Hollinsworth Rd, Marsden Park
Construction Waste Management Plan

NOVEMBER 2017
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# Table of contents

Table of contents .................................................................................................................. 2

1. SEARs Checklist .................................................................................................................. 3

2. Introduction .......................................................................................................................... 4

3. Waste Management Principles .......................................................................................... 6

   1. Waste sources .................................................................................................................. 7
   2. Stormwater Pollution Prevention ..................................................................................... 8
   3. Litter Management .......................................................................................................... 9
   4. Records ............................................................................................................................ 9
   5. Asbestos .......................................................................................................................... 9
   6. Waste/recyclables storage (on-site) .............................................................................. 10
   7. Waste/recyclables treatment (on-site) ............................................................................ 10

4. Construction Materials ..................................................................................................... 11

5. Hazardous Waste Materials .............................................................................................. 14

6. Contracts and purchasing .................................................................................................. 15

7. Training and Education ...................................................................................................... 16

Appendix A – Site Map ......................................................................................................... 17

Appendix B – Temporary Waste Storage ............................................................................. 18
1. SEARs Checklist

<table>
<thead>
<tr>
<th>Requirement</th>
<th>How it has been met</th>
</tr>
</thead>
<tbody>
<tr>
<td>Details of the quantities and classification of all waste streams to be</td>
<td>Section 3 of this report summarises the types, quantities and management systems for construction materials that may be generated during the civil works activities</td>
</tr>
<tr>
<td>generated onsite</td>
<td></td>
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<tr>
<td>Details of waste storage, handling and disposal</td>
<td>Sections 2-5 of this report detail the management of construction waste onsite, with clear instructions for its storing, potential reuse and removal offsite.</td>
</tr>
<tr>
<td>Details of the measures that would be implemented to ensure that the</td>
<td>In identifying construction waste streams and generation rates, strategies to minimise the generation of waste to landfill and to increase the recycling of materials, as well as defining the roles and responsibilities of site managers and contractors, this Plan directly engaged with the NSW Waste Avoidance and Resource Recovery Strategy.</td>
</tr>
<tr>
<td>development is consistent with the aims, objectives and guidance in the</td>
<td></td>
</tr>
<tr>
<td>NSW Waste Avoidance and Resource Recovery Strategy</td>
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</tbody>
</table>
2. Introduction

This Construction Waste Management Plan has been prepared on behalf of Logos Property Group for the Marsden Park development, located at Lot 23 and Lot 24, Hollinsworth Rd, Marsden Park.

It addresses the SEARs (for SSD 8606) issued for the project by the Department of Planning and Environment, with reference to the following waste management requirements (extract from the SEARs report related to waste management):

*Waste Management Plan:*

- details of the quantities and classification of all waste streams to be generated on-site;
- details of waste storage, handling and disposal; and
- details of the measures that would be implemented to ensure that the development is consistent with the aims, objectives and guidance in the *NSW Waste Avoidance and Resource Recovery Strategy 2014-2021.*

The development consists of:

- A site of approximately 21 hectares
- 9 industrial warehouses each with its own office and distribution facilities

This Construction Waste Management Plan has been developed with consideration of Blacktown City Council’s *BDCP Development Control Plan 2015*, the EPA’s *NSW Waste Avoidance and Resource Recovery Strategy* and other Authority’s requirements.

This Plan details the management of waste generated during the construction phases of the development.

The aim of this Plan is to ensure that all waste resulting from construction activities is managed in an effective, safe and environmentally aware manner. Specifically,

- To minimise the generation of waste to landfill
- To maximise waste material avoidance and reuse on site
- To ensure that where practicable, an efficient recycling procedure is applied to waste materials
- To raise awareness among employees and subcontractors of their waste management responsibilities

This Plan has been developed with reference to Blacktown City Council’s requirements and relevant Sections of the *Protection of the Environment Operations Act 1997* and the
NSW Environment Protection Authority *Waste Classification Guidelines, Part 1: Classifying Waste*, as well as consideration of industry best-practice for this type of development.

While this is a construction waste management plan, there may be demolition activities that are undertaken during the construction. If so, then there will be compliance with *Australian Standard AS2601: The demolition of structures*. This in summary requires that the demolition of structures:

- sets out requirements for the planned demolition of buildings and certain other structures so that the risk of injury to workers, other site personnel and the public, and the risk of damage to adjacent property and the immediate environment is minimised;
- covers the methods and safety procedures applicable to demolition work in general as well as procedures for some types of structures;
- deals with manual and mechanical demolition techniques including those employing specialised earth-moving type machinery;
- includes informative appendices covering the demolition of pre-stressed concrete structures, some contractual considerations, a checklist for contractors and qualifications for site personnel;
- safety and health issues are addressed under the headings of:
  - Health and safety of the public - covering general requirements, lighting, falling materials, fencing, hoardings and warning notices, scaffolding, overhead protection for footpaths, and hazardous materials and conditions;
  - Safety and health of site personnel - covering general safety, personal protective clothing and equipment, cutting and welding, fire protection, first aid, amenities, removal of hazardous material and electrical safety;
  - Protection of adjoining buildings and protection of immediate environment - covering requirements relating to access and egress, damage and structural integrity, vibration and concussion, weatherproofing, burning, dust control, noise control, protection of public roads and protection of sewers and water courses; and
- protection of the site.

Adherence to AS2601 is required under the Environmental Planning and Assessment Regulation 2000.

Section 143 of the Protection of the Environment Operations Act 1997 requires waste to be transported to a place that can lawfully accept it. It will be the responsibility of the site developers to ensure all contractors clearly specify where all wastes are to be transported, the capacity of the nominated facilities to receive/manage the waste and to ensure that reports on management aspects (types, quantities and disposal pathways) are provided.
3. Waste Management Principles

The following waste hierarchy will be used as a guiding principle:

**Avoid and reduce waste**
- Assessing and taking into consideration the resultant waste from different design and construction options
- Purchasing materials that will result in less waste, which have minimal packaging, are pre-cut or fabricated.
- Not over ordering products and materials

**Reuse**
- Ensure that wherever possible, materials are reused either on site or offsite.
  - Identify all waste products that can be reused
  - Put systems in place to separate and store reusable items
  - Identify the potential applications for reuse both onsite and offsite and facilitate reuse

**Recycling**
- Identify all recyclable waste products to be produced on site.
  - Provide systems for separating and stockpiling of recyclables
- Provide clear signage to ensure recyclable materials are separated
- Process the material for recycling either onsite or offsite

Note: In some cases it may be more economical to send the unsorted waste to specialised waste contractors who will separate and recycle materials at an offsite location.

**Disposal**

Waste products which cannot be reused or recycled will be removed and disposed of. The following will need to be considered:

- Ensure the chosen waste disposal contractor complies with regulatory requirements
- Implement regular collection of bins

**Waste sources**

The principles outlines above are applied to the expected waste sources for the development as follows:

**Excavation Material**

Minor earthworks will be completed over the site as required to achieve proposed levels.

**Green Waste**

It is expected that there will be minimal green waste generated.

**Bricks, Tiles, Concrete**

Bricks will be stockpiled and reused wherever possible. Surplus, unused bricks may be reused in pavement construction or for temporary access tracks etc if possible. Unusable bricks will be collected and recycled at an appropriate brick/rubble recycling facility to be used in aggregate gravel products.

**Timber**

Recyclable timber (untreated) will be collected and recycled at appropriate timber yard. Unrecyclable (treated) timber will be disposed at landfill.

Timber that is not of the standard for reuse will be transported to a site for chipping for use as garden mulch if acceptable for this process.
Metals

All metal materials will be reused or recycled as follows:

- Metal drums and packaging to be returned to the supplier
- Any metal suitable for recycling will be separated and stored in a designated scrap metal bin for transport to a metal recycling facility

Paper and cardboard

Cardboard and paper will be produced mainly from packaging materials and office paper waste. These should be disposed of into a designated bin and collected regularly as required.

Liquid Waste

Liquid waste may be produced on site for environmental control measures such as:

- Site and vehicle cleaning
- Dust control waste

The following measures will be taken to minimise the impact of liquid waste:

- Ensure water is used in moderation and no taps are left continuously running
- Use any grey water produced on site for irrigation or for dust suppression
- Only discharge clean water into storm water

Stormwater Pollution Prevention

All actions will be undertaken to avoid pollution entering stormwater drains and for litter generation. The following will be initiated:

i. Prior to commencement of any works a SWMS will be completed and reviewed to determine potential for stormwater pollution and/or litter generation

ii. The proponent (contractor), will need to develop a management strategy to manage the potential for these issues to be realised

iii. Site inspections will be conducted during the working day to monitor potential for stormwater generation and where identified, works will cease until appropriate controls are implemented

iv. Wastewater and storm water will be managed and disposed of in accordance with Sydney Water requirements.
Litter Management

i. Daily site inspections will be conducted to identify litter, remedy the situation and investigate the cause so as to reduce the potential for the issue to occur in the future.

ii. Sufficient quantities of bins (and/or bin space), will be made available so as to avoid dumping of materials outside bins

iii. All waste/recycling bins will have covers so as to ensure that wastes cannot be blown out during windy conditions. This will also apply to relevant stocks of materials to be used in construction.

iv. Personnel will be allocated the role of litter management in that they will periodically inspect the site and surrounds for litter and if identified collect and dispose of it.

Records

Records will be kept of all wastes and recyclables generated and either used on site, or transported off-site.

It will be a condition of appointment, that all waste/recycling contractors provide these records and that they also contain details of the facilities that the materials are transported to.

These records will be made available to Council on request.

Asbestos

It is not expected that any asbestos waste will be generated. However, should any materials be suspected of being (or containing), asbestos, the following process will apply.

The process for managing what has initially been suspected of being or containing asbestos waste is as follows:

i. Treat the material as asbestos unless proven otherwise

ii. Do not disturb the material (ie., shift or place into a container) at all

iii. Seek advice from a suitably qualified laboratory to test the material(s) to determine if it is or is not asbestos.

iv. If determined not to be asbestos, then it can be managed as an inert waste.

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1 It may be that any material suspected of being asbestos is simply classified as such, and then managed accordingly.
v. If determined to be asbestos then managed by a licenced contractor for packaging, removal and disposal.

vi. If the material has accidently been uncovered, then the area should be cleared, barriers erected to prevent access, NSW WorkCover and EPA notified, and if broken, covered with a fine spray/mist of water.

For what has been conclusively identified as asbestos containing materials (including soils), a specialist/licenced asbestos contractor will be used. As required, only workers trained in asbestos removal techniques will be allowed to manage the removal of asbestos contaminated soil and any contained on the buildings.

In regards to disposal of asbestos containing materials, there are regulatory requirements under clause 42 of the Protection of the Environment Operations (Waste) Regulation 2005 that apply to the management of asbestos waste, including:

- Waste must be stored on the premises in an environmentally safe manner.
- Non-friable asbestos material must be securely packaged at all times.
- Friable asbestos material must be kept in a sealed container.
- Asbestos-contaminated soil must be wetted down.
- All asbestos waste must be transported in a covered, leak-proof vehicle.
- Asbestos waste must be disposed of at a landfill site that can lawfully receive this waste. Always contact the landfill beforehand to find out whether asbestos is accepted and any requirements for delivering asbestos to the landfill.
- It is illegal to dispose of asbestos waste in domestic garbage bins.
- It is also illegal to re-use, recycle or dump asbestos waste

These requirements will be adhered to.

Waste/recyclables storage (on-site)

All waste and recycling materials will be stored in bins provided by the appointed contractor(s). These bins will be appropriately coloured and signed to indicate what materials are to be deposited into them and located so as to maximise the recovery of reusable/recyclable materials.

Waste/recyclables treatment (on-site)

There will be no treatment of wastes or recyclables on-site except for possible removal of contaminants prior to forwarding to off-site recyclers.
4. Construction Materials

The following summarises the types, quantities and management systems for construction materials that may be generated during the civil works activities.

The quantity of waste materials to be generated onsite are estimates and therefore the systems that will be put in place need to incorporate flexibility to allow for variation in the total quantities generated. Active site management during the construction phase will ensure all waste/recyclable materials are disposed of appropriately and that all waste receptacles are of sufficient capacity to manage onsite activities.

Table 1 below details the estimated composition by m\(^3\) of construction waste to be generated for the total site.

Finalisation of the system(s) that will be implemented for the recovery of materials and for disposal of others to landfill will occur following appointment of contractor(s). A component of the appointment will be that contractors will be required to provide data as to the disposal pathway (eg., materials, volumes and final disposal site), as well as a validation process for this information.

The appointed contractor(s) will also be responsible for sourcing specialty recycling facilities for the materials that cannot be reused on site.

**Table 1: Waste management systems - construction**

<table>
<thead>
<tr>
<th>Type of material</th>
<th>Estimated volume (m(^3))</th>
<th>On-site (Reuse or recycle)</th>
<th>Off-site (Detail contractor and recycling contractor)</th>
<th>Disposal (Detail contractor and landfill site)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concrete</td>
<td>5m(^3)</td>
<td>No on-site use</td>
<td>Collected by contractor and disposed at concrete recycling facility</td>
<td>Facility TBA upon appointment of contractor</td>
</tr>
<tr>
<td>Timber</td>
<td>25m(^3)</td>
<td>Separated and where feasible, reused for further formwork</td>
<td>Unused material separate and stockpiled onsite. Collected by specialist timber subcontractor for recycling</td>
<td>Facility TBA upon appointment of contractor</td>
</tr>
<tr>
<td>Type of material</td>
<td>Estimated volume (m$^3$)</td>
<td>On-site (Reuse or recycle)</td>
<td>Destination (Off-site (Detail contractor and recycling contractor))</td>
<td>Disposal (Detail contractor and landfill site)</td>
</tr>
<tr>
<td>------------------</td>
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<td>---------------------------------------------</td>
</tr>
<tr>
<td>Brick</td>
<td>5m$^3$</td>
<td>Undamaged bricks separated on site and stockpile for reuse at designated area or crushed and used in pavement construction</td>
<td>Unusable bricks collected by contractor and disposed at brick recycling facility</td>
<td>Facility TBA upon appointment of contractor</td>
</tr>
<tr>
<td>Plasterboard</td>
<td>5m$^3$</td>
<td>Unused material taken back by supplier for reuse where possible</td>
<td>Material to be separated and stockpiled onsite. Collected by the waste subcontractor on a weekly basis (or as required) for recycling. Possible use as soil improver with gypsum etc removed by recycler</td>
<td>Facility TBA upon appointment of contractor</td>
</tr>
<tr>
<td>Ferrous Metals (eg., balustrades, fittings, door frames, guttering, studs etc)</td>
<td>10m$^3$</td>
<td>No on-site reuse</td>
<td>Collected by specialist metal subcontractor for recycling</td>
<td>Facility TBA upon appointment of contractor</td>
</tr>
<tr>
<td>Non-Ferrous Metals (eg., wiring)</td>
<td>2m$^3$</td>
<td>No on-site reuse</td>
<td>Collected by specialist metal subcontractor for recycling</td>
<td>Facility TBA upon appointment of contractor</td>
</tr>
<tr>
<td>Cladding</td>
<td>10m$^3$</td>
<td>No on-site reuse</td>
<td>Collected by the waste contractor for recycling. Facility TBA upon appointment of contractor.</td>
<td>Non-recyclable cladding will be collected by contractor and disposed at landfill</td>
</tr>
<tr>
<td>Type of material</td>
<td>Estimated volume (m³)</td>
<td>On-site (Reuse or recycle)</td>
<td>Off-site (Detail contractor and recycling contractor)</td>
<td>Disposal (Detail contractor and landfill site)</td>
</tr>
<tr>
<td>--------------------------</td>
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</tr>
<tr>
<td>Glazing</td>
<td>3m³</td>
<td>No on-site reuse</td>
<td>Recyclers consulted as to potential for recycling and if suitable separated for recycling by a facility (possibly as road base, but generally not accepted for recycling due to film in the glass)</td>
<td>Facility TBA upon appointment of contractor</td>
</tr>
<tr>
<td>Plastics (eg., plumbing fixtures)</td>
<td>5m³</td>
<td>No on-site reuse</td>
<td>Contractor appointed to collect and recycle</td>
<td>No disposal to landfill</td>
</tr>
<tr>
<td>Mixed Recyclables</td>
<td>50m³</td>
<td>No on-site reuse</td>
<td>Contractor appointed to collect and recycle</td>
<td>No disposal to landfill</td>
</tr>
<tr>
<td>General waste</td>
<td>100m³</td>
<td>No on-site reuse</td>
<td>No recycling or reuse</td>
<td>Facility TBA upon appointment of contractor</td>
</tr>
</tbody>
</table>
5. Hazardous Waste Materials

At this stage, it is not expected that there will be any hazardous materials that will require management under this Waste Management Plan.

Contractors employed to manage any identified hazardous wastes will be required (prior to appointment), to demonstrate their compliance with NSW EPA and WorkCover requirements for management of the specific materials they are contracted to manage.

The key principles that need to be adhered to are:

1. All hazardous wastes need to be correctly identified and managed in accord with all relevant legislation and Codes of Practices.
2. Hazardous materials need to be separated into their individual categories and not mixed with any other materials

Prior to commencing any clean-up activities, a Workplace Health & Safety Plan will be developed, implemented and monitored with all relevant site personnel receiving specific training in management of hazardous waste materials (including suspected hazardous materials).

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2 Reference should be made to the NSW EPA publication, Waste Classification Guidelines Part 1: Classifying Waste.
6. Contracts and purchasing

Each subcontractor working on the site will be required to adhere to this Waste Management Plan.

The Head Contractor will ensure each subcontractor:

- Takes practical measures to prevent waste being generated from their work
- Implements procedures to ensure waste resulting from their work will be actively managed and where possible recycled, as part of the overall site recycling strategy or separately as appropriate
- Ensures that the right quantities of materials are ordered, minimally packaged and where practical pre-fabricated. Any oversupplied materials are returned to the supplier
- Implements source separation of off cuts to facilitate reuse, resale or recycling.

The Site Manager will be responsible for:

- Ensuring there is a secure location for on-site storage of materials to be reused on site, and for separated materials for recycling off site.
- Engaging appropriate waste and recycling contractors to remove waste and recycling materials from the site
- Co-coordinating between subcontractors, to maximise on site reuse of materials
- Monitoring of bins on a regular basis by site supervisors to detect any contamination or leakage
- Ensuring the site has clear signs directing staff to the appropriate location for recycling and stockpiling station/s. And that each bin/skip/stockpile is clearly sign posted
- Providing training to all site employees and subcontractors in regards to the WMP as detailed in section 8 below.

Should a subcontractor cause a bin to be significantly contaminated, the Site Manager will be advised by a non-conformance report procedure. The offending subcontractor will then be required to take corrective action, at their own cost. The non-conformance process would be managed by the Head Contractors’ Quality Management Systems.
7. Training and Education

All site employees and sub-contractors will be required to attend a site specific induction that will outline the components of the WMP and explain the site specific practicalities of the waste reduction and recycling strategies outlined in the WMP.

All employees are to have a clear understanding of which products are being reused/recycled on site and where they are stockpiled. They are also to be made aware of waste reduction efforts in regards to packaging.

The site manager will post educational signage in relation to the recycling activities on site in breakout areas, lunch rooms etc.
Appendix A – Site Map
Appendix B – Temporary Waste Storage

Temporary Waste Storage Areas

Access Roads For Collection