design discussed with proponent permits a 15 metre horizontal clearance from the stanchion conditional upon: <ul style="list-style-type: none"> <li>- Alteration of the transmission tower's earthing system at Goodman's cost</li> <li>- Developed to construct a protection barrier around the Stanchion at 15 metres from the nearest part of the structure's legs.</li> <li>- Hardstand drainage to be designed to prevent flooding to the base of the tower.</li> </ul>             |
| Response                       | As above.  |
| Summary of Submission – Item 5 | Vertical and horizontal clearance also apply to any preliminary civil works. Existing earth mounds should be cleared from the easement immediately.  |
| Response                       | As above.  |
| Summary of Submission – Item 6 | Storage or movement of dangerous goods prohibited within the easement irrespective of whether the dangerous goods are combustible, explosive or the goods as a collective could be deemed dangerous. Vehicles carrying dangerous goods are prohibited in the easement.   |
| Response                       | TransGrid correspondence dated 17 June 2013 ( <b>Appendix 5</b> ) only places a restriction on storing dangerous goods within the easement, or having vehicles stationary within the easement whilst containing dangerous goods.   |

| <b>Department of Planning and Infrastructure Submission</b> |  |
|---|--|
| Summary of Submission – Item 1                              | Confirmation requested from the applicant that they are aware of the potential impacts to the proposed operations that would result from the construction of another TransGrid transmission tower within their site. |
| Response  | The future works to be undertaken within the easement are acknowledged and have been discussed in detail with TransGrid.   |



## Response to Submissions

Expansion to Existing Mainfreight Facility including Storage of Dangerous Goods (Chemical Storage Facility)  
30-50 Yarrowa Street, Prestons NSW

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### 3.6 BUSHFIRE HAZARD

| <b><i>Rural Fire Service Submission</i></b> |  |
|---|--|
| Summary of Submission – Item 1              | At the commencement of building works and in perpetuity, the entire property shall be managed as an inner protection area (IPA) as outlined within Section 4.1.3 and Appendix 5 of Planning for Bushfire Protection 2006 and the NSW Rural Fire Service's document Standards for asset protection zones. |
| Response                                    | Noted.   |
| Summary of Submission – Item 2              | The reticulated water supply provision for the proposed development shall comply with AS 2419.1-2005   |
| Response                                    | Noted.   |

| <b><i>Department of Planning and Infrastructure Submission</i></b> |  |
|--|--|
| Summary of Submission  | RTS to address issues raised by NSW Rural Fire Service.              |
| Response   | The matters raised by the EPA have been addressed as outlined above. |



## Response to Submissions

Expansion to Existing Mainfreight Facility including Storage of Dangerous Goods (Chemical Storage Facility)  
30-50 Yarrowa Street, Prestons NSW

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### 3.7 SYDNEY WATER

| <b><i>Sydney Water Submission</i></b> |   |
|---------------------------------------|---|
| Summary of Submission                 | Requirement for a Section 73 Certificate to be imposed as a condition of consent. |
| Response                              | Noted.  |



## Response to Submissions

Expansion to Existing Mainfreight Facility including Storage of Dangerous Goods (Chemical Storage Facility)  
30-50 Yarrowa Street, Prestons NSW

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# PART D REVISED DRAFT STATEMENT OF COMMITMENTS

## 4.1 OVERVIEW

The majority of the commitments detailed with Part D of the EIS remain relevant to the Project. The following Section outlines where certain commitments have been revised and where additional commitments have been added following the exhibition and review of submissions.

Matters added to the Statement of Commitments are shown in blue underlined text. Items removed are crossed out in ~~red~~.

## 4.2 REVISED DRAFT STATEMENT OF COMMITMENTS

**by** Goodman Property Services (Aust) Pty Ltd  
**in relation to** Expansion to Mainfreight Warehouse and Distribution Centre including the storage of dangerous goods (Chemical Storage Facility)  
**at** 30-50 Yarrowa Street, Prestons

---

Mainfreight will undertake the proposed occupation of the Chemical Storage Facility at 30-50 Yarrowa Street, Prestons in accordance with the following commitments:

The following defines some of the terms and abbreviations used in the Statement of Commitments:

|                  |   |
|------------------|---|
| Approval         | The Minister's approval to the Project                |
| BCA              | Building Code of Australia                            |
| Council          | Liverpool City Council                                |
| Department       | Department of Planning and Infrastructure             |
| Director-General | Director-General of the Department (or delegate)      |
| EIS              | Environmental Impact Statement                        |
| EP&A Act         | <i>Environmental Planning and Assessment Act 1979</i> |
| Goodman          | Goodman Property Services (Aust) Pty Ltd              |
| Project          | The development as described in the EIS               |
| Site             | Land to which the project application applies         |
| WorkCover        | NSW WorkCover   |

## ADMINISTRATIVE COMMITMENTS

### ***Commitment to Minimise Harm to the Environment***

1. Goodman will implement all reasonable and feasible measures to prevent and/or minimise any harm to the environment that may result from the construction or operation of the project including the reduction of greenhouse gas emissions.

### ***Occupation Certificate***

2. Goodman will ensure an Occupation Certificate is obtained prior to the occupation of the facility for the purposes of storing dangerous goods.

### ***Terms of Approval***

3. Goodman will carry out the project generally in accordance with the:
  - a) Environmental Impact Statement;
  - b) Preliminary Hazard Analysis;



## Response to Submissions

Expansion to Existing Mainfreight Facility including Storage of Dangerous Goods (Chemical Storage Facility)  
30-50 Yarrowa Street, Prestons NSW

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- c) Drawings (Nettleton Tribe Drawing – 4167\_DA01);  
~~(d) This Statement of Commitments; and~~  
~~(e) Any Conditions of Approval.~~  
[\(d\) Response to Submissions Report;](#)  
[\(e\) This Statement of Commitments; and](#)  
[\(f\) Any Conditions of Approval.](#)
4. If there is any inconsistency between the above, the Conditions of Approval shall prevail to the extent of the inconsistency.
5. Goodman will ensure compliance with any reasonable requirement/s of the Director-General of the Department of Planning and Infrastructure arising from the Department's assessment of:
- Any reports, plans, programs, strategies or correspondence that are submitted in accordance with this Approval; and
  - The implementation of any recommended actions or measures contained in reports, plans, programs, strategies or correspondence submitted by the Project Team as part of the application for Approval.

### ***Structural Adequacy***

6. Goodman will ensure that all new buildings and structures on the site are constructed in accordance with the relevant requirements of the BCA.

### ***Construction Traffic Management Plan***

7. Goodman will ensure a Construction Traffic Management Plan is prepared and implemented in consultation with Council, and to the satisfaction of the Director-General. This plan will:
- be submitted to the Director-General for approval prior to the commencement of construction;
  - describe the traffic volumes and movements to occur during construction;
  - detail proposed measures to minimise the impact of construction traffic on the surrounding network, including driver behaviour and vehicle maintenance; and
  - detail the procedures to be implemented in the event of a complaint from the public regarding construction traffic.

### ***Operation of Plant and Equipment***

8. Goodman will ensure that all plant and equipment used on site is maintained and operated in proper and efficient manner, and in accordance with relevant Australian Standards.

## **SPECIFIC ENVIRONMENTAL COMMITMENTS**

### ***Noise***

9. Construction on the site will only be undertaken between 7am and 6pm Monday to Friday, and 7am and 1pm on Saturdays. No construction will be allowed on site on Sundays or public holidays.
10. [Noise impacts from construction activities shall be minimised at all times. Therefore, construction works will be undertaken in accordance with best practice measures, as outlined in AS2436-2010 'Guide to noise and vibration control on construction, demolition and maintenance sites.' Best practice construction noise mitigation measures may include:](#)
- [The selection screw piling, in lieu of percussive piling;](#)
  - [Scheduling noisier activities for less sensitive periods;](#)
  - [Selection of 'quiet' plant and equipment](#)



## Response to Submissions

Expansion to Existing Mainfreight Facility including Storage of Dangerous Goods (Chemical Storage Facility)  
30-50 Yarrowa Street, Prestons NSW

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- [Erection of site hoardings;](#)
- [Use of intervening buildings to screen construction noise to the residential areas;](#)
- [Distance attenuation for noisy plant items \(or safe operating distances\)](#)

11. [Noise from mechanical plant installed at the Site shall achieve the NSW INP criteria at residential locations at night.](#)

### **Air**

#### *Construction Traffic*

12. During construction:

- a) all trucks entering or leaving the site with loads have their loads covered;
- b) trucks associated with the project do not track dirt onto the public road network; and
- c) the public roads used by these trucks are kept clean.

#### *Dust Management*

13. During the construction phase of the project, all reasonable and feasible measures to minimise the dust generated by the project.

14. [As outlined in The Air Quality Impact Assessment report \(SLR, 16 April 2013\) the following measures will be considered where practical:](#)

- [the use of renewable energy technologies, such as wind, solar or biomass for externally-sourced electricity;](#)
- [close regulation of the daily operation of lighting; and](#)
- [solar-powered lighting about site.](#)

### **Hazard and Risk**

#### *Pre-Occupation Certificate*

15. Prior to the occupation of the facility (associated with storage of dangerous goods), Goodman will prepare a Fire Safety Study that shall address the relevant aspects of the Department of Planning and Infrastructure's *Hazardous Industry Planning Advisory Paper No. 2 – Fire Safety Study Guidelines*. The Fire Safety Study shall be kept on site and presented to the Director-General on request.

#### *Pre-commissioning*

16. Prior to the commencement of commissioning of the project, Goodman ensure the plans and systems set out under subsections (a) to (b) below will be developed and implemented:

a) Emergency Plan

A comprehensive Emergency Plan and detailed emergency procedures will be prepared for the proposed land use. This plan will include detailed procedures for the safety of all people outside of the development who may be at risk from the development. The Plan shall be in accordance with the Department's *Hazardous Industry Planning Advisory Paper No. 1 – Industry Emergency Planning Guidelines*.

b) Safety Management System

A document setting out a comprehensive Safety Management System, covering all onsite operations and activities involving hazardous materials. The document shall clearly specify all safety related procedures, responsibilities and policies, along with details of mechanisms for ensuring adherence to the procedures. Records will be kept onsite and will be available for inspection by the Council upon request. The Safety Management System will be developed in accordance with the Department's *Hazardous Industry Planning Advisory Paper No. 9 – Safety Management*.



## Response to Submissions

Expansion to Existing Mainfreight Facility including Storage of Dangerous Goods (Chemical Storage Facility)  
30-50 Yarrowa Street, Prestons NSW

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### *Ongoing*

17. Goodman will ensure the following is undertaken on an ongoing basis as part of the proposed development as outlined in subsections (a) and (b) below.

a) Incident Report

Within 24 hours of any incident or potential incident with actual or potential significant offsite impacts on people of the biophysical environment, a report will be supplied to the Department outlining the basic facts. A further detailed report will be prepared and submitted following investigations of the causes and identification of necessary additional preventive measures. That report will be submitted to the Department no later than 14 days after the incident or potential incident.

b) Hazard Audit

Twelve months after the commencement of operations of the proposed development or within such further period as the Department may agree, Goodman will carry out a comprehensive Hazard Audit of the proposed development and within one month of the audit submit a report to the Department.

The audit will be carried out at Goodman's expense by a duly qualified independent person or team approved by the Department prior to commencement of the audit. Further audits will be carried out every three years or as determined by the Department and a report of each audit will, within one month of the audit, be submitted to the Department. Hazard Audits will be carried out in accordance with the Department's *Hazardous Industry Planning Advisory Paper No. 5 – Hazard Audit Guidelines*.

The audit will include a review of the site Safety Management System and a review of all entries made in the incident register since the previous audit. The audit report will be accompanied by a program for the implementation of all recommendations made in the audit report. If Goodman intends to defer the implementation of a recommendation, justification will be included.

### ***Waste Management***

18. Goodman will ensure that all waste generated on site during [construction and](#) operation is classified in accordance with the Office of Environmental and Heritage's *Waste Classification Guidelines: Part 1 Classifying Waste* and disposed of to a facility that may lawfully accept the waste.

### ***Stormwater Management***

19. [The isolation valves located in the stormwater system are to be clearly labelled.](#)

20. [A Maintenance/service plan is to be put in place to ensure that the stormwater isolation valves are maintained in a serviceable condition.](#)

21. [All external stormwater drains are to be clearly identified as stormwater drains.](#)

22. [Spill kits are to be located and maintained adjacent to external trafficable areas of the premises.](#)

23. [The breezeway is to be fully isolated from the stormwater system at all times.](#)

### ***TransGrid Easement***

24. [Compliance with TransGrid's requirements, including storage of Dangerous Goods not permitted within the TransGrid Easement shall be undertaken at all times.](#)



## Response to Submissions

Expansion to Existing Mainfreight Facility including Storage of Dangerous Goods (Chemical Storage Facility)  
30-50 Yarrowa Street, Prestons NSW

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### Bushfire Management

25. [Water provision and hazard management techniques for landscaped gardens areas/spaces shall be undertaken in accordance with Section 6 of the Bushfire Protection Assessment undertaken by Australian Bushfire Protection Planners Pty Ltd \(ABPP\).](#)
26. [A Positive Covenant will be placed on the title of the land to ensure compliance with the management prescriptions for the Defensible Spaces identified in the report Bushfire Protection Assessment undertaken by Australian Bushfire Protection Planners Pty Ltd \(ABPP\).](#)

END

---

**Name:**

**Signed:**

**Date:**



## Response to Submissions

Expansion to Existing Mainfreight Facility including Storage of Dangerous Goods (Chemical Storage Facility)  
30-50 Yarrowa Street, Prestons NSW

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## PART E CONCLUSION

The proposed extension of the existing Mainfreight facility at 30-50 Yarrowa Street, Prestons will involve the storage and handling of dangerous goods that satisfy the requirements of a Major Hazard Facility under the *Occupation Health and Safety Regulation 2001*. As such, the development is defined as State Significant Development pursuant to Schedule 1 of *State Environmental Planning Policy (State and Regional Development) 2011*.

This RTS provides a response to each item raised by the public and agencies during exhibition. As demonstrated, the proposal can be undertaken without significant alteration to the development as originally proposed.

Based on the findings of the original EIS, this RTS and the supporting documentation, it is recommended that the proposal be supported by the Department of Planning and Infrastructure, subject to appropriate conditions.



APPENDIX 1  
COPY OF SUBMISSIONS



PUBLIC SUBMISSION 1



13<sup>th</sup> May 2013

Department of Planning & Infrastructure  
Attention: Chris Ritchie, Manager Industry  
Development Assessment System & Approvals  
G P O Box 39  
Sydney NSW 2001

Dear Sir,

Re: Expansion of Existing Mainfreight Warehouse and Distribution Facility  
30-50 Yarrowa Road Prestons (Lot 2 DP 28729, Lot 101 & 102 DP1117691)  
Application No SSD 5746

I refer to the above Application for expansion of Mainfreight Distribution Centre, Prestons Dangerous Goods Storage Facility with Liverpool City Council.

I am writing on behalf of \_\_\_\_\_ who own a \_\_\_\_\_ property on  
Prestons within a 2km distance by road and less than 1km in direct line of the proposed expansion.

I wish to OBJECT to the proposal.

My main concern is **the SIZE of the expansion and QUANTITY of proposed storage of dangerous goods.**

I submit the following reasons for my concern:

- i) Environmental Impact Statement Table 11 DG Material Type & Quantity to be Stored -  
Page 60 points out that the proposed quantities of dangerous goods to be stored exceeds the criteria for a Major Hazard Facility under the definitions the OH&S Regulation 2001.  
Also, the quantities for both aerosols and class 5.1 oxidising agents are above their respective screening thresholds and the storage is considered potentially hazardous by SEPP 33.
- ii) Environmental Impact Statement Table 13 Risk Assessment -  
Pages 61 – 63 point out controls that could be implemented to reduce risk from one level to a lesser level and this may be acceptable in the majority of cases i.e. reducing risk from a medium to low level. However I feel that reducing a risk from high to medium may not be good enough for the 2 instances where fire in DG store could result from aerosol storage & fire from other areas under storage of caustic liquids. Is it possible to reduce risk even further in these 2 areas ?  
Page 66 confirms that smoke generated from the earlier stages of fire are of greatest concern and lists the requirements that would need to be put in place to minimize risk. Are these enough ?  
Shouldn't the responsibility to workers and surrounding neighbourhood be of utmost importance ?  
Wouldn't reducing the quantities of dangerous goods stored make a difference to the level of risk ?

- iii) Proximity to Cabramatta Creek and surrounding floodplains –  
Environmental Impact Statement Table 13 Risk Assessment suggests controls to minimize possible accidental spillage incidents and these seem acceptable. However, there is always the possibility of overflowing drains, floodplain run off into the creek or water table contamination.
- iv) Proximity to homes and businesses -  
At present a lot of the immediate surrounding land to this expansion is not developed, but is zoned for light or heavy industrial development.  
Residential subdivisions are also developing to the west of this area (across Cabramatta creek) and many homes already exist within 500metres of the Mainfreight Distribution Site eg Coffs Harbour Avenue.  
An expansion of this size with such high quantities of dangerous goods would most certainly be potential risk to increased industrial and residential populations.  
Another aspect to consider is how this development will affect land values in the area.  
It does have the potential to lessen land values in both the residential and industrial side of the creek.

In essence I am not opposed to the expansion but to **the SIZE of the expansion and QUANTITY of proposed storage of dangerous goods.**

**Yours faithfully,**

.....

PUBLIC SUBMISSION 2



**Pascal VanDeWalle - Fwd: Submission Details for**

---

**From:** Chris Ritchie  
**To:** Pascal VanDeWalle  
**Date:** 20/05/13 11:07 AM  
**Subject:** Fwd: Submission Details for

---

>>>

3/05/2013 6:23 pm >>>



**Planning & Infrastructure**

Confidentiality Requested: yes

Submitted by a Planner: no

Disclosable Political Donation: no

Name:

Email:

Address:

Prestons, NSW  
2170

Content:

Dear Sir/Madam

we live close the the proposed development. We live on the side of the development within metres of where the dangerous goods will be stored. We are concerned that if there are any accidents we will be at risk.

Yours Faithfully

IP Address:

Submission: Online Submission from :

<https://majorprojects.affinitylive.com?action=view>

Submission for Job: #5746 SSD 5746 - Dangerous Goods Storage Facility

[https://majorprojects.affinitylive.com?action=view\\_job&id=5746](https://majorprojects.affinitylive.com?action=view_job&id=5746)

Site: #2781 Mainfreight Distribution Centre, Prestons; 30-50 Yarrowa Street, Prestons

[https://majorprojects.affinitylive.com?action=view\\_site&id=2781](https://majorprojects.affinitylive.com?action=view_site&id=2781)

---

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AGENCY SUBMISSION:  
LIVERPOOL CITY COUNCIL





**Liverpool**citycouncil  
creating our future together

Our Ref: 107824.2013  
Contact: Lisa Mackay 98219124

28 May 2013

Pascal van de Walle  
Senior Planning Officer  
Major Projects Assessment  
GPO Box 39  
**SYDNEY NSW 2001**

Dear Sir,

**Re: Exhibition of Mainfreight Dangerous Goods Storage Facility at 30 – 50 Yarrowa Street, Prestons**

Council maintains the concerns raised in the letter dated 4 April 2013 and considers it appropriate that the Department consider the comments in their determination of the proposal (see attachments).

A review of the documentation exhibited has raised the following matters:

**Traffic and Transport**

- The applicant suggests that a total of 500 trips will be made by vehicles per day with 24 hour operation. This is almost 20 trips per hour on the site. Council believes this could lead to queuing of trucks, considering that the existing transport shed is at capacity. Overall, the site is considered to be quite small in size to be able to accommodate such an intense operation.
- The Bernera Road intersection has an existing roundabout and would be expected to accommodate the additional traffic to and from the development site. The report notes that in the previous development assessment of the existing development the developer i.e. Goodman was required to carry out significant improvements to the local streets as well as the existing roundabout (which also serves as an interchange to the M7 Motorway). The traffic impact assessment report does not provide an assessment whether the existing roundabout would be affected by the proposed additional development. It is recommended that the developer be required to include this assessment and for any recommendation to be included in the determination of the application.
- The existing street has been constructed with a wide carriageway which can accommodate two way traffic as well as on-street parking. However, Council notes that the section of the street is currently being used by the operator as truck storage. This practice is not supported and should the application be approved a consent condition needs to be included to restrict storage of

**Customer Service Centre** Level 2, 33 Moore Street, Liverpool NSW 2170, DX 5030 Liverpool

**All correspondence to** The General Manager, Locked Bag 7064 Liverpool BC NSW 1871 **Call Centre** 1300 36 2170

**Fax** 9821 9333 **Email** [lcc@liverpool.nsw.gov.au](mailto:lcc@liverpool.nsw.gov.au) **Web** [www.liverpool.nsw.gov.au](http://www.liverpool.nsw.gov.au) **NRS** 13 36 77 **ABN** 84 181 182 471

heavy vehicles along this section of Yarrowa Street fronting the development site. In this regard it is recommended that a condition be included for line marking of Yarrowa Street from its intersection with Bernera Road up to the western boundary of the development site along with No Parking on the section fronting the development site.

- A line marking plan of the recommended arrangements is required. The line marking plan is to include median line marking and is to be submitted to Council's Local Traffic Committee for its approval. The LLTC approved line marking to be carried out prior to occupation of the proposed expansion.
- It is noted the existing street is an approved B-double route and can accommodate the expected traffic increase from the proposed development.
- The planned development is proposing to provide a total of 217 car parking spaces, this includes 40 informal spaces. The approach taken in the traffic assessment report to provide approximately 217 car parking spaces is supported. However, the provision for the 40 informal spaces needs to be maintained to ensure that all car parking demand can be accommodated on site.
- The plans currently available to Council do not demonstrate that the internal layout of the site is able to accommodate all the trucks that would be required to be stored at the development site. The developer should be requested to demonstrate how this can be achieved.
- The internal layout and proposed driveways for staff parking as well as the heavy vehicles are to be in accordance with Australian Standard AS2890. The driveways for the heavy vehicles for the B-double trucks are to ensure that they can accommodate the swept path of a 26m B-double.
- The following additional information is required:
  1. Intersection performance analysis. The submitted information does not provide an indication of the impact of additional traffic movements on the existing Bernera Road/Yarrowa Street intersection. Developer to be requested to provide an assessment of the future performance 10 years after the proposed development.
  2. Storage of trucks. Developer to provide information that appropriate provision has been made on site for the storage of all trucks that would need to park at the development site. No Parking is to be permitted for storage trucks along Yarrowa Street.
  3. Truck parking swept path. A layout demonstrating the truck storage can accommodate the swept path of a 26m B-double and also ensuring that such trucks can enter and leave in a forward direction.
- Should the application be approved the following traffic related conditions are to be incorporated:
  - Line marking and signage – The section of Yarrowa Street from its intersection with Bernera Road up to the western boundary of the development site is to be line marked with double barrier line marking (a

width that would cover the existing drainage kerb in the middle of the road) along with No Parking on the section of Yarrowa Street fronting the development site.

- A plan of the recommended line marking and signage is to be submitted to Council's Local Traffic Committee for its approval and to be carried out prior to occupation of the proposed expansion.
- Parking Provision – All expected car parking demand should be accommodated on site. The proposed 217 spaces including the informal 40 car parking spaces are to be provided.
- Proposed access arrangement – The proposed access arrangement including information that would be submitted as requested in comments 2 and 3 are to be implemented to Council's satisfaction.
- The proposed development including the proposed hardstand area is to be maintained to Council's satisfaction.
- The car parking and associated driveways are to be in accordance with AS2890.

### **Stormwater and Drainage**

The information provided by DP&I on 20 May 2013, includes design details & hydraulic modelling of stormwater drainage system. However it does not include requested works as executed plans and CCTV survey of the existing drainage line at Yarrowa Street. In the absence of full information as requested, we are unable to undertake full assessment of the proposal with regard to stormwater drainage issues.

Following further consideration of the proposal and existing stormwater drainage issues in the area, following comments on the proposal are provided:

1. The proposed development will significantly increase peak stormwater discharge from the site. In order to mitigate adverse impact on existing drainage system Council requires that On-site Detention (OSD) be provided at the development site. The OSD shall be designed to restrict post-development flows leaving from the site no greater than pre-development up to and including the 100year ARI event (refer Council's OSD policy & technical specification).
2. A flood impact assessment shall be provided demonstrating that no private properties will be adversely affected up to and including the 100year ARI event as a result of the proposed development.
3. Work as Executed plans & drawings of the existing drainage line at Yarrowa Street up to the discharging point shall be provided to Council.
4. CCTV survey of the drainage line in Yarrowa Street up to the discharging point shall be provided to Council.

### **Storage Safety Measures**

- The safety measures provided in the Preliminary Hazard Analysis in accordance with *AS3833-2007: The storage and handling of mixed classes of*

*dangerous goods, in packages and intermediate bulk containers* should be conditioned as part of the development consent. The operation is to be consistent with the safety measures outlined in Section 2.2 Recommendations of the Preliminary Hazard Assessment completed by One Group (Appendix 8), as well as all commitments promised in Part G Draft Statement of Commitments within the Environmental Impact Statement (page 85).

### **Planning Matters**

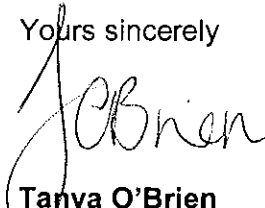
- All planning matters outlined in the letter sent to the DP&I on 4 April 2013 remain to be considered when assessing this development.

### **Section 94 Contributions**

As per the letter sent on 4 April 2013, the development consent for the proposal, if approved will need to include a section 94 condition as Council has identified an increased demand for public amenities and public services. The following payment is imposed in accordance with Liverpool Contributions Plan 2009 as amended. The total contribution is \$863,812.00 and is payable prior to the release of the Construction Certificate (for a building) or Subdivision Certificate. A breakdown of the contributions payable is provided in the attached payment form.

Should you require any further information on this matter, please do not hesitate to contact Lisa Mackay, Strategic Planner on 9821 9124.

Yours sincerely



**Tanya O'Brien**  
Manager Strategic Planning



**Liverpool**citycouncil  
creating our future together

Our Ref: 066201.2013  
Contact: Priya Uppal 9821 9275

4 April 2012

Pascal van de Walle  
Senior Planning Officer  
Major Projects Assessment  
GPO Box 39  
SYDNEY NSW 2001

Dear Sir,

**Re: Mainfreight Dangerous Goods Storage Facility at 30 – 50 Yarrowa Street, Prestons**

I write in regards to your letter to council dated 27<sup>th</sup> March 2013, seeking comments on the proposed Mainfreight Dangerous Goods Storage Facility at 30 – 50 Yarrowa Street, Prestons.

Council generally supports the development of industrial land within the LGA. However, Council also has a responsibility to ensure its residents and communities are protected from any potential hazards. Therefore, I would appreciate if the Department could take the following comments into consideration as part of their assessment and ultimately the determination of this proposal.

#### **Planning Matters**

The following planning matters need to be considered:

- The acoustic report needs to provide measures to manage the 24 hour access of trucks to the site.
- Regarding compliance with the Liverpool Development Control Plan, the application submitted supporting the proposed expansion suggests that the code does not apply to State Significant Development. In which case, the applicant's EIS should clearly discuss the design guidelines that have informed all aspects of the development.
- All issues previously outlined in the Pre-DA meeting minutes dated 2 February 2013 still apply and should be addressed as part of the EIS.
- At minimum, concurrence is required with the NSW Rural Fire Service and the NSW Roads and Maritime Services.

#### **Traffic Matters**

A site inspection revealed that Yarrowa Street is currently being used as truck storage. Council considers this to be unacceptable and will need to ensure that the proposed extension does not augment the problem. A detailed traffic assessment

**Customer Service Centre** Level 2, 33 Moore Street, Liverpool NSW 2170, DX 5030 Liverpool

**All correspondence to** The General Manager, Locked Bag 7064 Liverpool BC NSW 1871 **Call Centre** 1300 36 2170

**Fax** 9821 9333 **Email** [lcc@liverpool.nsw.gov.au](mailto:lcc@liverpool.nsw.gov.au) **Web** [www.liverpool.nsw.gov.au](http://www.liverpool.nsw.gov.au) **NRS** 13 36 77 **ABN** 84 181 182 471

has not been undertaken by Council, but further consideration must be given to turning circles for truck movement in the proposed car park. Car parking for new staff must also be addressed.

### **Risk Management Matters**

- An assessment be SEPP 33 Hazardous and Offensive development report be peer reviewed by an suitably qualified consultant (as the environmental health section of council does not have the expertise in the area) certifying that the report is satisfactory.
- As per comments dated 18 October 2012 (DA 1636/2012), it is requested that the stockpiled material be validated to ensure that the material is appropriately classified for its intended use.
- Develop an environmental operational management plan so as to address the following:-
  - Measures to control noise emissions from the site,
  - Measures to suppress fumes, odours and dust emissions from the site, and
  - Measures to contain any spillages from the site.

### **Flooding Matters**

Although there are no specific flooding related impacts on the site, the proposal will need to consider on site detention. The applicant also needs to ensure compliance with Council's stormwater management plan for the precinct.

### **Section 94 Contributions**

The development consent for the proposal, if approved will need to include a Section 94 contribution from the developer in accordance with Council's Section 94 plan that applies to the site.

Should you require any further information on this matter, please do not hesitate to contact Priya Uppal, Strategic Planning on 9821 9275.

Yours sincerely



**Milan Marecic**  
Acting Executive Director

# S94 Calculation Sheet

Lisa Mackay

28-May-13

## Liverpool Contributions Plan 2009

|                                |                            |  |   |
|--------------------------------|----------------------------|--|---|
| Computer File Reference        |                            | G:\Plandev\S94\Contributions calculations\Prestons Ind\[SSD 5746.xls]Input |   |
| <b>Development Information</b> |                            |  |   |
| Development Application No.    | State Significant Dev 5746 | Existing   |   |
| Lot & DP                       | Lot 101 DP 1117691         | Land area (square metres)  | 36,350  |
| Lot & DP                       | Lot 102 DP 1117692         |  |   |
| Street No. & Street Name       | Yarrawa Street             | Type of Development  | Building & Subdivision or Building on land not subdivided |
| Suburb                         | Prestons                   |  |   |
| <b>Sub Catchments</b>          |                            |  |   |
| Local Drainage                 | West of M7                 |  |   |
| Local Transport                | West of M7                 |  |   |
| Landscape Buffer               | Not Applicable             |  |   |
| Average per Ha                 | Current CPI                | M13  | 183.8   |
| \$237,637                      | Original CPI               | S10  | 172.5   |
| <b>Facilities</b>              |                            | <b>Amount (\$)</b>   | <b>Job No.</b>  |
| District Transport - Land      |                            | \$43,984   | GL.10000001865.10055                                      |
| District Transport - Works     |                            | \$124,714  | GL.10000001865.10055                                      |
| Local Transport                |                            |  |   |
| West of M7 - Works             |                            | \$28,274   | GL.10000001865.10077                                      |
| West of M7 - Land              |                            | \$28,135   | GL.10000001865.10077                                      |
| District Drainage - Land       |                            | \$229,369  | GL.10000001866.10076                                      |
| District Drainage - Works      |                            | \$68,554   | GL.10000001866.10076                                      |
| Local Drainage                 |                            |  |   |
| West of M7 - Land              |                            | \$63,467   | GL.10000001866.10075                                      |
| West of M7 - Works             |                            | \$245,168  | GL.10000001866.10075                                      |
| Landscape Buffer - Land        |                            | \$0  | GL.10000001869.10078                                      |
| Landscape Buffer - Works       |                            | \$0  | GL.10000001869.10078                                      |
| Administration                 |                            | \$10,457   | GL.10000001872.10081                                      |
| Professional Fees              |                            | \$21,689   | GL.10000001872.10080                                      |
| <b>TOTAL</b>                   |                            | <b>\$863,812</b>   |   |

AGENCY SUBMISSION:  
ENVIRONMENTAL PROTECTION AUTHORITY





ENVIRONMENT PROTECTION AUTHORITY

Your reference: SSD-5746  
Our reference: DOC13/24040 & FIL07/700-05  
Contact: Rod Fox 9995 6839

Mr Pascal Van de Walle  
Senior Planning Officer - Industry  
Major Projects Assessment  
Department of Planning and Infrastructure  
GPO Box 39  
SYDNEY NSW 2001

Dear Mr Van de Walle

**EPA advice – Adequacy Review of the EIS (SSD-5746) for the Proposed Expansion of Existing Mainfreight Facility including Storage of Dangerous Goods (Chemical Storage Facility) at 30 – 50 Yarrowa Street Prestons**

I refer to your email dated 18 April 2013 inviting comments from NSW Environment Protection Authority (EPA) on the proposal by Mainfreight to expand their existing operations including the Storage of Dangerous Goods and other chemicals (Chemical Storage Facility) at their facility at 30 – 50 Yarrowa Street Prestons. In your email you also requested advice on recommended conditions of consent.


The EPA has reviewed the document titled "*Environmental Impact Statement (EIS) State Significant Development SSD-5746 Proposed Expansion of the Existing Mainfreight Facility including the Storage of Dangerous Goods (Chemical Storage Facility) at 30-50 Yarrowa St, Prestons (lots 101 & 102 DP 1117691 and lot 2 DP 28729)*" dated April 2013.

The EPA has also reviewed additional information provided by "McKenzie group" that relates to stormwater management, wastewater management, and provisions for the containment of leaks and spills from stored chemicals.

Based on the review of the information the EPA has determined that it will be able to issue an Environment Protection Licence (EPL) for the scheduled activities that Mainfreight propose to carry out on the premises. In addition as requested the EPA provides at attachment A and B Conditions that are indicative of the conditions that have been attached to EPL's issued for similar activities. The proponent will also need to make a separate application to the EPA to obtain an EPL.

If you wish to discuss any of the issues raised in this letter, please contact Rod Fox on 9995 6839.

Yours sincerely

 29/5/2013.

**GREG SHEEHY**  
Manager Sydney Industry  
Environment Protection Authority



## ATTACHMENT A

### Statement of Commitments

EPA has no objection to the proposal by Mainfreight to extend their existing operations to include the Storage of Dangerous Goods and other chemicals (Chemical Storage Facility) at their facility at 30 – 50 Yarrowa Street Prestons provided that the Proponent commits to the following requirements to be imposed under statement of Commitments:

1. The isolation valves located in the stormwater system must be clearly labelled.
2. A maintenance/service plan must be put in place to ensure that the stormwater isolation valves are maintained in a serviceable condition.
3. All external stormwater drains must be clearly identified as stormwater drains.
4. Spill kits must be located and maintained adjacent to external trafficable areas of the premises.
5. The breezeway must be fully isolated from the stormwater system at all times.

### Standard Licence Condition

If consent is granted the proponent will need to apply to Environment Protection Authority (EPA) for an Environment Protection Licence (EPL) under the Protection of Environment Operations Act 1997, and the following standard licence conditions would be attached to the EPL:

#### **A1. Information supplied to the EPA**

**A1.1** The works and activities must be carried out in accordance with the proposal contained in:

- State Significant Development (SSD) Application No. 5746 ;
- The document titled "Environmental Impact Statement (EIS) State Significant Development SSD-5746 Proposed Expansion of the Existing Mainfreight Facility including the Storage of Dangerous Goods (Chemical Storage Facility) at 30-50 Yarrowa St, Prestons (lots 101 & 102 DP 1117691 and lot 2 DP 28729)" dated April 2013; and
- The following additional information supplied to the EPA via emails from the proponent's consultant the McKenzie Group dated 21 May 2013 relation to the development,
  - The revised drawing titled "*Concept Stormwater Master Drawing No. Co8753.08 – DA40 issue B date 8 May 2013.*" This drawing depicts the bunding of the breezeway and the location of the stormwater isolation valves and stormwater drainage and flows.
  - *The revised drawing titled "Concept Stormwater Plan Sheet 2 Drawing No. Co8753.08 – DA42 issue E dated 8 May 2013.* This drawing depicts the stormwater drainage etc.
  - *The document titled Civil Engineering Report For State Significant Development Mainfreight Expansion Proposed Development at Yarrowa Road Prestons NSW Revision C prepared by Goodman c/- McKenzie Group.*
  - Confirmation of the capacity of the spill containment structures serving the facility.

#### **A2. Fit and Proper Person**

**A2.1** The applicant must, in the opinion of the EPA, be a fit and proper person to hold a licence under the Protection of the Environment Operations Act 1997, having regard to the matters in s.83 of that Act.

## Limit conditions

### L1. Pollution of waters

L.1.1 Except as may be expressly provided by a licence under the Protection of the Environment Operations Act 1997 in relation of the development, section 120 of the Protection of the Environment Operations Act 1997 must be complied with.

### L5. Waste

L5.1 The licensee must not cause, permit or allow any waste to be received at the premises, except the wastes expressly referred to in the column titled "Waste" and meeting the definition, if any, in the column titled "Description" in the table below.

Any waste received at the premises must only be used for the activities referred to in relation to that waste in the column titled "Activity" in the table below.

Any waste received at the premises is subject to those limits or conditions, if any, referred to in relation to that waste contained in the column titled "Other Limits" in the table below.

Condition L5.1 does not limit any other conditions in this licence.

| Code | Waste                              | Description  | Activity   | Other Limits |
|------|------------------------------------|--|--|--------------|
| NA   | General or Specific exempted waste | Waste that meets all the conditions of a resource recovery exemption under Clause 51A of the <i>Protection of the Environment Operations (Waste) Regulation 2005</i> | As specified in each particular resource recovery exemption. | NA           |
| NA   |                                    | Any waste received on site that is below licensing thresholds in Schedule 1 of the POEO Act, as in force from time to time   |  | NA           |

### L6. Noise limits

L6.1 Noise generated at the premises must not exceed the noise limits presented in Table 6.1 below. The location(s) referred to in the table below are indicated in the relevant report Figure 2 - Site Map showing proposed warehouse extension and relevant locations in the Report - Development Application - Acoustics Report - Mainfreight - Lots 101 & 102 and Lot 2 30 - 50 Yarrowa Street, Prestons - Noise Impact Assessment (Report No: NA02013109) dated 16 April 2013.

**Table 6.1 Noise Limits – All noise limits are in dB(A)**

| Location                                | LAeq,15 minute<br>(Day, Evening, Night) | LA1,1min Night time<br>(Sleep Disturbance) |
|---|---|--|
| 22 Michalego Circuit,<br>Prestons       | 37 dB(A)                                | 45 dB(A)                                   |
| 23 Coffs Harbour<br>Avenue, Hoxton Park | 39 dB(A)                                | 45 dB(A)                                   |

**L6.2** For the purpose of condition L6.1;

- Day is defined as the period from 7am to 6pm Monday to Saturday and 8am to 6pm Sunday and Public Holiday's.
- Evening is defined as the period 6pm to 10pm.
- Night is defined as the period from 10pm to 7am Monday to Saturday and 10pm to 8am Sunday and Public Holiday's.

**L6.3** Construction activity is permitted between the hours of 7:00am to 6:00pm Monday to Friday and Saturday 8:00am to 1:00pm, with no construction on Sundays and Public Holidays. Respite periods shall be implemented in response to any noise complaint(s) associated with any earthworks and piling construction works associated with the construction of the site.

**L6.4** The noise limits set out in condition L6.1 apply under all meteorological conditions except for any one of the following:

- a) Wind speeds greater than 3 metres/second at 10 metres above ground level; or
- b) Stability category F temperature inversion conditions and wind speeds greater than 2 metres/second at 10 metres above ground level; or
- c) Stability category G temperature inversion conditions.

**L6.5** For the purposes of condition L6.5:

- a) The meteorological data to be used for determining meteorological conditions is the data recorded by the meteorological weather station established at this site for the purposes of this Environment Protection Licence or nearest Bureau of Meteorology station providing relevant data (to be negotiated with proponent by regional office).
- b) Stability category temperature inversion conditions are to be determined by the sigma-theta method referred to in Part E4 of Appendix E to the NSW Industrial Noise Policy.

**L6.6** For the purposes of determining the noise generated at the premises a Class 1 or 2 noise monitoring equipment as defined by AS IEC61672.1-2004 and AS IEC61672.2-2004, or other noise monitoring equipment accepted by the EPA in writing, must be used.

**L6.7** To determine compliance:

- a) with the  $L_{eq(15\text{ minute})}$  noise limits in condition **L6.1**, the noise monitoring equipment must be located:
  - within 30 metres of a dwelling façade where any dwelling on the property is situated more than 30 metres from the property boundary that is closest to the premises;
  - approximately on the boundary where any dwelling is situated 30 metres or less from the property boundary that is closest to the premises;
  - within approximately 50 metres of the boundary of a National Park or a Nature Reserve.
- b) with the  $L_{A1,1min}$  noise limits in condition **L6.1**, the noise monitoring equipment must be located within 1 metre of a dwelling façade.
- c) the noise monitoring equipment must be located in a position that is:
  - at the most affected point at a location where there is no dwelling at the location; or
  - at the most affected point within an area at a location prescribed by conditions **L6.7(a)** or **L6.7(b)**.

**L6.8** A breach of this Environment Protection Licence will still occur where noise generated from the premises in excess of the appropriate limit specified in the condition **L6.1** is detected:

- in an area at a location other than an area prescribed by condition **L6.6**; and/or
- at a point other than the most affected point at a location.

**L6.9** For the purposes of determining the noise generated at the premises the modification factors in Section 4 of the NSW Industrial Noise Policy must be applied, as appropriate, to the noise levels measured by the noise monitoring equipment.

## **Operating conditions**

### **O1. Odour**

*Section 129 of The POEO Act states that no offensive odour may be emitted from particular premises unless potentially offensive odours are identified in the licence and the odours are emitted in accordance with conditions specifically directed at minimising the odours are permitted. Where it is appropriate for a licence to identify and control offensive odours, conditions for the licence should be developed in consultation with Air Policy.*

### **O2. Dust**

**O2.1** Activities occurring at the premises must be carried out in a manner that will minimise emissions of dust from the premises.

**O2.2** Trucks entering and leaving the premises that are carrying loads must be covered at all times, except during loading and unloading.

### ***M1 Monitoring records***

**M1.1** The results of any monitoring required to be conducted by the EPA's general terms of approval, or a licence under the Protection of the Environment Operations Act 1997, in relation to the development must be recorded and retained as set out in conditions M1.2 and M1.3.

**M1.2** All records required to be kept by the licence must be:  
in a legible form, or in a form that can readily be reduced to a legible form;  
kept for at least 4 years after the monitoring or event to which they relate took place; and  
produced in a legible form to any authorised officer of the EPA who asks to see them.

**M1.3** The following records must be kept in respect of any samples required to be collected: the date(s) on which the sample was taken;  
the time(s) at which the sample was collected;  
the point at which the sample was taken; and  
the name of the person who collected the sample.

### ***M3. Requirement to monitor***

**M3.1** The licensee must conduct attended and unattended noise monitoring during normal operations of the plant once every 12 months (and shortly after commencement of operations as well). Normal operations must include all activities conducted on site. The noise monitoring must be conducted for at least 24 hours to determine the noise levels as  $L_{Aeq,15 \text{ minutes}}$  for the three different periods; day, evening and night as specified in the EPA's Industrial Noise Policy.

**M3.2** The results of the noise monitoring must be reported to the EPA within 28 days from the monitoring completion date and must be presented in a legible form. Any exceedances of the limits specified in condition L6.1 must be included in the report. For these exceedances, if any, the licensee must include proposed noise mitigation measures to be implemented on site to prevent recurrence of such exceedances. These non-compliances must still be reported in the Annual Return with any other non-compliance.

**M3.3** Following the first 12 months of noise monitoring, the EPA will review the results to determine whether further monitoring is required. Relevant conditions will be attached to the company's licence.

### ***Reporting conditions***

**R1.1** The applicant must provide an annual return to the EPA in relation to the development as required by any licence under the Protection of the Environment Operations Act 1997 in relation to the development. In the return the applicant must report on the annual monitoring undertaken (where the activity results in pollutant discharges), provide a summary of complaints relating to the development, report on compliance with licence conditions and provide a calculation of licence fees (administrative fees and, where relevant, load based fees) that are payable. If load based fees apply to the activity the applicant will be required to submit load-based fee calculation worksheets with the return.

## Attachment B

### Mandatory Conditions for all EPA's Environment Protection Licences

#### Administration Conditions

##### Other activities

This licence applies to all other activities carried on at the premises, including:

- The storage and handling of chemicals and dangerous goods.

##### Operating conditions

##### Activities must be carried out in a competent manner

Licensed activities must be carried out in a competent manner.

- This includes:
  - a. the processing, handling, movement and storage of materials and substances used to carry out the activity; and
  - b. the treatment, storage, processing, reprocessing, transport and disposal of waste generated by the activity.

##### Maintenance of plant and equipment

- All plant and equipment installed at the premises or used in connection with the licensed activity:
  - a. must be maintained in a proper and efficient condition; and
  - b. must be operated in a proper and efficient manner.

##### Monitoring and recording conditions

##### Recording of pollution complaints

The licensee must keep a legible record of all complaints made to the licensee or any employee or agent of the licensee in relation to pollution arising from any activity to which this licence applies.

- The record must include details of the following:
  - a. the date and time of the complaint;
  - b. the method by which the complaint was made;
  - c. any personal details of the complainant which were provided by the complainant or, if no such details were provided, a note to that effect;
  - d. the nature of the complaint;
  - e. the action taken by the licensee in relation to the complaint, including any follow-up contact with the complainant; and
  - f. if no action was taken by the licensee, the reasons why no action was taken.

The record of a complaint must be kept for at least 4 years after the complaint was made.

The record must be produced to any authorised officer of the EPA who asks to see them.

##### Telephone complaints line

The licensee must operate during its operating hours a telephone complaints line for the purpose of receiving any complaints from members of the public in relation to activities conducted at the premises or by the vehicle or mobile plant, unless otherwise specified in the licence.

The licensee must notify the public of the complaints line telephone number and the fact that it is a complaints line so that the impacted community knows how to make a complaint. This condition does not apply until 3 months after this condition takes effect.

## **Reporting conditions**

### **Annual Return documents**

#### ***What documents must an Annual Return contain?***

- The licensee must complete and supply to the EPA an Annual Return in the approved form comprising:
  - a. a Statement of Compliance; and
  - b. a Monitoring and Complaints Summary.

A copy of the form in which the Annual Return must be supplied to the EPA accompanies this licence. Before the end of each reporting period, the EPA will provide to the licensee a copy of the form that must be completed and returned to the EPA.

#### ***Period covered by Annual Return***

An Annual Return must be prepared in respect of each reporting, except as provided below

Note: The term "reporting period" is defined in the dictionary at the end of this licence. Do not complete the Annual Return until after the end of the reporting period.

- Where this licence is transferred from the licensee to a new licensee,
  - a. the transferring licensee must prepare an annual return for the period commencing on the first day of the reporting period and ending on the date the application for the transfer of the licence to the new licensee is granted; and
  - b. the new licensee must prepare an annual return for the period commencing on the date the application for the transfer of the licence is granted and ending on the last day of the reporting period.

Note: An application to transfer a licence must be made in the approved form for this purpose.

- Where this licence is surrendered by the licensee or revoked by the EPA or Minister, the licensee must prepare an annual return in respect of the period commencing on the first day of the reporting period and ending on:
  - a. in relation to the surrender of a licence - the date when notice in writing of approval of the surrender is given; or
  - b. in relation to the revocation of the licence – the date from which notice revoking the licence operates.

#### ***Deadline for Annual Return***

The Annual Return for the reporting period must be supplied to the EPA by registered post not later than 60 days after the end of each reporting period or in the case of a transferring licence not later than 60 days after the date the transfer was granted (the 'due date').

#### ***Licensee must retain copy of Annual Return***

The licensee must retain a copy of the annual return supplied to the EPA for a period of at least 4 years after the annual return was due to be supplied to the EPA.

#### ***Certifying of Statement of Compliance and Signing of Monitoring and Complaints Summary***

Within the Annual Return, the Statement of Compliance must be certified and the Monitoring and Complaints Summary must be signed by:

- (a) the licence holder; or
- (b) by a person approved in writing by the EPA to sign on behalf of the licence holder.

A person who has been given written approval to certify a Statement of Compliance under a licence issued under the Pollution Control Act 1970 is taken to be approved for the purpose of this condition until the date of first review this licence.

### ***Notification of environmental harm***

Note: The licensee or its employees must notify the EPA of incidents causing or threatening material harm to the environment as soon as practicable after the person becomes aware of the incident in accordance with the requirements of Part 5.7 of the Act.

Notifications must be made by telephoning the EPA Pollution Line service on 131 555.

The licensee must provide written details of the notification to the EPA within 7 days of the date on which the incident occurred.

### ***Written report***

Where an authorised officer of the EPA suspects on reasonable grounds that:

- (a) where this licence applies to premises, an event has occurred at the premises; or
- (b) where this licence applies to vehicles or mobile plant, an event has occurred in connection with the carrying out of the activities authorised by this licence,

and the event has caused, is causing or is likely to cause material harm to the environment (whether the harm occurs on or off premises to which the licence applies), the authorised officer may request a written report of the event.

The licensee must make all reasonable inquiries in relation to the event and supply the report to the EPA within such time as may be specified in the request.

- The request may require a report which includes any or all of the following information:
  - a. the cause, time and duration of the event;
  - b. the type, volume and concentration of every pollutant discharged as a result of the event;
  - c. the name, address and business hours telephone number of employees or agents of the licensee, or a specified class of them, who witnessed the event; and
  - d. the name, address and business hours telephone number of every other person (of whom the licensee is aware) who witnessed the event, unless the licensee has been unable to obtain that information after making reasonable effort;
  - e. action taken by the licensee in relation to the event, including any follow-up contact with any complainants;
  - f. (details of any measure taken or proposed to be taken to prevent or mitigate against a recurrence of such an event;
  - g. any other relevant matters.

The EPA may make a written request for further details in relation to any of the above matters if it is not satisfied with the report provided by the licensee. The licensee must provide such further details to the EPA within the time specified in the request.

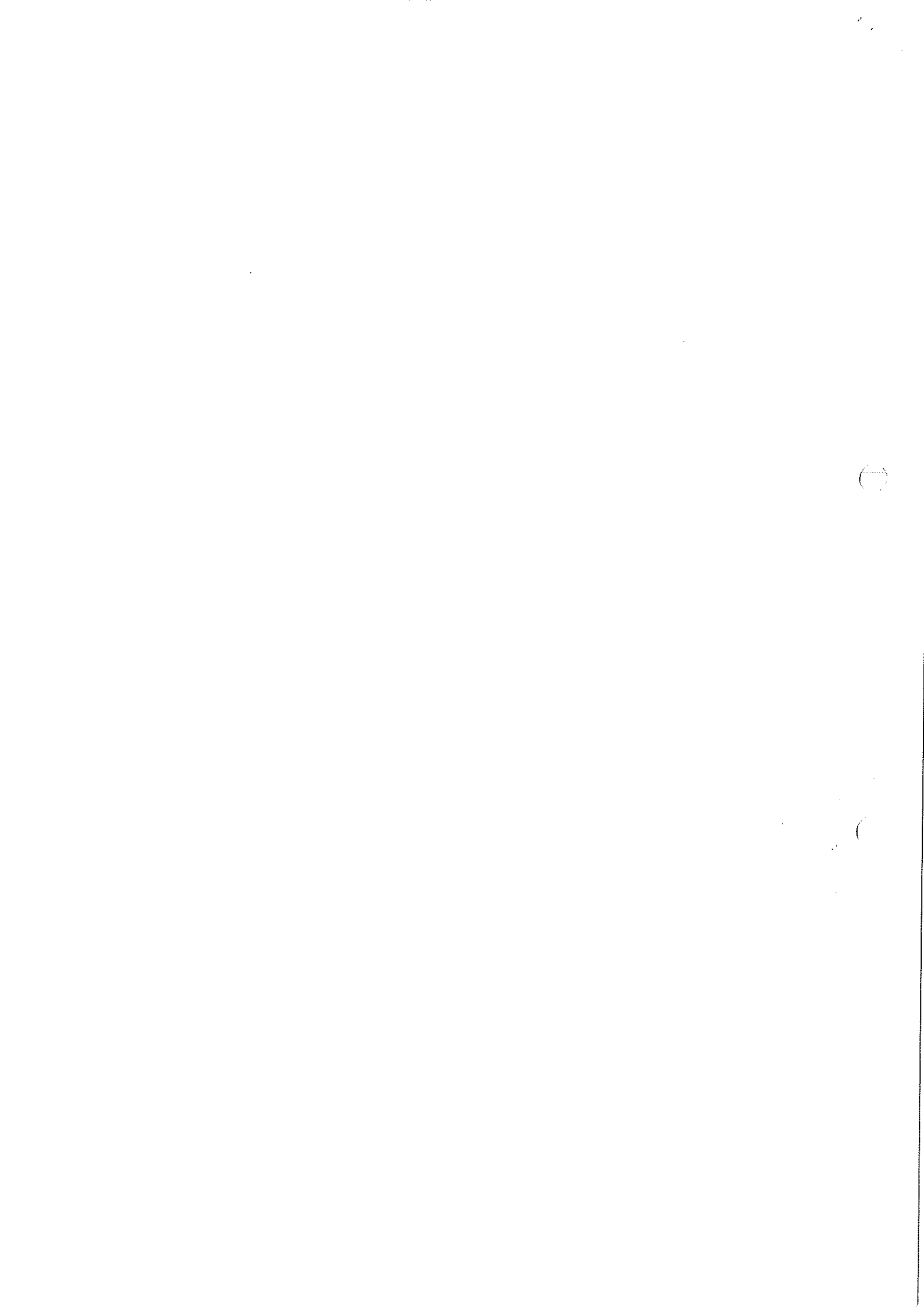
**General conditions**

**Copy of licence kept at the premises or on the vehicle or mobile plant**

A copy of this licence must be kept at the premises or on the vehicle or mobile plant to which the licence applies.

The licence must be produced to any authorised officer of the EPA who asks to see it.

The licence must be available for inspection by any employee or agent of the licensee working at the premises or operating the vehicle or mobile plant.



AGENCY SUBMISSION:  
ROADS AND MARITIME SERVICES





28 May 2013

RMS Ref: SYD12/01477/03  
Department's Ref: SSD 5746

Senior Planning Officer  
Major Projects Assessment  
Department of Planning & Infrastructure  
GPO Box 39  
Sydney NSW 2001

**Attention: Pascal van de Walle**

**EXPANSION OF EXISTING MAINFREIGHT WAREHOUSE AND DISTRIBUTION FACILITY AT  
30-50 YARRAWA ROAD, PRESTONS**

Dear Pascal,

I refer to your email of 18 April 2013 (Department Ref: SSD 5746) concerning the abovementioned development application which was referred to Roads and Maritime Services (RMS) for comment in accordance with Clause 104 of *State Environmental Planning Policy (Infrastructure) 2007*.

RMS has reviewed the proposed expansion of the warehouse and distribution facility and has no objections to the proposal subject to the following conditions below:

1. The layout of the proposed car parking areas associated with the subject development (including, driveways, grades, turn paths, sight distance requirements, aisle widths, aisle lengths, and parking bay dimensions) should be in accordance with AS 2890.1- 2004 and AS 2890.2 – 2002 for heavy vehicle usage.
2. The swept path of the longest vehicle (to service the site) entering and exiting the subject site, as well as manoeuvrability through the site, shall be in accordance with AUSTROADS. In this regard, a plan shall be submitted to the Department for approval, which shows that the proposed development complies with this requirement.
3. All vehicles are to enter and leave the site in a forward direction.
4. Car parking provision to the Department of Planning and Infrastructure's satisfaction.
5. Heavy vehicle parking is to be in accordance with the Truck Parking Management Plan (TPMP) – Drawing No: TX.07; Dated: 08/04/13, depicted within Appendix C of the Traffix Traffic Impact Assessment report (12.424r01v3).
6. As the TPMP will result in stacked parking, such spaces will need to be managed in an orderly manner. To address the management of stacked parking, the proponent will need to

Roads & Maritime Services

prepare and submit a Truck Operational Management Plan to the Department and Council for approval prior to the issue of an Occupation Certificate.

7. The proposed loading areas are to be kept clear of any obstacles, including parked vehicles, at all times.
8. A Construction Traffic Management Plan detailing construction vehicle routes, number of trucks, hours of operation, access arrangements and traffic control should be submitted to the Department prior to the issue of the Construction Certificate for the warehouse developments.
9. All works/regulatory signposting associated with the proposed development are to be at no cost to RMS.

Further enquiries on this matter can be directed to the undersigned on phone 8849 2180 or via an email at [Andrew.Popoff@rms.nsw.gov.au](mailto:Andrew.Popoff@rms.nsw.gov.au)

Yours sincerely,



Andrew Popoff  
**Senior Land Use Planner**  
**Transport Planning, Sydney Region**

AGENCY SUBMISSION:

TRANSGRID



Land Assets & Facilities | Network Services & Operations  
Telephone: (02) 9284 3015  
Our Reference: 2013/2504  
Your Reference: SSD 5746

ABN 19 622 755 774

201 Elizabeth Street (cnr Park St)  
PO Box A1000 Sydney South  
New South Wales 1235 Australia  
Facsimile (02) 9284 3456  
Telephone (02) 9284 3000  
Web <http://www.transgrid.com.au>  
DX 1122 Sydney

Mr Pascal van de Walle  
Senior Planning Officer  
Department of Planning and Infrastructure  
GPO Box 39  
**SYDNEY NSW 2001**

Dear Mr ~~van de Walle~~, <sup>Pascal</sup>

**Re: SSD 5746 - Environmental Impact Statement - Mainfreight Warehouse & Distribution Facility, including Storage of Dangerous Goods, 30–50 Yarrowa Street, Prestons**

We refer to the notice received from the Department of Planning and Infrastructure in respect of the Environmental Impact Statement pertaining to Lot 2 in DP28729 and Lot 102 in DP1117691.

TransGrid is a State Owned Corporation responsible for the development, operation and maintenance of the high voltage transmission network across New South Wales. These functions are facilitated through transmission lines, substations and other related infrastructure including telecommunications facilities owned by TransGrid. In the normal course of TransGrid operations, activities undertaken include maintenance and upgrade of infrastructure, (e.g. transmission lines, substations and related telecommunications), vegetation and access track management and the strategic construction of new infrastructure to meet the growing and changing needs of the NSW population.

TransGrid's 330kV Liverpool Substation is located immediately opposite the subject site in Yarrowa Street, Prestons. TransGrid also has a Transmission Line (TL) easement running through the subject site. An easement is a 'right of way' along a route of a transmission line and is required to enable TransGrid to access the line for inspections and maintenance purposes. The easement rights also enable TransGrid to control any activity that may pose a risk to the line or public safety. Please refer to the attached maps for details of TransGrid's infrastructure at this location which forms part of the State's electricity network and will be required indefinitely. (shown in **Attachment 1**).

Easement Guidelines

TransGrid seeks that appropriate development controls be attached to the development on account of a TransGrid stanchion and 330kV transmission line being situated on the subject site. It is recommended that the *TransGrid Guidelines for Easement Activities and Restrictions (Guidelines)* are followed, with appropriate restrictions imposed as to what activities may and may not occur on Lot 2 in DP28729. The Guidelines (shown in **Attachment 2**) and where there is any doubt concerning a particular activity within an easement, please do not hesitate to contact TransGrid for further information or advice.

## Mainfreight Warehouse and Distribution Facility

TransGrid has held discussions with the development's proponent as reflected in the meeting minutes endorsed by TransGrid on 27 February, 2013. As no formal notification of the proposed development has been received pursuant to regulation 45 of SEPP (Infrastructure) 2007, TransGrid has not granted formal approval to date. Statutory notification should be accompanied by the proponent's development application with detailed specifications and plans *in final version*, for assessment by TransGrid engineers.

Vertical and horizontal clearances need to be verified; therefore the detailed plans and specifications need to state the design Reduced Levels (RL) using Australian Height Datum. Horizontal distances from the stanchion (Feeder 12 Structure 350) also need to be clearly specified on the plans (including unit of measure), to ensure the proposed placement of the hardstand areas and other development works within the easement do not pose a risk to the transmission line and/or the stanchion's earthing systems.

Development design discussed with the proponent permits a 15 metre horizontal clearance from the stanchion conditional upon the following. TransGrid will alter the transmission tower's earthing system at Goodman's cost as is essential for the 15 metre horizontal clearance to be permitted. The developer must also construct a protection barrier around the stanchion at 15 metres from the nearest part of the structure's legs. Hardstand drainage is also to be designed to prevent flooding to the base of the tower.

Vertical and horizontal clearances also apply to any preliminary civil works, where raised mounds of earth can hazardously alter ground levels within the easement. From a recent site visit, it was noted that a raised earth mounds were being formed within the easement. Even temporary changes in ground levels are potentially hazardous to vertical clearances and should be removed from the easement immediately.

## Storage of Dangerous Goods.

TransGrid prohibits the storage or movement of dangerous goods in the easement. Dangerous goods must be clear of the easement at all times. Irrespective of whether the dangerous goods are combustible, explosive or the goods as a collective could be deemed dangerous, they must remain outside of the easement at all times. Any vehicles carrying such materials are prohibited from using the easement. This includes not travelling in the easement or standing/parking vehicles that are carrying dangerous goods in the easement. Please refer to the attached Guidelines.

TransGrid requests that the Department of Planning and Infrastructure give this full consideration. We look forward to receiving formal notification with final plans for review. Should you require any further information, please contact Tim Cowdroy on (02) 9284 3015 or [Timothy.Cowdroy@transgrid.com.au](mailto:Timothy.Cowdroy@transgrid.com.au).

Yours sincerely,

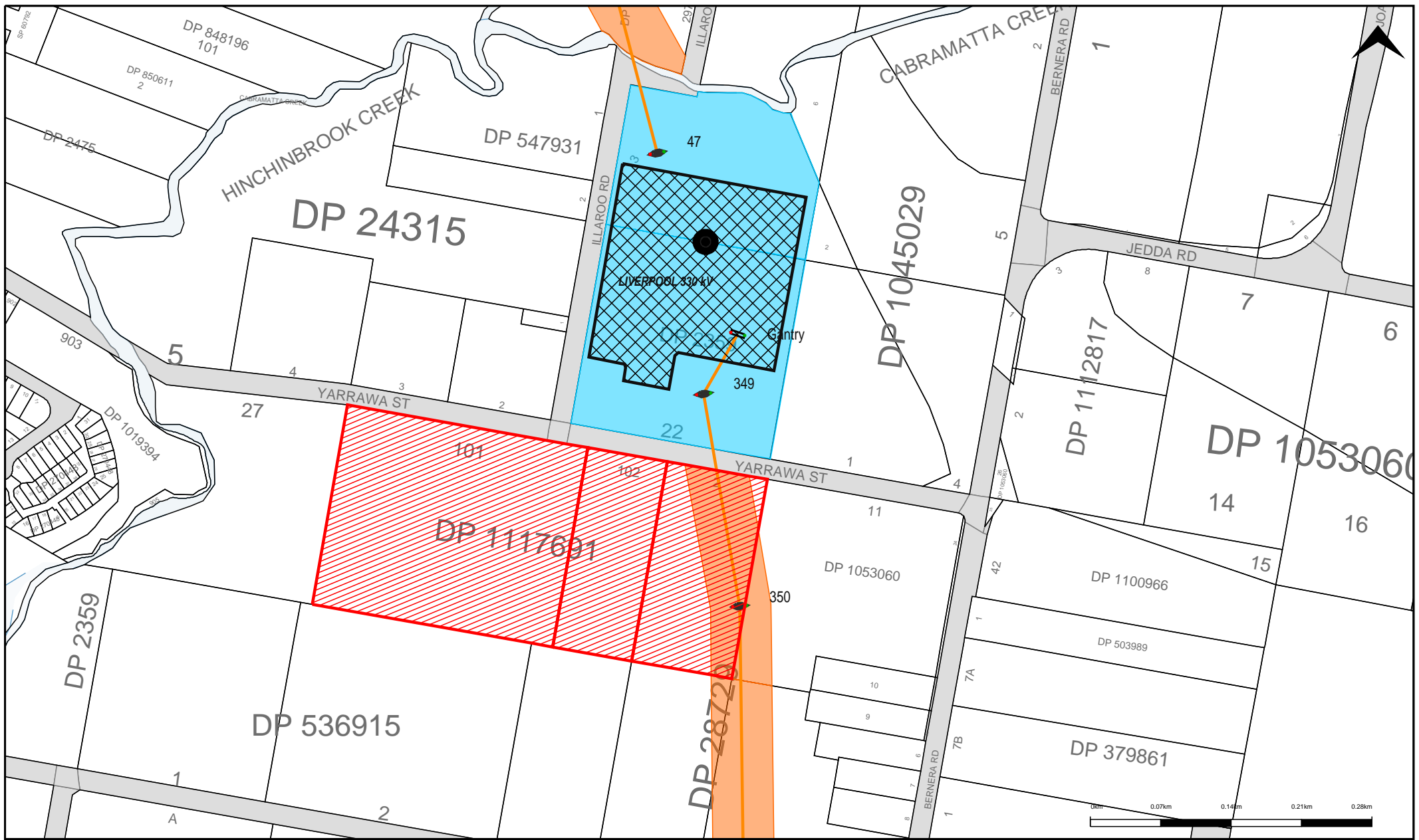
 30.5.2013

Mr Tim Cowdroy  
Land Economist | Land Assets and Facilities

Attached:


1. Map showing TransGrid's Easements and Transmission Lines
2. TransGrid Guidelines for Easement Activities and Restrictions

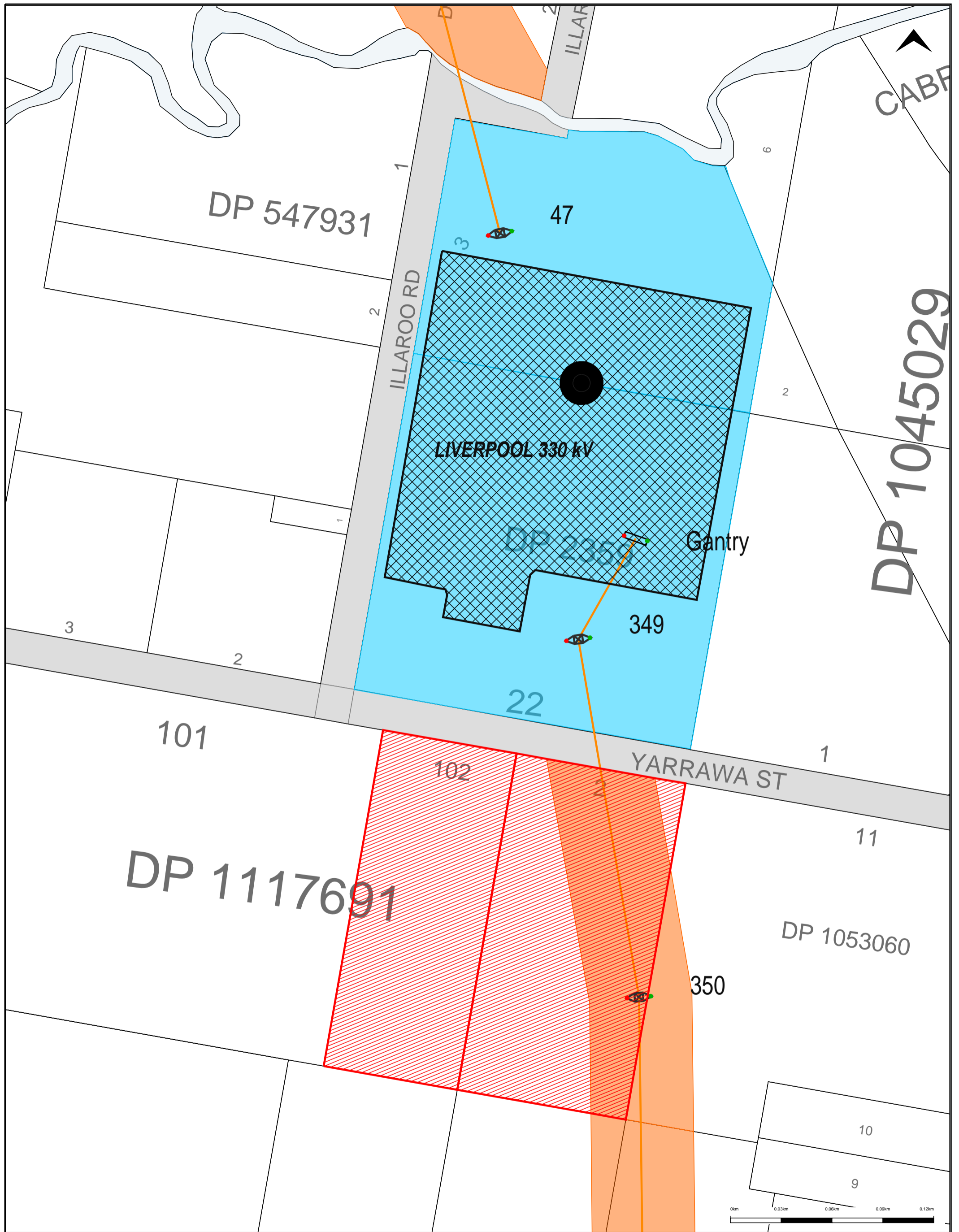




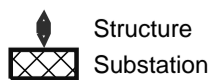
### Legend

|             |              |                           |                      |
|-------------|--------------|---------------------------|----------------------|
| ◆ Structure | ⊠ Substation | ■ TransGrid Land Interest | ■ TransGrid Easement |
|-------------|--------------|---------------------------|----------------------|

|  |   |               |
|--|---|---------------|
|           | Mainfreight Development, 30 - 50 Yarrawa St,<br>Prestons<br>Land: Lot 101 & 102 in DP1117691 & Lot 2 in<br>DP287729 |               |
| Property of Transgrid. No warranty is given<br>that information shown is complete or accurate. | PRODUCED FROM TAMIS   | Scale: 1:5000 |
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**Legend**



Structure

Substation

TransGrid Land Interest  
 TransGrid Easement



TransGrid TL: Feeder 12 Structure 350

Property of TransGrid. No warranty is given that information shown is complete or accurate.

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20/03/2013 15:24:31

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A3

## **TransGrid Guidelines for Easement Activities and Restrictions**

An easement is an encumbrance on the title of land that confers the right to construct, operate and maintain a transmission line or cable. Easements are acquired by TransGrid to obtain the legal right to have access to its lines or cables for the purposes of construction, operation, maintenance, renewal and replacement and also to enable activities, which could either by accident or otherwise create an unsafe situation, to be controlled. Such easements impose an obligation on affected property owners not to do anything that may interfere with TransGrid's rights.

This document provides guidelines for the management of activities and encroachments on easements for overhead transmission lines and high voltage underground cables.

Because of the varied circumstances that apply to electricity easements, there will be circumstances that will require special attention. The particular circumstances may suggest restrictions over and above those outlined in this document.

### ***1.1 Encroachments Onto Easement Areas***

From TransGrid's viewpoint, it is essential that buildings, structures or other objects that could interfere with access along the easement, particularly to any structure or joint bay, not be placed within an easement area and that nothing be done which may affect the safe and continuous operation of the transmission line or cable or prevent its repair, replacement or renewal.

From both TransGrid's and the property owner's viewpoint, it is desirable that the property owner be prevented from doing anything within the easement which, while not necessarily interfering with TransGrid's formal rights, creates a safety risk either to the operation of the transmission line or cable or to persons. Such risks could possibly occur from induction, step or touch potentials under fault conditions, infringement of safety clearances to conductors, failure of line material or structures, or the uncovering of an underground cable.

The most important questions to be considered in the examination of a request for an encroachment within an easement area are the following:

1. Will it affect the safe operation of the line or cable, under normal conditions as well as maximum sag and blowout?
2. Will it unduly restrict access, particularly to overhead line structures, underground cable joint bays or surface installations?
3. What will be the effect on the encroachment of electrostatic induction, electromagnetic induction or an earth fault at the nearest structure of an overhead line or an earth fault on an underground cable?
4. What is likely to happen if there is a line structure collapse or failure of an earth wire, conductor or fitting?
5. What will be the effect if the line is uprated and/or structure positions are changed or the underground cable is relaid?

## ***1.2 Approval For Encroachments Or Activities Affecting Easements***

All TransGrid approvals are to be notified in writing, by the duly authorised officer.

All approvals granted should be subject to the encroachments being removed or relocated at the owner's cost in the event that TransGrid requires this for line maintenance, operation or further construction/reconstruction.

It is recognised that this requirement may be difficult to negotiate for *substantial structures* and in-ground swimming pools (for example). This requirement is necessary, however, in case the encroachments need to be removed in the future and serves to confirm the awareness of the land owner to the terms of the approval.

The granting of a local council approval for a given encroachment does not negate TransGrid's rights. It does, however, create confusion for landowners that believe they had done all that is required to obtain the necessary approvals. Landowners should therefore contact TransGrid before proceeding with any development.

An important strategy in avoiding encroachments of significance is to have a good working relationship with constituent councils in respect of building approvals. In particular, the recording of electricity easements on constituent council records is essential for their consideration of such easements in the approval process.

The co-operation of constituent councils should be sought to include a general condition on every approval, referring to electricity easements, such as "subject to approval by the relevant authority where easements are involved".

## ***1.3 Specific Restrictions Within Easement Areas***

Property owners and others frequently make inquiries with regard to the restrictions that apply to the use of land affected by easements. Having regard to the type of easement in question and to any special conditions which may apply, the activities listed below have been categorised as being either permitted, controlled or prohibited as applicable.

The list is not necessarily exhaustive and the omission of a particular activity does not relieve those concerned from seeking advice from TransGrid where there is any doubt as to whether its rights are likely to be infringed.

Note that in the following, allowable encroachments are normally given in terms of distances from the edge of the easement. **This is for an easement of standard width.** Standard easement widths are:

132 kV – 45 metres

220 kV – 50 metres

330 kV – 60 metres

500 kV – 70 metres

A reduction in the width of the easement similarly reduces any allowable encroachment. For example, if the easement is 10m narrower than standard (5m off each side) then allowable encroachments are reduced by 5m.

### ***1.3.1 Overhead Transmission Line Easements***

#### **A. Permitted Activities**

The activities listed below are permitted within easement areas provided that they do not interfere with the maintenance or safe operation of the line. In this regard, access is to be available to all structures at all times and no physical obstructions other than timber boundary fences are to be placed within 15 metres of a transmission line structure or supporting guy. It is desirable, where *practicable*, to retain a continuous and *unobstructed access way* along the entire length of the easement.

- (i) Normal agricultural pursuits subject to restrictions applying to the heights of mobile plant and equipment being observed. Care should be taken when ploughing or operating mobile machinery in the vicinity of structures or supporting guys to ensure that the buried earthing system or the tower is not damaged.
- (ii) Domestic recreational activities, other than the flying of kites, model aircraft etc which are prohibited.
- (iii) Gardening activities involving trees, shrubs or plants that grow to a mature height not exceeding 4 metres.
- (iv) Parking of vehicles subject to adequate precautions being taken to protect structures or supports from accidental damage and a 4.3 metre height limitation on the vehicles to be parked.

Flammable liquid carriers, caravans and other camping vehicles and vehicles with fixed ladders which make it possible for a person to ascend to the top of the vehicle are not permitted.

- (v) The operation of mobile plant and equipment having a height not exceeding 4.3 metres when fully extended, including aerials, subject to adequate precautions being taken to prevent collision or interference with structures or supporting guys.
- (vi) The storage of *non-flammable materials*, subject to a height limitation of 2.5 metres.
- (vii) The erection of *minor structures*, subject to a height limitation of 2.5 metres and the *earthing* of metallic parts.

#### **B. Controlled Activities**

The activities listed below are not permitted within transmission line easements without written approval. Each case should be assessed on its merits in accordance with the guidelines indicated below and subject to the general provisions concerning access, maintenance and safe operation as detailed for Permitted Activities.

It is normal that a site inspection would be made for these cases. Note that during the site inspection it should be confirmed that there is not a suitable alternative site within the property where the proposal could be accommodated.

Where the extent of a proposed encroachment by a *substantial structure* exceeds half of the maximum encroachment stipulated in these guidelines, the property owner should be required at their expense to have the structure set out by a registered surveyor, with clear dimensions, distances and measurements specified on the survey plans. On completion of the work, an identification survey is to be carried out. The survey plan is to state the horizontal and vertical clearances from TransGrid's infrastructure and easement. A copy of the survey plan must be forwarded to TransGrid. This requirement should be specifically referenced in the approval.

Many of the activities described are confined to a height of 4.3 metres. In particular cases, where the conductor height above ground is substantially greater than the normal design minimum, approval may be given (after obtaining *engineering advice*), for the 4.3 metre height restriction to be relaxed. This would normally only be done following detailed investigation of the situation.

- (i) Burning off or the lighting of fires within the easement area if there is no other location other than in the easement, provided that structures and supporting guys are not endangered and provided that the activity does not produce flames exceeding 3 metres in height.

Lighting of fires directly under energised conductors would not normally be approved, with the exception of burning of crop stubble.

- (ii) The operation of mobile plant or equipment having a height when fully extended exceeding 4.3 metres. Approval would be based on the need to maintain adequate clearance between the equipment and the line, having regard to the particular situation. Note that plant may require trailing earths and supervision by TransGrid staff.
- (iii) Parking of caravans and other camping vehicles provided that there is no *practicable* alternative site clear of the easement area. Approval will normally be given for temporary parking only, in the outer 3 metres of the easement area, subject to metallic parts being *earthed* and a 4.3 metre height restriction.
- (iv) The erection of flagpoles, weather vanes, single post signs, outdoor lighting and the like provided that adequate clearance is maintained to the overhead conductors, the height does not exceed 4.3 metres and metallic parts are *earthed*.
- (v) The erection of non-electric agricultural fencing, yards and the like, provided that the height of the fencing does not exceed 2.5 metres and that access along the easement is not impeded. In the case of metallic fencing, *earthing* may be required.
- (vi) The erection of electric fencing provided that the height of the fencing does not exceed 2.5 metres and provided that the fence does not pass beneath the overhead conductors.

Approval may be given for a portable electric fence to pass underneath the conductors provided that it is supplied from a portable battery-powered energiser that is located remotely from frequented areas.

Where it is necessary for a permanent electric fence to pass beneath the overhead conductors, or where an extensive permanent electric fencing system is installed in proximity to a transmission line certain additional safety requirements may be required. *Engineering advice* should be obtained prior to approval.

- (vii) The erection of metallic fencing provided that:
  - (a) the height of the fencing does not exceed 2.5 metres;
  - (b) the fence is *earthed*;
  - (c) the fence is not located within 15 metres of any part of a transmission line structure or supporting guy or within 4 metres of the vertical projection of the overhead conductors;  
and
  - (d) access to structures is maintained.

Approval may be given for such fencing to be located within 4 metres of the vertical projection of the overhead conductors provided that any section so located is electrically isolated from the remainder of the fence. In the case of swimming pool or tennis court enclosures, it is sufficient to isolate the enclosure fence from other metallic fencing not forming part of the enclosure.

- (viii) The installation or use of irrigation equipment inside the easement provided that:
- (a) no part of the system is permitted to come within 4 metres of the overhead conductors at any time;
  - (b) the height of the equipment does not exceed 4.3 metres;
  - (c) the length of individual sections of rigid or semi-rigid pipe associated with the equipment does not exceed 4.3 metres;
  - (d) the equipment as located is not capable of projecting a solid jet of water to within 3 metres of any overhead conductor up to 330 kV and 4 metres for 500 kV. In the case of gun type irrigators, it is required that the water jet not be directed towards the line;
  - (e) the equipment is suitably *earthed*, if necessary; and
  - (f) the equipment does not interfere with the maintenance or safe operation of the line.

- (ix) The installation of *low voltage* electricity, telephone, communication, water, sewerage, gas, whether overhead, underground or on the surface subject to there being no *practicable* alternative and provided that:
- (a) standard clearances are maintained to the overhead conductors;
  - (b) services are to be at least 15 metres from the centre-line of the easement and 15 metres from any part of a transmission line supporting structure; and
  - (c) services within 30 metres of any part of a structure are to be non-metallic.

Where the service is to be buried, it is understood that heavy vehicles may be driven on the ground above the service. In the case of 330 kV and 500 kV lines, all undercrossings by the above mentioned services are required to be underground. For lower voltage lines the service should preferably be underground where *practicable*.

Where extensive parallels are involved, certain additional safety requirements may be necessary, depending on the particular case and *engineering advice* should be obtained.

In the case of critical services such as optical fibre communications circuits, these should be buried on the edge of the easement (typically within 1 metre of the edge) and must be clearly marked to show the location of the buried cable.

Details specific to each installation should be ascertained and approved to ensure minimal impact on TransGrid operations and to reduce our exposure to liability.

- (x) The installation of high voltage electricity services subject to there being no *practicable* alternative and provided that *standard clearances* are maintained to the supporting structures.

Where extensive parallels are involved certain additional safety requirements may be required, depending on the particular case and *engineering advice* should be obtained.

- (xi) Swimming pools, whether above or in-ground, provided there is no *practicable* alternative site clear of the easement area. Approval may be given for encroachments of not more than 4.5 metres, including coping, subject to the pool being not less than:

- (a) 30 metres from the centre of a transmission line structure for voltage or 132kV and below; or
- (b) 30 metres from any part of a transmission line structure for voltages greater than 132 kV.

These requirements are aimed at minimising step potentials under fault conditions.

- (xii) Detached garages, detached carports, detached sheds, detached stables, detached glass houses, caravans, site containers, portable tool sheds, pergolas and unroofed verandahs attached to residences where there is no *practicable* alternative site clear of the easement area. Approval may be given for encroachments of not more than 3 metres.
- (xiii) Prefabricated metal (garden) sheds not exceeding 2.5 metres in height, where a *practicable* site is not available clear of the easement area. Approval may be given for encroachments of up to 3 metres. Consideration may be given to a further encroachment provided that:
  - (a) the shed's floor area does not exceed 8 m<sup>2</sup>;
  - (b) the shed is not located within 15 metres of any part of a transmission line structure;
  - (c) the shed is *earthed*;
  - (d) electric power is not connected to the shed;
  - (e) the shed is not to be used for the storage of flammable liquids;
  - (f) in the event of TransGrid requiring the shed to be relocated at some future date, all costs are to be borne by the owner; and
  - (g) the shed is not easily convertible to living quarters.

Brick garages and other similar *substantial structures* should not be approved, as such structures are likely to create additional problems should TransGrid seek to upgrade the use of the easement.

- (xiv) Single tennis courts provided:
  - (a) the tennis court is for private, non-commercial use;
  - (b) there is no alternative space clear of the easement;
  - (c) adequate safety clearances are maintained;
  - (d) the fence is non-conductive or suitably *earthed* on all corners;
  - (e) fence height is restricted to 4 metres;
  - (f) lighting is limited to a maximum height of 4.3 metres and supplied via underground wiring;
  - (g) access to the transmission line is not hindered. This may involve gates and court construction able to withstand large, heavy plant; and changes to ground levels may be associated with the construction of the courts. If required, such changes should not affect access along the easement and should meet the requirements of (xx) below.

- (xv) Sporting facilities and open recreational areas subject to the general restrictions outlined in these guidelines and the displaying of suitable warning notices concerning the flying of kites or model aircraft. Facilities associated with the use of firearms and *public sporting venues* are discouraged.
- (xvi) Subdivisions for domestic or industrial purposes subject to relevant requirements being met such as:
  - (a) *standard clearances* and access being maintained;
  - (b) road intersections being well clear (preferably 30 metres) of line structures;
  - (c) line structures being suitably protected against motor vehicle impact; and
  - (d) the layout of the subdivision not being such as to give rise to numerous utility crossings or later requests for encroachments due to insufficient space being left between the Council's building alignment and TransGrid's easement.

Where a proposed road passes within 30 metres of a line structure or supporting guy, the structure earthing system may require modification in order to prevent fault currents from entering utility services which may be buried in the road.

Boundaries created by subdivisions should not pass, where *practicable*, within 15 metres of a structure to prevent the future erection of metallic fence in violation of these guidelines.

Care is also required to ensure that earthing will be adequate on structures that may be in a location which was regarded as 'remote' at the time of construction (as defined in the Electricity Association of NSW Publication – "Guide to Protective Earthing" – EA5). Development may cause the structures location to become 'frequented' or 'special'. Additional earthing required as a result of the subdivision should be at the cost of the developer.

Advantage should be taken of subdivisional activities to upgrade existing easements, especially "resumed" easements by insisting that they be shown on the new line plans with modern "Restrictions as to User" quoted in the Section 88B Instruments.

Many innovative planning techniques are available to incorporate existing transmission line easements within new subdivisions that do not result in lines straddling backyards and hence ultimately cause encroachment problems. These options should be actively pursued with developers and constituent councils.

- (xvii) Roads (other than access tracks) provided that *standard clearances* are maintained, the proposal is environmentally acceptable and line structures are adequately protected against motor vehicle impact.

Approval will not normally be granted for roads to be located within 15 metres of any part of a transmission line structure.

Where the road passes within 30 metres of a structure or supporting guy, the structure earthing system may require modification as outlined in (xvi) above. The option of raising conductors or relocation of structures, at the full cost of the proponent, may be considered.

- (xviii) Cycleways, walking tracks and footpaths provided that *standard clearances* are maintained and the proposal does not alienate large sections of the easement area.

- (xix) Excavation (not including ploughing) in the case of minor excavations. In the case of substantial excavations, approval will normally be given, provided that the depth of the excavation does not exceed 3 metres, it is not located within 7 metres of a general purpose pole structure or supporting guy, or within 15 metres of any part of a steel tower or major pole structure.

Where there is no *practicable* alternative, consideration may be given to permitting an excavation which does not comply with the above general requirements, subject to *engineering advice* on the proposal confirming that it will not interfere with the maintenance or safe operation of the line. In such cases, TransGrid supervision of the excavation may be required and would normally be charged to the property owner.

- (xx) Quarrying activities, earthworks, dam or artificial lake construction subject to the maintenance of adequate ground clearances and provided that the subsoil stability and surface drainage in the vicinity of structures is not adversely affected and excessive quantities of dust are not generated. *Engineering advice* should be obtained prior to approval being given.

Where artificial lakes or dams are classed as navigable waters then clearances specified by the Maritime Services Board shall be provided.

Where access is compromised by such developments, a condition of approval should be the provision of alternative access – for example with an access easement.

- (xxi) Mining – Approval would be based on the merits of the proposal and any related circumstances involved.
- (xxii) Use of explosives – Although not encouraged, approval may be given for minor blasting involving charges not greater than 2kg/delay and not closer than 30 metres to a supporting structure, provided that satisfactory safety procedures are observed and the safe operation of the line is not jeopardised.
- (xxiii) Blasting procedures in accordance with Australian Standard AS2187 and the use of blasting mats and safety fuses would normally be the minimum requirements. As specified in AS2187 the peak particle velocity should be kept to below 25mm/sec (unless modified in a subsequent issue). In cases where the charge exceeds 2kg/delay and/or blasting is required closer than 30 metres to supporting structures *engineering advice* should be obtained prior to approval.

### C. Prohibited Activities

The activities listed below are normally prohibited within transmission line easements. Approval to engage in such activities will not be granted other than in the most exceptional circumstances.

- (i) The construction of houses, buildings, *substantial structures*, or parts thereof including eaves other than those permitted under Sections (A) or (B) above. Where difficulty is experienced in locating a residence between the Council's building alignment and TransGrid's easement or an extension to the residence between the existing building and TransGrid's easement, consideration may be given to permitting the eaves to encroach onto the easement area to a maximum distance of 600mm.

- (ii) Installation of fixed plant or equipment other than that permitted under sections (A) or (B) above.
- (iii) The storage of *flammable materials*, corrosive or explosive material.
- (iv) The placing of garbage, refuse or fallen timber.
- (v) The planting or cultivation of trees or shrubs, which grow to a height exceeding 4 metres.
- (vi) The placing of obstructions other than timber boundary fences within 15 metres of any part of a transmission line structure or supporting guy.
- (vii) Camping or the permanent parking of caravans or other camping vehicles.
- (viii) The parking or storage of *flammable* liquid carriers or containers.

Where an existing encroachment contravenes the requirements of this section, arrangements should generally be made for its removal.

### **1.3.2 Underground Cable Easements**

Underground cables are predominantly installed in gazetted roadways. Easements are not normally obtained in this situation as the legal right to occupy space in a gazetted roadway, by a public utility, is conferred by 'The Roads Act 1993' and TransGrid, as an electricity supply organisation, has further rights conferred by the 'Electricity Supply Act 1995'.

The activities listed below are intended to apply in situations where cables are installed within cable easements outside of gazetted roadways.

#### **A. Permitted Activities**

The activities listed below are permitted within cable easements provided that they do not interfere with the maintenance or safe operation of the cable:

- (i) Domestic recreational activities.
- (ii) The temporary storage of non-flammable materials provided that the area of ground surface contact doesn't prevent the free flow of air over the cable trench. The material must be capable of being removed at short notice.
- (iii) The planting of small shrubs and tilling of the soil to a maximum depth of 200mm, except in the vicinity of joint bays, surface installations, cable marker plates and posts, and kiosks.

#### **B. Controlled Activities**

The activities listed below are not permitted within cable easements without written approval.

Each case should be assessed on its merits in accordance with these Guidelines and subject to the general provisions concerning maintenance and safe operation as detailed for Permitted Activities.

- (i) Parking of vehicles provided that an adequate surface exists that is capable of supporting the vehicles likely to be parked, thus preventing the crushing of the cable/ducts or ground erosion.
- (ii) The operation of mobile plant and equipment provided that an adequate surface exists which is capable of supporting the mobile plant or equipment. If a suitable surface does not exist, approval may be given subject to the activity being supervised by TransGrid personnel.
- (iii) The erection of structures spanning the easement are discouraged, but approval may be given provided that there is no *practicable* alternative and sufficient clearance is maintained between the ground surface and the underside of the structure to allow cable maintenance and/or repairs to be carried out without inconvenience.
- (iv) Excavation will normally be approved, provided that TransGrid personnel supervise the activity. Excavation within 2 metres of the cables should normally be carried out by hand. Mechanical excavation is not permitted, unless directly supervised by TransGrid personnel.
- (v) Concrete driveways may be approved where cables are in existing continuous ducts and the driveway is capable of supporting the heaviest vehicle likely to traverse the driveway.
- (vi) The installation of metal pipes, metal fences, underground or overhead cables: Approval may be given subject to investigation.
- (vii) Road-boring in the vicinity of a high voltage cable. A trial hole should be dug alongside the cable trench to locate the cable and to verify that the bore does not interfere with the cable. Because the precise location of the cable is unknown, this precaution is required even where equipment is used which can accurately determine the location of the bore-head.

### C. Prohibited Activities

The activities listed below are normally prohibited within cable easements. Approval to engage in such activities will not be granted other than in the most exceptional circumstances and only where a detailed investigation proves no impact on the operation or safety of the cable.

- (i) Storage of *flammable* liquids, corrosive or explosive materials.
- (ii) Planting or cultivation of trees or shrubs with extensive root systems.
- (iii) Construction of houses, buildings or *substantial structures* other than those permitted under sections (A) or (B) above.
- (iv) Installation of fixed plant or equipment other than that permitted under sections (A) or (B) above.
- (v) The placing of garbage, refuse or fallen timber.
- (vi) Vertical boring directly over the cable lay (for example, for the installation of fencing or safety railing). These holes must be hand excavated.
- (vii) The raising or lowering of existing ground surface levels. Cable ratings are reduced by increased depth of burial.

AGENCY SUBMISSION:

RURAL FIRE SERVICE



All communications to be addressed to:

Headquarters  
15 Carter Street  
Lidcombe NSW 2141

Headquarters  
Locked Bag 17  
Granville NSW 2142

Telephone: 1300 679 737  
e-mail: [csc@rfs.nsw.gov.au](mailto:csc@rfs.nsw.gov.au)

Facsimile: 8867 7983



The General Manager  
McKenzie Group Consulting  
Level 6/189 Kent Street  
**Sydney NSW 2000**

Your Ref: 062882-DoPI\_RFS

Our Ref: S13/0015  
DA13042387219 KV

**Attention: Nathaniel Murray**

07 May 2013

Dear Sir/Madam

**Part 3A Development for Proposed Expansion of Existing Mainfreight Facility  
Including Storage of Dangerous Goods  
30-50 Yarrowa Street Prestons**

I refer to your letter dated 17 April 2013 seeking approval for the above Part 3A Development in accordance with section 75F (4) of the *Environmental Planning and Assessment Act 1979*.

The following key issue and assessment requirements regarding bush fire protection shall be included in the Director-Generals environmental assessment requirements:

1. At the commencement of building works and in perpetuity, the entire property shall be managed as an inner protection area (IPA) as outlined within section 4.1.3 and Appendix 5 of *Planning for Bush Fire Protection 2006* and the NSW Rural Fire Service's document *Standards for asset protection zones*.
2. The reticulated water supply provision for the proposed development shall comply with AS 2419.1-2005.

Should you have any further enquiries regarding this matter please contact Ms Kalpana Varghese on 1300 NSW RFS.

Yours sincerely

**Mark Hawkins**  
A/Team Leader, Development Assessment and Planning

AGENCY SUBMISSION:  
DEPARTMENT OF PLANNING AND INFRASTRUCTURE





## Planning & Infrastructure

Contact: Pascal van de Walle  
Phone: (02) 9228 6412  
Fax: (02) 9228 6466  
Email: [pascal.vandewalle@planning.nsw.gov.au](mailto:pascal.vandewalle@planning.nsw.gov.au)

Mr Will Dwyer  
Goodmans Property  
Level 17  
60 Castlereagh Street  
Sydney NSW 2000

Our ref: 12/20565

Dear Mr Dwyer

### **Expansion of Existing Mainfreight Warehouse & Distribution Centre (SSD 5746) Request for Response to Submissions**

I refer to your application and accompanying Environmental Impact Statement (EIS) lodged with the Department on 17 April 2013 requesting approval for the expansion of the existing Mainfreight Warehouse and Distribution Centre, including storage of dangerous goods, at 30-50 Yarrowa Street, Prestons.

The Department has reviewed the EIS in consultation with the Environment Protection Authority (EPA), Liverpool City Council, Roads and Maritime Services (RMS) and TransGrid.

A number of issues have been identified by the Department and other agencies which require clarification. These issues have been sent to you and/or your planning consultant previously, however they are now also provided in Attachments 1 and 2.


While the issues raised by the EPA in their email dated 2 May 2013 have been resolved, these matters should also be addressed in the 'Response to Submissions' document. Additionally, the issues raised by the NSW Rural Fire Service in their letter dated 7 May 2013 shall be addressed in the response.

The Department has also received two submissions from land owners in the vicinity of the subject site. Copies of these submissions were forwarded to you on 22 May 2013 and are now also provided in Attachment 3.

The Department requests that you address all issues raised in submissions in one comprehensive response to the Department.

Should you wish to discuss this further, please contact Pascal van de Walle on the details provided at the top of this letter.

Yours sincerely

 5/6/13  
Chris Ritchie  
**Manager – Industry  
Development Assessment Systems and Approvals**

## ATTACHMENT 1 – DEPARTMENT OF PLANNING AND INFRASTRUCTURE ISSUES

### Background

- Earth works have now commenced at site. An updated status of works completed at the site should therefore be provided.

### Description of Proposed Development

- Construction Staff – please confirm the number of staff that will be employed for construction of the proposal.
- New TransGrid Transmission Tower – Item 3 of the Minutes of the meeting between TransGrid and Goodmans held on Thursday 14 February 2013 identifies that a second transmission tower may be constructed in the TransGrid easement within the subject site. While it is uncertain when the tower may be built, TransGrid have indicated that the tower is expected to be constructed in the foreseeable future. It is therefore requested that the Applicant confirm that they are aware of the potential impacts to their proposed operations that would result from the construction of another Transgrid transmission tower within their site.

### Policy

- *Work Health and Safety Regulation 2011 (WHS Regulation)* - The EIS incorrectly addresses the *Occupational Health and Safety Regulation 2001*. While *State Environmental Planning Policy (State and Regional Development) 2011* adopts the definition of Major Hazards Facility (MHF) from the repealed Regulations, the new *WHS Regulation* is the relevant legislation that is required to be addressed.
- *State Environmental Planning Policy (Infrastructure) 2007 (ISEPP)* - Clause 45 of the ISEPP is relevant to this application. It requires consideration of issues raised by the electricity supply authority for the easement that crosses the land (i.e. TransGrid).

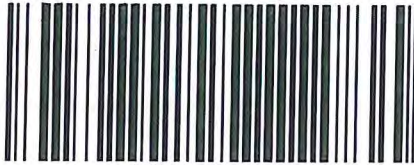
### Truck Movements

- The Swept Path Drawing No. TX.03:
  - appears to show a truck exiting the site using the existing driveway which is proposed to be relocated and reinstated; and
  - shows trucks exiting the site only, while the architectural plans show this as a combined truck entry/exit point. Truck movements through this access point need to be clarified, especially in light of the commitment given that no dangerous goods will be transported through the TransGrid easement.
- The Swept Path Drawing No. TX.04 shows:
  - trucks entering the site only, while the intersection is marked as a combined entry/exit point on the architectural plans; and
  - that trucks entering the site cross the centre line of the road to access the site.
- A diagram should be provided demonstrating that trucks carrying dangerous goods can enter and leave the site without requiring access through the TransGrid easement.

AGENCY SUBMISSION:

SYDNEY WATER





PCU044775

Sydney  
**WATER**

15 May 2013

Attention: Pascal van de Walle

Chris Ritchie  
Manager – Industry Development Assessment Systems & Approvals  
Department of Planning & Infrastructure  
GPO Box 39  
SYDNEY NSW 2001

**SSD 5746 – Expansion of Existing Mainfreight Warehouse & Distribution Facility**

Dear Mr Ritchie,

Thank you for your letters of 11 April 2013 requesting comment on the proposed expansion of the industrial warehouse at 30-50 Yarrowa Road, Prestons. Sydney Water has reviewed the proposal and we request that the Department includes the following condition in the development consent.

**Sydney Water Servicing**

Sydney Water will further assess the impact of any subsequent development when the developer applies for a Section 73 Certificate. This assessment will enable Sydney Water to specify any works required as a result of future development and to assess if amplification and/or changes to the system are applicable. The developer must fund any adjustments needed to Sydney Water infrastructure as a result of the development.

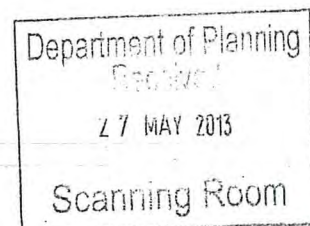
The developer should engage a Water Servicing Coordinator to get a Section 73 Certificate and manage the servicing aspects of the development. The Water Servicing Coordinator will ensure submitted infrastructure designs are sized and configured according to the Water Supply Code of Australia (Sydney Water Edition WSA 03-2002) and the Sewerage Code of Australia (Sydney Water Edition WSA 02-2002).

Sydney Water requests the Department continue to instruct proponents to obtain a Section 73 Certificate from Sydney Water. Details are available from any Sydney Water Customer Centre on 13 20 92 or Sydney Water's website at [www.sydneywater.com.au](http://www.sydneywater.com.au).

If you require any further information, please contact Corrine Manyweathers of the Urban Growth Branch on 02 8849 4014 or e-mail [corrine.manyweathers@sydneywater.com.au](mailto:corrine.manyweathers@sydneywater.com.au).

Yours sincerely,

Adrian Miller,  
Manager, Growth Strategy



## APPENDIX 2

# RESPONSE TO ENVIRONMENTAL PROTECTION AUTHORITY





McKenzie Group Consulting Planning  
(NSW) Pty Ltd  
ACN: 146 035 707  
Level 6, 189 Kent St, Sydney NSW 2000  
Tel: 02 8298 6800 Fax: 02 8298 6899  
email@mckenzie-group.com.au

NSW Department of Planning and Infrastructure  
23-33 Bridge Street  
Sydney NSW 2000

**Attention: Pascal van de Walle**

Dear Pascal,

**RE: REVISED RESPONSE TO NSW ENVIRONMENT PROTECTION AUTHORITY (EPA)**

**STATE SIGNIFICANT DEVELOPMENT (SSD) APPLICATION NO. 5746  
EXPANSION OF EXISTING MAINFREIGHT FACILITY  
30-50 YARRAWA STREET, PRESTONS**

Reference is made to the correspondence issued by the NSW Environmental Protection Authority (EPA) to the NSW Department of Planning and Infrastructure (DoPI) dated 25 March 2013 in relation to State Significant Development (SSD) 5746 for the proposed expansion of the existing Mainfreight Facility including storage of dangerous goods (chemical storage facility).

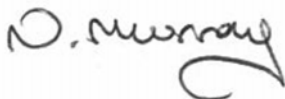
As you are aware, a meeting between the Project Team and the EPA was undertaken on 07 May 2013 to address the all of the issues raised in the EPA letter. The Project Team is of the opinion that all items raised in the EPA correspondence have now been fully satisfied as outlined in the following table and accompanying attachments:

| <i>Item/Issue</i>  | <i>Response</i>  |
|--|--|
| 1. The sizing of bunded areas serving the dangerous goods storage areas. | The Dangerous Goods consultant agrees with the EPA's calculation of the figures for the spill containment requirements when taking into account non-liquid chemicals. A statement to this effect is provided by the DG's consultant as <b>Attachment 1</b> . It is proposed that bunding in warehouse expansion & DG area combined is provided (containment of 319,648L including 193,648L for the dangerous goods store and 126,000L for remainder of warehouse). The height of this bund would be 23mm.  |
| 2. Stormwater management of the breezeway.                               | Please see revised plans ( <b>Attachment 2</b> ) and report ( <b>Attachment 3</b> ) attached which indicate new bunding for the breezeway as discussed.  |
| 3. Stormwater management of the trafficable areas of the premises.       | EPA confirmed during meeting that this was resolved following clarification. The attached plans have been updated to reflect the intended design in a clearer manner.  |
| 4. The location of the proposed stormwater isolation valves.             | Please see updated plans indicating isolation of loading dock as discussed at the meeting with EPA.  |
| 5. The location of Stormwater 360 Vortech Hydrodynamic Separation Unit.  | Location of the Vortech GPT unit has been positioned in the last stormwater pit receiving inflow. Drawing Co8753.08-DA41 shows that the GPT is located at the most downstream pit that receives stormwater. The pit which is downstream of the GPT is a sealed junction pit which does not allow entry of stormwater. A grated drain has been introduced to capture stormwater from the driveway however no adjustment to the location of the GPT is considered necessary. EPA confirmed during meeting that this was resolved following this clarification. |

|  |   |
|--|---|
| 6. The wastewater management of the proposed vehicle washing facility. | The connection between the truck wash bay and the stormwater system erroneously shown on the plans during the Test of Adequacy stage was removed in the final submission. This has been updated on plan.<br><br>Management of the waste within the truck wash bay will be dealt with by a qualified hydraulics engineer at the detailed design stage, prior to the issue of a Construction Certificate. Specific requirements can also be applied as Conditions of Approval. As discussed, it is intended to have the roof of the truck wash overhang at an angle of 12 degrees as required by the EPA. |
| 7. The location of the forklift vehicle servicing area.                | Mainfreight will charge forklifts internally however those spaces are yet to be determined.   |
| 8. The stormwater management of the loading dock.                      | As discussed, this Item is linked to Item 4 and shown on revised plans.   |
| 9. The sizing of the proposed sediment dam.                            | The design proposes to utilise the existing basin and an additional basin. Drawing Co8753.08-DA20 clearly shows calculations which have been completed in accordance with the Blue Book.<br>EPA acknowledged this is now resolved based on clarifications.  |

Please call to discuss should you have any queries or concerns or require further information in relation to this matter.

Yours Faithfully,



Nathaniel Murray  
 Planning Manager  
 McKenzie Group Consulting Planning (NSW) Pty Ltd  
 ACN 146 035 707

***Attachments***

- Attachment 1 Dangerous Goods Statement
- Attachment 2 Revised Civil Engineering Plans
- Attachment 3 Revised Civil Engineering Report

**Attachment 1      Dangerous Goods Statement**



## Mainfreight Expansion, Prestons, NSW

### Response to EPA Spill Containment Requirements

Prepared by: Neil Browne  
Snr Risk Consultant  
One Group ID

Date: 9<sup>th</sup> May 2013

The Department of Planning and Infrastructure reviewed the submission for Mainfreight Prestons in consultation with Council and other agencies and advised that some items were to be addressed. A review of the response to item 6 showed a difference in the manner for calculating the spill containment capacity for the warehouse using the method described in AS 3833 compared with that from the EPA. The response to item 6 has been updated using the EPA method for calculating the spill containment capacity.

---

#### DoP&I Request for Further Information

- 6 The PHA outlines the capacity for the internal bunds to contain spills and fire water. The EPA considers that the capacity of the bunds to contain spills and fire-water has been underestimated. The PHA states that the bunds should be of sufficient size to capture 25% of the products to be stored in the bunded areas plus 20 minutes of fire water. The EPA guideline *Storing and Handling of Liquids: Environmental Protection* (DECC, 2007) states that for facilities storing small containers (eg. drums) bunds should be of sufficient size to capture 25% of the total volume of the stored products plus a further 10% to contain fire water. EPA's review of the proposed bunds indicates that the capacity has been grossly underestimated. The proponent must review the sizing of the bunds in accordance with the above guideline for the proposal and revise the EIS accordingly.

#### Response

The spill containment capacities for the DG store have been revised upwards using the EPA guideline rather than the requirements of AS 3833 (section 8.2 of the PHA). The AS 3833 requirement will also be met by this revised capacity.

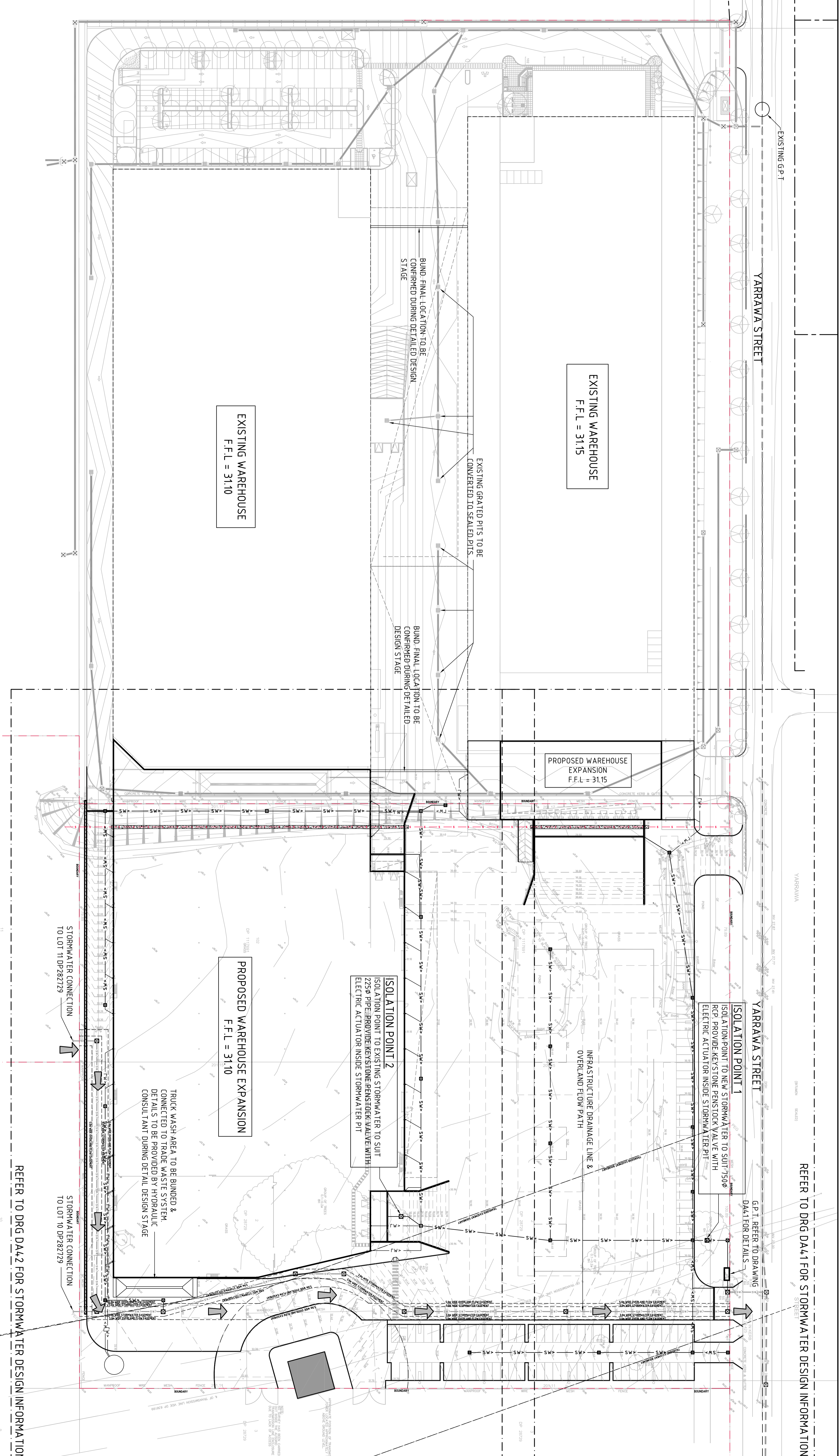
The proposed controls for the containment of spills and fire-water are;

- Internal bunded spill compounds in the Dangerous Goods Store was originally determined in accordance with the requirements from AS 3833. These have been revised to include all stored product (liquids and solids) for the calculation of the spill containment capacity in accordance with the requirements of the EPA.

|                        |           |
|------------------------|-----------|
| Dangerous Goods Store  | 193,648 L |
| Remainder of Warehouse | 126,000 L |
| Total                  | 319,648 L |

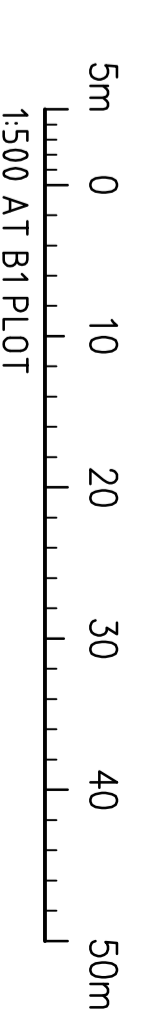
- Spill containment for entire new warehouse storage areas capable of containing at least 319,648 L, including that for the Dangerous Goods Store above. This will be achieved by including a bund wall around the inside perimeter of the new store with roll-over humps/ramps at entrances for vehicles, including forklifts, or provision of sumps or pits for capture of dangerous goods spills. Drawings and documentation will be developed as part of the detail design process.
- Recessed Loading Dock capable of containing up to 280,000 L.
- Valve for isolation of stormwater run-off.


**Attachment 2      Revised Civil Engineering Plans**




  
**CONCEPT STORMWATER MASTER PLAN**
  
 1:500

**FOR DEVELOPMENT APPLICATION**



|                               |    |  |         |            |       |
|-------------------------------|----|--|---------|------------|-------|
| FOR DEVELOPMENT APPLICATION   |    | 08.05.13   | B       |            |       |
| FOR DEVELOPMENT APPLICATION   |    | 10.04.13   | A       |            |       |
| AMENDMENTS                    |    | DATE   | ISSUE   | AMENDMENTS |       |
| CLIENT                        |    | <br>LEVEL 11<br>30 Kent Street<br>NSW 2000 Australia<br>Tel: (02) 9239 7400<br>Fax: (02) 9239 7444 |         |            |       |
| PROJECT                       |    | <b>PROPOSED MAINFREIGHT EXPANSION</b><br>26 YARRAWA ST, PRESTONS, NSW  |         |            |       |
| DESIGNED                      | BY | DATE   | CHECKED | DATE       | SCALE |
| NW                            | HC | 12.07.12   | AL      | AS         | 500MM |
| COSTIN ROE CONSULTING PTY LTD |    | CONSULTING ENGINEERS<br>Level 1, 8 Windmill Street<br>Maitland, Sydney NSW 2100<br>Tel: (02) 9550 8800<br>Fax: (02) 9550 8800<br>email: maitland@costinroe.com.au                    |         |            |       |
| DRAWING TITLE                 |    | <b>CONCEPT STORMWATER MASTER PLAN</b>  |         |            |       |
| DRAWING No                    |    | <b>C08753-08-DA4.0</b>   |         |            |       |
| ISSUE                         |    | <b>B</b>   |         |            |       |



**Attachment 3      Revised Civil Engineering Report**

# **CIVIL ENGINEERING REPORT FOR STATE SIGNIFICANT DEVELOPMENT MAINFREIGHT EXPANSION**

## **PROPOSED DEVELOPMENT AT**

## **YARRAWA ROAD PRESTONS NSW**

*Prepared For:*

**GOODMAN  
c/- McKenzie Group  
Suite 601, Level 6  
189 Kent Street  
SYDNEY NSW 2000**

*Prepared by:*

**Costin Roe Consulting  
Level 1, 8 Windmill Street  
WALSH BAY NSW 2000**

*Rev: C*

**DOCUMENT VERIFICATION**

|                       |   |
|-----------------------|---|
| <b>Project Title</b>  | Mainfreight Expansion, Yarrowa Rd Prestons                    |
| <b>Document Title</b> | Civil Engineering Report for SSD application                  |
| <b>Project No.</b>    | Co8753.08   |
| <b>Description</b>    | Civil engineering report for proposed industrial development. |
| <b>Client Contact</b> | Mr Nathaniel Murray, GOODMAN c/- McKenzie Group               |

|                    | <b>Name</b>          | <b>Signature</b> |
|--------------------|----------------------|------------------|
| <b>Prepared by</b> | Mark Wilson          |                  |
| <b>Checked by</b>  | Grant Roe            |                  |
| <b>Issued by</b>   | Mark Wilson          |                  |
| <b>File Name</b>   | 8753.08-02c.rpt.docx |                  |

**Document History**

| <b>Date</b>  | <b>Revision</b> | <b>Issued to</b>                     | <b>No. Copies</b> |
|--------------|-----------------|--------------------------------------|-------------------|
| 21 Dec. 2012 | DRAFT           | McKenzie Group – Mr Nathaniel Murray | PDF               |
| 20 Feb. 2013 | A               | McKenzie Group – Mr Nathaniel Murray | PDF               |
| 10 Apr. 2013 | B               | McKenzie Group – Mr Nathaniel Murray | PDF               |
| 21 May 2013  | C               | McKenzie Group – Mr Nathaniel Murray | PDF               |

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# **1 INTRODUCTION**

## **1.1 Background**

Goodman propose to expand an existing warehouse and office facility for Mainfreight Transport at Yarrawa Road, Prestons, NSW.

Works involve construction of a large single level warehouse with ancillary offices, truck circulation and loading areas and associated parking.

## **1.2 Scope**

Costin Roe Consulting Pty Ltd has been commissioned by McKenzie Group on behalf of Goodman to prepare this Engineering Report in support of the proposed application for development of the site.

This report provides a summary of the design principles and planning objectives for the following civil engineering components of the project:

- Earthworks & Retaining Walls;
- Stormwater Management including stormwater quantity and quality; and
- Erosion Control.

The engineering objectives for the development are to create a site which, based on the proposed architectural layout, responds to the topography and site constraints and to provide an appropriate and economical stormwater management system which incorporates best practice in water sensitive urban design and is consistent with the requirements of council's water quality objectives.

A set of drawings have been prepared to show the proposed finished levels, retaining walls, stormwater drainage layout, water quantity and water quality requirements for the development. These drawings are conceptual only and subject to change during detail design.

## **1.3 Authority Jurisdiction**

The development is considered a State Significant Development and hence the consent authority is The NSW Department of Planning and Infrastructure. The development is subject to Director General's Environmental Assessment Requirements dated 1 February 2013, application number SSD-5746.

In addition, as the subject site is located within Liverpool City Council area, the engineering requirements of the Liverpool City Council (LCC) also apply.

## 2 SITE CHARACTERISTICS

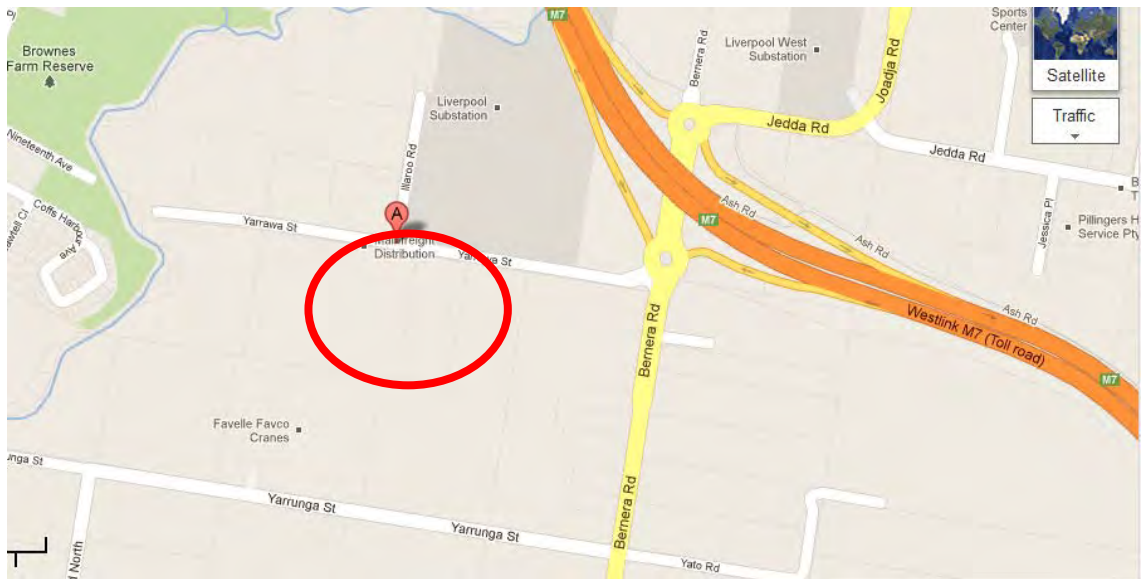
### 2.1 Proposed Development

The proposed development is for an expansion of the existing distribution facility for Mainfreight. The existing Mainfreight Facility comprises two large single level warehouses with finished floor level of 31.10m (AHD). The proposed development is for the extension of the southern most of the two warehouse buildings on the eastern side. Development will also comprise hardstand and truck unloading areas, ancillary office space and car parking areas.

### 2.2 Location

The proposed development is located in the suburb of Prestons on Yarrowa Road as shown in Figure 2.1.

The site is bounded by the existing Mainfreight Facility on the west, Yarrowa Road to the north and undeveloped industrial zoned land to the east and south.



**Figure 2.1. Locality Map**

### 2.3 Topography & Description

The site comprises undeveloped former rural land with a site area of 3.64 Ha.

The sites natural gradient drops 7m from the high point in the south-west corner to the low point at the north-east corner of the site. The highest elevation is approximately RL 36.0m (AHD) and the lowest at RL 29.0m.

The eastern portion of the site is burdened by a wide easement for electricity transmission. High voltage transmission lines and a transmission tower associated with this easement are present.

## 2.4 Existing/ Inter-allotment Stormwater Drainage

There is no existing formalised drainage system on the site. Stormwater flows are currently conveyed overland to the Yarrawa Road drainage system in the form of sheet flow.

There are currently no inter-allotment drainage lines present over the site. Inter-allotment lines will however be required to drain the two lots to the south of the subject development which front Yarrunga Street. A development application with Liverpool City Council has been lodged which is currently being assessed. A minor amendment to this application will be required to suit the current architectural layout of this development which requires adjustment to the proposed piped stormwater alignment and overland flow path alignment. The proposed alignment for the inter-allotment drainage lines are along the southern boundary and along the eastern portion of the development allowing for the requirements of the electrical transmission line and tower easement present on the site. Allowance for the conveyance of overland flow has been made in the design of the development.

## 2.5 Proposed Stormwater Drainage System

As per general engineering practice and the guidelines of LCC, the proposed stormwater drainage system for the development will comprise a minor and major system to safely and efficiently convey collected stormwater run-off from the development.

The minor system is to consist of a piped drainage system which has been designed to accommodate the 1 in 20-year ARI storm event (Q20). This results in the piped system being able to convey all stormwater runoff up to and including the Q20 event. The major system through new paved areas has been designed to cater for storms up to and including the 1 in 100-year ARI storm event (Q100). The major system employs the use of defined overland flow paths to safely convey excess run-off from the site.

The design of the stormwater system for this site will be based on relevant national design guidelines, Australian Standard Codes of Practice, the standards of LCC and accepted engineering practice. Runoff from buildings will generally be designed in accordance with AS 3500.3 National Plumbing and Drainage Code Part 3 – Stormwater Drainage. Overall site runoff and stormwater management will generally be designed in accordance with the Institution of Engineers, Australia publication “Australian Rainfall and Runoff” (1988 Edition), Volumes 1 and 2 (AR&R).

Water quality and re-use are to be considered in the design, throughout new paved areas, to ensure that any increase in the detrimental effects of pollution are mitigated, LCC Water Quality Objectives are met and that the demand on potable water resources is reduced.

Plans of the proposed stormwater drainage layout can be found on drawings **Co8753.08-DA41 & DA42** and are located in **Appendix A**.

### **3 SITE WORKS**

#### **3.1 Bulk Earthworks**

Bulk earthworks will be performed to facilitate the construction of the warehouse expansion.

Detailed earthworks are not included as part of this application however the existing building levels and architectural layout for the expansion will require extensive cutting of the site. The proposed pad level for the building will be approximately 4-5m below existing surface levels and it is expected that cut volumes of 35,000m<sup>3</sup> will be generated from the site.

Soil Erosion and Sediment Control measures including sedimentation basins will also be provided for the development – please refer to the Soil and Water Management Plan in **Section 7** of this report.

#### **3.2 Embankment Stability**

To assist in maintaining embankment stability permanent batters slopes will be no steeper than 3 horizontal to 1 vertical while temporary batters will be no steeper than 2 horizontal to 1 vertical. This is in accordance with the recommended maximum batter slopes for residual clays and shale which are present in the area.

Permanent batters will also be adequately vegetated or turfed which will assist in maintaining embankment stability.

Stability of batters and reinstatement of vegetation shall be in accordance with the submitted drawings and the Soil and Water Management Plan in Section 5.

#### **3.3 Supervision of Earthworks**

All geotechnical testing and inspections performed during the earthworks operations will be undertaken to Level 1 geotechnical control, in accordance with AS3798-1996.

#### **3.4 Retaining Walls**

Due to the cut required for the development, retaining along the southern boundary will be required. The retaining will be up to 4.5m in height and will comprise either soldier pile & shot-crete system or a segmental block system with no-fines concrete backfill.

## **4 STORMWATER HYDROLOGICAL MODELLING AND ANALYSIS**

### **4.1 General Design Principles**

The design of the stormwater system for this site will be based on relevant national design guidelines, Australian Standard Codes of Practice, Liverpool City Council Development Design Specification D5: Stormwater Drainage, Liverpool City Council On-site Detention Policy, Liverpool City Council Handbook for Drainage Design Criteria and accepted engineering practice.

Runoff from buildings will generally be designed in accordance with AS 3500.3 National Plumbing and Drainage Code Part 3 – Stormwater Drainage.

Overall site runoff and stormwater management will generally be designed in accordance with the Institution of Engineers, Australia publication “Australian Rainfall and Runoff” (1987 Edition), Volumes 1 and 2 (AR&R).

Storm events for the 2 to 100 Year ARI events have been assessed.

### **4.2 Minor/ Major System Design**

The piped stormwater drainage (minor) system has been designed to accommodate the 20-year ARI storm event (Q20). Overland flow paths (major) which will convey all stormwater runoff up to and including the Q100 event have also been provided which will limit major property damage and any risk to the public in the event of a piped system failure.

### **4.3 Rainfall Data**

Rainfall intensity Frequency Duration (IFD) data used as a basis for ILSAX modelling for the 2 to 100 Year ARI events, was taken from *The Bureau of Meteorology Online IFD Tool*.

### **4.4 Runoff Models**

Calculation of the runoff from storms of the design ARI will be calculated with the catchment modelling software DRAINS.

The design parameters for the ILSAX model are to be based on typical values and parameters for the area and are as follows:

| Model | Model for Design and analysis run                | Rational method |    |
|-------|--|-----------------|----|
|       | Rational Method Procedure                        | ARR87           |    |
|       | Soil Type-Normal                                 | 3.0             |    |
|       | Paved (Impervious) Area Depression Storage       | 1               | mm |
|       | Supplementary Area Depression Storage            | 1               | mm |
|       | Grassed (Pervious) Area Depression Storage       | 5               | mm |
| AMC   | Antecedent Moisture Condition (ARI=1-5 years)    | 2.5             |    |
| AMC   | Antecedent Moisture Condition (ARI=10-20 years)  | 3.0             |    |
| AMC   | Antecedent Moisture Condition (ARI=50-100 years) | 3.5             |    |
|       | Sag Pit Blocking Factor (Minor Systems)          | 0               |    |
|       | On Grade Pit Blocking Factor (Minor Systems)     | 0               |    |
|       | Sag Pit Blocking Factor (Major Systems)          | 0.5             |    |
|       | On Grade Pit Blocking Factor (Major Systems)     | 0.2             |    |
|       | Minor Storm Pit Freeboard                        | 150             | mm |

**Table 4.1: DRAINS ILSAX Parameters**

## 4.5 Hydraulics

### 4.5.1 General Requirements

Hydraulic calculations will be carried out utilising DRAINS modelling software during the detail design stage to ensure that all surface and subsurface drainage systems perform to or exceed the required standard.

### 4.5.2 Freeboard

The calculated water surface level in open junctions of the piped stormwater system will not exceed a freeboard level of 150mm below the finished ground level, for the peak runoff from the Minor System runoff. Where the pipes and junctions are sealed, this freeboard would not be required.

### 4.5.3 Public Safety

For all areas subject to pedestrian traffic, the product ( $dV$ ) of the depth of flow  $d$  (in metres) and the velocity of flow  $V$  (in metres per second) will be limited to 0.4, for all storms up to the 100-year ARI.

For other areas, the  $dV$  product will be limited to 0.6 for stability of vehicular traffic (whether parked or in motion) for all storms up to the 100-year ARI.

#### 4.5.4 Inlet Pit Spacing

The spacing of inlets throughout the site will be such that the depth of flow, for the Major System design storm runoff, will not exceed the top of the kerb (150mm above gutter invert).

#### 4.5.5 Overland Flow

Dedicated flow paths have been designed to convey all storms up to and including the 100-year ARI. These flow paths will convey stormwater from the site to the detention basin adjacent to Lenore Lane and trunk drainage system.

### 4.6 External Catchments

The properties to the south of the development site (which front Yarrunga St) drain to the north and across the development site. As previously discussed, inter-allotment drainage will be provided for these properties and this is subject to a separate development application currently being assessed by Liverpool City Council. There is allowance for Q20 ARI storm events to be piped and Q100 ARI flows to be conveyed through the site as overland flow. A minor amendment to the proposed inter-allotment drainage line alignment will be required to accommodate the current architectural layout.

### 4.7 Flooding

The site is located approximately 450m east of Cabramatta Creek. The flooding characteristics of the creek are outlined in the *Cabramatta Creek Floodplain Management Study & Plan 2004* produced by Bewsher Consulting Pty Ltd. Figure 3.5 of this report shows that the site is not subject to Q100 ARI flooding however it is at or near to the edge of the PMF flood extent. An excerpt of Figure 3.5 from the Bewsher report has been shown following as Figure 4.1.

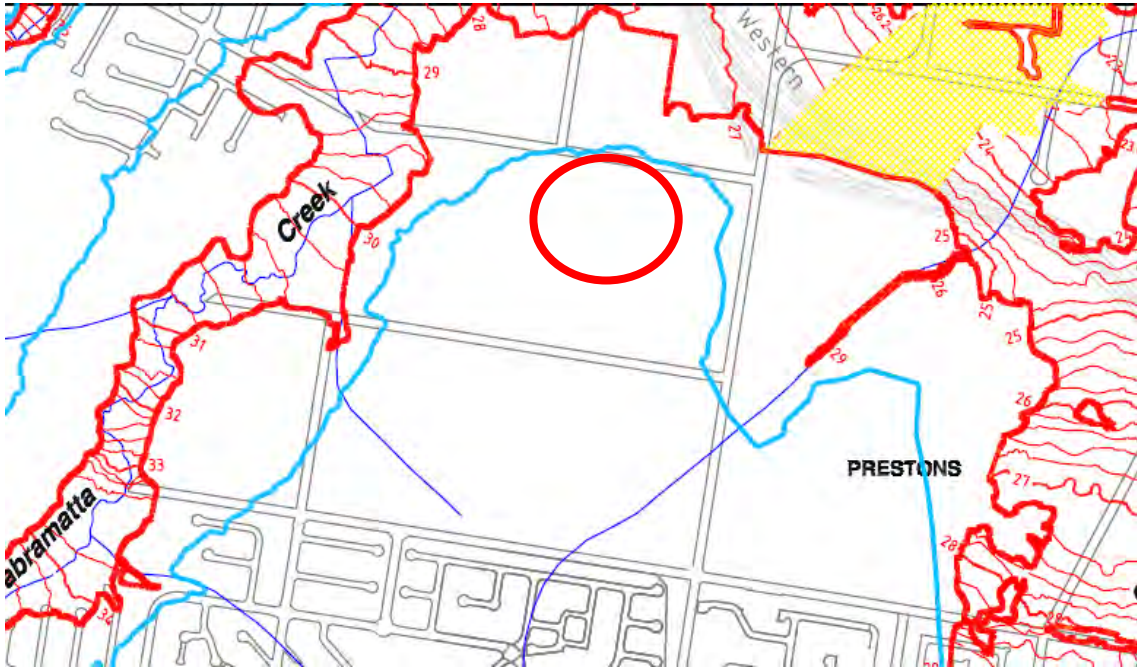


Figure 4.1. Excerpt of Figure 3.5 from *Cabramatta Creek Floodplain Management Study & Plan 2004* produced by Bewsher Consulting Pty Ltd.

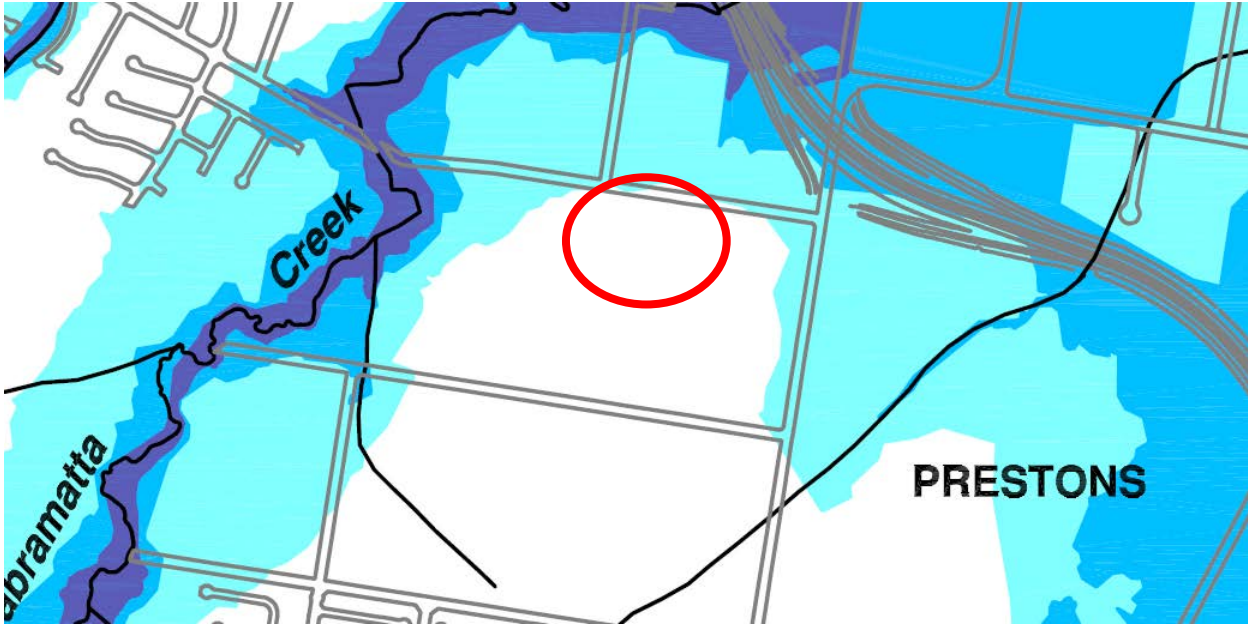


Figure 4.2. Excerpt of "Risk Management Precinct Plan" from *Cabramatta Creek Floodplain Management Study & Plan 2004* produced by Bewsher Consulting Pty Ltd.

The above figures show that the proposed site is located outside of the low risk flood management zone and that the Q100 flood level for the adjacent creek is approximately RL 30m (AHD) in line with the rear boundary and RL 29.5m (AHD) in line with the street boundary.

The proposed floor level for the building of RL 31.1m (AHD) will be clear of the Q100 flood level and allows for appropriate freeboard requirements.

Although the above figures show that Yarrawa Road will be clear of the Q100 flood level, detail levels of the road suggest that the road will be inundated during the Q100 flood event. This would also suggest that high tailwater levels would also exist during smaller ARI storm events.

## **5 WATER QUANTITY MANAGEMENT**

### **5.1 General Design Principles**

Liverpool City Council (in common with many other local authorities) adopts the principles of Water Quantity Management, also known as “On-site Detention (OSD)”, to ensure the cumulative effect of development does not have a detrimental effect on the existing stormwater infrastructure and watercourses located within their LGA downstream from the particular site.

Councils On-site Detention Policy requires that “*there will be no adverse impact from stormwater runoff on downstream properties as a result of the development for all storm events up to and including a 100 year Average Recurrence Interval (ARI) event*”.

### **5.2 Proposed Water Quantity Management**

As previously discussed, although the site is not within the flood zone of Cabramatta Creek, Yarrunga Road and the connecting drainage network will be within the Cabramatta Creek flood zone. High tailwater conditions will be present for the major Q100 design storm and also the Q20 minor storm drainage systems.

The recent Yarrawa Road upgrade, performed in conjunction with the current Mainfreight Facility, included a minor system which will cater for the un-attenuated Q20 flow from the development lots in Yarrawa Road. The existing Mainfreight Facility does not incorporate OSD in its stormwater management.

The Liverpool Council OSD policy allows for OSD to not be provided where the increased discharge can be incorporated by the existing stormwater system or where the site is substantially inundated by flooding. We do not propose any OSD on this site due to the above requirements and previous discussions with Liverpool Council regarding development sites on Yarrawa Road.

Further, due to the extensive flooding in the area, negation of OSD on this site is not expected to create any adverse impact on downstream properties as a result of the increased runoff.

## 6 STORMWATER QUALITY CONTROLS

### 6.1 Regional Parameters

There is a need to provide design which incorporates the principles of Water Sensitive Urban Design (WSUD) and to target pollutants that are present in the stormwater so as to minimise the adverse impact these pollutants could have on receiving waters and to also meet the requirements specified by Liverpool City Council.

LCC have nominated, in Section D7.02 of their *Development Design Specification D7: Erosion Control and Stormwater Management*, the aims for stormwater quality during operational phase of the development are to:

- Control runoff and sediment movement at its point source rather than at one final point;
- Provide an effective major stormwater system economical in terms of capital, operational and maintenance costs, incorporating water quality controls; and
- Avoid the adverse impacts of sediment on water quality which may include reduced light penetration, increased chemical pollutants, loss of aesthetic appeal and smothering of aquatic plants or habitat.

### 6.2 Proposed Stormwater Treatment System

Roof, hardstand, car parking, roads and other extensive paved areas will be treated by the Stormwater Treatment Measures (STM's). The STM's shall be sized according to the whole catchment area of the expansion development. The STM's for the development shall be based on a treatment train approach as discussed in the NSW EPA document *Managing Urban Stormwater: Treatment Techniques* to ensure that all of the above objectives are met.

The proposed stormwater treatment system for the development is the Stormwater360 Vortech Hydrodynamic Separation Unit. The expected reduction of pollutants for the development are as follows:

- Gross Pollutants >98% reduction
- Total Suspended Solids >70% reduction
- Total Nitrogen 0% reduction
- Total Phosphorous >30% reduction

An oil baffle will also be specified which will ensure reductions in hydrocarbons and oils are made such that the requirements of the Liverpool City Council have been met.

### 6.3 Spill Containment

The existing breezeway and new operational areas are proposed to be utilised for loading and unloading of dangerous goods (DG). It is proposed to bund the existing breezeway and the seal the surface inlet stormwater pits within this area.

Isolation points have been proposed for the new stormwater system for the expansion area. The isolation points are located in the recess dock and at the downstream end of the drainage system. The purpose of the isolation valves is to limit the potential for harmful chemicals leaving the site and entering the downstream receiving waters.

The proposed isolation system is Penstock type valves which are automatically operated via an electrical actuator. The actuators will be triggered by an alarm system which forms part of Mainfreight's Operational policy. The design of the isolation system will be fully detailed during the detail design stage and concept design for this is provided as part of the development application.

### 6.4 Stormwater Harvesting

Stormwater harvesting refers to the collection of stormwater from the developments internal stormwater drainage system for re-use in non-potable applications. Stormwater from the stormwater drainage system can be classified as either rainwater where the flow is from roof areas only, or stormwater where the flow is from all areas of the development.

For the purposes of this development, we refer to a rainwater harvesting system, where benefits of collected stormwater from roof areas over a stormwater harvesting system can be made as rainwater is generally less polluted than stormwater drainage.

Rainwater harvesting is proposed for this development with re-use for non-potable applications. Internal uses include such applications as toilet flushing while external applications will be used for irrigation. The aim is to reduce the water demand for the development and to satisfy the requirements of Liverpool Council.

In general terms the rainwater harvesting system will be an in-line tank for the collection and storage of rainwater. At times when the rainwater storage tank is full rainwater can pass through the tank and continue to be discharged via gravity into the stormwater drainage system. Rainwater from the storage tank will be pumped for distribution throughout the development in a dedicated non-potable water reticulation system.

Rainwater reuse is provided on the existing facility in the form of a 100kL rainwater tank which services the truck wash, irrigation and toilet flushing. The need for additional rainwater reuse will be assessed during the detail design stage of the project. Any additional rainwater tanks will be sized with reference to the NSW Department of Environment and Conservation document *Managing Urban Stormwater: Harvesting and Reuse*, using a simple water balance analysis to balance the supply and demand as part of the detailed design analysis stage of the project.

## 6.5 Maintenance and Monitoring

It is important that each component of the water quality treatment train is properly operated and maintained. In order to achieve the design treatment objectives, an indicative maintenance schedule has been prepared (refer to **Table 6.1** below) to assist in the effective operation and maintenance of the various water quality components.

Note that inspection frequency may vary depending on site specific attributes and rainfall patterns in the area. In addition to the below nominated frequency it is recommended that inspections are made following large storm events.

**Table 6.1. Indicative Maintenance Schedule**

| <b>MAINTENANCE ACTION</b>  | <b>FREQUENCY</b>                  | <b>RESPONSIBILITY</b>  | <b>PROCEDURE</b>   |
|--|-----------------------------------|------------------------|--|
| <b>SWALES/ LANDSCAPED AREAS</b>  |                                   |                        |  |
| Check density of vegetation and ensure minimum height of 150mm is maintained. Check for any evidence of weed infestation | Six monthly                       | Maintenance Contractor | Replant and/or fertilise, weed and water in accordance with landscape consultant specifications                    |
| Inspect swale for excessive litter and sediment build up   | Six monthly                       | Maintenance Contractor | Remove sediment and litter and dispose in accordance with local authorities' requirements.                         |
| Check for any evidence of channelisation and erosion   | Six monthly/<br>After Major Storm | Maintenance Contractor | Reinstate eroded areas so that original, designed swale profile is maintained                                      |
| Weed Infestation   | Three Monthly                     | Maintenance Contractor | Remove any weed infestation ensuring all root ball of weed is removed. Replace with vegetation where required.     |
| Inspect swale surface for erosion  | Six Monthly                       | Maintenance Contractor | Replace top soil in eroded area and cover and secure with biodegradable fabric. Cut hole in fabric and revegetate. |
| <b>RAINWATER TANK</b>  |                                   |                        |  |
| Check for any clogging and blockage of the first flush device  | Monthly                           | Maintenance Contractor | First flush device to be cleaned out   |

| <b>MAINTENANCE ACTION</b>   | <b>FREQUENCY</b>                                     | <b>RESPONSIBILITY</b>  | <b>PROCEDURE</b>   |
|---|--|------------------------|--|
| Check for any clogging and blockage of the tank inlet - leaf/litter screen              | Six monthly  | Maintenance Contractor | Leaves and debris to be removed from the inlet leaf/litter screen  |
| Check the level of sediment within the tank   | Every two years                                      | Maintenance Contractor | Sediment and debris to be removed from rainwater tank floor if sediment level is greater than the maximum allowable depth as specified by the hydraulic consultant |
| <b>INLET &amp; JUNCTION PITS</b>  |  |                        |  |
| Inside of Pit   | Six Monthly  | Maintenance Contractor | Remove grate and inspect internal walls and base, repair where required. Remove any collected sediment, debris, litter.  |
| Outside of Pit  | Four Monthly/<br>After Major Storm                   | Maintenance Contractor | Clean grate of collected sediment, debris, litter and vegetation.  |
| <b>STORMWATER SYSTEM</b>  |  |                        |  |
| General Inspection of complete stormwater drainage system                               | Bi-annually  | Maintenance Contractor | Inspect all drainage structures noting any dilapidation in structures and carry out required repairs.  |
| <b>VORTECH HYDRODYNAMIC SEPARATION UNIT</b>   |  |                        |  |
| Refer Manufacturers Operation and Maintenance Manuel                                    | Refer Manufacturers Operation and Maintenance Manuel | Maintenance Contractor | Refer Manufacturers Operation and Maintenance Manuel   |
| <b>PENSTOCK ISOLATION VALVES</b>  |  |                        |  |
| Refer general items for inlet & junction pits   | Four-six monthly & after major storm                 | Maintenance Contractor | Remove grate and inspect internal walls and base, repair where required. Remove any collected sediment, debris, litter.  |
| Refer Manufacturers Operation and Maintenance Manuel for specific items relating to the | Refer Manufacturers Operation and Maintenance        | Maintenance Contractor | Refer Manufacturers Operation and Maintenance Manuel   |

| <b>MAINTENANCE ACTION</b>                      | <b>FREQUENCY</b> | <b>RESPONSIBILITY</b> | <b>PROCEDURE</b> |
|--|------------------|-----------------------|------------------|
| operation of the valve and actuator operation. | Manuel           |                       |                  |

## 7 EROSION & SEDIMENT CONTROL PLAN

An erosion and sediment control plan (ESCP) is shown on drawings Co8753.08-DA20 and DA21. These are conceptual plans only providing sufficient detail to clearly show that the works can proceed without undue pollution to receiving waters. A detailed plan will be prepared once consent is given and before works start.

### 7.1 General Conditions

1. The ESCP will be read in conjunction with the engineering plans, and any other plans or written instructions that may be issued in relation to development at the subject site.
2. Contractors will ensure that all soil and water management works are undertaken as instructed in this specification and constructed following the guidelines stated in Managing Urban Stormwater, Soils and Construction (1998) and LCC specifications.
3. All subcontractors will be informed of their responsibilities in minimising the potential for soil erosion and pollution to down slope areas.

### 7.2 Land Disturbance

1. Where practicable, the soil erosion hazard on the site will be kept as low as possible and as recommended in Table 1

| Land Use           | Limitation   | Comments   |
|--------------------|--|--|
| Construction areas | Limited to 5 (preferably 2) metres from the edge of any essential construction activity as shown on the engineering plans. | All site workers will clearly recognise these areas that, where appropriate, are identified with barrier fencing (upslope) and sediment fencing (downslope), or similar materials.   |
| Access areas       | Limited to a maximum width of 5 metres   | The site manager will determine and mark the location of these zones onsite. They can vary in position so as to best conserve existing vegetation and protect downstream areas while being considerate of the needs of efficient works activities. All site workers will clearly recognise these boundaries. |
| Remaining lands    | Entry prohibited except for essential management works   |  |

**Table 1 Limitations to access**

### 7.3 Erosion Control Conditions

1. Clearly visible barrier fencing shall be installed as shown on the plan and elsewhere at the discretion of the site superintendent to ensure traffic control and prohibit unnecessary site disturbance. Vehicular access to the site shall be limited to only those essential for construction work and they shall enter the site only through the stabilised access points.
2. Soil materials will be replaced in the same order they are removed from the ground. It is particularly important that all subsoils are buried and topsoils remain on the surface at the completion of works.
3. Where practicable, schedule the construction program so that the time from starting land disturbance to stabilisation has a duration of less than six months.
4. Notwithstanding this, schedule works so that the duration from the conclusion of land shaping to completion of final stabilisation is less than 20 working days.
5. Land recently established with grass species will be watered regularly until an effective cover has properly established and plants are growing vigorously. Further application of seed might be necessary later in areas of inadequate vegetation establishment.
6. Where practical, foot and vehicular traffic will be kept away from all recently established areas
7. Earth batters shall be constructed in accordance with the Geotechnical Engineers Report or with as law a gradient as practical but not steeper than:
  - 2H:1V where slope length is less than 7 meters
  - 2.5H:1V where slope length is between 7 and 10 meters
  - 3H:1V where slope length is between 10 and 12 meters
  - 4H:1V where slope length is between 12 and 18 meters
  - 5H:1V where slope length is between 18 and 27 meters
  - 6H:1V where slope length is greater than 27 meters
8. All earthworks, including waterways/drains/spillways and their outlets, will be constructed to be stable in at least the design storm event.
9. During windy weather, large, unprotected areas will be kept moist (not wet) by sprinkling with water to keep dust under control. In the event water is not available in sufficient quantities, soil binders and/or dust retardants will be used or the surface will be left in a cloddy state that resists removal by wind.

#### **7.4 Pollution Control Conditions**

1. Stockpiles will not be located within 5 meters of hazard areas, including likely areas of high velocity flows such as waterways, paved areas and driveways.
2. Sediment fences will:
  - a) Be installed where shown on the drawings, and elsewhere at the discretion of the site superintendent to contain the coarser sediment fraction (including aggregated fines) as near as possible to their source.
  - b) Have a catchment area not exceeding 720 square meters, a storage depth (including both settling and settled zones) of at least 0.6 meters, and internal dimensions that provide maximum surface area for settling, and
  - c) Provide a return of 1 meter upslope at intervals along the fence where catchment area exceeds 720 square meters, to limit discharge reaching each section to 10 litres/second in a maximum 20 year  $t_c$  discharge.
3. Sediment removed from any trapping device will be disposed in locations where further erosion and consequent pollution to down slope lands and waterways will not occur.
4. Water will be prevented from directly entering the permanent drainage system unless it is relatively sediment free (i.e. the catchment area has been permanently landscaped and/or likely sediment has been treated in an approved device). Nevertheless, stormwater inlets will be protected.
5. Temporary soil and water management structures will be removed only after the lands they are protecting are stabilised.

#### **7.5 Waste Management Conditions**

Acceptable bind will be provided for any concrete and mortar slurries, paints, acid washings, lightweight waste materials and litter. Clearance service will be provided at least weekly.

#### **7.6 Site Inspection and Maintenance**

1. A self-auditing program will be established based on a Check Sheet. A site inspection using the Check Sheet will be made by the site manager:
  - At least weekly.
  - Immediately before site closure.
  - Immediately following rainfall events in excess of 5mm in any 24 hour period.

The self audit will include:

- Recording the condition of every sediment control device
- Recording maintenance requirements (if any) for each sediment control device
- Recording the volumes of sediment removed from sediment retention systems, where applicable
- Recording the site where sediment is disposed

- Forwarding a signed duplicate of the completed Check Sheet to the project manager/developer for their information
2. In addition, a suitably qualified person will be required to oversee the installation and maintenance of all soil and water management works on the site. The person shall be required to provide a short monthly written report. The responsible person will ensure that:
- The plan is being implemented correctly
  - Repairs are undertaken as required
  - Essential modifications are made to the plan if and when necessary

The report shall carry a certificate that works have been carried out in accordance with the plan.

3. Waste bins will be emptied as necessary. Disposal of waste will be in a manner approved by the Site Superintendent.
4. Proper drainage will be maintained. To this end drains (including inlet and outlet works) will be checked to ensure that they are operating as intended, especially that,
- No low points exist that can overtop in a large storm event
  - Areas of erosion are repaired (e.g. lined with a suitable material) and/or velocity of flow is reduced appropriately through construction of small check dams or installing additional diversion upslope.
  - Blockages are cleared (these might occur because of sediment pollution, sand/soil/spoil being deposited in or too close to them, breached by vehicle wheels, etc.).
5. Sand/soil/spoil materials placed closer than 2 meters from hazard areas will be removed. Such hazard areas include and areas of high velocity water flows (e.g. waterways and gutters), paved areas and driveways.
6. Recently stabilised lands will be checked to ensure that erosion hazard has been effectively reduced. Any repairs will be initiated as appropriate.
7. Excessive vegetation growth will be controlled through mowing or slashing.
8. All sediment detention systems will be kept in good, working condition. In particular, attention will be given to:
- a) Recent works to ensure they have not resulted in diversion of sediment laden water away from them
  - b) Degradable products to ensure they are replaced as required, and
  - c) Sediment removal, to ensure the design capacity or less remains in the settling zone.
9. Any pollutants removed from sediment basins or litter traps will be disposed of in areas where further pollution to down slope lands and waterways should not occur.
10. Additional erosion and/or sediment control works will be constructed as necessary to ensure the desired protection is given to down slope lands and waterways, i.e.

make ongoing changes to the plan where it proves inadequate in practice or is subjected to changes in conditions at the work site or elsewhere in the catchment.

11. Erosion and sediment control measures will be maintained in a functioning condition until all earthwork activities are completed and the site stabilised
12. Litter, debris and sediment will be removed from the gross pollutant traps and trash racks as required.

## 8 CONCLUSION

This Civil Engineering Details Report has been prepared to support a Development Application for the expansion of the existing Mainfreight Distribution Facility at Yarrawa Road, Prestons.

A civil engineering strategy for the site has been developed which provides a best fit solution within the constraints of the existing landform and proposed architectural layout. Within this strategy a stormwater quantity and quality management strategy has been developed to reduce both peaks flows and pollutant loads in stormwater leaving this site. The stormwater management for the development has been designed in accordance with the Liverpool City Councils Design Specification D5 & D7, OSD Policy and Stormwater Handbook for Design.

During the construction phase, a Sediment and Erosion Control Plan will be in place which ensures the downstream drainage system and receiving waters are protected from sediment laden runoff.

During the operational phase of the development, a treatment train incorporating the use of the proprietary Stormwater360 Vortech Hydrodynamic Separation system is proposed to mitigate the likely increase in stormwater pollutant load generated by the development. The expected pollution reduction from the Stormwater360 Vortech Hydrodynamic Separation unit are effective in reducing pollutant loads in stormwater discharging from the site and meet the requirements of council pollutant based reductions. Best Management Practices have been applied to the development to ensure that the quality of stormwater runoff is not detrimental to the receiving environment.

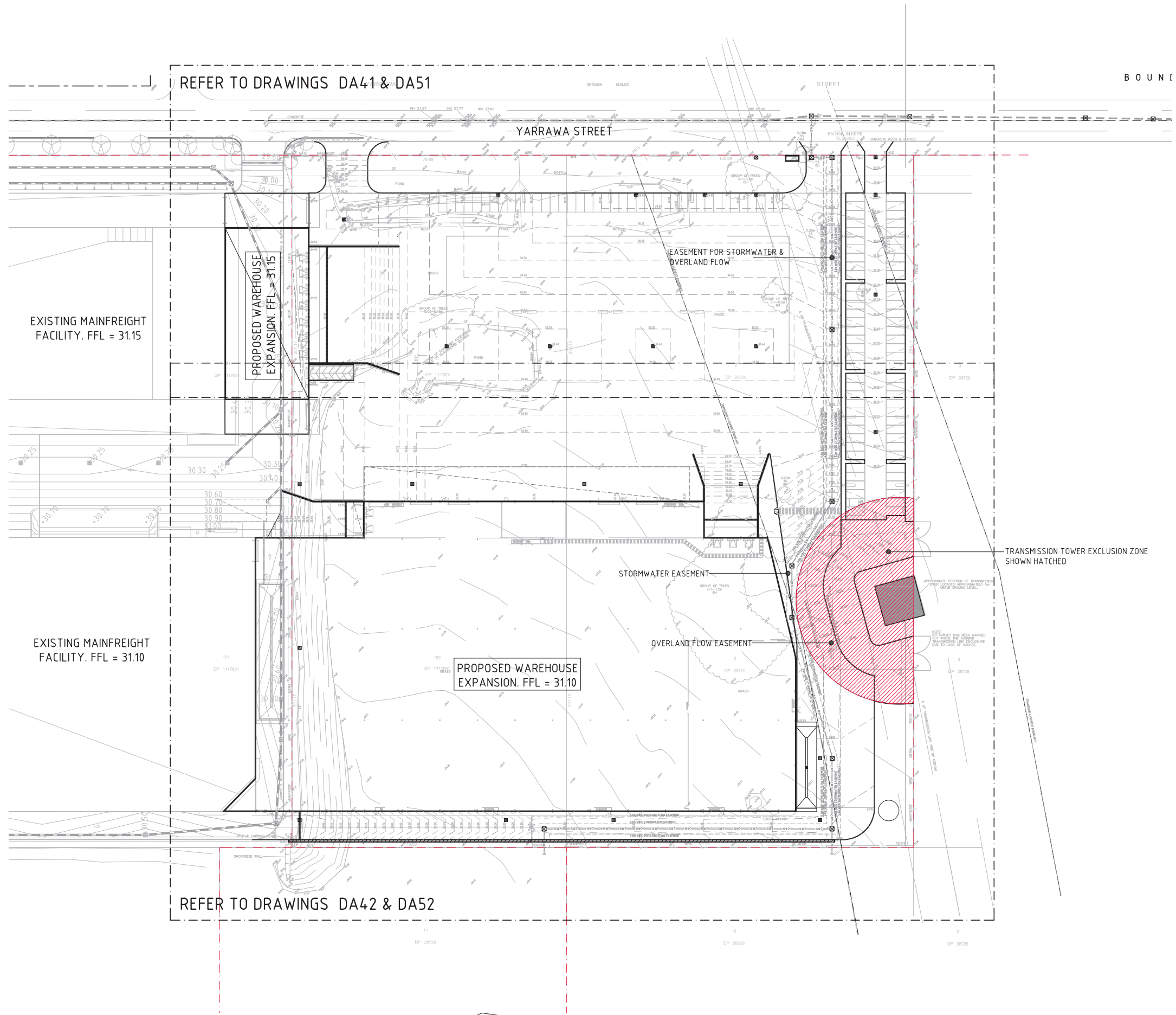
It is recommended that the management strategies mentioned in this report be incorporated into the future detailed design. Detailed design may result in changes to the concept however design criteria will be followed.

## 9 REFERENCES

- Cabramatta Creek Floodplain Management Study and Plan – 2004 (Bewsher Consulting Pty Ltd)
- Managing Urban Stormwater: Harvesting and Reuse – 2006 (NSW DEC);
- Managing Urban Stormwater: Source Control – 1998 (NSW EPA);
- Managing Urban Stormwater: Treatment Techniques – 1997 (NSW EPA);
- Managing Urban Stormwater: Soils & Construction – 2004(LANDCOM);
- Liverpool City Council – Development Specification D5 Stormwater Drainage Design;
- Liverpool City Council – Development Specification D7 Erosion Control & Stormwater Management; and
- Water Sensitive Urban Design – “Technical Guidelines for Western Sydney” by URS Australia Pty Ltd, May 2004

**Appendix A**  
**DRAWINGS BY COSTIN ROE CONSULTING**





REFER TO DRAWINGS DA41 & DA51

B O U N D

YARRAWA STREET

EXISTING MAINFREIGHT FACILITY. FFL = 31.15

PROPOSED WAREHOUSE EXPANSION. FFL = 31.15

EASEMENT FOR STORMWATER & OVERLAND FLOW

EXISTING MAINFREIGHT FACILITY. FFL = 31.10

PROPOSED WAREHOUSE EXPANSION. FFL = 31.10

STORMWATER EASEMENT

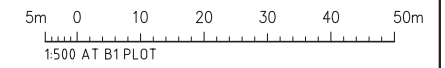
OVERLAND FLOW EASEMENT

TRANSMISSION TOWER EXCLUSION ZONE SHOWN HATCHED

REFER TO DRAWINGS DA42 & DA52



SITE MASTER PLAN  
1:500



**FOR DEVELOPMENT APPLICATION**

| AMENDMENTS                  | DATE     | ISSUE | AMENDMENTS | DATE | ISSUE | AMENDMENTS | DATE | ISSUE |
|-----------------------------|----------|-------|------------|------|-------|------------|------|-------|
| FOR DEVELOPMENT APPLICATION | 20.02.13 | B     |            |      |       |            |      |       |
| FOR INFORMATION             | 20.12.12 | A     |            |      |       |            |      |       |

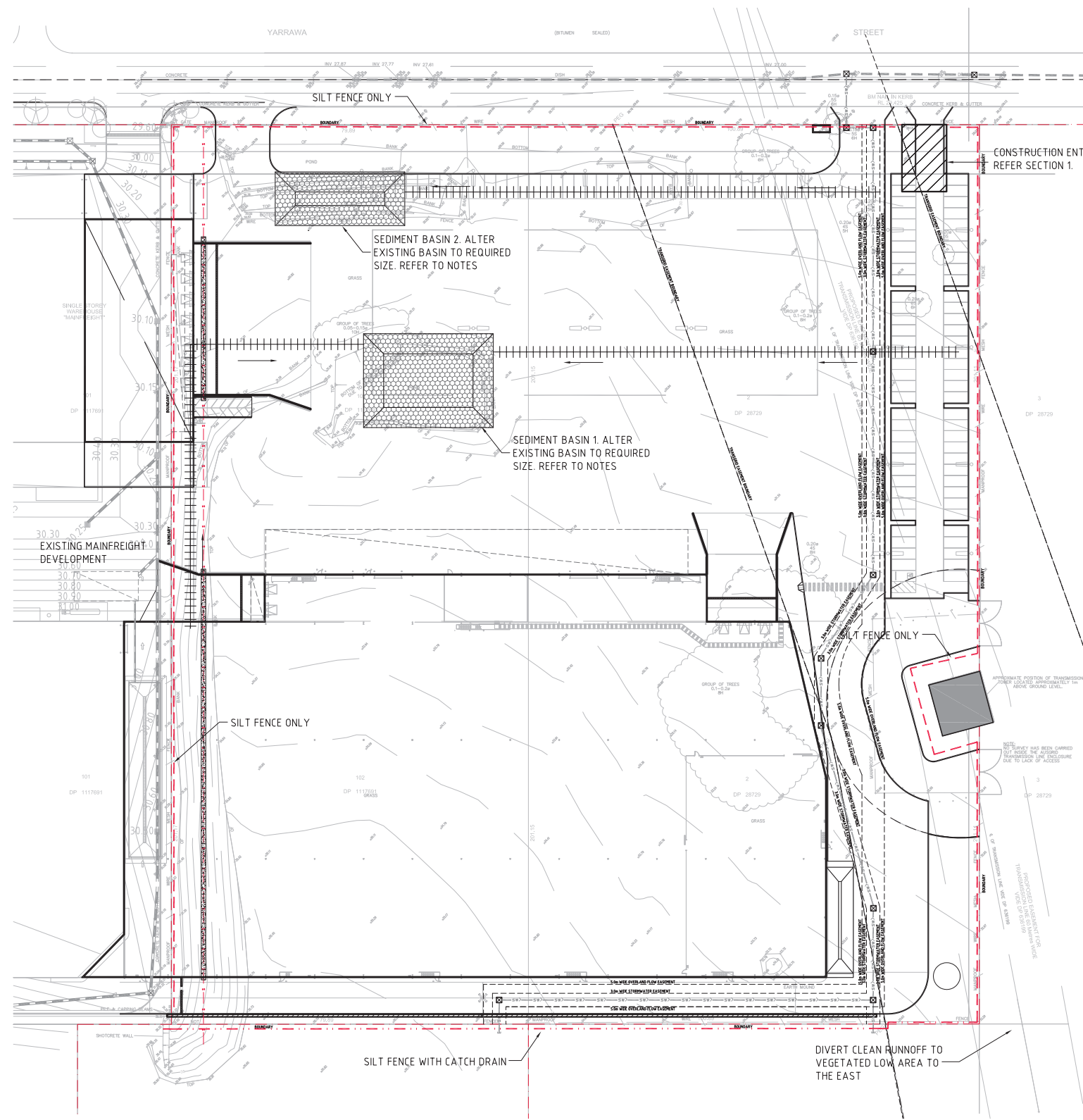
**CLIENT**  
**Goodman**  
LEVEL 17,  
60 Castlereagh Street  
SYDNEY  
NSW, 2000, Australia  
Tel: (02) 9230 7400  
Fax: (02) 9230 7444

**PROJECT**  
**PROPOSED MAINFREIGHT EXPANSION**  
26 YARRAWA ST, PRESTONS, NSW  
DESIGNED: MW  
DRAWN: MC  
DATE: 12.07.12  
CHECKED: AS SHOWN  
SCALE: A1

**Costin Roe Consulting Pty Ltd.**  
Consulting Engineers  
Level 1, 8 Windmill Street  
Wahah Bay, Sydney NSW 2000  
Tel: (02) 9551-7899 Fax: (02) 9551-3701  
email: mail@costinroe.com.au ©

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DRAWING TITLE  
**SITE MASTER PLAN**  
DRAWING No  
**Co8753.08-DA15**  
ISSUE  
**B**



**EROSION AND SEDIMENT CONTROL PLAN**  
1:500

**EROSION CONTROL NOTES**

ALL CONTROL WORK INCLUDING DIVERSION BANKS AND CATCH DRAINS, V-DRAINS AND SILT FENCES SHALL BE COMPLETED DIRECTLY FOLLOWING THE COMPLETION OF THE EARTHWORKS.

- SILT FENCES AND SILT FENCE RETURNS SHALL BE ERECTED CONVEX TO THE CONTOUR TO POND WATER.
- HAY BALE BARRIERS AND GEOFABRIC FENCES ARE TO BE CONSTRUCTED TO TOE OF BATTER, PRIOR TO COMMENCEMENT OF EARTHWORKS, IMMEDIATELY AFTER CLEARING OF VEGETATION AND BEFORE REMOVAL OF TOP SOIL.
- ALL TEMPORARY EARTH BERMS, DIVERSION AND SILT DAM EMBANKMENTS ARE TO BE MACHINE COMPACTED, SEEDED AND MULCHED FOR TEMPORARY VEGETATION COVER AS SOON AS THEY HAVE BEEN FORMED.
- CLEAR WATER IS TO BE DIVERTED AWAY FROM DISTURBED GROUND AND INTO THE DRAINAGE SYSTEM.
- THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING AND PROVIDING ON GOING ADJUSTMENT TO EROSION CONTROL MEASURES AS REQUIRED DURING CONSTRUCTION.
- ALL SEDIMENT TRAPPING STRUCTURES AND DEVICES ARE TO BE INSPECTED AFTER STORMS FOR STRUCTURAL DAMAGE OR CLOGGING, TRAPPED MATERIAL IS TO BE REMOVED TO A SAFE, APPROVED LOCATION.
- ALL FINAL EROSION PREVENTION MEASURES INCLUDING THE ESTABLISHMENT OF GRASSING ARE TO BE MAINTAINED UNTIL THE END OF THE DEFECTS LIABILITY PERIOD.
- ALL EARTHWORKS AREAS SHALL BE ROLLED ON A REGULAR BASIS TO SEAL THE EARTHWORKS.
- ALL FILL AREAS ARE TO BE LEFT WITH A BUND AT THE TOP OF THE SLOPE AT THE END OF EACH DAYS EARTHWORKS. THE HEIGHT OF THE BUND SHALL BE A MINIMUM OF 200MM.
- ALL CUT AND FILL SLOPES ARE TO BE SEEDED AND MULCHED WITHIN 10 DAYS OF COMPLETION OF FORMATION.
- AFTER REVEGETATION OF THE SITE IS COMPLETE AND THE SITE IS STABLE IN THE OPINION OF A SUITABLY QUALIFIED PERSON ALL TEMPORARY WORK SUCH AS SILT FENCE, DIVERSION DRAINS ETC SHALL BE REMOVED.
- ALL TOPSOIL STOCKPILES ARE TO BE SUITABLY COVERED TO THE SATISFACTION OF THE CONTRACT ADMINISTRATOR TO PREVENT WIND AND WATER EROSION.
- ANY AREA THAT IS NOT APPROVED BY THE CONTRACT ADMINISTRATOR FOR CLEARING OR DISTURBANCE BY THE CONTRACTOR'S ACTIVITIES SHALL BE CLEARLY MARKED AND SIGN POSTED, FENCED OFF OR OTHERWISE APPROPRIATELY PROTECTED AGAINST ANY SUCH DISTURBANCE.
- ALL STOCKPILE SITES SHALL BE SITUATED IN AREAS APPROVED FOR SUCH USE BY THE CONTRACT ADMINISTRATOR. A 6m BUFFER ZONE SHALL EXIST BETWEEN STOCKPILE SITES AND ANY STREAM OR FLOW PATH. ALL STOCKPILES SHALL BE ADEQUATELY PROTECTED FROM EROSION AND CONTAMINATION OF THE SURROUNDING AREA BY USE OF THE MEASURES APPROVED IN THE EROSION AND SEDIMENTATION CONTROL PLAN.
- ACCESS AND EXIT AREAS SHALL INCLUDE SHAKE-DOWN OR OTHER METHODS APPROVED BY THE CONTRACT ADMINISTRATOR FOR THE REMOVAL OF SOIL MATERIALS FROM MOTOR VEHICLES.
- THE CONTRACTOR IS TO ENSURE RUNOFF FROM ALL AREAS WHERE THE NATURAL SURFACE IS DISTURBED BY CONSTRUCTION, INCLUDING ACCESS ROADS, DEPOT AND STOCKPILE SITES, SHALL BE FREE OF POLLUTANTS BEFORE IT IS EITHER DISPERSED TO STABLE AREAS OR DIRECTED TO NATURAL WATERCOURSES.
- THE CONTRACTOR SHALL PROVIDE AND MAINTAIN SLOPES, CROWNS AND DRAINS ON ALL EXCAVATIONS AND EMBANKMENTS TO ENSURE SATISFACTORY DRAINAGE AT ALL TIMES WATER SHALL NOT BE ALLOWED TO POND ON THE WORKS UNLESS SUCH PONDING IS PART OF AN APPROVED ESCP / SWMP.
- THE CONTRACTOR SHALL INCORPORATE THE MEASURES ON THIS PLAN WITHIN THE CONTRACTORS CONSTRUCTION MANAGEMENT PLAN.

**SEDIMENTATION BASIN NOTE:**

SEDIMENTATION BASIN SIZING BASED ON RECOMMENDATIONS OF 'SOILS AND CONSTRUCTION, MANAGING URBAN STORMWATER-THE BLUE BOOK'.  
CAPACITY BASED UPON 5 DAY RAINFALL DEPTH AT 85th PERCENTILE INTENSITY (32.2mm).

APPROXIMATE AREA OF SITE = 3.6ha  
 REQUIRED SETTLING ZONE VOLUME = 580m<sup>3</sup>  
 REQUIRED SEDIMENT STORAGE ZONE VOLUME = 290m<sup>3</sup>  
 TOTAL REQUIRED BASIN VOLUME = 869m<sup>3</sup>

**SEDIMENTATION BASIN 1 DIMENSIONS:**  
 BASE DIMENSIONS (L X B) = 20.0m x 12.0m  
 TOP DIMENSIONS (L X B) = 29.0m x 21.0m  
 MAX SIDE SLOPE = 1V:3H  
 DEPTH = 1.5m  
 TOTAL VOLUME PROVIDED = 616m<sup>3</sup>

**SEDIMENTATION BASIN 2 DIMENSIONS:**  
 BASE DIMENSIONS (L X B) = 20.0m x 3.0m  
 TOP DIMENSIONS (L X B) = 29.0m x 12.0m  
 MAX SIDE SLOPE = 1V:3H  
 DEPTH = 1.5m  
 TOTAL VOLUME PROVIDED = 276m<sup>3</sup>

SEDIMENTATION BASIN TO BE CONSTRUCTED TO DIMENSIONS AS SPECIFIED ABOVE AND TO BE FENCED.

BASIN IS TO HAVE SEDIMENT MARKER PLACED AS PER DETAIL ON DRG FC25 TO INDICATE WHEN SEDIMENT IS TO BE REMOVED. REMOVED SEDIMENT IS TO BE CLASSED AND DEWATERED PRIOR TO REMOVAL FROM SITE.

ALLOWANCE IS TO BE MADE DURING BENCHING OF SITE TO ENSURE RUN-OFF IS DIRECTED TO SEDIMENTATION BASIN.

**VEHICLE NOTE:**

ANY VEHICLES THAT ENTER THE SITE AND LEAVE THE SEALED PAVEMENT AREA ARE TO HAVE THEIR WHEELS WASHED PRIOR TO LEAVING THE SITE WITH THE WASH RUN-OFF DIRECTED TO THE SEDIMENTATION BASINS.

**LEGEND:**

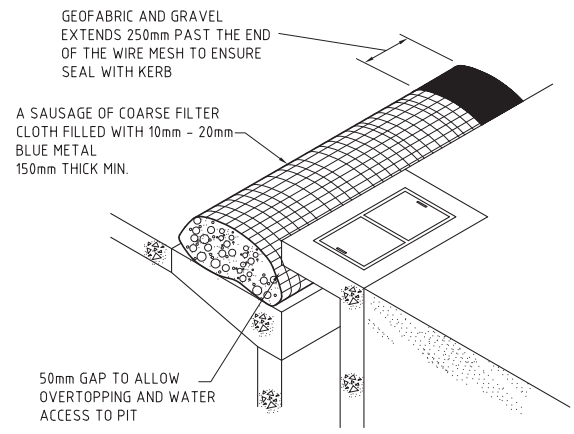
PROVIDE 1m RETURNS TO SILT FENCE AT 30m MAX. INTERVALS. TYPICAL (N.S.O.P.)

- SILT FENCE WITH CATCH DRAIN.
- SILT FENCE ONLY
- DIVERSION DRAIN

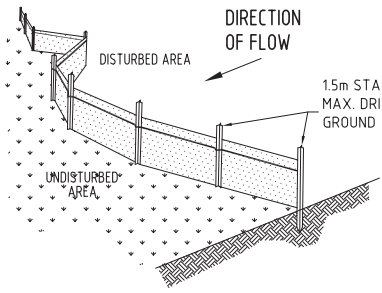


**FOR DEVELOPMENT APPLICATION**

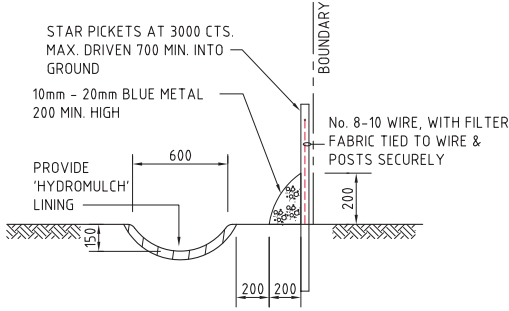
|  |  |   |                   |   |   |  |  |                   |
|--|--|---|-------------------|---|---|--|--|-------------------|
| FOR DEVELOPMENT APPLICATION<br>20.02.13 B<br>FOR INFORMATION<br>20.12.12 A<br>AMENDMENTS<br>DATE ISSUE AMENDMENTS DATE ISSUE AMENDMENTS DATE ISSUE | <b>Goodman</b><br>LEVEL 17,<br>60 Castlereagh Street<br>SYDNEY<br>NSW, 2000, Australia<br>Tel: (02) 9230 7400<br>Fax: (02) 9230 7444 | <b>PROJECT</b><br><b>PROPOSED MAINFREIGHT EXPANSION</b><br>26 YARRAWA ST, PRESTONS, NSW | <b>CLIENT</b><br> | <b>DESIGNED</b> MW<br><b>DRAWN</b> MC<br><b>DATE</b> 12.07.12<br><b>CHECKED</b> AS<br><b>SCALE</b> AS SHOWN<br><b>CAD REF:</b> C08753-08-0A20 | <b>Costin Roe Consulting Pty Ltd.</b><br><b>Consulting Engineers</b> <small>ACT 00 000 000</small><br>Level 1, 8 Windmill Street<br>Walsh Bay, Sydney NSW 2000<br>Tel: (02) 9551-7899 Fax: (02) 9541-3731<br>email: mail@costinroe.com.au © |  | DRAWING TITLE<br><b>EROSION AND SEDIMENT CONTROL PLAN</b><br>DRAWING No<br><b>C08753.08-DA20</b> | ISSUE<br><b>B</b> |
|--|--|---|-------------------|---|---|--|--|-------------------|



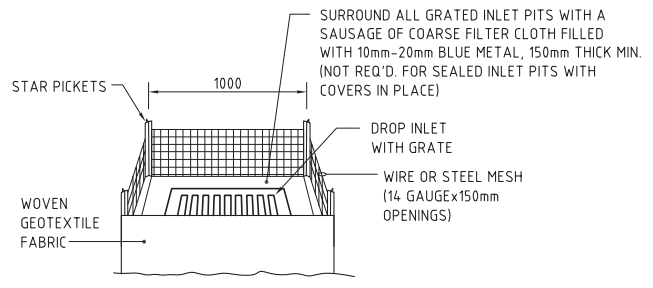
**KERB INLET PIT CONTROL**  
N.T.S



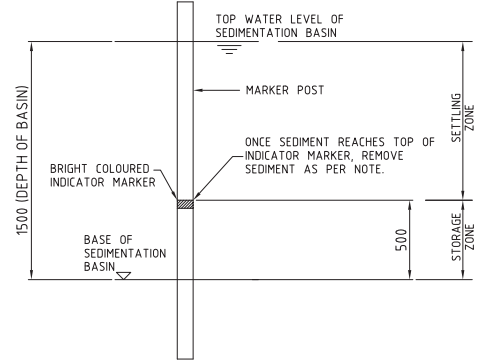
**TYPICAL SILT FENCE DETAIL**  
N.T.S.  
PROVIDE 1m RETURNS AT 30m INTERVALS.  
TYPICAL



**TYPICAL OPEN DRAIN & SILT FENCE**  
SCALE 1:20

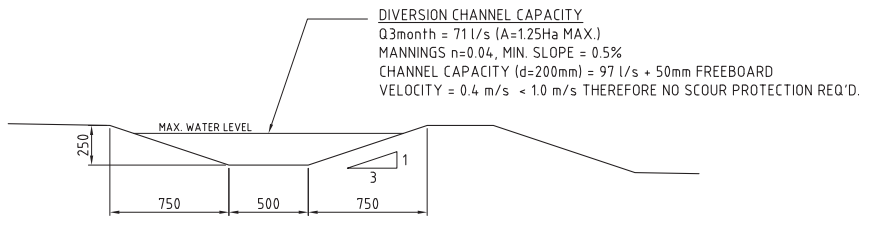


**GRADED INLET PIT FILTER DETAIL**  
N.T.S



**SEDIMENT STORAGE MARKER**  
SCALE 1:20

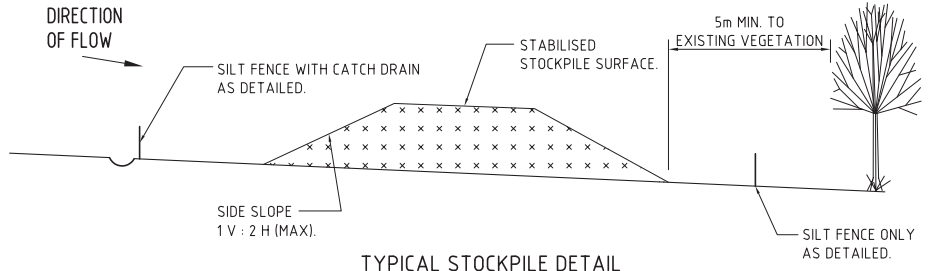
**NOTE:** ADOPT ABOVE DETAILS AROUND ALL PITS WITHIN AREA ENCOMPASSED BY SILT FENCE & TO PITS ON THE ROAD ADJACENT TO SITE BOUNDARY.



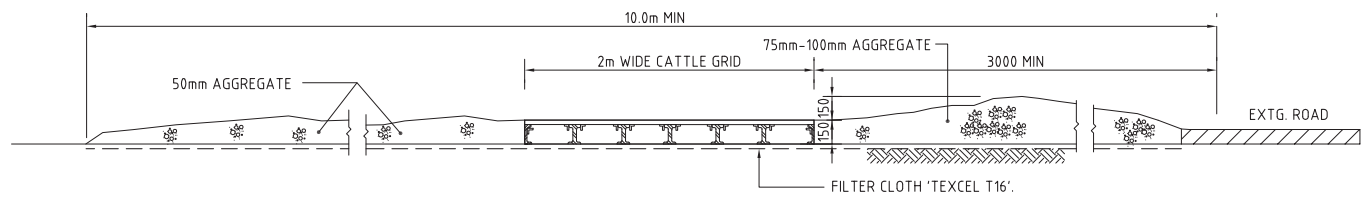
**TYPICAL DIVERSION DRAIN SECTION**  
SCALE 1:20

**STOCKPILE NOTES**

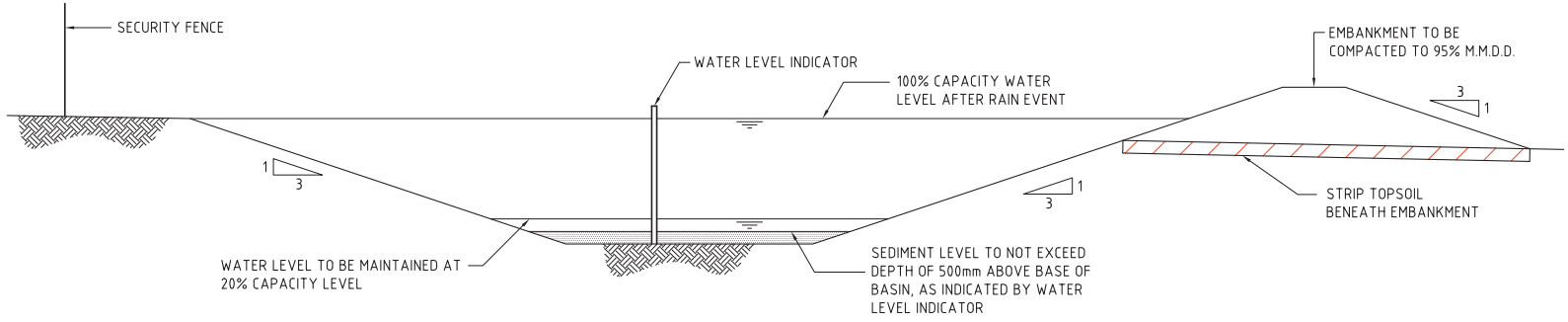
1. PLACE ALL STOCKPILES IN LOCATIONS MORE THAN 5m FROM EXISTING VEGETATION, ROADS & HAZARD AREAS.
2. CONSTRUCT ON THE CONTOUR AS LOW, FLAT ELONGATED MOUNDS. SIDE SLOPE TO BE 1 V: 2 H MAX.
3. WHERE THERE IS SUFFICIENT AREA, TOPSOIL STOCKPILES SHALL BE LESS THAN 2m IN HEIGHT.
4. WHERE STOCKPILES ARE TO BE IN PLACE FOR MORE THAN 10 DAYS, STABILISE USING WOOD CHIP MULCH - 16 TONNE/HA.
5. CONSTRUCT SILT FENCE WITH CATCH DRAIN ON UPSLOPE SIDE TO DIVERT WATER AROUND STOCKPILES & SILT FENCE ONLY 1 TO 2m DOWNSLOPE AS SHOWN.



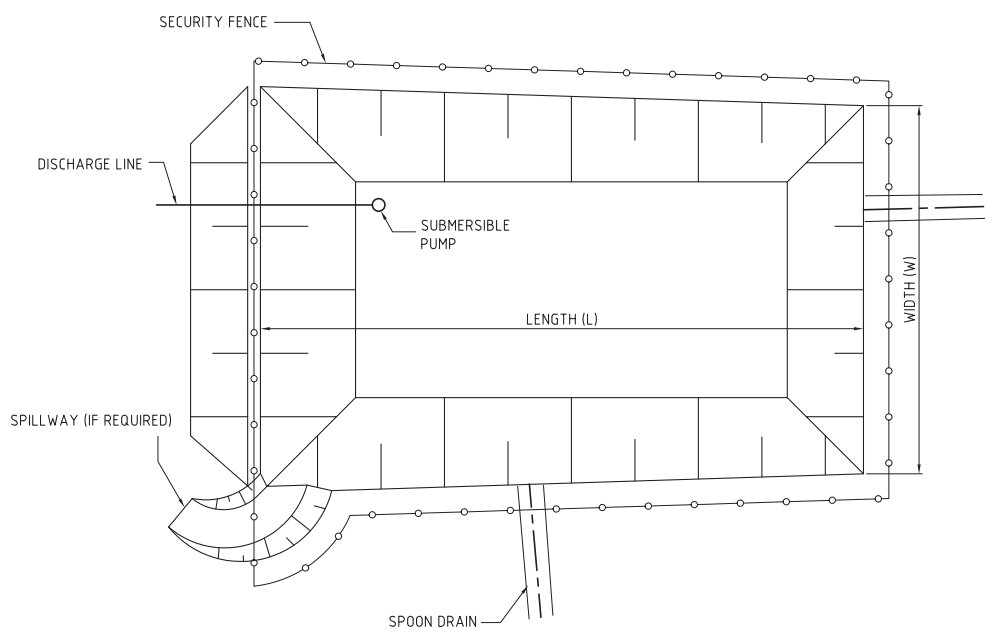
**TYPICAL STOCKPILE DETAIL**  
N.T.S.



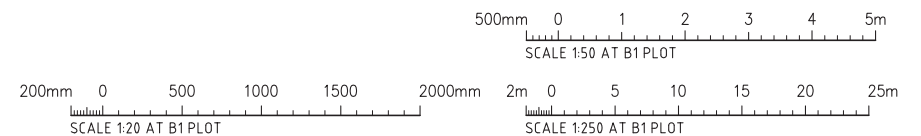
**SECTION 1:20 1: STABILISED CONSTRUCTION ENTRANCE 'TRUCK SHAKER'**



**TYPICAL SEDIMENT CONTROL BASIN SECTION**  
SCALE 1:50



**TYPICAL SEDIMENT CONTROL POND PLAN**  
SCALE 1:250



**FOR DEVELOPMENT APPLICATION**

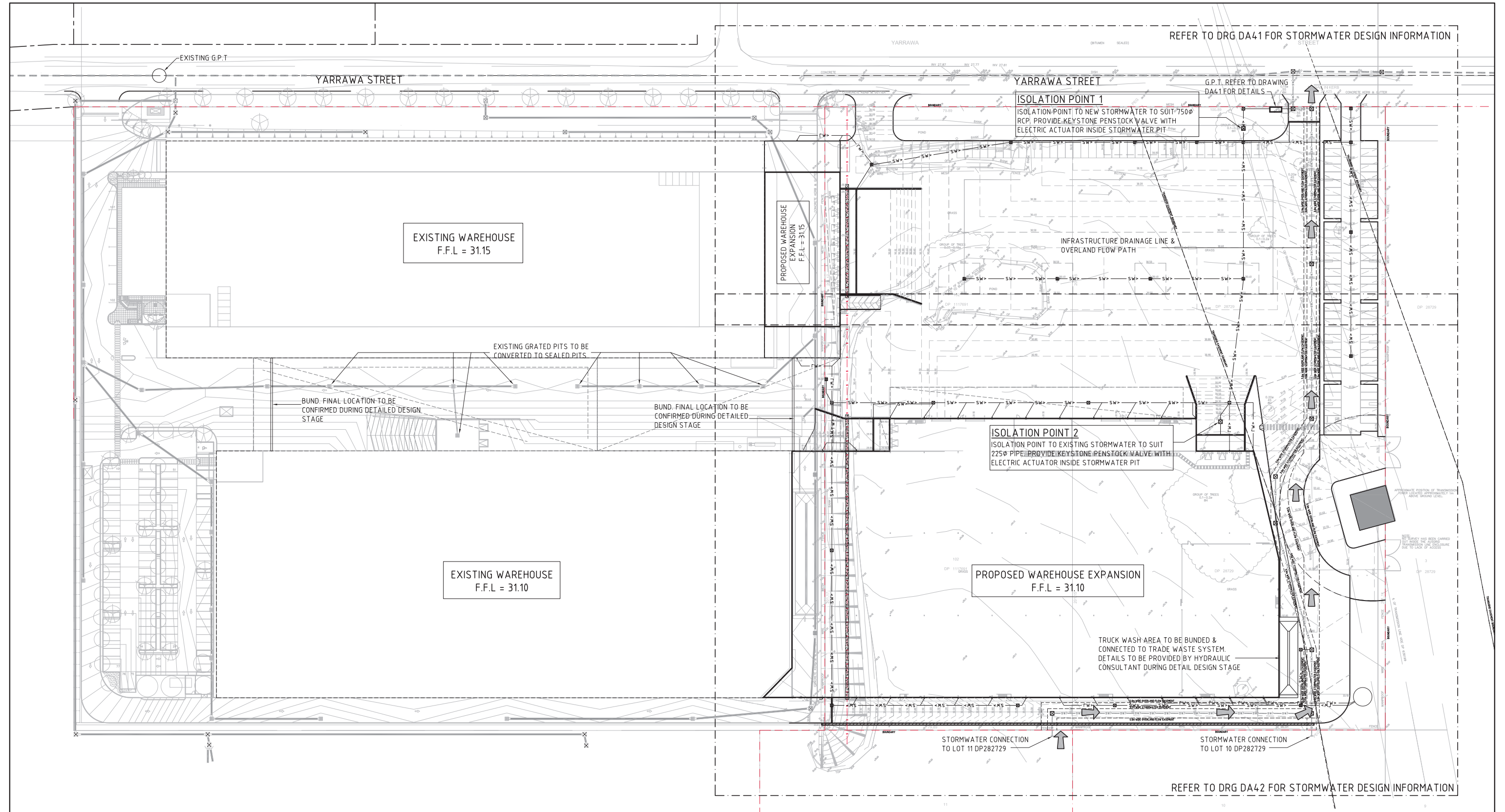
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| FOR DEVELOPMENT APPLICATION | 20.02.13 | B     |            |      |       |            |      |       |
| FOR INFORMATION             | 20.12.12 | A     |            |      |       |            |      |       |
| AMENDMENTS                  | DATE     | ISSUE | AMENDMENTS | DATE | ISSUE | AMENDMENTS | DATE | ISSUE |

|               |  |                 |              |             |                |             |              |                 |
|---------------|--|-----------------|--------------|-------------|----------------|-------------|--------------|-----------------|
| <b>CLIENT</b> | <b>PROJECT</b>   | <b>DESIGNED</b> | <b>DRAWN</b> | <b>DATE</b> | <b>CHECKED</b> | <b>SIZE</b> | <b>SCALE</b> | <b>CAD REF:</b> |
| Goodman       | LEVEL 17, 60 Castlereagh Street SYDNEY NSW, 2000, Australia<br>Tel: (02) 9230 7400 Fax: (02) 9230 7444 | MW              | MC           | 12.07.12    |                | A1          | AS SHOWN     | C08753.08-DA25  |

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Wahah Bay, Sydney NSW 2000  
Tel: (02) 9551-7899 Fax: (02) 9541-3731  
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DRAWING TITLE: EROSION AND SEDIMENT CONTROL DETAILS  
DRAWING No: C08753.08-DA25  
ISSUE: B



 **CONCEPT STORMWATER MASTER PLAN**  
1:500



**FOR DEVELOPMENT APPLICATION**

| AMENDMENTS                  | DATE     | ISSUE | AMENDMENTS | DATE | ISSUE | AMENDMENTS | DATE | ISSUE |
|-----------------------------|----------|-------|------------|------|-------|------------|------|-------|
| FOR DEVELOPMENT APPLICATION | 08.05.13 | B     |            |      |       |            |      |       |
| FOR DEVELOPMENT APPLICATION | 10.04.13 | A     |            |      |       |            |      |       |

**CLIENT**



LEVEL 17,  
50 Castlereagh Street  
SYDNEY  
NSW, 2000, Australia  
Tel: (02) 9230 7400  
Fax: (02) 9230 7444

**PROJECT**

**PROPOSED MAINFREIGHT EXPANSION**  
26 YARRAWA ST, PRESTONS, NSW

**DESIGNED** MW  
**DRAWN** MC  
**DATE** 12.07.12  
**CHECKED**  
**SIZE** A1  
**SCALE** AS SHOWN  
**CAD REF:** C08753.08-0A40

**CONSULTING ENGINEERS**

Costin Roe Consulting Pty Ltd.  
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Level 1, 8 Windmill Street  
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**DRAWING TITLE**

CONCEPT STORMWATER MASTER PLAN

**DRAWING No** C08753.08-DA40 **ISSUE** B

**STORMWATER DRAINAGE NOTES:**

- ALL FINISHED PAVEMENT LEVELS SHALL BE AS INDICATED ON FINISHED LEVELS PLAN.
- PIT SIZES SHALL BE AS INDICATED IN THE SCHEDULE WHILE PIPE SIZES AND DETAILS ARE PROVIDED ON PLAN.
- EXISTING STORMWATER PIT LOCATIONS AND INVERT LEVELS TO BE CONFIRMED BY SURVEY PRIOR TO COMMENCING WORKS ON SITE.
- ALL STORMWATER PIPES Ø375 OR GREATER SHALL BE CLASS 2 REINFORCED CONCRETE WITH RUBBER RING JOINTS UNLESS NOTED OTHERWISE.
- ALL PIPES UP TO AND INCLUDING 300Ø TO BE uPVC GRADE SN8.
- ALL CONCRETE PITS GREATER THAN 1000mm DEEP SHALL BE REINFORCED USING N12-200 EACH WAY CENTRED IN WALL AND BASE. LAP MINIMUM 300mm WHERE REQUIRED. ALL CONCRETE FOR PITS SHALL BE F<sub>c</sub> 25 MPA. PRECAST PITS MAY BE USED WITH THE APPROVAL OF THE ENGINEER.
- IN ADDITION TO ITEM 6 ABOVE, ALL CONCRETE PITS GREATER THAN 3000mm DEEP SHALL HAVE WALLS AND BASE THICKNESS INCREASED TO 200mm.
- PIPES SHALL BE LAID AS PER PIPE LAYING DETAILS. PARTICULAR CARE SHALL BE TAKEN TO ENSURE THAT THE PIPE IS FULLY AND EVENLY SUPPORTED. RAM AND PACK FILLING AROUND AND UNDER BACK OF PIPES AND PIPE FAUCETS, WITH NARROW EDGED RAMMERS OR OTHER SUITABLE TAMPING DETAILS.
- WHERE PIPE LINES ENTER PITS, PROVIDE 2m LENGTH OF STOCKING WRAPPED SLOTTED Ø100 uPVC TO EACH SIDE OF PIPE.
- ALL SUBSOIL DRAINAGE LINES SHALL BE Ø100 SLOTTED uPVC WITH APPROVED FILTER WRAP LAID IN 300mm WIDE GRANULAR FILTER UNLESS NOTED OTHERWISE. LAY SUBSOIL LINES TO MATCH FALLS OF LAND AND/OR 1 IN 200 MINIMUM. PROVIDE CAPPED CLEANING EYE (RODDING POINT) AT UPSTREAM END OF LINE AND AT 30m MAX. CTS. PROVIDE SUBSOIL LINES TO ALL PAVEMENT/ LANDSCAPED INTERFACES, TO REAR OF RETAINING WALLS (AS NOMINATED BY STRUCTURAL ENGINEER) AND AS SHOWN ON PLAN.
- ALL PIPE GRADES 1 IN 100 MINIMUM UNO.
- PROVIDE STEP IRONS IN PITS DEEPER THAN 1000mm.
- MIN. 600 COVER TO PIPE OBVERT BENEATH ROADS & MIN. 400 COVER BENEATH LANDSCAPED AND PEDESTRIAN AREAS.
- PIT COVERS IN TRAFFICABLE PAVEMENT SHALL BE CLASS D 'HEAVY DUTY', THOSE LOCATED IN NON-TRAFFICABLE AREAS SHALL BE CLASS B 'MEDIUM DUTY' U.N.O.
- PROVIDE CLEANING EYES (RODDING POINTS) TO PIPES AT ALL CORNERS AND T-JUNCTIONS WHERE NO PITS ARE PRESENT.
- DOWN PIPES TO BE AS PER HYDRAULIC ENGINEERS DETAILS WITH CONNECTOR TO MATCH DP SIZE U.N.O. ON PLAN. PROVIDE CLEANING EYE AT GROUND LEVEL.
- PIPE LENGTHS NOMINATED ON PLAN OR LONGSECTIONS ARE MEASURED FROM CENTER OF PITS TO THE NEAREST 0.5m AND DO NOT REPRESENT ACTUAL LENGTH. THE CONTRACTOR IS TO ALLOW FOR THIS.

**PIT SCHEDULE**

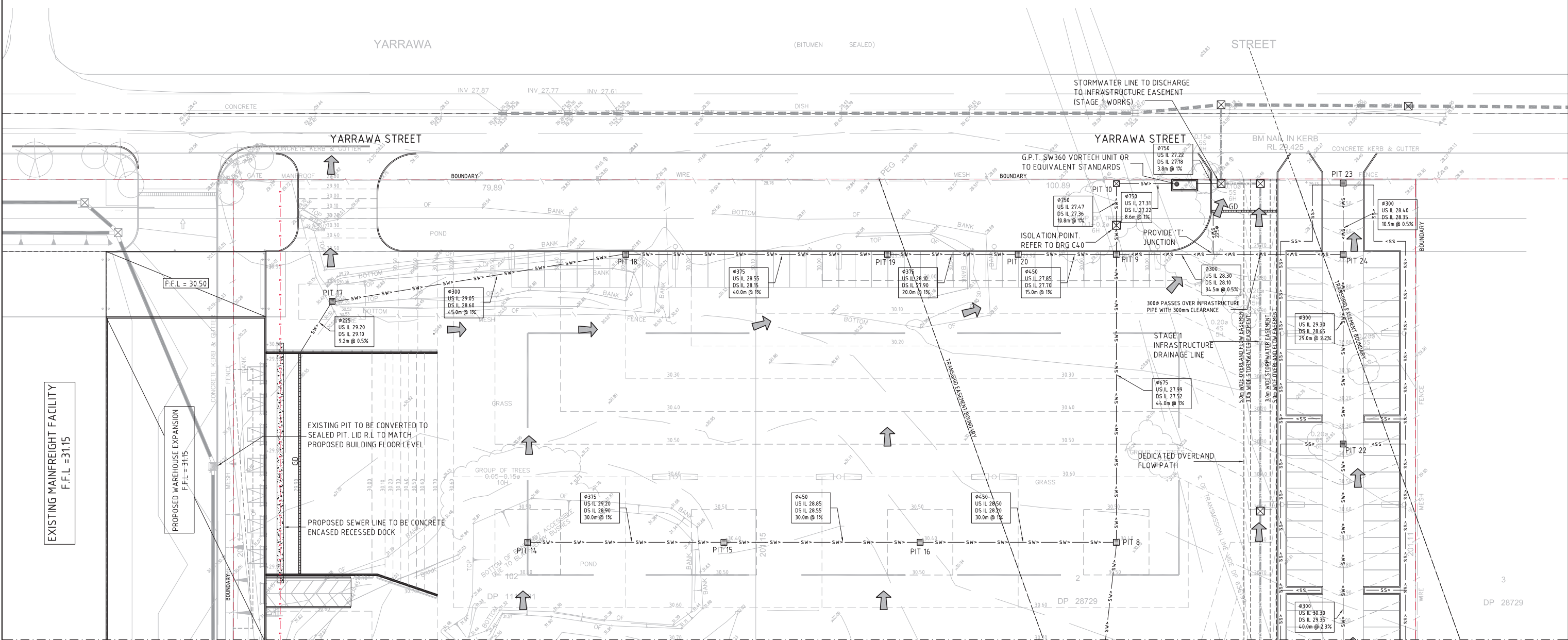
| PIT No. | GRATE RL | DEPTH | TYPE    | SIZE    | COMMENT |
|---------|----------|-------|---------|---------|---------|
| PIT 1   | 33.10    | 1150  | SJP     | 900x900 |         |
| PIT 2   | 30.90    | 1050  | S.G.G.P | 900x900 |         |
| PIT 3   | 31.10    | 1550  | SJP     | 900x900 |         |
| PIT 4   | 30.41    | 1150  | SJP     | 900x900 |         |
| PIT 5   | 30.85    | 1810  | SJP     | 900x900 |         |
| PIT 6   | 31.05    | 2310  | SJP     | 900x900 |         |
| PIT 7   | 30.30    | 1860  | SJP     | 900x900 |         |
| PIT 8   | 30.40    | 2410  | S.G.G.P | 900x900 |         |
| PIT 9   | 29.90    | 2430  | S.G.G.P | 900x900 |         |
| PIT 10  | 29.50    | 2190  | SJP     | 900x900 |         |
| PIT 11  | 33.23    | 1030  | SJP     | 900x900 |         |
| PIT 12  | 32.93    | 1380  | S.G.G.P | 900x900 |         |
| PIT 13  | 32.83    | 1510  | SJP     | 900x900 |         |
| PIT 14  | 30.40    | 1200  | S.G.G.P | 900x900 |         |
| PIT 15  | 30.40    | 1550  | S.G.G.P | 900x900 |         |
| PIT 16  | 30.40    | 1900  | S.G.G.P | 900x900 |         |
| PIT 17  | 30.35    | 1300  | S.G.G.P | 900x900 |         |
| PIT 18  | 30.30    | 1750  | S.G.G.P | 900x900 |         |
| PIT 19  | 29.90    | 1800  | S.G.G.P | 900x900 |         |
| PIT 20  | 29.90    | 2050  | S.G.G.P | 900x900 |         |
| PIT 21  | 31.30    | 1000  | S.G.G.P | 900x900 |         |
| PIT 22  | 30.35    | 1050  | S.G.G.P | 900x900 |         |
| PIT 23  | 29.40    | 1050  | S.G.G.P | 900x900 |         |
| PIT 24  | 29.68    | 1380  | S.G.G.P | 900x900 |         |

**LEGEND:**

LEVELS DATUM IS AHD.

EXISTING SITE LEVELS AND DETAILS BASED ON SURVEY INFORMATION PROVIDED BY HARD & FORESTER SURVEYORS DATED 05.10.2012.

- SGGP, SINGLE GRATED GULLY PIT
- SJP, SEALED JUNCTION PIT
- KIP, KERB INLET PIT
- OVERLAND FLOW PATH
- EXISTING DRAINAGE LINE
- DRAINAGE LINE
- INFRASTRUCTURE DRAINAGE LINE (STAGE 1)
- SUBSOIL LINE
- ROOFWATER LINE
- SEWER LINE (STAGE 1 WORKS)
- FINISHED PAVEMENT CONTOUR (MAJOR) 0.5m INTERVALS
- FINISHED PAVEMENT CONTOUR (MINOR) 0.1m INTERVALS
- DOWNPIPE (INDICATIVE) REFER TO DRAWINGS BY HYDRAULIC ENGINEER



BREAKLINE. REFER TO DRAWING Co8753.08 - DA42 FOR CONTINUATION

CONCEPT STORMWATER PLAN - SHEET 1  
1:250

**FOR DEVELOPMENT APPLICATION**

2m 0 5 10 15 20 25m  
1:250 AT B1 PLOT

| AMENDMENTS                  | DATE     | ISSUE | AMENDMENTS | DATE | ISSUE | AMENDMENTS | DATE | ISSUE |
|-----------------------------|----------|-------|------------|------|-------|------------|------|-------|
| FOR DEVELOPMENT APPLICATION | 10.04.13 | D     |            |      |       |            |      |       |
| FOR DEVELOPMENT APPLICATION | 20.02.13 | C     |            |      |       |            |      |       |
| FOR INFORMATION             | 06.02.13 | B     |            |      |       |            |      |       |
| FOR INFORMATION             | 20.12.12 | A     |            |      |       |            |      |       |

**CLIENT**

**PROJECT**  
LEVEL 17,  
60 Castlereagh Street  
SYDNEY,  
NSW, 2000, Australia  
Tel: (02) 9230 7400  
Fax: (02) 9230 7444

**DESIGNED** MW  
**DRAWN** MC  
**DATE** 12.07.12  
**CHECKED** AS  
**SCALE** AS SHOWN  
**CAD REF:** Co8753.08-DA41

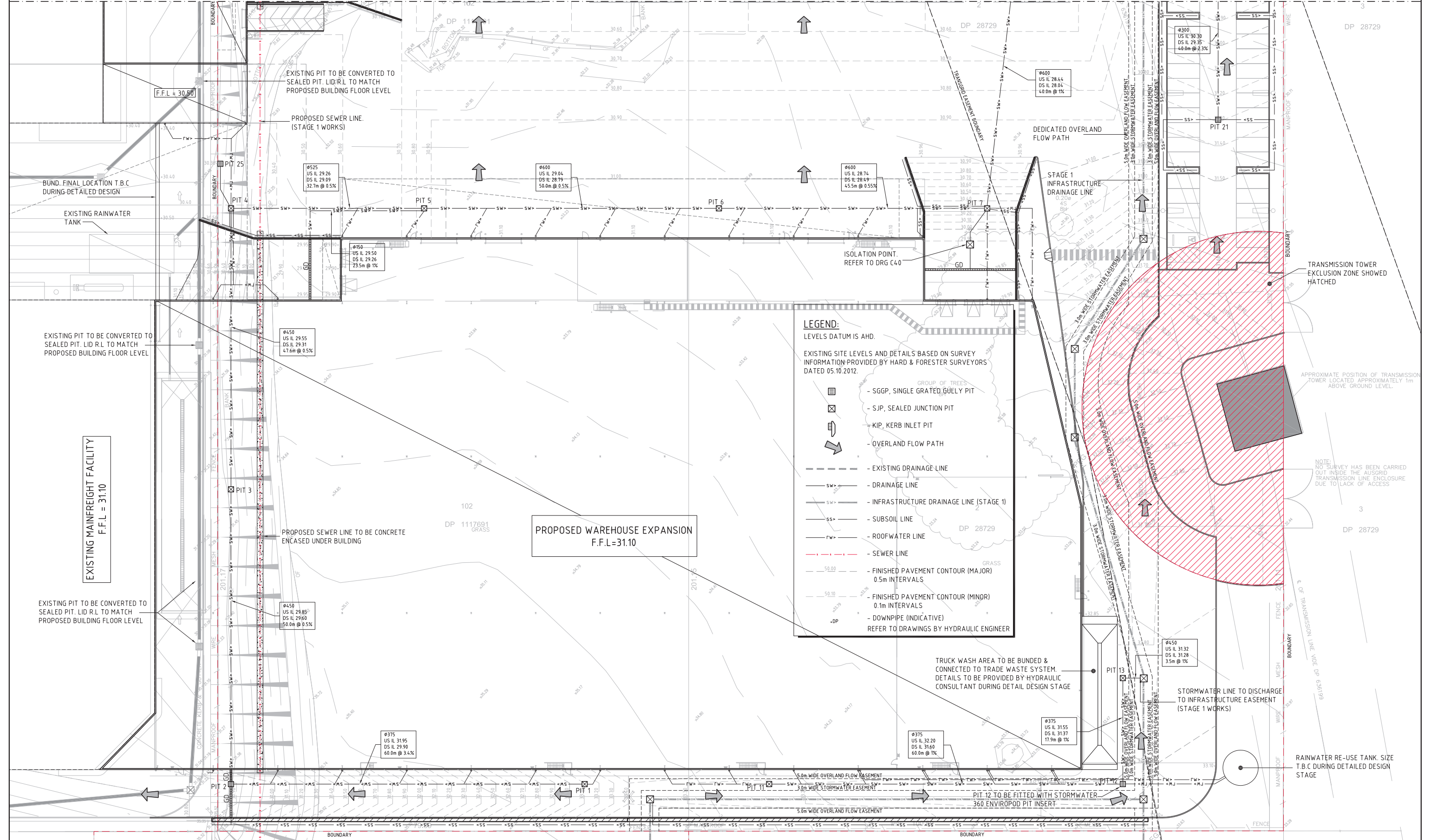
**Costin Roe Consulting Pty Ltd.**  
Consulting Engineers  
Level 1, 8 Windmill Street  
Wahia Bay, Sydney NSW 2000  
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**DRAWING TITLE**  
CONCEPT STORMWATER PLAN  
SHEET 1

**DRAWING No** Co8753.08-DA41 **ISSUE** D

BREAKLINE. REFER TO DRAWING Co8753.08 - DA41 FOR CONTINUATION

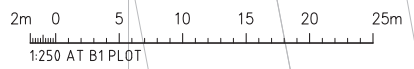


**LEGEND:**  
LEVELS DATUM IS AHD.

EXISTING SITE LEVELS AND DETAILS BASED ON SURVEY INFORMATION PROVIDED BY HARD & FORESTER SURVEYORS DATED 05.10.2012.

- SGGP, SINGLE GRATED GULLY PIT
- SJP, SEALED JUNCTION PIT
- KIP, KERB INLET PIT
- OVERLAND FLOW PATH
- EXISTING DRAINAGE LINE
- DRAINAGE LINE
- INFRASTRUCTURE DRAINAGE LINE (STAGE 1)
- SUBSOIL LINE
- ROOFWATER LINE
- SEWER LINE
- FINISHED PAVEMENT CONTOUR (MAJOR) 0.5m INTERVALS
- FINISHED PAVEMENT CONTOUR (MINOR) 0.1m INTERVALS
- DOWNPIPE (INDICATIVE) REFER TO DRAWINGS BY HYDRAULIC ENGINEER
- DP

**STORMWATER DRAINAGE NOTES:**  
REFER TO DRAWING DA41 FOR STORMWATER NOTES



CONCEPT STORMWATER PLAN - SHEET 2  
1:250

**FOR DEVELOPMENT APPLICATION**

| AMENDMENTS                  | DATE     | ISSUE | AMENDMENTS | DATE | ISSUE | AMENDMENTS | DATE | ISSUE |
|-----------------------------|----------|-------|------------|------|-------|------------|------|-------|
| FOR DEVELOPMENT APPLICATION | 08.05.13 | E     |            |      |       |            |      |       |
| FOR DEVELOPMENT APPLICATION | 10.04.13 | D     |            |      |       |            |      |       |
| FOR DEVELOPMENT APPLICATION | 20.02.13 | C     |            |      |       |            |      |       |
| FOR INFORMATION             | 06.02.13 | B     |            |      |       |            |      |       |
| FOR INFORMATION             | 20.12.12 | A     |            |      |       |            |      |       |

**CLIENT**

LEVEL 17,  
60 Castlereagh Street  
SYDNEY  
NSW, 2000, Australia  
Tel: (02) 9230 7440  
Fax: (02) 9230 7444

**PROJECT**  
**PROPOSED MAINFREIGHT EXPANSION**  
26 YARRAWA ST, PRESTONS, NSW

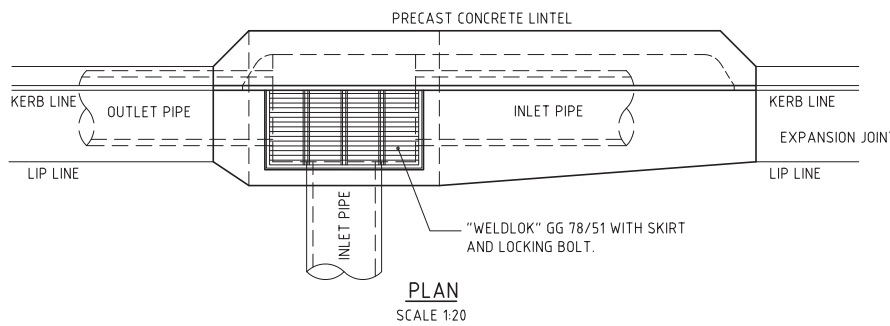
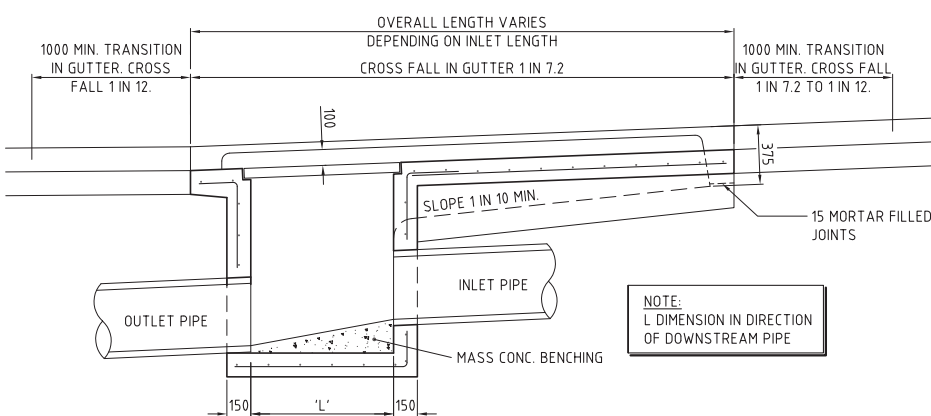
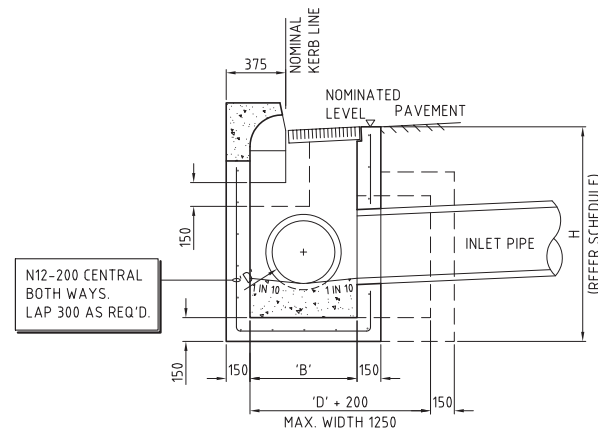
DESIGNED: MW  
DRAWN: MC  
DATE: 12.07.12  
CHECKED: A1  
SCALE: AS SHOWN  
CAD REF: Co8753.08-DA42

**COSTIN ROE CONSULTING AUSTRALIA**  
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Consulting Engineers  
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Wahlab Bay, Sydney NSW 2000  
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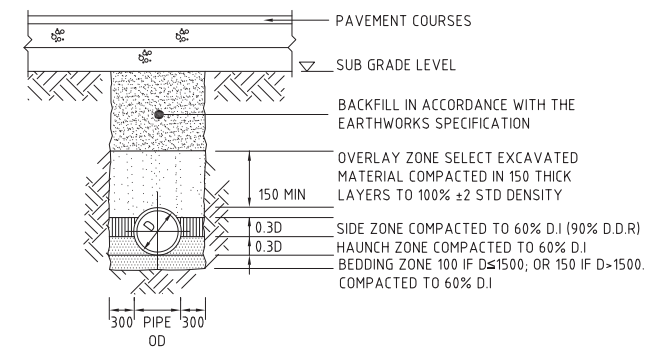
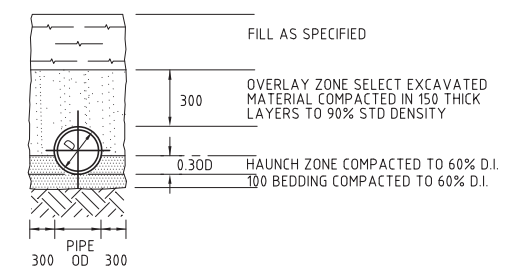
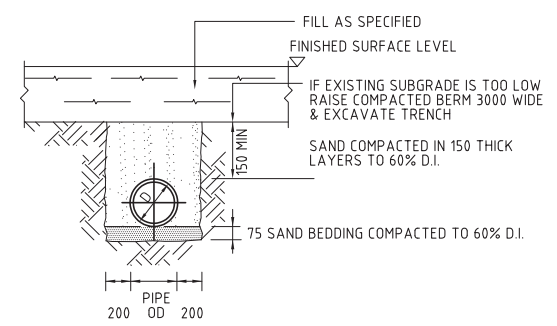
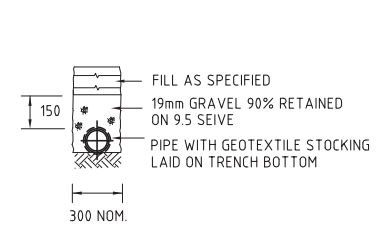
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DRAWING TITLE  
**CONCEPT STORMWATER PLAN SHEET 2**

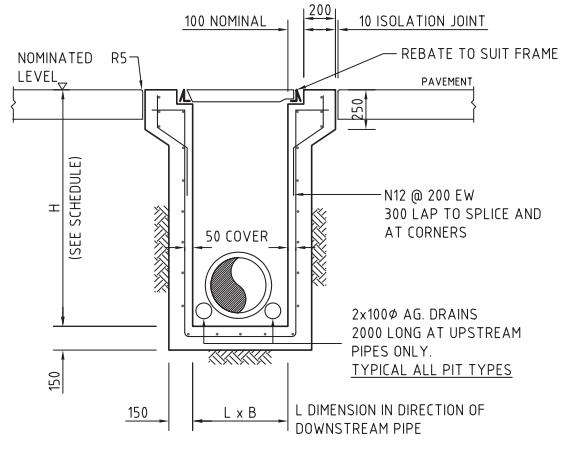
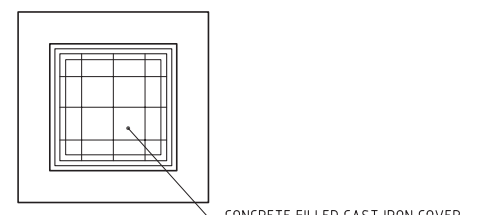
DRAWING No **Co8753.08-DA42** ISSUE **E**



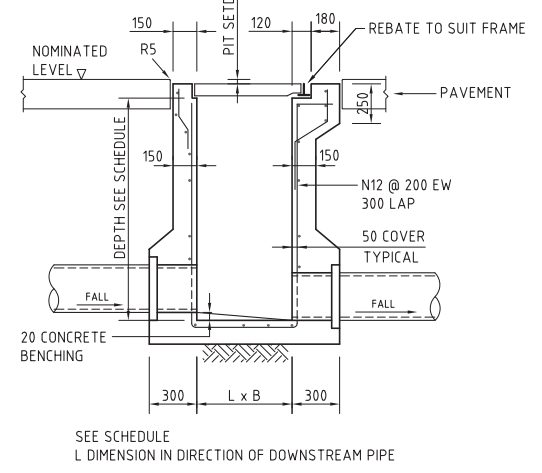
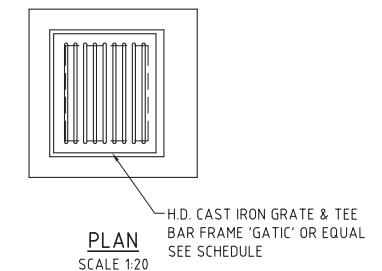
**KERB INLET PIT - KIP**



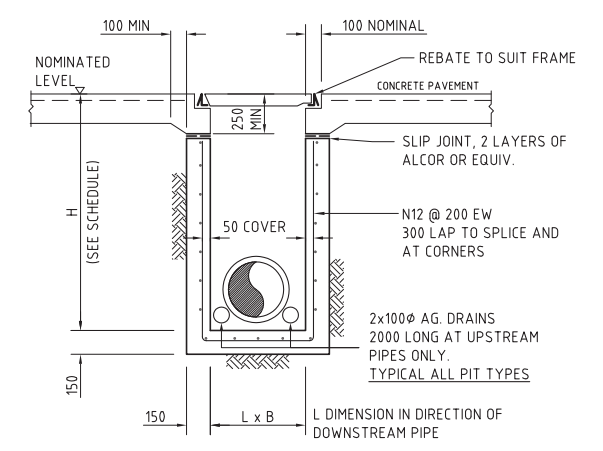
**PIPE LAYING DETAILS**  
1:20



**SEALED PIT - SJP**



**SINGLE GRATED GULLY PIT - SGGP**



**ALTERNATIVE PIT DETAIL GRATE/COVER SUPPORT CAST-INTO PAVEMENT SLAB**  
(ADOPT AS REQUIRED FOR SGGP's & SJP's)

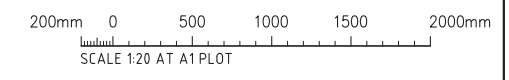
| CONCRETE QUALITY |       |                       |             |           |                      |
|------------------|-------|-----------------------|-------------|-----------|----------------------|
| ELEMENT          | SLUMP | AGGREGATE (MAX. SIZE) | CEMENT TYPE | ADMIXTURE | F <sub>c</sub> (MPa) |
| PIT              | 80    | 20                    | GP          | NL        | 20                   |

- NOTES:**
- WHERE GULLY PIT IS LOCATED ON KERB RETURNS OR BULB OF CUL-DE-SACS PROVIDE CURVED PRECAST CONCRETE LINTELS.
  - SAG PITS SHALL HAVE LINTEL PLACED CENTRALLY ABOUT THE GRATE.
  - ALL REINFORCING TO HAVE 30 MIN. CLEAR CONCRETE COVER.
  - FOR PITS DEEPER THAN 1200mm CLIMB RAILS SHALL BE PROVIDED.

| BEDDING & HAUNCH MATERIAL GRADING |                   |
|-----------------------------------|-------------------|
| SIEVE SIZE                        | WEIGHT PASSING(%) |
| 19                                | 100               |
| 2.36                              | 100 TO 50         |
| 0.60                              | 90 TO 20          |
| 0.30                              | 60 TO 10          |
| 0.15                              | 25 TO 0           |
| 0.075                             | 10 TO 0           |

| SIDE ZONE MATERIAL GRADING |                   |
|----------------------------|-------------------|
| SIEVE SIZE                 | WEIGHT PASSING(%) |
| 75                         | 100               |
| 9.5                        | 100 TO 50         |
| 2.36                       | 100 TO 30         |
| 0.60                       | 50 TO 15          |
| 0.075                      | 25 TO 0           |

SELECT FILL MATERIAL IN ACCORDANCE WITH TABLE 1 AS 3725



**FOR DEVELOPMENT APPLICATION**

|  |  |  |   |   |   |  |   |
|--|--|--|---|---|---|--|---|
| <p>FOR DEVELOPMENT APPLICATION 20.02.13 B</p> <p>FOR INFORMATION 20.12.12 A</p> <p>AMENDMENTS DATE ISSUE AMENDMENTS DATE ISSUE AMENDMENTS DATE ISSUE</p> |  | <p>CLIENT</p> <p><b>Goodman</b></p> <p>LEVEL 17, 60 Castlereagh Street SYDNEY NSW, 2000, Australia Tel: (02) 9230 7400 Fax: (02) 9230 7444</p> | <p>PROJECT</p> <p><b>PROPOSED MAINFREIGHT EXPANSION</b></p> <p>26 YARRAWA ST, PRESTONS, NSW</p> | <p>DESIGNED MW</p> <p>DRAWN MC</p> <p>DATE 10.12.12</p> <p>CHECKED</p> <p>SCALE A1</p> <p>SCALE AS SHOWN</p> <p>CAD REF: C08753.08-04A5</p> | <p>COSTIN ROE CONSULTING AUSTRALIA</p> <p>Costin Roe Consulting Pty Ltd. Consulting Engineers</p> <p>Level 1, 8 Windmill Street Walsh Bay, Sydney NSW 2000 Tel: (02) 9551-7000 Fax: (02) 9551-3731 email: mail@costinroe.com.au ©</p> | <p>Value in Engineering and Management</p> | <p>DRAWING TITLE</p> <p><b>CONCEPT STORMWATER DETAILS</b></p> <p>DRAWING No C08753.08-DA45</p> <p>ISSUE B</p> |
|--|--|--|---|---|---|--|---|

**FINISHED LEVELS PLAN NOTES:**

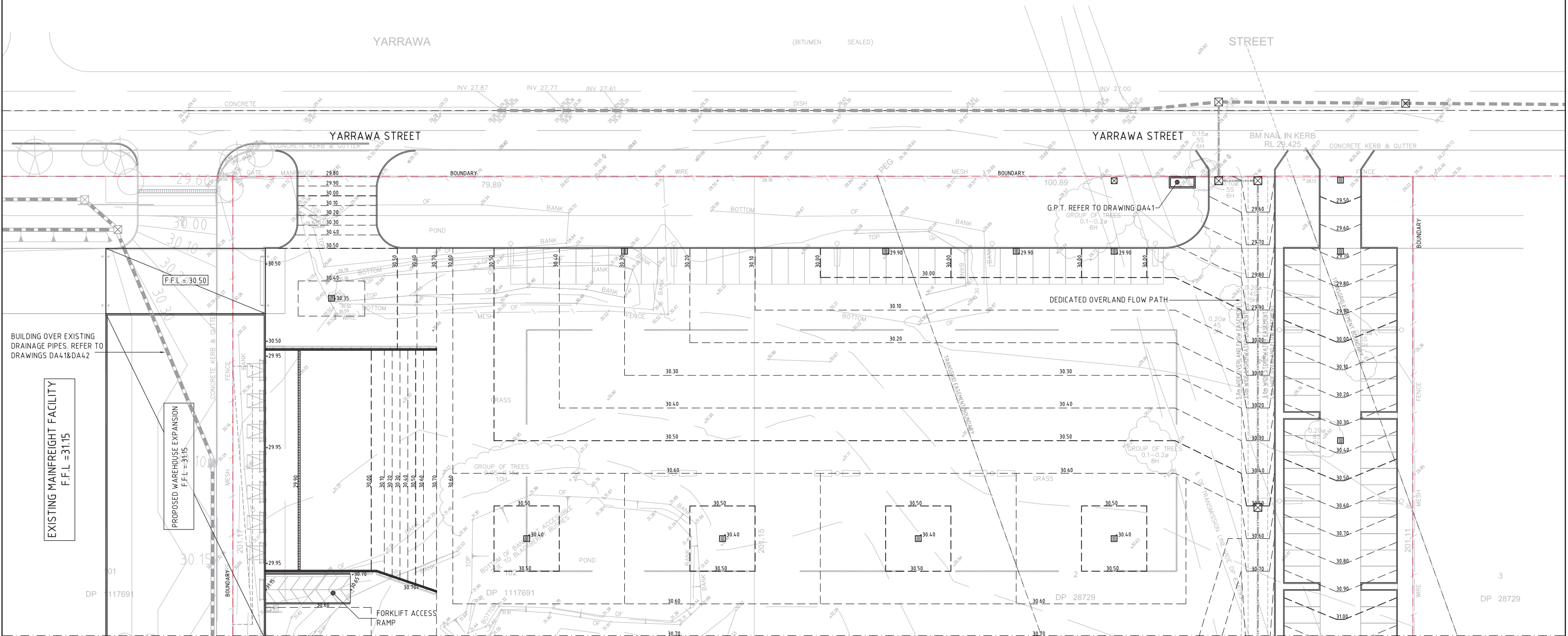
- LEVELS DATUM IS A.H.D.
- ALL CONTOUR LINES & SPOT LEVELS INDICATE FINISHED PAVEMENT LEVELS U.N.O. ON PLAN.
- THE MAJOR CONTOUR INTERVAL IS 0.5m
- THE MINOR CONTOUR INTERVAL IS 0.1m.
- MINIMUM PAVEMENT GRADE IS TO BE 1:100 (1%)
- MAXIMUM PAVEMENT GRADE IS TO BE 1:30 IN DISABLED PARKING, 1:20 (5%) IN CARPARKING AREAS AND 1:25 (4%) ELSEWHERE.
- MAXIMUM RAMP GRADES ARE TO BE 1:12 (8.3%) U.N.O. ON PLAN
- PROVIDE MINIMUM 3.0m LONG TRANSITION WHERE CHANGES GRADE EXCEED 1:20 (5%)
- PERMANENT BATTER SLOPES ARE TO HAVE A MAXIMUM GRADE OF 1V:3H.
- ALL BATTER SLOPE WITH GRADES AT OR EXCEEDING 1V:6H ARE TO BE TURFED IMMEDIATELY OR APPROPRIATE EROSION CONTROL IS TO BE PROVIDED TO THE SATISFACTION OF THE ENGINEER.

**LEGEND:**

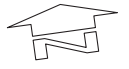
LEVELS DATUM IS A.H.D.

EXISTING SITE LEVELS AND DETAILS BASED ON SURVEY INFORMATION PROVIDED BY HARD & FORESTER SURVEYORS DATED 05.10.2012.

- SJP, SEALED JUNCTION PIT
- KIP, KERB INLET PIT
- SGGP, SINGLE GRATED GULLY PIT
- 57.00 - FINISHED PAVEMENT CONTOUR (MAJOR)
- 57.60 - FINISHED PAVEMENT CONTOUR (MINOR)
- 65.30 - FINISHED PAVEMENT SPOT HEIGHT
- SWP - INFRASTRUCTURE DRAINAGE LINE (STAGE 1)
- 58.5 - EXISTING CONTOUR
- 58.85 - EXISTING SPOT HEIGHT

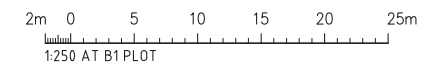


BREAKLINE. REFER TO DRAWING Co8753.08 - DA52 FOR CONTINUATION



FINISHED LEVELS PLAN - SHEET 1  
1:250

**FOR DEVELOPMENT APPLICATION**



| AMENDMENTS                  | DATE     | ISSUE | AMENDMENTS | DATE | ISSUE | AMENDMENTS | DATE | ISSUE |
|-----------------------------|----------|-------|------------|------|-------|------------|------|-------|
| FOR DEVELOPMENT APPLICATION | 20.02.13 | C     |            |      |       |            |      |       |
| FOR INFORMATION             | 06.02.13 | B     |            |      |       |            |      |       |
| FOR INFORMATION             | 20.12.12 | A     |            |      |       |            |      |       |

**CLIENT**  
 LEVEL 17, 60 Castlereagh Street SYDNEY NSW, 2000, Australia Tel: (02) 9230 7400 Fax: (02) 9230 7444

**PROJECT**  
**PROPOSED MAINFREIGHT EXPANSION**  
26 YARRAWA ST, PRESTONS, NSW

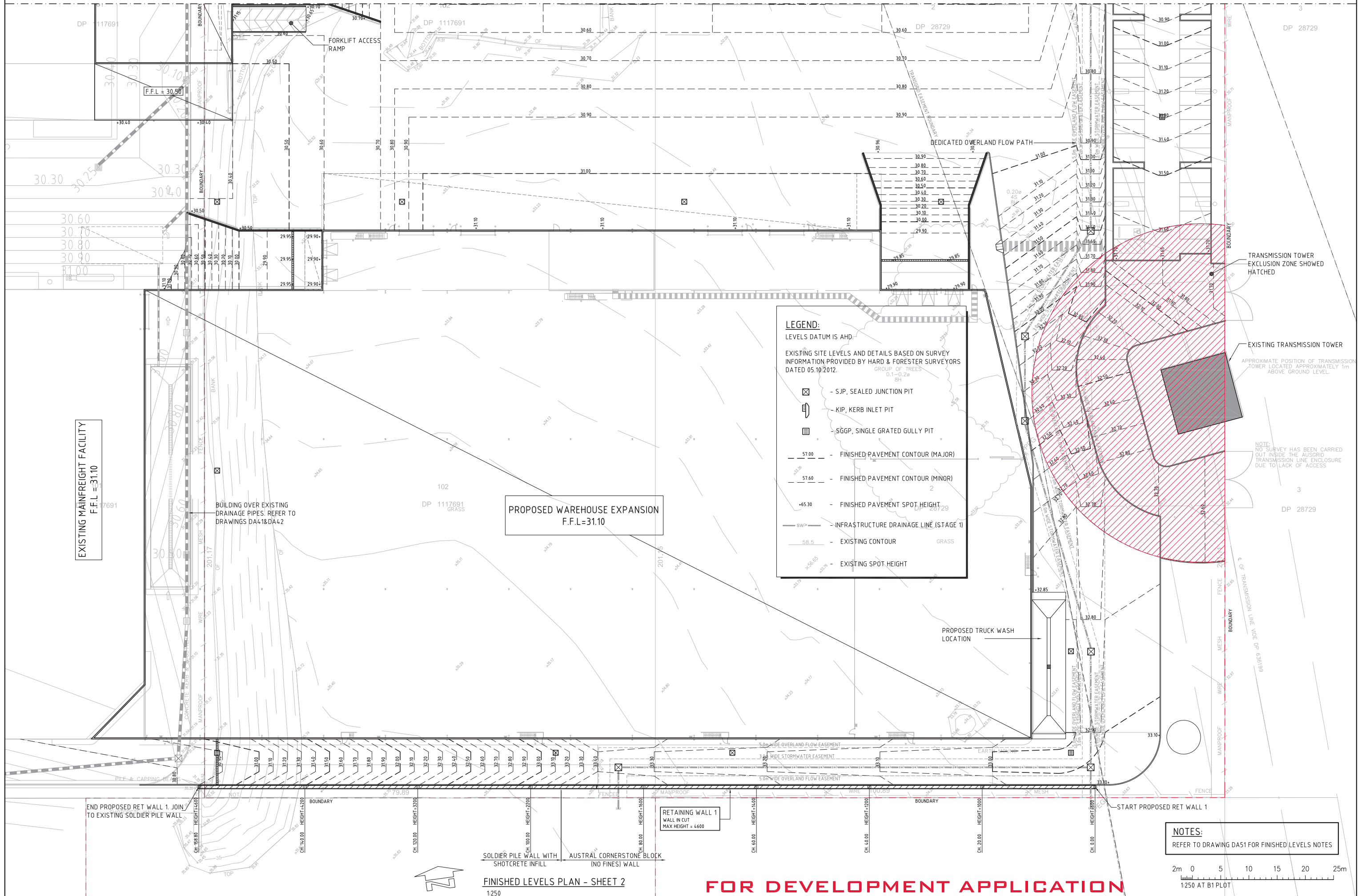
DESIGNED: MW  
DRAWN: MC  
DATE: 12.07.12  
CHECKED: AS SHOWN  
SCALE: A1

**CONSULTANT**  
 Costin Roe Consulting Pty Ltd. Consulting Engineers  
Level 1, 8 Windmill Street Walsh Bay, Sydney NSW 2000 Tel: (02) 9551-7899 Fax: (02) 9551-3731 email: mail@costinroe.com.au ©

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Value in Engineering and Management

**DRAWING TITLE**  
FINISHED LEVELS PLAN SHEET 1

**DRAWING No** Co8753.08-DA51 **ISSUE** C



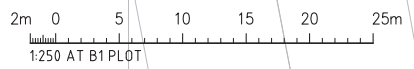
EXISTING MAINFREIGHT FACILITY  
F.F.L = 31.10

BUILDING OVER EXISTING DRAINAGE PIPES. REFER TO DRAWINGS DA41&DA42

PROPOSED WAREHOUSE EXPANSION  
F.F.L=31.10

RETAINING WALL 1  
WALL IN CUT  
MAX HEIGHT = 4.600

NOTES:  
REFER TO DRAWING DA51 FOR FINISHED LEVELS NOTES



FINISHED LEVELS PLAN - SHEET 2  
1:250

**FOR DEVELOPMENT APPLICATION**

| FOR DEVELOPMENT APPLICATION | 20.02.13 | C     |
|-----------------------------|----------|-------|
| FOR INFORMATION             | 06.02.13 | B     |
| FOR INFORMATION             | 20.12.12 | A     |
| AMENDMENTS                  | DATE     | ISSUE |

CLIENT  

 LEVEL 17, 60 Castlereagh Street, SYDNEY NSW, 2000, Australia  
 Tel: (02) 9230 7400 Fax: (02) 9230 7444

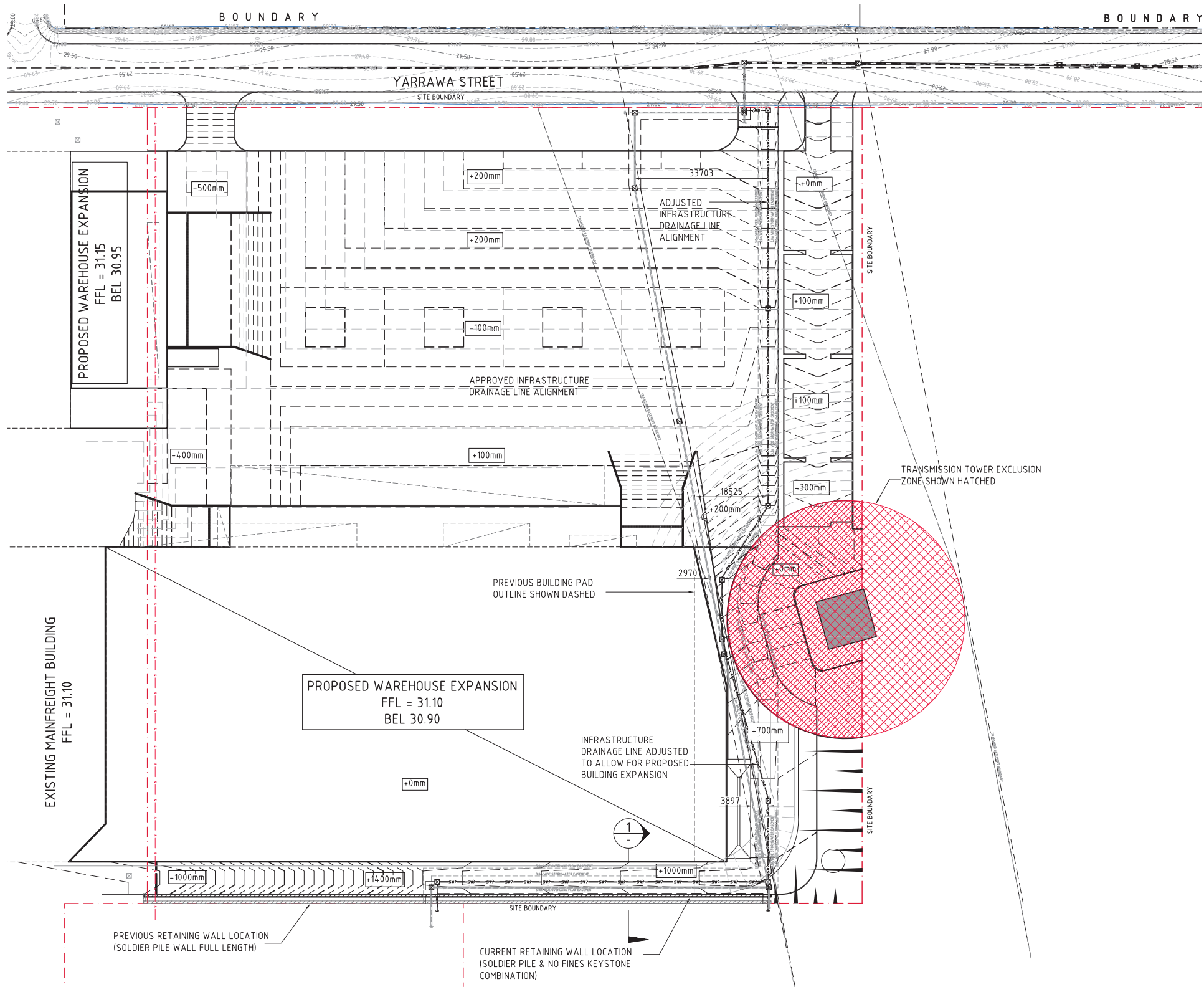
PROJECT  
**PROPOSED MAINFREIGHT EXPANSION**  
 26 YARRAWA ST, PRESTONS, NSW

CLIENT  

 Costin Roe Consulting Pty Ltd.  
 Consulting Engineers  
 Level 1, 8 Windmill Street, Walsh Bay, Sydney NSW 2000  
 Tel: (02) 9551-7899 Fax: (02) 9551-3731  
 email: mail@costinroe.com.au ©

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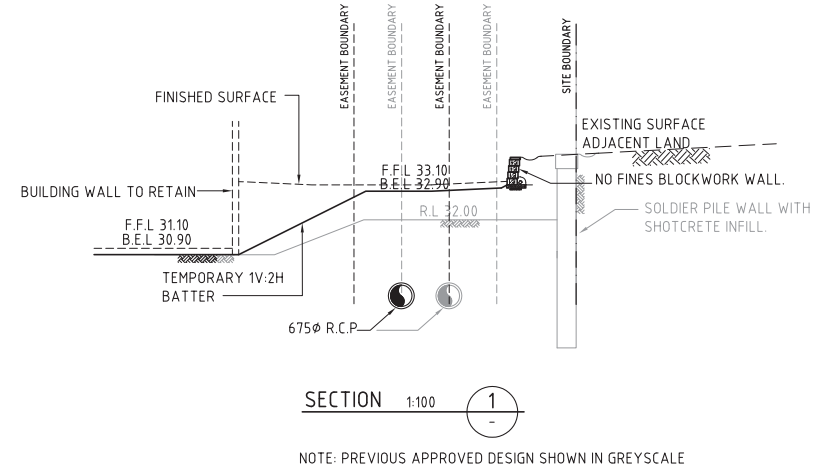
DRAWING TITLE  
**FINISHED LEVELS PLAN SHEET 2**  
 DRAWING NO  
**Co8753.08-DA52**



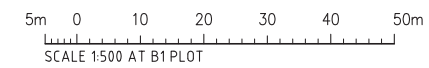
**LEGEND:**  
LEVELS DATUM IS AHD.

EXISTING SITE LEVELS AND DETAILS BASED ON SURVEY INFORMATION PROVIDED BY HARD & FORESTER SURVEYORS DATED 05.10.2012.

- SGGP, SINGLE GRATED GULLY PIT
- SJP, SEALED JUNCTION PIT
- SITE TRUNK DRAINAGE LINE
- PREVIOUS SITE TRUNK DRAINAGE LINE
- SEWER LINE
- FINISHED PAVEMENT CONTOUR (MAJOR) 0.5m INTERVALS
- FINISHED PAVEMENT CONTOUR (MINOR) 0.1m INTERVALS
- PREVIOUS FINISHED PAVEMENT CONTOUR (MAJOR) 0.5m INTERVALS
- PREVIOUS FINISHED PAVEMENT CONTOUR (MINOR) 0.1m INTERVALS
- DENOTES CHANGE IN B.E.L. LEVEL FROM PREVIOUS DESIGN TO CURRENT DESIGN



**MAINFREIGHT EXPANSION - APPROVED INFRASTRUCTURE DESIGN COMPARISON PLAN**  
1:500



**FOR INFORMATION ONLY**

|                                   |  |  |                   |  |  |   |  |  |                              |  |  |   |  |  |  |  |  |
|-----------------------------------|--|--|-------------------|--|--|---|--|--|------------------------------|--|--|---|--|--|--|--|--|
| <p>FOR INFORMATION AMENDMENTS</p> |  |  | <p>10.04.13 A</p> |  |  | <p>ISSUE AMENDMENTS</p>   |  |  | <p>DATE ISSUE AMENDMENTS</p> |  |  | <p>DATE ISSUE AMENDMENTS</p>  |  |  |  |  |  |
| <p>CLIENT </p>                    |  |  |                   |  |  | <p>PROJECT <b>PROPOSED MAINFREIGHT EXPANSION</b><br/>26 YARRAWA ST, PRESTONS, NSW</p> |  |  |                              |  |  | <p>Costin Roe Consulting Pty Ltd.<br/>Consulting Engineers<br/>Level 1, 8 Windmill Street<br/>Wahah Bay, Sydney NSW 2000<br/>Tel: (02) 9551-7899 Fax: (02) 9541-3731<br/>email: mail@costinroe.com.au ©</p> |  |  |  |  |  |
| <p>DESIGNED MW</p>                |  |  |                   |  |  | <p>DRAWN MC</p>   |  |  |                              |  |  | <p>DATE 05.04.13</p>  |  |  |  |  |  |
| <p>CHECKED</p>                    |  |  |                   |  |  | <p>SIZE A1</p>  |  |  |                              |  |  | <p>SCALE AS SHOWN</p>   |  |  |  |  |  |
| <p>CAD REF: C08753.08-0A70</p>    |  |  |                   |  |  | <p>Value in Engineering and Management</p>  |  |  |                              |  |  | <p>DRAWING TITLE <b>APPROVED INFRASTRUCTURE DESIGN COMPARISON PLAN</b></p>  |  |  |  |  |  |
| <p>DRAWING No C08753.08-DA70</p>  |  |  |                   |  |  | <p>ISSUE A</p>  |  |  |                              |  |  |   |  |  |  |  |  |

## Appendix B

### Conformance with Director Generals Requirements

#### (Civil related items shown only)

#### *Key Issues*

The EIS must address the following issue:

- **Soil and Water** – including a detailed assessment of potential soil, surface and groundwater impacts, particularly on nearby sensitive water sources/bodies;

#### *DGR Compliance*

Erosion and sediment control measures will be implemented during construction works. Refer to drawings Co8753.08-DA20 & DA25 and Section 7 of this report.

Water quality has been addressed via the use of end of line hydrodynamic separation unit. Refer to drawing Co8753.07-DA41 for location, Section 6 of this report and Appendix C of this report.

#### *Consultation*

During the preparation of the Environmental Impact Statement, you should consult with the relevant local, State or Commonwealth Government authorities, service providers, community groups or affected landowners.

In particular you must consult with the:

- Environmental Protection Authority;
- Office of Environment and Heritage;
- NSW Office of Water;
- Transport for NSW (including NSW Roads and Maritime Service);
- NSW Fire Brigades;
- NSW WorkCover;
- Transgrid;
- Liverpool City Council; and
- the local community and stakeholders.

The EIS must describe the consultation process and the issues raised, and identify where the design of the development has been amended in response to these issues. Where amendments have not been made to address an issue, a short explanation should be provided.

***DGR Compliance***

Consultation with Liverpool City Council engineer (Mr Steven Monte) has been made regarding engineering requirement for easements and stormwater drainage requirements for the development.

Contact with The NSW Office of Water has been made during the design process.

**Policies Guidelines and Plans****Surface Water**

Managing Urban Stormwater: Council Handbook. Draft (EPA)

Managing Urban Stormwater: Treatment Techniques (EPA)

Managing Urban Stormwater: Source Control. Draft (EPA)

Managing Urban Stormwater: Soils & Construction (Landcom)

Approved Methods for the Sampling and Analysis of Water Pollutants in NSW (DEC)

Using the ANZECC Guideline and Water Quality Objectives in NSW (DEC)

***DGR Compliance***

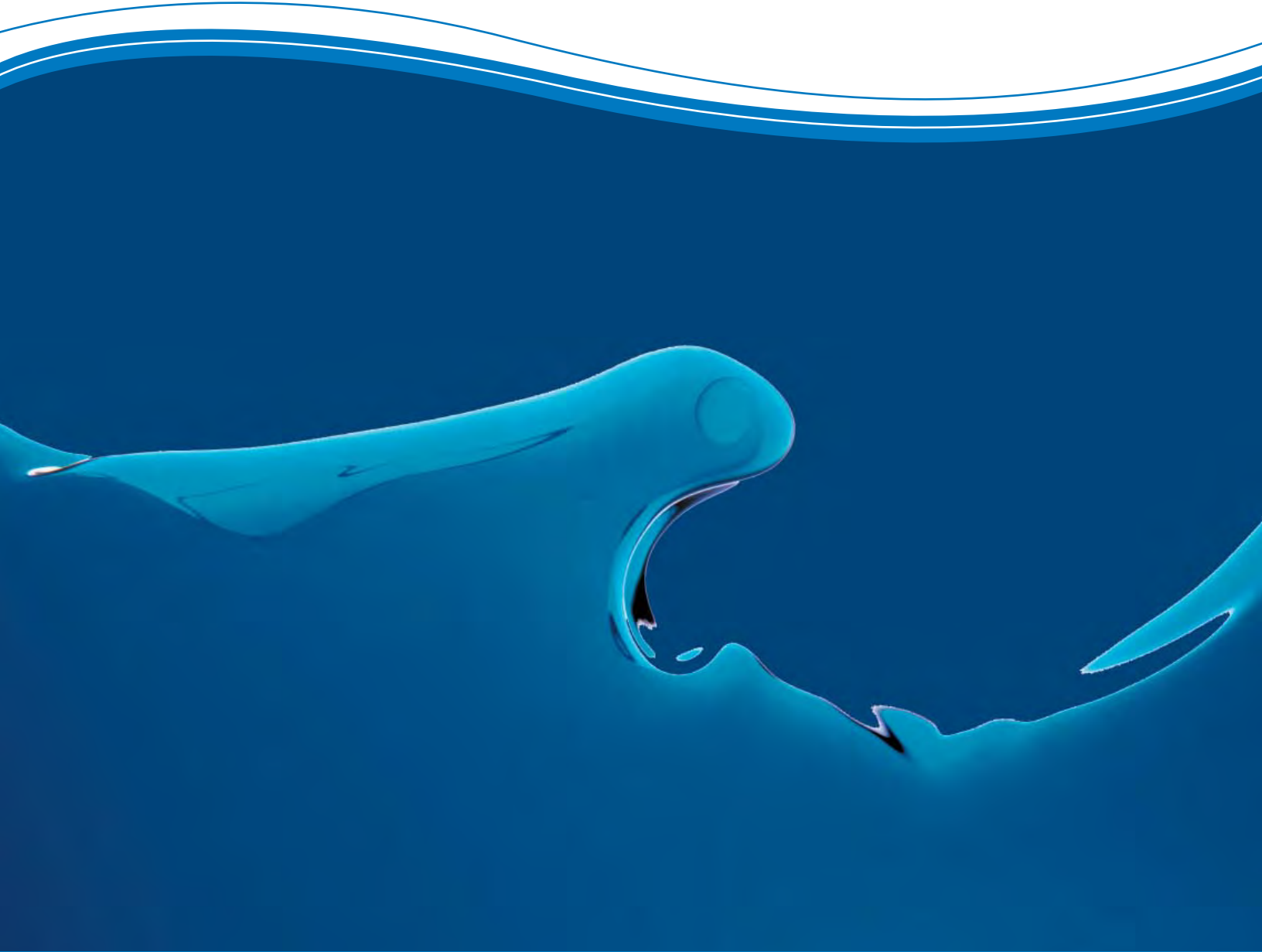
Stormwater drainage has been performed with consideration of the above documents. Refer to Sections 4, 5 & 6 of this report.

# **Appendix C**

## **WATER QUALITY DEVICE TECHNICAL DETAILS**

### **VORTECH HYDRODYNAMIC SEPARATION UNIT**

Hydrodynamic Separation Products



## High performance hydrodynamic separation

The Vortechs system is a high-performance hydrodynamic separator that effectively removes fine sediment, oil and grease, and floating and sinking debris. Its swirl concentrator and flow controls work together to minimise turbulence and provide stable storage of captured pollutants. The design also allows for easy inspection and unobstructed maintenance access. With comprehensive lab and field testing, the system delivers proven results and site-specific solutions.

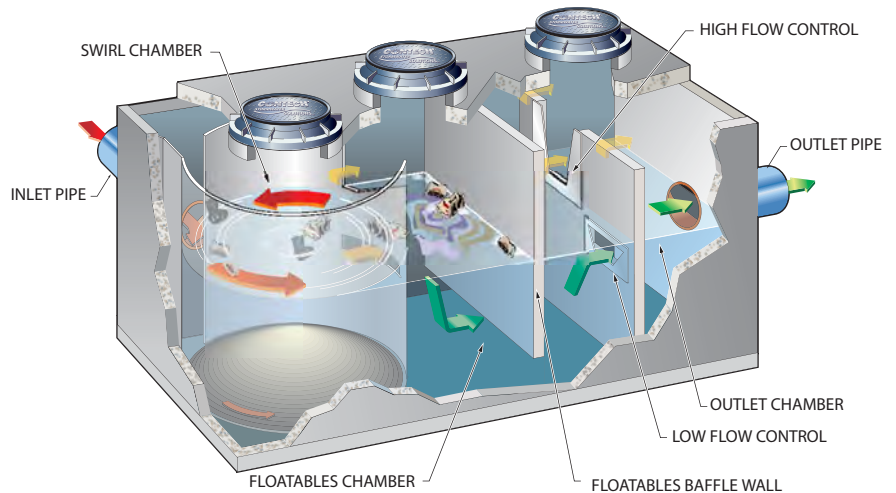
Precast models can treat peak design flows up to 700 L/s; cast-in-place models handle even greater flows. A typical system is sized to provide an 80% load reduction based on laboratory-verified removal efficiencies for varying particle size distributions such as 50-micron sediment particles.

### How does it work?

Water enters the swirl chamber at a tangent, creating a swirling flow pattern and enhancing gravitational separation. Sinking pollutants stay in the swirl chamber while floating pollutants are stopped at the baffle wall. Typically Vortechs systems are sized such that 80% or more of runoff through the system will be controlled exclusively by the low flow control. This orifice reduces inflow velocity and turbulence by creating backwater appropriate for the site.

During larger storms, the water level rises above the low flow control and begins to flow through the high flow control. The layer of floating pollutants is elevated above the influent pipe, preventing re-entrainment. The swirling action increases in relation to the storm intensity, which helps prevent re-suspension. When the storm drain is flowing at peak capacity, the water surface in the system approaches the top of the high flow control. The Vortechs system will be sized large enough so that previously captured pollutants are retained in the system even during these infrequent events.

As a storm subsides, treated runoff decants out of the Vortechs system at a controlled rate, restoring the water level to a dry-weather level equal to the invert of the inlet and outlet pipes. The low water level facilitates easier inspection and cleaning, and significantly reduces maintenance costs by reducing pump-out volume.



### Vortechs

- Proven performance speeds approval process
- Treats peak flows without bypassing
- Flow controls reduce inflow velocity and increase residence time
- Unobstructed access simplifies maintenance
- Shallow system profile makes installation easier and less expensive
- Very low headloss
- Flexible design fits multiple site constraints



# Available Models

| Vortechs Model | Swirl Chamber Diameter<br>m | Internal Length<br>m | Water Quality Flow <sup>1</sup><br>L/s |        |        | Peak Treatment Flow <sup>2</sup><br>L/s | Sediment Storage<br>m <sup>3</sup> |
|----------------|-----------------------------|----------------------|--|--------|--------|---|------------------------------------|
|                |                             |                      | 50 µm                                  | 110 µm | 200 µm |   |                                    |
| 1000           | 0.9                         | 2.7                  | 5.9                                    | 16.7   | 27.8   | 45.3                                    | 0.5                                |
| 2000           | 1.2                         | 3.0                  | 10.2                                   | 28.3   | 48.1   | 79.3                                    | 0.9                                |
| 3000           | 1.5                         | 3.4                  | 16.7                                   | 48.1   | 76.5   | 127.4                                   | 1.4                                |
| 4000           | 1.8                         | 3.7                  | 22.1                                   | 62.3   | 104.8  | 169.9                                   | 1.8                                |
| 5000           | 2.1                         | 4.0                  | 31.1                                   | 87.8   | 147.2  | 240.7                                   | 2.4                                |
| 7000           | 2.4                         | 4.3                  | 39.6                                   | 116.1  | 189.7  | 311.5                                   | 3.1                                |
| 9000           | 2.7                         | 4.6                  | 51.0                                   | 147.2  | 240.7  | 396.4                                   | 3.7                                |
| 11000          | 3.0                         | 4.9                  | 65.1                                   | 184.1  | 303.0  | 495.5                                   | 4.3                                |
| 16000          | 3.7                         | 5.5                  | 93.4                                   | 263.3  | 433.2  | 707.9                                   | 5.4                                |

1. Water Quality Flow is based on 80% removal for a particle size distribution (PSD) with an average particle size as listed. Particle size should be chosen based on anticipated sediment load.

2. Peak Treatment Flow is maximum flow treated for each unit listed. This flow represents an infrequent storm event such as a 5, 10 or 20 year storm.

Standard Vortechs System depth below invert is nominal 900mm for all precast models.

Cast-in-place system are available to treat higher flows. Check with your local representatives for specifications.

| VortSentry Model | Swirl Chamber Diameter<br>m | Typical Depth Below Invert<br>m | Water Quality Flow <sup>1</sup> |       | Max. Size Inlet/Outlet<br>mm | Sediment Storage<br>m <sup>3</sup> |
|------------------|-----------------------------|---------------------------------|---------------------------------|-------|------------------------------|------------------------------------|
|                  |                             |                                 | 110 µm                          | L/s   |                              |                                    |
| VS30*            | 0.9                         | 1.8                             | 7.4                             | 7.4   | 300                          | 0.6                                |
| VS40             | 1.2                         | 2.1                             | 16.4                            | 16.4  | 460                          | 1.1                                |
| VS50             | 1.5                         | 2.4                             | 31.1                            | 31.1  | 460                          | 1.7                                |
| VS60             | 1.8                         | 2.7                             | 51.0                            | 51.0  | 600                          | 2.4                                |
| VS70*            | 2.1                         | 3.0                             | 76.5                            | 76.5  | 750                          | 3.3                                |
| VS80*            | 2.4                         | 3.1                             | 110.4                           | 110.4 | 600                          | 4.3                                |

\* Denotes models may not be manufactured in your area. Check with your local representative for availability.

1. Water Quality Flow is based on 80% removal for a particle size distribution with an average particle size of 110 microns. This flow also represents the maximum flow prior to which bypass occurs.

| VortSentry HS Model | Swirl Chamber Diameter<br>m | Typical Depth Below Invert<br>m | Water Quality Flow <sup>1</sup> |       | Max. Size Inlet/Outlet<br>mm | Sediment Storage<br>m <sup>3</sup> |
|---------------------|-----------------------------|---------------------------------|---------------------------------|-------|------------------------------|------------------------------------|
|                     |                             |                                 | 240 µm                          | L/s   |                              |                                    |
| HS09*               | 0.9                         | 1.7                             | 15.6                            | 15.6  | 460                          | 0.4                                |
| HS12                | 1.2                         | 2.1                             | 34.0                            | 34.0  | 600                          | 0.7                                |
| HS15                | 1.5                         | 2.4                             | 62.3                            | 62.3  | 760                          | 1.1                                |
| HS18                | 1.8                         | 2.8                             | 104.8                           | 104.8 | 900                          | 1.6                                |
| HS21*               | 2.1                         | 3.2                             | 158.6                           | 158.6 | 1050                         | 2.1                                |
| HS24*               | 2.4                         | 3.5                             | 229.4                           | 229.4 | 1200                         | 2.8                                |

\* Models may not be manufactured in your area. Check with your local representative for availability.

1. Water Quality Flow is based on 80% removal for a particle size distribution with an average particle size of 240 microns.

This flow also represents the maximum flow prior to which bypass occurs.

Notes: Systems can be sized based on a water quality flow or on a net annual basis depending on the local regulatory requirement.  
When sizing based on a water quality storm, the required flow to be treated should be equal or less than the listed water quality flow for the selected system. Systems sized based on a water quality storm are generally more conservatively sized.  
Additional particle size distributions are available for sizing purposes upon request.  
Depth below invert is measured to the inside bottom of the system. This depth can be adjusted to meet specific storage or maintenance requirements.  
Contact our support staff for the most cost effective sizing for your area.

# Customer Support

## Installation

Stormwater360 products are some of the easiest to install in the industry. We provide comprehensive installation details and instructions, as well as full technical support on every project.

## Maintenance

Maintenance of Stormwater360 products is cost effective, straightforward and efficient. We offer a complete range of services that can be tailored to your specific site needs.



## Support

- Drawings and specifications are available upon request
- Site-specific design support is available from our engineers.

OFFICES : [AUSTRALIA] (NSW) tel. +61 2 9525 5833 (QLD) +61 7 3272 1872 [NEW ZEALAND] (AKL) +64 9 476 5586

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[www.stormwater360.com.au](http://www.stormwater360.com.au)

APPENDIX 3

ADDITIONAL LIVERPOOL CITY COUNCIL CORRESPONDENCE  
DATED 25 JUNE 2013





**Liverpoolcitycouncil**  
creating our future together

Our Ref: 138704.2013  
Contact: Lisa Mackay 9821 9124

25 June 2013

Pascal van de Walle  
Senior Planning Officer  
Major Projects Assessment  
GPO Box 39  
**SYDNEY NSW 2001**

Dear Sir

**Re: Mainfreight development Yarrawa Street, Prestons**

I write in relation to the SSD 5746 – Major Hazard Facility at Lot 30 and 40 Yarrawa Street, Prestons. Council is confirming that it is satisfied with the following responses and proposed conditions outlined below in regards to Council comments made on 28 May 2013.

- The proposal will be carried out in accordance with the findings of the Preliminary Hazard Analysis, relevant Australian Standards, and Statement of Commitments.
- With regard to the initial comment that the traffic impact assessment report does not provide an assessment of whether the existing roundabout would be affected by the proposed additional development. Council notes the applicant is now indicating that the development would not affect the performance of the roundabout. The comment is accepted.
- On the requested comments regarding the swept path from the Department of Planning and Infrastructure:
  - The application must demonstrate that the trucks will be able to enter and leave the site in compliance with AUSTRROADS swept path requirements.
  - The drawing TX.04 shows trucks entering the site across the centre line of the road which is not acceptable.

Council requests that turning paths should be submitted on bigger drawings so that they can be reviewed properly.

- A condition should be placed on any consent to prohibit the storage of heavy vehicles within the Yarrawa Street carriageway fronting the development site. (Specific recommendation made for line marking of Yarrawa Street from its intersection with Bernera Road up to the western extent of the development site along with no parking on the section fronting the development site).
- Line marking plan of parking/storage of vehicles referred to above is required to be submitted to Council's Local Traffic Committee for its approval. Approval must be obtained from the Committee prior to occupation of the proposed extension.

- Small vehicle parking approach is supported, so long as the 40 provisional spaces are maintained to ensure that the car parking demand can be accommodated on site.
- The request for applicant to demonstrate how the internal layout is able to accommodate all of the trucks that would be required to be stored at the development site, has been resolved through the suggestion of a TOMP being prepared and submitted, this was also requested by the RMS. It was suggested that the TOMP can be prepared and submitted prior to issue of an Occupation Certificate; therefore, no additional information with regard to storage of trucks on site is required.
- The following condition must be put in place for on-site detention requirements: *'On-site detention (OSD) shall be provided to attenuate peak stormwater runoff leaving the site to its pre-development levels, for all storm events up to and including the 100 year ARI storm if sufficient drainage modelling cannot be provided to clearly show that the proposed development will not have any negative impact of the existing Council stormwater drainage system. If OSD is found to be required the volume of OSD shall be determined using appropriate drainage modelling to demonstrate that the surrounding properties in Bernera Road are not adversely affected. The drainage modelling and flood impact assessment report along with detailed calculation shall be submitted for Council review and approval prior to the issue of a Construction Certificate'*.
- The issue of the quality of the existing Main Freight developments pipes and CCTV will be addressed by Council as a compliance matter.
- An Acoustic Report to provide measures to manage the 24 hour access of trucks to the site is not required as Council has been informed that truck movements will be restricted to the hours of 5am and 7pm. These hours of operation for truck movements should be conditioned, unless a revised acoustic report is submitted.
- The requirement for payment of contributions is included as a condition of consent.

Should you require any further information on this matter, please do not hesitate to contact Lisa Mackay Strategic Planner, on 9821 9124.

Yours sincerely

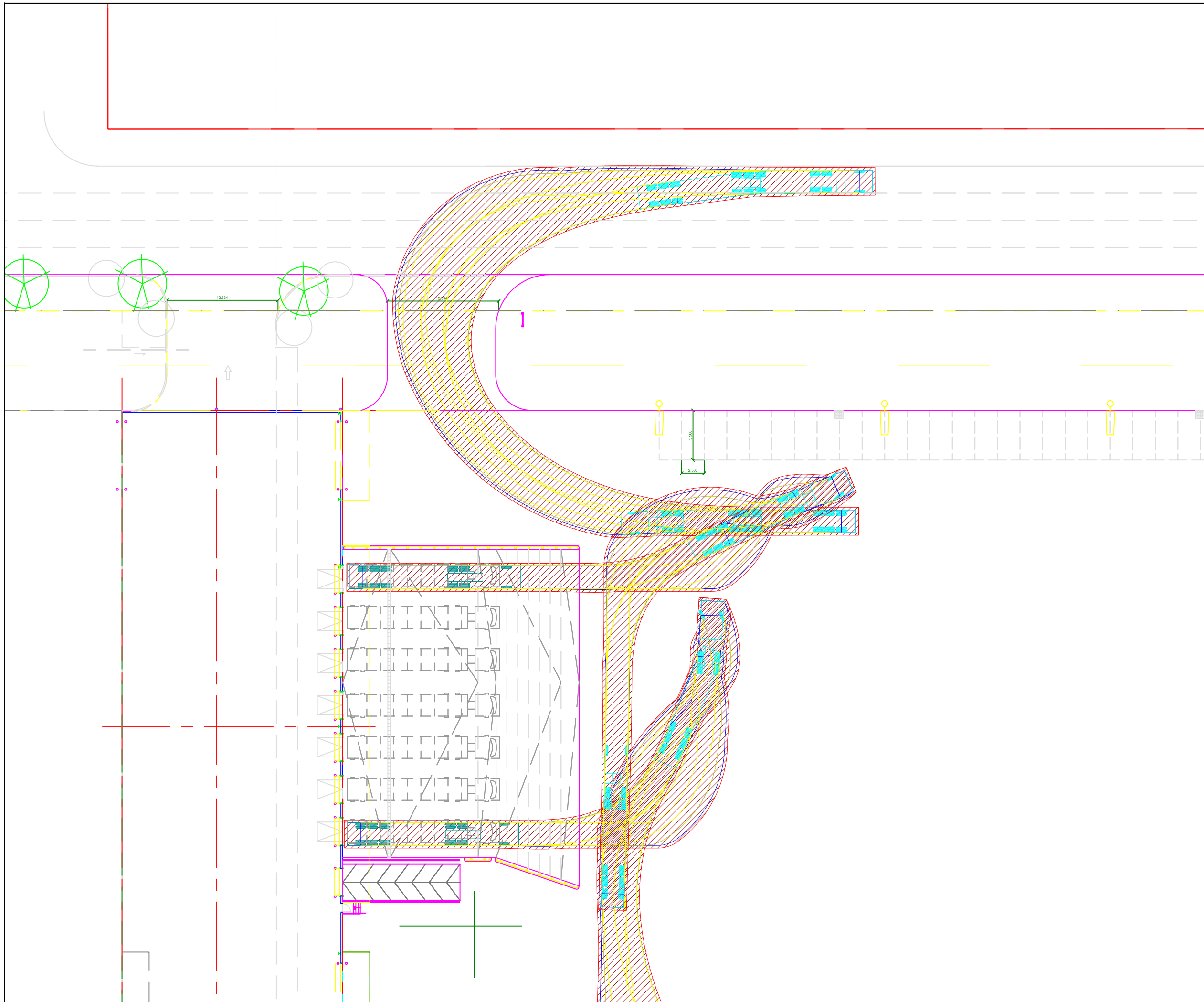


**Tanya O'Brien**  
Manager Strategic Planning

APPENDIX 4

REVISED DRAWING TX-03



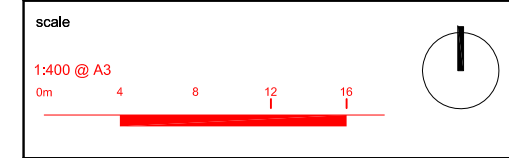


notes  
 This drawing is prepared for information purposes only. It is not to be used for construction.

| no. | revision note            | by. | date     |
|-----|--------------------------|-----|----------|
| A.  | Loading dock swept paths | AR  | 04.04.13 |
| B.  | Remove swept path        | PT  | 19.06.13 |

architect  
**Nettleton Tribe**  
 117 Willoughby Road  
 Crows Nest NSW 2065

client  
**Goodman Limited**



project  
**MAINFREIGHT FACILITY**  
 26 YARRAWA STREET, PRESTONS

drawing prepared by  
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drawing title  
**Swept Paths Analysis - 26m B-Double Exiting the Site and 19m AV entering the loading docks**

drawn: AR checked: PT date: 25-02-13

|             |                |             |     |
|-------------|----------------|-------------|-----|
| 12.424      | -              | TX.03       | B   |
| project no. | drawing phase. | drawing no. | rev |

APPENDIX 5

ADDITIONAL TRANSGRID CORRESPONDENCE  
DATED 17 JUNE 2013



**Land Assets & Facilities | Network Services & Operations**

Telephone: (02) 9284 3015

Our Reference: 2013/2643

ABN 19 622 755 774

17 June, 2013

 201 Elizabeth Street (cnr Park St)  
 PO Box A1000 Sydney South  
 New South Wales 1235 Australia  
 Facsimile (02) 9284 3456  
 Telephone (02) 9284 3000  
 Web <http://www.transgrid.com.au>  
 DX 1122 Sydney

**Mr Pascal van de Walle**

Senior Planning Officer

Major Projects Assessment

NSW Department of Planning and Infrastructure

GPO Box 39

**SYDNEY NSW 2001**

*Pascal*

 Dear Mr van de Walle,

**Re: SSD5746, 26–50 Yarrowa St, Prestons (Lot 2 in DP117691 and Lot 102 in DP287729)**

We refer to the proposed State Significant Development (SSD5746), at the abovementioned address. TransGrid's Sydney South to Sydney West No. 2 330kV transmission line (TL) traverses the Eastern boundary of this land within our established easement. Transmission structure Fdr12/Str350 is also located on the site.

TransGrid has been consultation with Goodman International and is satisfied that the proposed development does not adversely affect TransGrid's easement and the energy transmission infrastructure situated therein, subject to the provisions set out in this letter.

The following plans are acceptable to TransGrid and reflect the development design layout, subject to TransGrid altering the transmission tower's earthing system at Goodman International's cost. This was agreed between the parties and has been documented in the accompanying minutes (see **Annexure A**).

Development Plans - Project: Mainfreight Facility – Proposed Expansion (SSD5746)

- 4167\_DA01 Ground Floor/Site Plan – Issue C – Eastern Truck Entry/Exit Widened (9/4/2013) – **Annex. B**
- 4167\_DA015 Bldg 2 – Ground Floor Plan – Issue A – Issue for DA (20/02/2013) – **Annex. C**
- 4167\_DA31 Building Sections Plan – Issue A – Issue for DA (20/02/2013) – **Annex. D**
- 4167\_DA61 Traffic Management Plan – Issue A – Issue for DA (20/02/2013) – **Annex. E**

Project Civil Engineering Plans &amp; Drawings – Project: Mainfreight Facility Proposed Expansion (SSD5746)

- Co8753.08-DA10 – Issue C – 10/04/2013 Drawing List & General Notes – **Annex. F**
- Co8753.08-DA15 – Issue B – 20/02/2013 Site Master Plan – **Annex. G**
- Co8753.08-DA20 – Issue B – 20/02/2013 Erosion and Sediment Control Plan – **Annex. H**
- Co8753.08-DA25 – Issue B – 20/02/2013 Erosion and Sediment Control Details – **Annex. I**
- Co8753.08-DA40 – Issue A – 10/04/2013 Concept Stormwater Master Plan – **Annex. J**
- Co8753.08-DA41 – Issue D – 10/04/2013 Concept Stormwater Plan – Sheet 1 – **Annex. K**
- Co8753.08-DA42 – Issue D – 10/04/2013 Concept Stormwater Plan – Sheet 2 – **Annex. L**
- Co8753.08-DA51 – Issue C – 20/02/2013 Finished Levels Plan – Sheet 1 – **Annex. M**
- Co8753.08-DA52 – Issue B – 20/02/2013 Finished Levels Plan – Sheet 2 – **Annex. N**



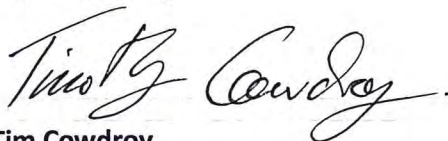
TransGrid's consent to the proposed development (SSD5746) is also subject to the following conditions:

- The developer is to pay for TransGrid to alter the transmission tower's earthing system as agreed between Goodman International and TransGrid, per the meeting minutes (See Annexure A).
- The bollards to be installed immediately adjacent to the raised kerb at 3 metre centres must be of concrete construction and earthed as required.
- To facilitate TransGrid vehicle access to the transmission tower, two immediately adjacent removable bollards are to be situated in the Nth-Nth-West location of the 15 metre horizontal clearance barrier. The two removable bollards are to be lockable.
- Trucks and other vehicles carrying dangerous goods must not stand in the easement.
- The easement must not be used for the loading or unloading of materials from vehicles.
- Traffic Management on the site must ensure that trucks carrying dangerous goods are not prevented from travelling over the easement. Loading and unloading of materials off the easement must not obstruct vehicular passage on the easement.
- No cleaning or maintenance work is permitted on trucks or other vehicles within the easement.
- No climbing/access to the roof of a truck, trailer or other vehicle is permitted within the easement. Normal ground clearance allowances for overhead lines are calculated based upon standard maximum vehicle heights and do not allow for a provision of anything above that height envelopment, especially a person.
- Trucks and other vehicles parked in the easement are not permitted to be resided in overnight, as this constitutes camping, which is prohibited within the easement.
- TransGrid to have 24 hour 7 day a week access to the TL easement and structure – see **Annex. O**.
- The *TransGrid Easement Guidelines for Third Party Development* (Guidelines) remains applicable, with the exception of the particular development works and clearances that have been approved by TransGrid as stated in this conditional consent. This includes the height and position of the hardstand lighting within the easement and the horizontal clearance of the driveway around the transmission tower, subject to the abovementioned earthing modifications being undertaken. The Guidelines apply to both the development construction works (including civil works) and to the ongoing operational use of the land over which the easement and transmission infrastructure exists. Refer to **Annexure P**.

Please include all of the abovementioned conditions of consent in the Department of Planning and Infrastructure's approval of this State Significant Development (SSD5746). Please provide TransGrid with a copy of the Department of Planning and Infrastructure's written determination of SSD5746.

Should you have any queries, please feel free to contact Tim Cowdroy on 9284 3015 or via email: [Timothy.Cowdroy@transgrid.com.au](mailto:Timothy.Cowdroy@transgrid.com.au).

Yours sincerely



**Tim Cowdroy**  
Land Economist | Land Assets and Facilities  
Network Services and Operations  
TransGrid

Encl.

