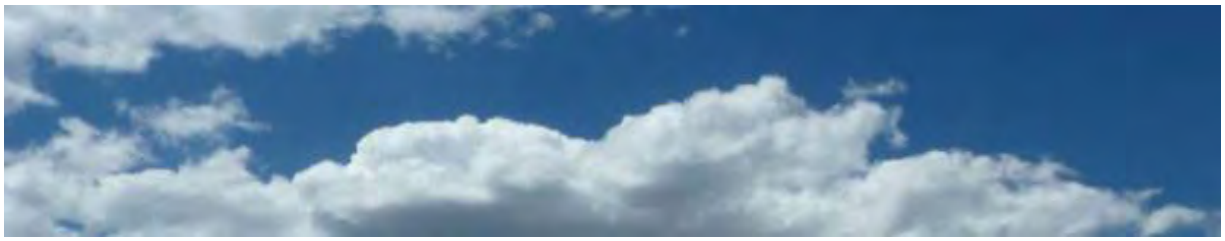
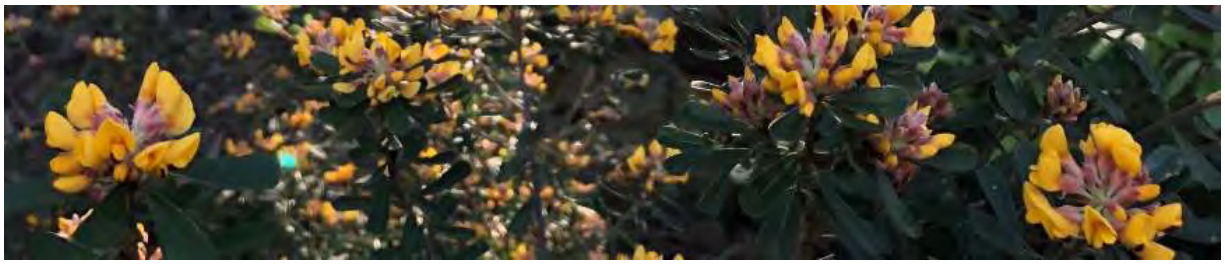
Environmental Impact Statement

Kingsgrove resource recovery facility | 2F The Crescent Kingsgrove NSW 2208

Prepared for W & J Lee Property Investments Pty Ltd
January 2020





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Environmental Impact Statement

Kingsgrove resource recovery facility | 2F The Crescent Kingsgrove NSW 2208

Report Number

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Client

W & J Lee Property Investments Pty Ltd

Date

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17 January 2020

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17 January 2020

Executive Summary

W & J Lee Property Investments Pty Ltd (the Proponent) proposes to construct and operate a resource recovery facility (the facility) at 2F The Crescent Kingsgrove. The facility will receive, sort and process up to 35,000 tonnes per annum (tpa) of dry, general solid waste (non-putrescible) as defined by the NSW *Protection of the Environment Operations Act 1997* (POEO Act) and the Waste Classification Guidelines. The acceptable waste at the facility will include plastic, plasterboard, bricks, concrete, metal, paper, cardboard, green waste, wood waste, building and demolition waste and asphalt waste. No asbestos, liquid waste, hazardous waste or radioactive waste, as defined in the POEO Act or the Waste Classification Guidelines will be accepted at the facility.

It is not proposed to use the site for long term storage of any waste or recyclable material. Processed materials will be promptly dispatched direct to customers or retailers for beneficial re-use, or to other specialist waste facilities for further processing. Waste material which cannot be recycled or re-used will be disposed to appropriately licensed landfills. The processing of materials at the facility will operate Monday to Saturday from 6:00 am to 5:30 pm. It is proposed that the facility will accept delivery of materials to the facility, in limited quantities, outside these hours but not for processing at that time. The facility will be closed on Sundays and public holidays.

The Proponent's site is appropriately located within an existing industrial area and local streets are able to safely accommodate the associated vehicles movements. The proposal is compatible with existing surrounding land uses and does not impact residential areas.

The precinct is not currently serviced by similar waste management facilities and the businesses in the region, government agencies and members of the public will be able to access the facility to recycle waste, contributing to meeting government recycling targets.

This Environmental Impact Statement (EIS) accompanies a DA for the proposal under Part 4 of the NSW *Environmental Planning and Assessment Act 1979* (EP&A Act). It has been prepared in accordance with the EP&A Act and the Environmental Planning and Assessment Regulation 2000. It addresses the requirements of the relevant government agencies as described in the Secretary's Environmental Assessment Requirements (SEARs) and considers matters raised by government agencies and stakeholders that were consulted regarding the proposal.

The facility will assist the NSW Government in meeting waste reduction targets and increase the recovery and reuse of material set out in the NSW *Waste Avoidance and Resource Recovery Strategy 2014-21*. The proposal also aligns with the Local Government NSW campaign 'Save Our Recycling' by the provision of a publicly accessible resource recovery facility in a strategic location (Kingsgrove). It is a much-needed urban service in the immediate area and the wider region.

The key finding of the EIS is that by implementing mitigation measures, the proposal would not have any significant or unacceptable impact on air quality, noise and vibration, surface water and groundwater, traffic, parking, visual amenity, vegetation or biodiversity. A range of mitigation measures to minimise impacts from the facility are summarised in a statement of commitments. In addition, the proposal will have socio-economic benefits. It will provide direct employment opportunities, retain and utilise suitable industrial land that is currently a vacant lot, and provide an efficient resource recovery service for a growing community.

Based on the assessment of the facility provided in this EIS, it is recommended that the proposed facility receive favourable consideration by the consent authority.

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1 Introduction

1.1 Proposal overview

The proponent is W & J Lee Property Investments Pty Ltd (W & J Lee Property Investments). The proposed facility, once approved, will be operated by Combined Skips. The proposal is located at 2F The Crescent Kingsgrove (legally described as Lot 2 DP 1235786) within the Georges River local government area (LGA).

The proposal will receive, sort and process up to 35,000 tonnes per annum (tpa) of dry, general solid waste (non-putrescible) as defined by the NSW *Protection of the Environment Operations Act 1997* (POEO Act) and the *Waste Classification Guidelines* (EPA 2014a). The incoming material will be primarily sourced from the construction and demolition, commercial, industrial and residential sectors.

The facility will receive, sort and dispatch waste and recyclable materials. It is not proposed to use the site for long term storage of any waste or recyclable material. Processed materials will be dispatched directly to customers/retailers for beneficial re-use or to other specialist waste facilities for further processing to achieve marketable recycled products. These products will meet the relevant recycled recovery order specifications, allowing for the recovery of materials that would otherwise be disposed to landfill.

No asbestos, liquid waste, hazardous waste or radioactive waste, as defined in the POEO Act or the Waste Classification Guidelines will be accepted at the facility. All of the materials brought onto the site will be taken from the site as recycled products or as non-recyclable by-products for disposal at an EPA licensed landfill. Odorous materials will not be received. There will be no materials land-filled or otherwise disposed anywhere within the site as a result of this proposal.

The processing of materials at the facility will operate Monday to Saturday from 6:00 am to 5:30 pm. It is proposed that the facility will accept delivery of materials 24 hours a day, in limited quantities, in order to accommodate waste derived from, for example, late night retail refurbishments. These materials, if received, would be held within the sorting shed until processing could commence next morning. The facility will be closed on Sundays and public holidays.

EMM Consulting Pty Ltd (EMM) has been engaged to prepare the Environmental Impact Statement (EIS).

1.2 The applicant

The applicant is W & J Lee Property Investments Pty Ltd. The proposed facility, once approved, will be operated by Combined Skips Pty Ltd (Combined Skips).

Combined Skips is a family run business, established for approximately 30 years, and is one of the original resource recovery service providers for the St George and Sutherland Shire areas. Over the years, Combined Skips' service provisions have been expanded to Canterbury, Bankstown, Inner West, Eastern Suburbs and the Sydney CBD. The business offers skip bin infrastructure, collection and processing for mixed and source separated waste material.

Combined Skips is undergoing a period of expansion and diversification, targeting municipal, commercial and industrial waste material for processing and recycling. The Kingsgrove site has been identified as a strategically suitable location to provide these services.

1.3 Project team

The project team formed to prepare the EIS is summarised in Table 1.1.

Table 1.1 Project team

Technical speciality	Consultant
Project Management	EMM Consulting Pty Ltd
Environmental Impact Statement	EMM Consulting Pty Ltd
Surveyor	Harrison Friedmann & Associates Pty Ltd
Architecture	Robert Lee Architects Pty Ltd
Consultation	EMM Consulting Pty Ltd
SEPP 33 analysis	EMM Consulting Pty Ltd
Fire and incident management	EMM Consulting Pty Ltd
Air quality and odour	EMM Consulting Pty Ltd
Dust management plan	EMM Consulting Pty Ltd
Noise and vibration	Spectrum Acoustics and EMM Consulting Pty Ltd
Stormwater drainage	Warren Smith & Partners
Soil and water	Barker Ryan Stewart Pty Ltd
Bulk earthworks plan	Barker Ryan Stewart Pty Ltd
Flood risk assessment	GRC Hydro
Traffic and parking	McLaren Traffic Engineering
Arboriculture	Tree Survey
Flora and fauna	EMM Consulting Pty Ltd
Aboriginal heritage due diligence	EMM Consulting Pty Ltd
Waste management plan	EMM Consulting Pty Ltd
Reflectivity study	EMM Consulting Pty Ltd
Lighting compliance	Haneco and Data 2 Electrical Pty Ltd
BCA	Concise Certification

1.4 Site description

1.4.1 Location and characteristics

The facility will be located at 2F The Crescent Kingsgrove, within Lot 2 DP 1237586 (referred to herein as 'the site'), as identified in Figure 1.1. It is located in the Georges River LGA and has a lot area of approximately 4,638 m^2. The regional location is shown in Figure 1.2.

The site was previously two separate lots until recently amalgamated. As a result, there have been updates to legal description of the lot and the site. A line of casuarina trees and wire fence still distinguish the previous 'funnel shaped' lot to the east from the more regular shaped lot to the west.

Note that the subject land was known as 2D The Crescent Kingsgrove, legally described as Lot 1837 DP 1200226, at the time Secretary's Environmental Assessment Requirements (SEARs) were issued. Therefore, the SEARs issued referred to the old site address and lot number.

1.4.2 Current site context

The site is accessed via The Crescent and is level (approximately 20 m Australian Height Datum (AHD)), with a slight fall away from The Crescent towards the stormwater drainage at the rear. The three entrances to the site are paved concrete and the remainder of the site is predominantly gravel. The Sydney Water easement running along the eastern boundary of the site was extinguished on 6 April 2019. The site is zoned IN2 Light Industrial pursuant to Hurstville Local Environmental Plan 2012 (HLEP) as shown in Figure 1.3. The current conditions of the site are shown in Photograph 1.1 to Photograph 1.6.

1.4.3 Surrounding environment

The site is on a two-lane road (The Crescent) which provides access to several industrial lots to the north of Vanessa Street. The T8 rail line is immediately south of Vanessa Street. The Crescent forms a loop and connects with the local through-road, Vanessa Street, at two points. Signpost controls are placed at both ends of The Crescent/Vanessa Street intersections to prohibit vehicles greater than 6 m long from either turning right, into Vanessa Street from The Crescent.

The Crescent adjoins Beverly Hills Park to the west and the M5 Motorway is located approximately 57 m to the north of the site. There is a vegetated drainage line (known as Wolli Creek) between the site and the M5 Motorway.

The nearest residential dwellings are located approximately 190 m to the north of the site (separated by the M5 Motorway), and there are additional dwellings approximately 250 m to the west (separated by Beverly Hills Park), as shown in Figure 1.4. The nearest dwellings to the south are 450 m away and separated from the subject site by several existing industrial premises and the T8 rail line.

The land surrounding the site to the east, west and south are all zoned IN2 Light Industrial. There is a very narrow parcel of land to the immediate north, generally aligned with the vegetated drainage easement between the site and the M5 Motorway, which is zoned RE1 Public Recreation under the HLEP.

The M5 Motorway to the north is currently undergoing major development works. There are tunnelling works along the M5 Motorway and two construction compounds (known as Kingsgrove north and Kingsgrove south) located to the north and north-east of the site. The construction work is part of the new M5 Beverly Hills to St Peters project.

1.5 Purpose of report

This EIS accompanies a development application (DA) for the proposal under Part 4 of the NSW *Environmental Planning and Assessment Act 1979* (EP&A Act). The development is both designated and integrated development under EP&A Act, POEO Act and the *Water Management Act 2000* (WM Act). Georges River Council is the consent authority.

This EIS has been prepared in accordance with the EP&A Act and Environmental Planning and Assessment Regulation 2000 (EP&A Regulation) and addresses the matters described in the Secretary's Environmental Assessment Requirements (SEARs) and matters raised by other relevant government agencies.

Photograph 1.1 **Main site entry via The Crescent– view from within the site looking south**

Photograph 1.2 **View north-west from funnel-shaped portion of the site**

Photograph 1.3 View north from the proposed office area

Photograph 1.4 View towards the north-east and Allied Pinnacle

Photograph 1.5 Existing site fence along the eastern boundary

Photograph 1.6 The Crescent – view towards the west from the main site entry

Source: EMM (2019); DFSI (2017); GA (2011); Nearmap (2019)

0 0.5 1 km

GDA 1994 MGA Zone 56

N

KEY

- Site boundary
- Rail line
- Main road
- Local road
- Watercourse/drainage line
- Waterbody

Site location

W & J Lee Property Investments Pty Ltd
Environmental impact statement
Kingsgrove resource recovery facility
2F The Crescent, Kingsgrove
Figure 1.1

EMM creating opportunities

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Source: EMM (2019); DFSI (2017); GA (2011)

0 1 2 km

GDA 1994 MGA Zone 56

N

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KEY

- Site boundary
- Rail line
- Main road
- Watercourse/drainage line
- Waterbody
- NPWS reserve

Regional location

W & J Lee Property Investments Pty Ltd
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2F The Crescent, Kingsgrove
Figure 1.2

EMM
creating opportunities

Source: EMM (2019); DFSI (2017); GA (2011); Nearmap (2019); DPE (2017)

0 50 100 m

GDA 1994 MGA Zone 56

N

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KEY

- Site boundary
- Rail line
- Main road
- Local road
- Watercourse/drainage line
- Cadastral boundary

Land zone

- IN2 Light Industrial
- R2 Low Density Residential
- R3 Medium Density Residential
- RE1 Public Recreation
- SP2 Infrastructure

Land zoning

W & J Lee Property Investments Pty Ltd
Environmental impact statement
Kingsgrove resource recovery facility
2F The Crescent, Kingsgrove
Figure 1.3

EMM
creating opportunities

Source: EMM (2019); DFSI (2017); GA (2011); Nearmap (2019); DPE (2017)

0 50 100 m

GDA 1994 MGA Zone 56

N

KEY

- Site boundary
- Rail line
- Main road
- Local road
- Watercourse/drainage line
- Cadastral boundary

Site surrounds

W & J Lee Property Investments Pty Ltd
Environmental impact statement
Kingsgrove resource recovery facility
2F The Crescent, Kingsgrove
Figure 1.4

EMM creating opportunities

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1.6 Secretary's Environmental Assessment Requirements

The EIS has been prepared to address specific requirements provided by the Department of Planning, Industry and Environment (DPIE) and other relevant agencies. The SEARs were issued on 13 November 2018 (reference 1270) and are provided in Appendix B. As required under Section 4.12(8) of the EP&A Act and Part 2 of Schedule 2 of the EP&A Regulation, this EIS has been prepared in accordance with the SEARs. A summary of the assessment requirements and where they are addressed in this EIS is provided in Table 1.2.

Note that for consistency, all references to the DPIE are taken to also refer to the earlier agency name of Department of Planning and Environment (DPE) and Department of Planning (DoP), as they were then known.

Table 1.2 Planning Secretary's Environmental Assessment Requirements

Assessment requirements	Reference in EIS
Strategic context	
• a detailed justification for the proposal and suitability of the site for the development	Chapter 1.7
• a demonstration that the proposal is consistent with all relevant planning strategies, environmental planning instruments, development control plans (DCPs), or justification for any inconsistencies	Chapter 4 and Appendix A
• a list of any approvals that must be obtained under any other Act or law before the development may lawfully be carried out	Section 4.11
Suitability of the site	
• a detailed justification that the site can accommodate the proposed processing capacity, having regard to the scope of the operations and its environmental impacts and relevant mitigation measures	Chapters 7 and 9
• floor plans depicting and proposed internal layout, including the location of machinery and equipment	Appendix E
Waste management	
• details of the type, quantity and classification of waste to be received at the site	Section 3.2
• details of waste handling including, transport, identification, receipt, stockpiling and quality control	Sections 3.3 and 3.4
• the measures that would be implemented to ensure that the proposed development is consistent with the aims, objectives and guidelines in the *NSW Waste Avoidance and Resource Recovery Strategy 2014-21.*	Section 2.1
Hazards and risk	
• the Environmental Impact Statement must include a preliminary risk screening completed in accordance with State Environmental Planning Policy No.33 – Hazardous and Offensive Development and Applying SEPP 33 (DPIE, 2011), with a clear indication of class, quantity and location of all dangerous goods and hazardous materials associated with the development. Should preliminary screening indicate that the project is "potentially hazardous" a Preliminary Hazard Analysis (PHA) must be prepared in accordance with Hazardous Industry Planning Advisory Paper No. 6 – Guidelines for Hazard Analysis (DPIE, 2011) and Multi-Level Risk Assessment (DPIE, 2011).	Chapter 6 and Appendix F
Fire and incident management	
• technical information on the environmental protection equipment to be installed on the premises such as air, water and noise controls, spill clean-up equipment, fire management (including the location of fire hydrants and water flow rates at the hydrants) and containment measures	Section 6.6 and Appendix G

Table 1.2 Planning Secretary's Environmental Assessment Requirements

Assessment requirements	Reference in EIS
• details of the size and volume of stockpiles and their arrangements to minimise fire spread and facilitate emergency vehicle access	Appendix G
Air quality	
• a description of all potential sources of air and odour emissions	Section 7.1 and Appendix H
• an air quality impact assessment in accordance with relevant Environment Protection Authority guidelines	Appendix H
• a description and appraisal of air quality impact mitigation and monitoring measures	Section 7.1 and Appendix I
Noise and vibration	
• a description of all potential noise and vibration sources during construction and operation, including road traffic noise	Section 7.2 and Appendix J
• a noise and vibration assessment in accordance with the relevant Environment Protection Authority guidelines	Appendix J
• a description and appraisal of noise and vibration mitigation and monitoring measures	Section 7.2
Soil and water	
• an assessment of potential impacts to soil and water resources, topography, hydrology, drainage lines, watercourses and riparian lands on or nearby the site	Section 7.9.2
• a detailed site water balance, including identification of water requirements for the life of the project, measures that would be implemented to ensure an adequate and secure water supply is available for the proposal and a detailed description of the measures to minimise water use at the site	Sections 7.4.2, 7.4.3 and 7.4.4
• details of any groundwater extraction and any works with potential to intercept the groundwater table	Section 7.4.3
• characterisation of water quality at the point of discharge to surface and/or groundwater against the relevant water quality criterial, including details of the contaminants of concern that may leach from the waste into the wastewater and proposed mitigation measures to manage any impacts to receiving waters	Sections 7.4.3 and 7.4.4
• details of stormwater/wastewater/leachate/firewater management systems, including details of the flood liability of the site and changes to flooding behaviour	Sections 7.3 and 7.9.2
• details of sediment and erosion controls	Section 7.3.5
• consideration of salinity and acid sulfate soil impacts	Section 7.9.1
• characterisation of the nature and extent of any contamination on the site and surrounding area	Section 4.4.5
• a description and appraisal of impact mitigation and monitoring measures	Section 7.4.4
Traffic and transport	
• details of road transport routes and access to the site	Section 3.8
• details of car parking required on site	Section 7.5.6
• road traffic predictions for the development during construction and operation	Section 7.3 and Appendix O
• an assessment of impacts to the safety and function of the road network and the details of any road upgrades required for the development	Appendix O

Table 1.2 Planning Secretary's Environmental Assessment Requirements

Assessment requirements	Reference in EIS
Biodiversity	
• a description of any potential vegetation clearing needed to undertake the proposal and any impacts to flora and fauna	Section 7.6, 7.7, Appendix P and Appendix Q
Visual	
• an impact assessment at private receptors and public vantage points	Section 7.9.3
Heritage	
• Aboriginal and non-Aboriginal cultural heritage	Section 7.8 and Appendix R
Environmental planning instruments and other policies	
The EIS must assess the proposal against the relevant environmental planning instruments, including but not limited to: • State Environmental Planning Policy (Infrastructure) 2007 • State Environmental Planning Policy (Vegetation in Non-Rural Areas) 2017 • State Environmental Planning Policy No 33 – Hazardous and Offensive Development • State Environmental Planning Policy No 55 – Remediation of Land • Hurstville Local Environmental Plan 2012 • Relevant development control plans and section 94 plans.	Chapter 4
Consultation	
During the preparation of the EIS, you must consult the relevant local, State and Commonwealth government authorities, service providers and community groups, and address any issues they may raise in the EIS. In particular, you should consult with the: • Environment Protection Authority • Office of Environment and Heritage • Department of Primary Industries • Roads and Maritime Services • Fire & Rescue NSW • Georges River Council • the surrounding landowners and occupiers that are likely to be impacted by the proposal. Details of the consultation carried out and issues raised must be included in the EIS.	Chapter 5

1.7 NSW Environmental Protection Authority requirements

On 15 May 2019, the NSW Government introduced new standards for managing construction waste. A fact sheet summarises the key requirements for construction and demolition waste facilities as follow:

- implement a two-stage inspection process to ensure asbestos waste and other unpermitted wastes do not enter the facility;
- implement sorting and waste storage requirements to improve the quality of recovered resources and avoid cross-contamination of materials;
- ensure construction waste is only transported from the facility if it has been handled in accordance with the standards on site; and

- ensure that all staff managing, supervising or undertaking tasks required by the standards have been appropriately trained.

The proposal complies with all of the above standards by implementing the waste handling and processing procedures outlined in Sections 3.3, 3.4 and Appendix C.

2 Project justification and alternatives

2.1 Project justification

Recycling in Australia results in a wide variety of tangible and measurable environmental benefits compared to landfill disposal. These include energy savings, avoidance of greenhouse gas emissions, water savings, avoidance of waste, and significant reductions in natural resource use, eutrophication and airborne pollutants. Environmental benefits are most apparent in the two significant stages of the waste process which are avoided: extraction of raw materials and disposal of waste to landfill.

The NSW Government has announced the extension of the Waste Less, Recycle More initiative with a further $337 million over 4 years from 2017 to 2021 (EPA 2016a). It aims to transform the waste and recycling sector and deliver economic and environmental benefits in NSW by responding to the targets set in the NSW *Waste Avoidance and Resource Recovery Strategy 2014-21* (EPA 2014b). These targets include:

- reduce the rate of waste generation per capita;
- increase recycling rates across all waste streams;
- increase the proportion of waste diverted from landfill to 75%; and
- establish drop-off facilities for managing problem household wastes.

As an established recycling business in Sydney, W & J Lee Property Investments supports these strategies and their ongoing implementation. The facility will assist the NSW Government in meeting waste reduction targets and increase the recovery and reuse of material.

Georges River Council has also announced its support of the Local Government NSW campaign to 'Save Our Recycling' (Council Media Release, 19 November 2019). The campaign seeks urgent action to promote and support the circular economy, and acknowledges the contribution of recycling businesses to boosting local economies and creating jobs.

The four-point plan for recycling includes:

- increasing local and state government procurement of recycled goods made with domestic content;
- delivering a state-wide education campaign on the importance of recycling to encourage the right way to recycle, the purchase of products with recycled content, and promoting waste avoidance;
- funding councils to develop regional plans for the future of waste and resource recovery in their regions; and
- priority infrastructure and other local projects needed to deliver the regional scale plans, particularly where a market failure has been identified.

There is currently no non-putrescible resource recovery facility in Kingsgrove. The nearest resource recovery facilities in proximity to Kingsgrove are in Rockdale and Mortdale. The proponent's proposed facility will provide the appropriate level of non-putrescible resource recovery services in Kingsgrove and the wider areas.

The proposal has many benefits from an economic, social and environment perspective. Specifically, the facility will:

- divert recyclable and re-usable wastes from lower order uses or landfill;

- provide a resource recovery facility in an appropriate industrial context;
- provide a commercial return, thereby contributing to the local and State economy; and
- provide employment for ten people within the resource recovery facility.

As noted by Georges River Council (19 November 2019), the best outcome is to "make waste a product not a problem".

2.1.1 Federal Senate Report and Recommendations

From January 2018, China implemented restrictions on imports of 24 types of solid waste, including various plastics and unsorted mixed papers. This change in policy will affect 1.25 megatonnes (approximately 99%) of the Australia's recyclables normally exported to China (figures are 2016-17). The three major categories of affected recyclables were:

- metals – 203,000 tonnes produced (2016-17);
- paper and cardboard – 920,000 tonnes produced (2016-17); and
- plastics – 125,000 tonnes produced (2016-17).

There will be significant challenges facing the recycling industry in Australia, however, opportunities have opened up to improve recycling sector in Australia. The Parliament of Australia Senate Standing Committee on Environment and Communications convened in 2018 to discuss the future of waste and recycling industry in Australia. A report was subsequently published in June 2018 with 18 recommendations. The recommendations which align with the objectives of the proposal are listed as follow:

- Recommendation 1: The committee recommends that the Australia Government prioritise the establishment of a circular economy in which materials are used, collected, recovered, and re-used, including within Australia.
- Recommendation 7: The committee recommends that the Australia Government work with state and territory and local governments to assist recyclers to increase the diversion of material from landfill; improve the quality of materials recovered through collection programs; improve the sorting of materials at recycling facilities; and assist manufacturers to increase the amount of recycled material used in production.
- Recommendation 17: The committee recommends that the Australia Government support state and territory governments fully hypothecating landfill levies towards measures that reduce the creation of consumption and waste, and that increase the recycling of waste materials.

W & J Lee Property Investments supports the recommendations made in the Senate report.

The proposal aims to assist both the Australian and NSW Governments, and the Georges River Council, by increasing recycling of waste materials in a key industrial location in southern Sydney, where demolition and construction continues to grow in response to expansion of housing development and infrastructure.

2.2 Suitability of the site

The site is ideally located for the proposed development because:

- the Georges River LGA is experiencing steady growth and the site is well located to meet the resulting demand for waste recycling;
- the site is within an existing industrial estate and located on industrial zoned land where the intended use is permissible, minimising potential land use conflicts;
- it is well located in southern Sydney to service a wide urban area, in particular Kingsgrove which is identified by the Georges River LGA as an industrial and employment precinct;
- it is readily accessible by a road network that is suitable for heavy vehicle use;
- it is located within close proximity to major transport links including the M5 Motorway;
- the proposed activities are not expected to be visible from any publicly accessible location; and
- the location provides significant separation from residential areas.

2.3 Consideration of alternatives

2.3.1 Do nothing

If the site is not developed with a resource recovery facility, it will be developed for an alternative industrial purpose. Under this scenario, recyclable materials from the surrounding area that would be accepted by the facility would need to be processed at another, more distant facility; would need to be processed at a new facility developed elsewhere; or go to landfill.

2.3.2 Alternative land use

The land is zoned industrial therefore, it is not suitable for commercial or residential uses. The facility and ancillary activities are permissible and suitable uses for the site. The proposal is also compatible with surrounding industrial land uses.

3 Proposal description

W & J Lee Property Investments proposes to construct and operate a resource recovery facility on the site.

This chapter describes the proposed facility and relevant activities. It also introduces the site-wide environmental controls.

3.1 Site components

The facility will include the following components on site:

- main site entry with vehicular access 5.8 m wide;
- two secondary site vehicle entry points for employee and visitor parking;
- a truck weighbridge 9.85 m long x 3 m wide;
- a wheel wash facility;
- 11 standard car parking spaces plus one disabled car space;
- a two-storey building comprising a gate house and toilet/shower facilities on the ground floor (plus outdoor rest area with sun shade canopy) and an office, lunchroom and rest area on the first floor;
- two 10,000 L underground rainwater tanks;
- a sorting shed with an area of 1,000 m^2 and a proposed height from finished slab level of approximately 9 m; and
- a concrete paved open yard adjoining the sorting shed to the north-east and south-east of the site, plus metal fencing and landscaping elements.

3.1.1 Vehicular access, parking and manoeuvring

i Site access

The site gains access from a two-lane road (The Crescent) which also provides access to a number of industrial lots to the north of Vanessa Street. The Crescent forms a loop and connects with the local through road, Vanessa Street, at two points. Vehicles greater than 6 m long are unable to turn right onto Vanessa Street when exiting The Crescent from either of the intersections.

The Crescent adjoins Beverly Hills Park to the west. The M5 Motorway is located approximately 57 m to the north of the site.

The three existing driveways will remain in their current locations at the southern boundary of the site. The easternmost driveway will be widened to accommodate the trucks delivering waste materials or collecting recyclable materials. All vehicles, including heavy vehicles, will enter and exit the site in a forward direction.

The driveways are concrete paved.

ii Car parking

A total of 11 standard car parking spaces plus one disabled car parking space will be provided along the western boundary of the shed and driveway via a separate entry point, to the west of the main site access. The car parking spaces and vehicular access for employees and visitors is sited separately to the main truck entrance, and pedestrian access linking the car park to the sorting shed, will serve to minimise interaction with trucks entering or departing the site.

The car park has been designed to comply with the relevant objectives and requirements of AS 2890.1 and AS 2890.2 (refer to Appendix E).

The car parking area is concrete paved.

iii Vehicular manoeuvring

The requirements for vehicular circulation and nominated turning areas are provided in the Traffic and Parking Impact Assessment (TPIA), prepared by McLaren Traffic Engineering (refer to Appendix O), which includes the swept path for articulated vehicles (19 m truck and dog). Vehicular and truck access to the site will be via the main site access driveway off The Crescent.

Within the site, vehicles are able to turn around within the open yard area (concrete hardstand) prior to proceeding up onto the weighbridge and wheel wash, and exiting the site.

3.1.2 Weighbridge and wheel wash

A flush to ground 9.85 m long x 3 m wide weighbridge will be used for vehicles delivering and dispatching material to and from the site. It will be located on the driveway adjacent to the gate house to allow trucks entering and exiting the site to be inspected and weighed. It will be housed within a reinforced concrete pit with the top of the weighing plate finishing flush with the adjacent concrete paving, therefore allowing the trucks to roll onto and off the weighing mechanism.

The weighbridge will be monitored by a staff member at the gate house and staff will visually inspect materials from an elevated position within the gate house building prior to accepting waste at the facility, as is normal industry practice

A wheel wash facility will be fitted at the weighbridge that will wash sediment from the wheels of outgoing vehicles prior to leaving the site. The wheel wash will operate as a self-contained unit, recycling its own filtered water within the system.

3.1.3 Gate house, site office and staff amenity area

The gate house will control and monitor the weighbridge and the entrance and exit of vehicles and pedestrians to and from the site. It will also accommodate the administrative office, staff kitchen, dining area, change rooms, toilets, amenity room and outside shaded rest area.

The structure will be two storeys, constructed of brick with a framed sheet metal roof. The gate house and staff amenities (toilets and shower) will be located on the ground floor, with the site office and staff lunch room located on the upper level (refer to Appendix E).

3.1.4 Sorting shed

The sorting shed is the core operational building on the site and will be constructed using precast concrete. It will be installed towards the northern extent of the site. The sorting shed is a one-storey building with a total floor area

of 1,000 m^2, a maximum wall height of nine metres and erected on level concrete. Internally, the sorting shed is separated into multiple zones for receiving, sorting and storage/dispatching of various materials and top-hung sliding 'hangar style' doors will be provided on the southern and western openings.

Trucks will reverse into the main sorting shed and tip receiving waste at the central area for second round of inspection (after initial inspection at the gatehouse).

The north-western corner area of the shed will be used to store pre-sorted material (with an area of 51.8 m^2), which will then be placed on the main screening and sorting plant, known as the trommel and picking line. Sorted waste will then be transferred to the fine material or brick and concrete stockpile areas.

The north and north-eastern area of the shed will be used for material stockpiling. The stockpiling area will consist of the following bays (and allocated floor area) for specific waste types:

- landfill material (16.25 m^2);
- soil (16.25 m^2);
- metal (11.25 m^2);
- paper and cardboard (16.25 m^2); and
- plastics (11.25 m^2).

The southern corner of the shed will also be used for material stockpiling, including:

- e-waste (3 m^2);
- timber and green waste (12.5 m^2);
- plasterboard (11.25 m^2);
- a small unacceptable material bin (2 m^2); and
- a small hazibag (1 m^2).

As the facility will not accept asbestos waste, any incoming waste identified to contain contaminant material will have the entire load rejected by the site personnel in accordance with the NSW EPA *Standards for managing construction waste in NSW* (EPA 2020f).

The sorting shed vehicular openings will be fitted with a water misting device to minimise dust emissions while trucks reverse and tip the unsorted incoming material inside the shed. All sorting and processing of incoming waste material will be conducted inside the shed, within an area of 118.5 m^2. The sliding hangar doors will be open during operating hours. However, if it is anticipated that if a particular bin being emptied may cause excessive dust emissions, then the southern facing sliding door will be closed. The north-east facing sliding door will generally be closed for daily operations, only opening for logistical movements when required.

The roof will fall from the central roof ridge towards the southwest and northeast sides of the building where there are box or eaves gutters located on the perimeter of the building. A number of factors need to be considered when deciding choice of materials. These factors include solar absorption, energy efficiency, reflectivity and site constraints to balance design solutions. The roof framing will be sheeted with prefinished (Colorbond) sheet metal roofing of a selected appropriate colour and the fascias, barges and parapets capped with matching prefinished sheet metal. The roof pitch is 5 degrees.

3.1.5 Open space and yards

There are two key areas of open space:

- the eastern yard; and
- the western yard.

The open yard area located in the eastern side of the site will be used for installation of an OSD tank, truck manoeuvring and temporary placement of empty waste bins. In most cases, skip bins are emptied and carted away by the same carrier. In the event that a change of skip bin size is required, there will be a logistical need to place the redundant sized bin on hardstand while the replacement sized skip bin is loaded to the truck. This is essentially a temporary arrangement while the transfer of bins takes place. Temporary placement of skip bins outside the sorting shed will be limited to empty bins only. No full bins will be stored outside the sorting shed.

The eastern open yard area will be concrete paved and curbed for bunding purposes, with stormwater pits along the eastern boundary to prevent stormwater runoff from the site onto adjacent properties.

The open yard to the west will remain vacant and will be used for car parking purposes and can also serve as a short-term holding area for trucks in the unlikely event that queuing of vehicles becomes an issue at the primary site entrance.

3.2 Waste materials, sources and quantities

3.2.1 Waste materials accepted

The facility will accept general solid waste (non-putrescible), as defined by the POEO Act and the EPA (2014a), consisting of the following:

- plastic, plasterboard, bricks, concrete or metal;
- paper or cardboard;
- green waste;
- wood waste;
- building and demolition waste; and
- asphalt waste.

3.2.2 Waste materials that will not be accepted

The following waste will not be accepted:

- special waste (including clinical and related waste; asbestos waste; whole loads of waste tyres; or anything classified as special waste under an EPA gazettal notice) as defined in EPA (2014a) Step 1;
- liquid waste as defined in EPA (2014a) Step 2;
- general solid waste (putrescible) as defined in EPA (2014a) Step 3;
- waste possessing hazards as defined in EPA (2014a) Step 4; or

- waste that requires chemical assessment to determine its classification as defined in EPA (2014a) Step 5.

Vegetation waste will not be allowed to compost to an odorous condition while on site and will be regularly removed every few days in accordance with site's management plan. No asbestos, odorous and other hazardous waste will be accepted by the facility. Any incoming waste identified to contain contaminants will be handled and managed appropriately by the site personnel in accordance with the NSW EPA's *Standards for managing construction waste in NSW* (EPA 2020f).

It is noted that materials accepted by waste facilities are restricted to specified waste types by the development consent for the facility and the site's Environment Protection Licence (EPL) issued by the EPA.

W & J Lee Property Investments takes its workplace health and safety (WHS) responsibilities for the protection of its workforce very seriously, including preventing workers from being exposed to contaminated waste. It is also in W & J Property Investments' commercial interest that no contaminated waste is accepted onto the site. The waste inspections and separation measures therefore protect the employees on site as well as the neighbouring properties.

3.2.3 Waste classification

Waste accepted by the site will be classified according to the *Waste Classification Guidelines – Part 1: Classification of Waste* (EPA 2014a). Waste that is pre-classified as general solid waste (non-putrescible) as shown in Table 3.1 will be accepted by the facility.

Table 3.1 Pre-classified general solid waste (non-putrescible) as defined by EPA (2014a)

The following wastes (other than special waste, liquid waste, hazardous waste, restricted solid waste or general solid waste (putrescible) are pre-classified as 'general solid waste (non-putrescible)':

- glass, plastic, rubber, plasterboard, ceramics, bricks, concrete or metal;
- paper or cardboard;
- household waste from municipal clean-up that does not contain food waste;
- waste collected by, or on behalf of, local councils from street sweepings;
- grit, sediment, litter and gross pollutants collected in, and removed from, stormwater treatment devices and/or stormwater management systems, that has been dewatered so that they do not contain free liquids;
- grit and screenings from potable water and water reticulation plants that has been dewatered so that it does not contain free liquids;
- garden waste;
- wood waste;
- waste contaminated with lead (including lead paint waste) from residential premises or educational or child care institutions;
- containers, previously containing dangerous goods, from which residues have been removed by washing or vacuuming;
- drained oil filters (mechanically crushed), rags and oil-absorbent materials that only contain non-volatile petroleum hydrocarbons and do not contain free liquids;
- drained motor oil containers that do not contain free liquids;
- non-putrescible vegetative waste from agriculture, silviculture or horticulture;
- building cavity dust waste removed from residential premises or educational or child care institutions, being waste that is packaged securely to prevent dust emissions and direct contact;
- synthetic fibre waste (from materials such as fibreglass, polyesters and other plastics) being waste that is packaged securely to prevent dust emissions, but excluding asbestos waste;
- virgin excavated natural material;
- building and demolition waste;
- asphalt waste (including asphalt resulting from road construction and waterproofing works);
- biosolids categorised as unrestricted use, or restricted use 1, 2 or 3, in accordance with the criteria set out in the *Biosolids Guidelines* (EPA 2000);
- cured concrete waste from a batch plant;
- fully cured and set thermosetting polymers and fibre-reinforcing resins;
- fully cured and dried residues of resins, glues, paints, coatings and inks; and
- any mixture of the wastes referred to above.

In assessing whether waste has been pre-classified as general solid waste (non-putrescible), the following definitions apply:

Building and demolition waste means unsegregated material (other than material containing asbestos waste or liquid waste) that results from:

- the demolition, erection, construction, refurbishment or alteration of buildings other than:
  - chemical works;
  - mineral processing works;
  - container reconditioning works; and
  - waste treatment facilities.
- the construction, replacement, repair or alteration of infrastructure development such as roads, tunnels, sewage, water, electricity, telecommunications and airports;

and includes materials such as:

- bricks, concrete, paper, plastics, glass and metal;
- timber, including unsegregated timber, that may contain timber treated with chemicals such as copper chrome arsenate (CCA), high temperature creosote (HTC), pigmented emulsified creosote (PEC) and light organic solvent preservative (LOSP);

Table 3.1 Pre-classified general solid waste (non-putrescible) as defined by EPA (2014a)

but does not include excavated soil (for example, soil excavated to level off a site prior to construction or to enable foundations to be laid or infrastructure to be constructed).

Garden waste means waste that consists of branches, grass, leaves, plants, loppings, tree trunks, tree stumps and similar materials, and includes any mixture of those materials.

Virgin excavated natural material means natural material (such as clay, gravel, sand, soil or rock fines):

- that has been excavated or quarried from areas that are not contaminated with manufactured chemicals, or with process residues, as a result of industrial, commercial, mining or agricultural activities;
- that does not contain sulfidic ores or soils, or any other waste;

and includes excavated natural material that meets such criteria for virgin excavated natural material as may be approved from time to time by a notice published in the *NSW Government Gazette*.

Wood waste means sawdust, timber offcuts, wooden crates, wooden packaging, wooden pallets, wood shavings and similar materials, and includes any mixture of those materials, but does not include wood treated with chemicals such as copper chrome arsenate (CCA), high temperature creosote (HTC), pigmented emulsified creosote (PEC) and light organic solvent preservative (LOSP).

3.2.4 Waste sources

The sources of the waste and the relative proportion for each type of wastes will vary depending on the waste-generating activity in the community.

The anticipated overall rate of recovery from the incoming waste material is 81% (about 28,350 tpa) for sale and transfer, with 19% (6,650 tpa) of non-recyclable by-product for disposal in a licensed landfill. The assumed composition of recoverable and landfill material from the incoming waste is provided in Table 3.2.

Table 3.2 Anticipated composition of delivered material

Waste material	Total	Recovery
Fines	4%	1,400 tpa
Paper and cardboard	1%	350 tpa
Plastics	1.5%	525 tpa
Garden/wood waste	15%	5,250 tpa
Pre-tested soil	8%	2,800 tpa
Metals	3.5%	1,225 tpa
Plasterboard	1%	350 tpa
Timber (treated and untreated)	15%	5,250 tpa
Bricks, rubble, concrete	32%	11,200 tpa
Total recovered	**81%**	**28,350 tpa**
Landfill	19%	6,650 tpa
Total	**100%**	**35,000 tpa**

3.3 Waste handling and processing

The general processing steps for waste materials will be as described below. Construction and demolition waste will be handled and managed on site strictly in accordance with NSW EPA's *Standards for managing construction waste in NSW* (EPA 2020f). A detailed flowchart of material handling process for each waste type can be found in Appendix C.

1. Vehicles enter the site via weighbridge for weight recording;
2. waste is inspected at the weighbridge and rejected if any non-acceptable material is identified;
3. vehicles are directed to the sorting shed;
4. waste materials are unloaded from vehicles in the primary sorting bay in the sorting shed for second round of inspection;
5. waste material is manually sorted by staff in the sorting shed;
6. soil and rubble are screened and transferred to the appropriate materials bay;
7. other waste material is then processed using excavators, wheel loaders and hand picking;
8. non-recyclable waste is placed in bins for transfer to a licensed landfill;
9. residual material that has undergone the primary sorting will be transferred to the post-sort material bay before loaded onto the trommel and picking line for further processing;
10. separated recyclable material is stored in appropriate bins or bays; and
11. separated materials are collected by trucks and transferred off-site to established customers for beneficial re-use or additional processing.

Pre-sorted heavy material, being generally dirt, bricks and concrete, is slowly pushed into the revolving trommel and soil falls out the 10 mm holes onto a conveyor belt, then onto a transferring conveyor onto a soil stockpile.

Material larger than 10 mm goes onto a picking conveyor. A fan blower blows off the light waste (eg paper). Staff then do a negative pick from the picking line conveyor, taking off rubbish. This leaves clean brick and concrete to travel along to another conveyor to a stockpile of brick and concrete for recycling.

Recycled waste recovered from the wastes will be placed in the appropriate material bay.

In most cases, the waste will be processed on the day of arrival to prevent the undesirable build-up of material stockpiled at the site. Logistically, the relatively modest scale of the facility requires the prompt removal of wastes.

Any non-recyclable waste will be transferred to hook bins in the landfill material bays and disposed off-site when the bin is full. All non-recyclable waste will be sent to a licensed landfill and will exit the site in segregated truck loads via the weighbridge where the weight and destination of each truck will be recorded.

Recyclable waste, after being sorted and processed, will be transferred off-site via the weighbridge.

All trucks also exit via a wheel wash facility to prevent dust and soil dispersion via truck wheels.

The proponent has long-established relationships and contracts with reputable companies for the receipt and sale or processing of recyclable products, and for the disposal of non-recyclable materials – refer to Table 3.3.

Table 3.3 Established customers for recyclable products

Company	Product
One Steel	• metal
Benedict Recycling	• aggregates • plastic • timber • paper • cardboard
ReGyp	• plasterboard
Concrete Recyclers	• concrete
Kurnell Landfill	• landfill materials
Suez Landfills	• asbestos
Tyrecycle	• tyres

3.4 Incoming waste quality control

General waste (non-putrescible) can contain materials (hazardous materials including asbestos) that are not pre-classified general solid waste (non-putrescible) as defined by EPA (2014a) (see Table 3.1).

An incoming waste quality plan will be prepared in accordance with the NSW WorkCover *Management of Asbestos in Recycled Construction and Demolition Waste Guide* (NSW WorkCover 2010) and NSW EPA's *Standards for managing construction waste in NSW* (NSW EPA 2020f).

Incoming waste will be inspected in two stages:

1. a preliminary visual and odour inspection of the incoming waste on the vehicle at the weighbridge by qualified and fully trained staff; and

2. an inspection of the incoming waste after it is tipped off but before it is added to the appropriate feed stockpile. The customer will be required to wait until the waste has passed the inspection.

Records of each inspection carried out on site must be kept at the facility for a period of three years from the date of the inspection.

Any incoming waste loads that are suspected to contain contaminants (loads that contain wastes that are not listed in Table 3.1) will be rejected and the customer will be required to take the contaminated load out of the facility immediately and will be directed to an appropriate waste facility or landfill. Rejected waste can be collected by the truck within the sorting shed. The truck will then reverse out onto the yard area before leaving the site via the weighbridge in a forward direction. Rejected loads are recorded in a Rejected Loads Register as is normal industry practice.

The incoming waste quality plan will include:

- Prevention actions such as:
    - a 'no asbestos' clause in supplier contracts, advising suppliers that asbestos containing materials will not be accepted;

- installation of warning signage;
- training workers on waste inspection and asbestos awareness and management; and
- education programs at material source locations to minimise the risk of asbestos containing materials such as fibro entering the supply chain and being imported onto the premises.

- Contingency actions if potential asbestos containing materials are identified, including a rejected load register and reporting to the EPA.
- Empowering waste inspectors to reject loads considered 'suspect' or odorous.

Rejected loads will be entered into a register that is available for EPA inspection. The rejected loads register will include the following details for each load of rejects:

- date and time;
- registration of the vehicle;
- type of waste(s) being rejected; and
- reason of rejection.

3.5 Plant and equipment

Indicative plant and equipment to be used at the facility is listed in Table 3.4. Actual plant or equipment use may vary (make or model), but the proponent will ensure that noise and air quality compliance requirements are met.

Table 3.4 Indicative equipment and activities

Plant (or equivalent)	Quantity	Typical activities
Recycling plant comprising: • hydraulic feeder and integrated 5 m^3 hopper • single stage C&D trommel with aperture size 10 mm • light waste blower and cage receptacle • soil transfer conveyor • soil stockpiling conveyor • rubble stockpiling conveyor • stand-alone 900 mm wide picking line conveyor • electrical control cabinet meeting category 3 safety standards	All plant individual pieces join together to make a 'recycling plant'.	This piece of equipment involves a wheel loader, loading the feeder hopper with plant feed (pre-sorted heavy material, being dirt, bricks, concrete). It is slowly pushed into the revolving trommel and soil falls out the 10 mm holes onto a conveyor belt, then onto a transferring conveyor onto a soil stockpile. Material larger than 10 mm goes onto a picking conveyor. A fan blower blows off the light waste (eg paper). Staff then do a negative pick from the picking line conveyor, taking off rubbish. This leaves clean brick and concrete to travel along to another conveyor to a stockpile of brick and concrete for recycling.
Weighbridge	One	Weighing incoming and outgoing trucks and vehicles.
Excavator	Two	The excavators are used inside the sorting shed to separate materials and load into the appropriate bays.
Wheel loader	Two	The wheel loaders are used to separate materials, to load the feeder hopper and trucks and bins.
Shredder	One	The shredder is used to shred light waste products to supply a better and more usable product to recyclers.
Waste density separator	One	A waste density separator is used to separate waste materials from recyclable products.
Coolfog dust suppression infrastructure	One	This misting system will be used inside and outside of the sorting shed to control dust emissions. Some 213 misting heads will line the inside roof and the door entry to the shed.
Compactor unit and compaction bin	One	For compacting and baling recyclable material such as cardboard.
Hook lift bins	Multiple	Large bins used in the shed for the neat and efficient storage and transport of green waste, metal, cardboard and timber.
Roller tarps	Multiple	These are canvas tarps that cover the storage bins that contain the products. This is a safety and WHS tarp system that allows the tarp to be wound over the bin from the ground, alleviating the need to climb up on the bin. A tarp over the bin also allows safe transport of the products on public roads for other motorists.
Trucks	Multiple	Trucks are used for transporting material from the site to recyclers and landfill.

3.6 Workforce and operating hours

3.6.1 Operating hours

The proposed operating hours are as follows:

- Operations: Monday to Saturday 6:00 am to 5:30 pm

  No operations on Sundays and public holidays

- Receipt of material: 24 hours per day (outside the above operating hours and by appointment)

The proposed hours of operation will allow the facility to be available for receipt of materials sourced from out-of-hours construction and demolition works such as the refurbishment of CBD offices, which predominantly occurs during evening and weekend hours to avoid weekday congestion in the CBD.

No processing of material (ie operations) will take place outside of normal operating hours.

The cessation of processing (by operating machinery) will need to begin at approximately 4:30 pm to allow time for materials already in the processing system to be sorted, and to allow time for a clean-up of the sorting shed and the close down of the operational activities on site by 5:30 pm.

3.6.2 After hour activities

Although processing is limited to the days and hours noted above, the proposed facility will be able to accept the delivery of material on a 24 hours basis. There will be no sorting and processing of material outside the operational hours between Monday to Saturday 6:00 am to 5:30 pm. The ability to receive materials on a 24-hour basis will enable the facility to accept incoming loads from demolition and de-fit projects that usually occur during evening hours and on the weekend. These are typically office or retail refurbishments.

However, receipt of incoming material after operational hours will be arranged by appointment only. In all cases, there will be at least one staff member on site to admit the load, administer the weighbridge and supervise unloading. All incoming materials received after operational hours will remain inside the shed in the unsorted incoming material area until operations restart at 6:00 am the next working day. It is anticipated the unsorted incoming material area has the capacity to store six 10 m^3 skip bins, or any numerous size skip bins totalling 60 m^3 of material. The limited space available within the sorting shed effectively restricts the after-hours activity feasible at the site.

The operational needs of the office refurbishment sector are such that the industry requires access to resource recovery facilities after-hours. Office refurbishments, and similar night-time operations, are invariably planned in advance and therefore proper planning can take place at the resource recovery facility to accommodate the receipt of the waste material. The absence of resource recovery facilities at the time waste is generated by the office refurbishment industry can result in undesirable impacts. These include the generation of truck movements during peak traffic periods, congested storage of filled skip bins at the work site, and associated double-handling to unload and reload skips onto trucks. It is far better for industry and the community to provide a means of safe and appropriate transfer to a resource recovery facility at the time the waste is generated by night-time operations such as office refurbishment. It is also common practice in the resource recovery industry for facilities of the size and scale of the operator to offer 'appointment only' after-hours access so as to permit the receipt of incoming material. All skip bins (loaded with material) will always be stored inside the shed and not processed until appropriate operational hours.

3.6.3 Workforce

A total of ten employees will be employed by the facility, which will include seven permanent staff and three casual staff. It is anticipated that up to four staff members will carpool to work, thereby reducing the overall number of vehicles which require parking at the site.

The facility will operate on one shift. There will be fewer staff at the beginning and towards the end of a shift. The core operating hours, running with maximum staff on site will be between 7:00 am to 3:00 pm.

3.7 Traffic generation

Waste material specified in Section 3.2.4 will be transported by road to the facility by trucks owned or contracted by Combined Skips. Trucks owned by Combined Skips will be taken home by the drivers at the end of each shift day. There is not a need to garage the trucks at the facility overnight.

The proposal will operate six days a week (no Sundays) and import and process up to 35,000 t of waste per year. On average, up to 112.2 t of waste material will be delivered and processed per day.

Imported waste material will be delivered to the site by 9 m rigid trucks with a capacity of 6 t per trip. On average, 19 waste deliveries will be made to the facility on a typical operational day. This equates to 38 rigid truck movements. A vehicle movement includes a vehicle entering a site (1 movement) and a vehicle exiting a site (1 movement).

Processed materials will be dispatched from the site by 17 m truck and dog with a capacity of 35 t per trip. On average, four trucks will be dispatched from the facility on a typical operational day. This equates to eight truck and dog movements.

Note that the processing of material at the proposed facility will generally result in the materials occupying less space in skips or trucks on despatch relative to the space required in skips and trucks when waste is delivered to the facility. This is because processed and sorted materials achieve a more compact form compared to the waste when received in a mixed load. This is taken into account in forecasting the vehicle movements required to transport (on average) 112 t per day of waste inbound and materials outbound.

Site personnel will also contribute to traffic generation. While it is anticipated that some of the staff will carpool to work, a worst case scenario of 10 light vehicles travelling to and from the site has been adopted for assessment purposes.

Refer to Section 7.3 for summary of the findings from the traffic and parking impact assessment.

3.8 Truck transport routes

Transport routes to and from the facility will be via The Crescent and east and west on Vanessa Street and Kingsgrove Avenue. An occasional route for rigid trucks will also be via Kingsgrove Road and the South Western Motorway. Trucks will travel via Bexley Avenue which is an approved B-double route.

Trucks leaving the facility are prohibited from turning right onto Vanessa Street at all times.

The transport routes for 9 m rigid trucks and 17 m truck and dog are shown in Figure 3.1 and Figure 3.2, respectively.

3.9 Site office waste

Putrescible waste generated by the operation of the facility, such as rubbish from employee lunches and office waste, will be put in a front-lift bin located next to the office building. Any recyclable waste will be deposited in a commercial recycling wheelie bin in the same location. Both bins will be emptied regularly by a private contractor.

3.10 Construction activities

The construction activities will include:

- construction of a 9 m high sorting shed on the site using precast concrete; prefinished sheet metal roof and concrete pave internal floor surface;
- construction of a gate house, office and amenities at the entrance of the development;
- installation of a weighbridge at the entry/exit gate adjacent to the gate house; and
- concrete paving of the north-east and south-east sections of the site as an open yard.

A temporary (demountable) site office will be installed during construction and will be removed prior to operational stage for the facility. There will also be materials stockpiled for use during construction.

KEY

- Site boundary
- Rail line
- Main road
- Local road
- Watercourse/drainage line
- Waterbody

Transport route

- Route 1
- Route 2

Source: EMM (2019); DFSI (2019); NearMap (2019)

0 250 500 m

GDA 1994 MGA Zone 56

N

Truck transport routes (rigid trucks)

W & J Lee Property Investments Pty Ltd
Environmental impact statement
Kingsgrove resource recovery facility
2F The Crescent, Kingsgrove
Figure 3.1

EMM creating opportunities

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Source: EMM (2019); DFSI (2019); NearMap (2019)

Truck transport route (truck and dog)

W & J Lee Property Investments Pty Ltd
Environmental impact statement
Kingsgrove resource recovery facility
2F The Crescent, Kingsgrove
Figure 3.2

EMM
creating opportunities

4 Statutory and strategic framework

4.1 Introduction

This chapter provides an overview of the statutory framework relevant to the proposal including State and Commonwealth legislation, and State, regional and local plans and policies.

4.2 Environmental Planning and Assessment Act 1979

The *Environmental Planning and Assessment Act 1979* (EP&A Act) defines the statutory framework for planning approval and environmental assessment in NSW. The EP&A Act is administered by the Minister for Planning, statutory authorities and local councils.

Part 4 of the EP&A Act provides the relevant statutory provisions for development of this type.

4.2.1 Consent authority

Section 4.5 in Division 4.2 of the EP&A Act provides that the consent authority for this development is the local council, noting that the proposed development is not State significant development or regionally significant development (as defined).

4.2.2 Designated development

Section 4.10 of Division 4.3 of the EP&A Act provides that an environmental planning instrument or regulations can declare certain development to be 'designated development'. See below (Section 4.3) regarding the provisions of the EP&A Regulation.

4.2.3 Integrated development

The development is identified as an integrated development under Division 4.8 of the EP&A Act. An environment protection licence (EPL) is required in accordance with the *Protection of the Environment Operations Act 1997* (POEO Act) and a controlled activity approval may be required under Section 91 of the *Water Management Act 2000* (WM Act).

4.3 Environmental Planning and Assessment Regulation

Under Schedule 3 of the Environmental Planning and Assessment Regulation 2000 (EP&A Regulation), the development is identified as a designated development pursuant to Clause 32(b)(iii) and 32(d)(vi) of the Regulation as it involves:

- an intended handling capacity of more than 30,000 tonnes per year of waste; and
- the facility will be located within 500 m of a residential zone or 250 m of a dwelling.

In this instance, the closest dwellings and residential zones are approximately 190 m to the north across the M5 east motorway and 250 m to the west. The intended capacity of the facility is 35,000 tonnes per year.

4.4 Environmental planning instruments

4.4.1 Hurstville Local Environmental Plan 2012

The site is zoned IN2 Light Industrial under the Hurstville LEP 2012 (HLEP). The facility is an industry that is permissible with consent within the IN2 zone, and is consistent with the following objectives of the zone which are:

- to provide a wide range of light industrial, warehouse and related land uses;
- to encourage employment opportunities and to support the viability of centres;
- to minimise any adverse effect of industry on other land uses;
- to enable other land uses that provide facilities or services to meet the day to day needs of workers in the area;
- to support and protect industrial land for industrial uses;
- to enable industrial development which does not pollute or adversely affect adjoining land, air or water; and
- to ensure industrial development creates areas that are pleasant to work in, safe and efficient in terms of transportation, land utilisation and service distribution.

Compliance with relevant standard and provisions of the HLEP is provided in Table 4.1.

Table 4.1 Hurstville LEP 2012 provisions

Provision	Comment	Compliance
IN1 General Industrial		
1. Objectives of zone		
• to provide a wide range of light industrial, warehouse and related land uses	The proposal is an industrial land use.	Yes
• to encourage employment opportunities and to support the viability of centres	The proposal provides employment opportunities.	Yes
• to minimise any adverse effect of industry on other land uses	The proposal minimises effects on other surrounding land uses (refer to Chapter 7).	Yes
• to enable other land uses that provide facilities or services to meet the day to day needs of workers in the area	The proposal includes facilities to meet the day to day needs of the employees, including an office, a lunch room, toilets, showers, on-site parking spaces and an outdoor amenity area.	Yes
• to support and protect industrial land for industrial uses	The proposal is for an industrial use on existing industrial land.	Yes
• to enable industrial development which does not pollute or adversely affect adjoining land, air or water	The proposal will not pollute or adversely affect adjoining land, air or water (refer to Chapter 7).	Yes

Table 4.1 Hurstville LEP 2012 provisions

Provision	Comment	Compliance
• to ensure industrial development creates areas that are pleasant to work in, safe and efficient in terms of transportation, land utilisation and service distribution	The proposal has been designed to create an area that is pleasant to work in as it provides day to day indoor and outdoor amenities for workers, such as a lunch room, toilets, showers, an office and outdoor seating area (protected with a shade cover). The proposal creates a safe and efficient environment for staff as the design complies with the relevant Australia Standards. The necessary management plans will be formulated prior to the commencement of operation. The site is strategically located within walking distance from Kingsgrove train station. On-site parking spaces for staff are also available. Whilst it is anticipated that staff will carpool to work, an alternative travel method is available to staff which encourages green travel. In this instance, the proposal provides the highest and best industrial land use for the site.	Yes
4.3 Height of buildings		
10 m	The proposed height of the building is 9 m.	Yes
4.4 Floor space ratio		
1:1	0.23:1	Yes
5.3 Development near zone boundaries		
This clause does not apply to land in Zone IN2 Light Industrial.	N/A	N/A
5.10 Heritage conservation		
The objectives of this clause are as follows: a) to conserve the environmental heritage of Hurstville, b) to conserve the heritage significance of heritage items and heritage conservation areas, including associated fabric, settings and views, c) to conserve archaeological sites, d) to conserve Aboriginal objects and Aboriginal places of heritage significance.	The site is not a heritage item nor in a heritage conservation area.	Yes
6.1 Acid sulfate soils		
The objective of this clause is to ensure that development does not disturb, expose or drain acid sulfate soils and cause environmental damage.	The site is not identified in the acid sulfate soils map under the HLEP.	N/A
6.2 Riparian land and watercourses		
The objective of this clause is to protect and maintain the water quality within watercourses; the stability of the bed and banks of watercourses; aquatic and riparian habitats and ecological processes within watercourse and riparian areas.	The site is not identified in the riparian land and watercourses map under the HLEP.	N/A
6.6 Active street frontages		
This clause does not apply to land in Zone IN2 Light Industrial.	N/A	N/A

Table 4.1 Hurstville LEP 2012 provisions

Provision	Comment	Compliance
6.7 Essential services		
Development consent must not be granted to development unless the consent authority is satisfied that any of the following services that are essential for the development are available or that adequate arrangements have been made to make them available when required: a) the supply of water, b) the supply of electricity, c) the disposal and management of sewage, d) stormwater drainage or on-site conservation, e) suitable road and vehicular access.	All of the services are currently available on site.	Yes

4.4.2 State Environmental Planning Policy (Infrastructure) 2007

Part 3, Division 23 of the State Environmental Planning Policy (Infrastructure) 2007 (ISEPP) relates to waste or resource management facilities. Under Clause 121, development for the purpose of waste or resource management facilities is permissible with consent in a prescribed zone. A prescribed zone includes land zoned IN2 Light Industrial. The site is zoned IN2 Light Industrial under the HLEP. Therefore, the facility is permissible with consent.

Schedule 3 of the ISEPP details traffic generating development that is to be referred to RMS and includes recycling facilities of any size or capacity. Clause 104 of the ISEPP requires the RMS to be notified of an application for traffic generating development.

4.4.3 State Environmental Planning Policy (Vegetation in Non-Rural Areas) 2017

The aims of the State Environmental Planning Policy (Vegetation in Non-Rural Areas) 2017 (Vegetation SEPP) are:

- to protect the biodiversity values of trees and other vegetation in non-rural areas of the State; and
- to preserve the amenity of non-rural areas of the State through the preservation of trees and other vegetation.

The Vegetation SEPP applies to the following local government areas:

> Bayside, City of Blacktown, Burwood, Camden, City of Campbelltown, Canterbury-Bankstown, Canada Bay, Cumberland, City of Fairfield, Georges River, City of Hawkesbury, Hornsby, Hunter's Hill, Inner West, Ku-ring-gai, Lane Cove, City of Liverpool, Mosman, Newcastle, North Sydney, Northern Beaches, City of Parramatta, City of Penrith, City of Randwick, City of Ryde, Strathfield, Sutherland Shire, City of Sydney, The Hills Shire, Waverley, City of Willoughby, Woollahra.

The Vegetation SEPP also applies to land within the following zones under an environmental planning instrument:

> Zone RU5 Village, Zone R1 General Residential, Zone R2 Low Density Residential, Zone R3 Medium Density Residential, Zone R4 High Density Residential, Zone R5 Large Lot Residential, Zone B1 Neighbourhood Centre, Zone B2 Local Centre, Zone B3 Commercial Core, Zone B4 Mixed Use, Zone B5 Business Development, Zone B6 Enterprise Corridor, Zone B7 Business Park, Zone B8 Metropolitan Centre, Zone IN1 General Industrial, Zone IN2 Light Industrial, Zone IN3 Heavy Industrial, Zone IN4 Working Waterfront, Zone SP1 Special Activities, Zone SP2 Infrastructure, Zone SP3 Tourist, Zone RE1 Public Recreation, Zone RE2

Private Recreation, Zone E2 Environmental Conservation, Zone E3 Environmental Management, Zone E4 Environmental Living or Zone W3 Working Waterways.

The Vegetation SEPP regulates clearing that is not ancillary to development requiring consent. Clearing that is ancillary to development requiring consent will be assessed as part of the development assessment process and may require further assessment and approval under the *Biodiversity Conservation Act 2016* (BC Act).

The vegetation requires clearing as a result of the proposal forms part of the development assessment process and assessment against the BC Act and relevant legislations had been conducted by EMM. In summary, the proposal does not trigger the thresholds outlined in the Biodiversity Conservation Regulation 2017 and is therefore not required to be assessed under the Biodiversity Offsets Scheme (BOS). Summary of the flora and fauna assessment results and recommended mitigation measures can be found under Section 7.6, a full flora and fauna assessment report can be found in Appendix Q.

4.4.4 State Environmental Planning Policy No 33 – Hazardous and Offensive Development

EMM prepared a SEPP 33 Analysis to determine whether the proposed facility is a potentially hazardous or offensive development as defined under the State Environmental Planning Policy No. 33 – Hazardous and Offensive Development (SEPP 33) and whether a Preliminary Hazard Analysis (PHA) is required to accompany the DA for the development (refer to Appendix F).

Appendix 3 of the guideline *Applying SEPP 33* (DPIE 2011a) identifies the waste industry as an industry that may be potentially hazardous or offensive. A preliminary risk screening was undertaken for the development in accordance with *Applying SEPP 33* (DPIE 2011a) and the *Hazardous Industry Planning Advisory Paper No 4: Risk Criteria for Land Use Safety Planning* guidelines (DPIE 2011b).

It was found that the development is not considered to be a potentially hazardous or offensive industry to which SEPP 33 applies. Further, a PHA is not required to accompany the development application.

4.4.5 State Environmental Planning Policy No 55 – Remediation of Land

A desktop study has been undertaken by EMM to determine whether or not the site is potentially contaminated under State Environmental Planning Policy No.55 – Remediation of Land (SEPP 55).

i NSW EPA contaminated land: record of notices

The EPA Contaminated Land Public Record register (under section 58 of the *Contaminated Land Management Act 1997* (CLM Act)) lists sites for which the EPA has issued regulatory notices under the CLM Act. The register includes the details of current and former regulator notices issued.

A search of this register (undertaken on 16 January 2020) revealed that there are no sites in Kingsgrove within the Georges River LGA which have had notices issued (EPA 2020a).

ii NSW EPA contaminated land: sites notified

NSW EPA register of contaminated sites notified to the EPA under section 60 of the CLM Act, provides an indication of the management status of that particular site. Under section 60 of the CLM Act, properties must be registered with EPA if there is reason to suspect the land is contaminated, and one or more of the notification triggers in the Duty to Report guidelines exist at the site. Upon receipt of a section 60 notification, the EPA assesses the contamination status of the site to determine whether the contamination is significant enough to warrant regulation by the EPA.

A search of this public register (undertaken on 16 January 2020) for Kingsgrove was undertaken (EPA 2020b). There were three notified sites in the suburb of Kingsgrove, being:

- a service station at 137 Kingsgrove Road Kingsgrove, approximately 1.2 km north-east of the site;
- a service station at 351-357 Stoney Creek Road Kingsgrove, approximately 1.1 km south of the site; and
- a State Transit Depot at 17-23 Richland Street Kingsgrove, approximately 750 m north-east of the site.

None of these notified sites require regulation under the CLM Act.

Due to the distance of the above notified sites from the proposed facility, potential for contamination migration via groundwater flow is considered very low, if groundwater contamination is present.

iii NSW EPA: environment protection licences

Section 48 of the POEO Act requires Environment Protection Licences (EPLs), issued by the EPA, to be held by owners or operators of premises where the activities being undertaken are potentially contaminating activities listed in Schedule 1 of the POEO Act. An EPL typically includes conditions that relate to pollution prevention, monitoring and reporting.

A search of the EPA's POEO public register (undertaken on 16 January 2020) was undertaken for the suburb of Kingsgrove (EPA 2020c). There are two results shown as follow:

- site 1: approximately 430 m north-east of the facility holds a current EPL. The activity type is related to chemical production waste generation and chemical storage waste generation, with a risk level 1 (EPA 2020d); and
- site 2: approximately 440 m north-east of the facility holds a current EPL. The activity type is related to recovery of general waste and waste storage, with a risk level 1 (EPA 2020e).

Desktop analysis indicates the above sites comprise large scale sealed environments. The exposed areas within both sites is limited to open areas with vehicle parking and some external storage. Therefore, the potential for environmental contamination and subsequent off-site migration is very low.

No other active EPLs were listed in the suburb of Kingsgrove.

iv Conclusion

SEPP 55 provides for a state-wide planning approach to the remediation of contaminated land. Under Clause 7(1) of SEPP 55, prior to granting consent to the carrying out of any development on land, a consent authority is required to give consideration as to whether land is contaminated and, if the land is contaminated, whether the land is suitable for the purpose of the development or whether remediation is required.

The site is located within an industrial estate and was formerly owned by Georges River Council and has remained vacant for several years. There is no evidence of contamination of the site or the immediate surrounds based on a review of the relevant EPA registers.

Notwithstanding, there will be minimal soil disturbance and no groundwater interaction during the construction of the resource recovery facility, and the majority of the site will be sealed once operations commence. Therefore, there is minimal potential for exacerbation of potential soil contamination (if any), associated with the construction phase. The construction contractors will adhere to the procedures set out in this EIS on finding potentially contaminated material.

Given this, the proposal is in accordance with the requirements of SEPP 55.

4.5 Other state legislation

4.5.1 Protection of the Environment Operations Act 1997

The *Protection of the Environment Operations Act 1997 Act* (POEO Act) is the principal NSW environmental protection legislation and is administered by the EPA. Section 48 of the POEO Act requires an EPL to undertake scheduled activities at a premise. Scheduled activities are defined in Schedule 1 of the POEO Act and include the following premise-based activities that apply to the facility:

- resource recovery – having on site at any time more than 1,000 tonnes or processing more than 6,000 tonnes of general waste;
- waste processing (non-thermal treatment) – having on site at any time more than 1,000 tonnes or processing more than 6,000 tonnes of general waste; and
- waste storage – received from off-site and storing of more than 1,000 tonnes of waste at any time or more than 6,000 tonnes per day.

As the facility involves scheduled activities, an EPL under the POEO Act will be required.

4.5.2 Waste Avoidance and Resource Recovery Act 2001

The NSW *Waste Avoidance and Resource Recovery Act 2001* (WARR Act) aims to encourage efficient use of resources and reduce environmental harm, through the principles of ecologically sustainable development and considering resource management options against the hierarchy of avoid, reuse and dispose.

The facility will be consistent with the objects of the Act through enhanced services and facilitating additional quantities of resources to be recovered and recycled.

4.5.3 Water Management Act 2000

The key objectives of the *Water Management Act 2000* (WM Act) is to provide for the sustainable and integrated management of the water sources for the benefit of both present and future generations, in particular to apply the principles of ecologically sustainable development; protect, enhance and restore water sources; recognise the significant social and economic benefits from sustainable and efficient use of water; and to encourage best practice in the management and use of water.

The proposal meets the key objectives of the WM Act by implementation of rainwater storage for reuse on site. It significantly reduces the need for mains water and at the same time achieve the water management objective in a sustainable and efficient way.

4.5.4 Contaminated Land Management Act 1997

The CLM Act is administered by the EPA. It establishes a process where the significant contamination of land is investigated and, where appropriate, remediated.

The site is not identified as 'contaminated' under the Act (refer to section 4.4.5).

4.6 Commonwealth legislation

Under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), actions that may have a significant impact on a matter of national environmental significance (MNES) are 'controlled actions' and require approval from the Commonwealth. MNES include world heritage properties, wetlands of international importance, and listed threatened species and ecological communities.

The facility will not have any significant impacts on any MNES and, accordingly, a referral to the Commonwealth Minister for the Environment is not required.

4.7 Hurstville Development Control Plan No.1 2018

Hurstville Development Control Plan No.1 2018 (HDCP) is the applicable DCP for the site (GRC 2018a). An assessment of the proposal against relevant controls is summarised in Appendix A.

4.8 Hurstville Section 94 Development Contributions Plan 2012

The proposed development is not listed in Table 1.1 Development subject to development contributions under the Plan and is, therefore, not applicable.

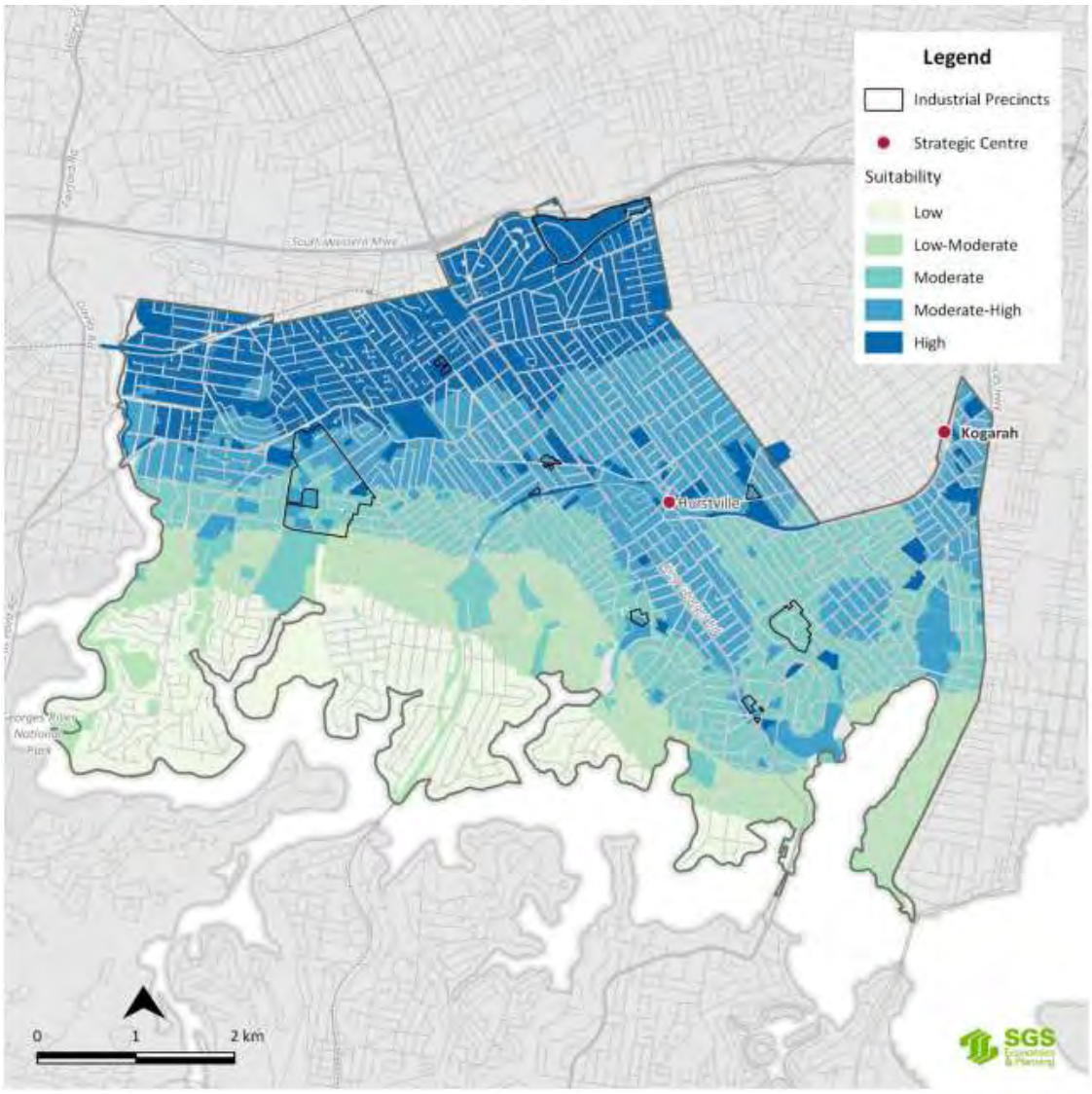
4.9 Georges River Industrial Lands Review 2018

The Georges River Council endorsed the Georges River Industrial Lands Review (the review) in December 2018 (GRC 2018b). The review finds that the Georges River LGA currently has a shortage of urban services land and will have a deficit of industrial floor space by 2036. Based on the suitability analysis, all industrial precincts within the LGA are well placed to accommodate either strategic or local industries, and in some cases both.

The Georges River Industrial Land Review highlights the need for industrial land to be retained and managed across the Georges River LGA in line with the policy direction in the *South District Plan*. The *South District Plan* is a guide for implementing the *Sydney Region Plan: A Metropolis of Three Cities* at the district level and proposes a 20-year vision by setting out aspirations and proposals for the South District.

Within the *South District Plan*, the Greater Sydney Commission (GSC) recognises that there is a limited supply of industrial land in the South district of Greater Sydney. The GSC has a clear position that industrial lands in the South district should be retained and managed as these industrial lands are required for economic and employment purposes. This means that all industrial zoned land should be safeguarded from conversion to non-industrial/residential development, including conversion to mixed-use zones. In updating local environmental plans, councils are required to conduct a strategic review of industrial lands.

A suitability analysis to identify the most suitable locations for industrial land uses within the LGA was undertaken as part of the review. It highlights that suitability of industrial land uses is heavily driven by proximity to the M5 Motorway, as well as proximity to arterial roads. Further, the most suitable areas for strategic industry are concentrated in the northern half of Georges River LGA. All industrial precincts are generally considered moderately suitable or higher for strategic industry. The review identifies the Kingsgrove industrial site as a major industrial precinct in the Georges River LGA with a high suitability for strategic industry (refer Figure 4.1).



Source: SGS Economics and Planning, 2018

Figure 4.1 Strategic Industry Suitability, Georges River Industrial Lands Review

4.9.1 Precinct suitability – Kingsgrove

The review highlights that Kingsgrove contains industrial uses which serve strategic and local population needs.

The Georges River Industrial Lands Review builds on an earlier study – *Georges River Employment Lands Study* - undertaken by Jones Lang LaSalle (JLL) in 2014. The JLL study noted that the precinct contains professional services, wholesale trade, manufacturing and hiring services. Based on these uses, the precinct could be classified as light industry precinct. It also identified that there were approximately 4,800 jobs with the industrial precincts – or around 10% of the total jobs within the Georges River LGA. The JLL study suggested that the Kingsgrove industrial precinct was expected to grow by approximately 16% between 2011 and 2031.

Overall, Kingsgrove is seen as a particularly attractive location for industrial uses give its proximity to the M5 Motorway as well as Kingsgrove railway station. The proximity of the precinct to the Sydney CBD, as well as Greater Sydney more broadly, also makes it an attractive location for investment. Kingsgrove is considered highly suitable

for strategic industry (refer Figure 4.2) – including urban services - due to its close proximity to M5 Motorway. The term 'urban services' is defined in the review as follows (bold added):

> Industries that enable the city to develop and its businesses and residents to operate. Support the activities of local populations and businesses. Include concrete batching, **waste recycling and transfer**, printing, motor vehicle repairs, construction depots, and utilities (electricity, water, gas supply).

Source: SGS Economics and Planning, 2018

Figure 4.2 Kingsgrove – Strategic industry suitability (detail)

4.10 Applicable regional or sub-regional strategies

4.10.1 South District Plan

The *South District Plan* (the District Plan) is a 20-year plan to manage growth in the context of economic, social and environmental matters to achieve the 40-year vision for Greater Sydney (GSC 2018). The EP&A Act requires district plans to:

- provide the basis for strategic planning in the District, having regard to economic, social and environmental matters;
- establish planning priorities that are consistent with the objectives, strategies and actions of *A plan for growing Sydney*; and
- identify actions required to achieve those planning priorities.

The District Plan meets these requirements by:

- progressing the directions of *A plan for growing Sydney;* and
- identifying planning priorities for the District and the actions to achieve them.

In preparing the District Plan, the focus has been on identifying the planning priorities to achieve a liveable, productive and sustainable future for the District. Of the 20 planning priorities identified in this District Plan, two are relevant to industrial land use and waste efficiency:

- Planning Priority S10: Retaining and managing industrial and urban services land; and
- Planning Priority S17: Reducing carbon emissions and managing energy, water and waste efficiently.

The relevant actions under the respective planning priorities relating to industrial lands are:

- Planning Priority S10 – Action 39: Retain and manage industrial and urban services land, in line with the Principles for managing industrial and urban services land, in the South District by safeguarding all industrial zoned land from conversion to residential development, including conversion to mixed-use zones. In updating local environmental plans, councils are to conduct a strategic review of industrial lands;
- Planning Priority S10 – Action 40: Consider office development in industrial zones where it does not compromise industrial or urban services activities; and
- Planning Priority S17 – Action 74: Protect existing and identify new locations for waste recycling and management.

The proposal complies with the relevant actions identified by the District Plan. The proponent retains the current industrial use of the land. Further, given the strategic location and the proximity to the M5 Motorway, industrial estate and residential areas, the proposal provides a much needed new resource recycling facility that will benefit the businesses and residents in the South District, and also improve the environment by reducing waste and providing materials for re-use.

4.11 Required approvals

The facility will require the following approvals:

- a development consent under Part 4 of the EP&A Act;
- an EPL under Section 48 of the POEO Act;
- a controlled activity approval may be required under section 91 of the WM Act;
- a construction certificate under Division 6.3 of the EP&A Act; and
- an occupation certificate under Division 6.3 of the EP&A Act.

5 Consultation

A number of public authorities provided advice as part of the preparation of the Secretary's Environmental Assessment Requirements (SEARs). In addition, EMM contacted key agencies between 21 March and 3 April 2019 inviting further input in relation to the proposal. Consultation responses are summarised below.

5.1 Environment Protection Authority

On the 22 March 2019, EMM wrote to the EPA asking whether the written agency comments which accompanied the SEARs were sufficient or if they would like an opportunity to further discuss any aspects of the project. To date no written response has been received but verbal advice was provided by Mr Greg Sheehy, Director Waste Compliance, at a meeting convened by the office of The Hon. Matthew Kean MP, Minister for Energy and Environment, and attended by Mr Peter Poulos, Senior Advisor to Minister Kean (27 November 2019). Mr Sheehy was provided with an overview of the current proposal and was satisfied with the proposal noting that the intention to enclose the operations would address dust and noise issues. Mr Sheehy also suggested that the EIS should clearly indicate the types of waste to be accepted at the proposed facility and that stormwater drainage arrangement be detailed.

5.2 Office of Environment and Heritage

EMM also invited OEH (now the Biodiversity and Conservation Division of DPIE) to provide additional advice. OEH responded on 22 March 2019 confirming that they will require the information that has been requested as part of the SEARs.

5.3 Department of Primary Industries

5.3.1 DPI Agriculture

DPI Agriculture responded on 22 March 2019 that the agency is satisfied with the requirements set out in the SEARs issued, as there are no agricultural industries or resources in the vicinity of the site. However, if the proposed facility intends to accept and sells large quantities of soil, the *Biosecurity Act 2015* has a general biosecurity duty to ensure that so far as is reasonably practicable, the biosecurity risk is prevented, eliminated or minimised. In other words, the proponent must ensure that there will be no spreading of any biosecurity matter to other areas.

5.3.2 DPI Fisheries

DPI Fisheries responded on 25 March 2019 advising that they had no comments on the proposal as the part of Wolli Creek to the north of the site is not mapped as a key fish habitat.

5.4 WaterNSW

On the 22 March 2019, WaterNSW advised that as the subject site is not located near any Water NSW land, assets or infrastructure, Water NSW does not have any comments or particular requirements.

5.5 Roads and Maritime Services

RMS responded on 26 March 2019 stating that the comments provided in its letter dated 31 October 2018 were still applicable to the proposal on the basis that it had not changed from what was previously advised as part of the

SEARs requirements. Further, RMS provided guidance in relation to key intersections modelling and the reference to *Guide to Traffic Generating Developments* (RTA 2002).

5.6 Fire and Rescue NSW

EMM made initial contact with FRNSW on 21 March, followed by several telephone exchanges between 21 March and 3 April 2019. FRNSW advised that the volumes and specific materials proposed to be processed at the facility are not the major triggers for concern. The requirement of FRNSW is to ensure that the proposal considers the draft *Fire safety in waste facilities* guideline, as well as the measures proposed to be implemented for fire and incident management. The latter should reflect the anticipated hazard and risk level of the facility.

5.7 Georges River Council

The proponent initially met with representatives of Georges River Council on 25 September 2018 to outline the proposed development and seek initial views from Council's planning and legal staff. Council representatives were broadly supportive of the proposed development and raised no significant objections or concerns. Council identified the need to consider the *Economic Development Strategy 2018-2022* for Georges River local government area. Council also acknowledged the need to consider the potential environmental impacts, including traffic, noise and air quality which are often associated with waste recycling and management facilities.

A subsequent meeting with representatives of Georges River Council was conducted on 15 May 2019 to discuss site design; flood and stormwater; truck movements and operations of the facility. As a result, the drawing plans have been refined to reflect to Council's requirements.

A subsequent pre-lodgement meeting (PRE2019/0036) was held with representatives of Georges River Council on 31 July to discuss the revised proposal. Council raised the following issues in Table 5.1 below.

Table 5.1 Summary of pre-lodgement meeting outcomes

ID	Council requirements	Comments / response
1.0	**Planning**	
1.1	The proposed shed and onsite car parking are located on separate allotments creating a segregated design outcome.	The site has been amalgamated for the purposes of orderly development. The mesh fence is proposed to be retained to create a clear separation between the light vehicle parking area and the facility. Two separate driveways will operate to minimise interactions between light vehicles and heavy trucks.
1.2	The proposed car parking is not integrated and does not provide for a safe and direct access to the facility or gatehouse. Council recommends several safety measures to further improve safety and efficiency of car park.	The car park is appropriately separated from the facility by the existing fence line. As described in item 1.1. Safety measures to further improve safety and efficiency of car park, as well as pedestrian movement is considered and reflected in design.
1.3	Inadequate landscaping has been provided. A landscape plan should be prepared to meet the design requirements contained within the advice letter and the Hurstville DCP.	A landscape plan is prepared and shown in Appendix E. The landscape plan includes outdoor staff amenity, landscaping in the carparking area, as well as planting of replacement trees as a result of loss of vegetation by the proposed development.
1.4	Building design should be designed to provide visually interesting light industrial areas, eg through distinctive parapets or roof forms and through selection of building materials.	There is a need to balance a range of factors when designing the structures and the choice of materials. Specifically, matters such as solar absorption, energy efficiency, reflectivity and site constraints have informed a balanced solution. There is interest added through the choice of materials and finishes. Notably the sorting shed will include a mix of concrete and

Table 5.1 Summary of pre-lodgement meeting outcomes

ID	Council requirements	Comments / response
		Colorbond cladding. The palette for the finishes includes muted but distinct colours such as Colorbond 'Red Manor' and 'Ironstone', providing visual interest to the broader base colour of 'Windspray'.
1.5	Details of materials and finishes of the proposed buildings and structures should be prepared.	A schedule of external materials and finishes is provided at Appendix E.
1.6	Consideration should be given to ensure the proposed building design and layouts are designed to maximise energy efficiency.	Energy efficiency is a design consideration and needs to also be balanced against the requirements to mitigate reflectivity. Colour is recognised as an influence on energy efficiency due to the solar absorption rating of each colour but this needs to be balanced against the additional need to mitigate reflectivity which is aided by a darker and more muted palette. The balance has been to utilise Colorbond 'Windspray' as the primary roofing material. The sorting shed also utilises several skylights to maximise the availability of natural light while avoiding the need for glazing on vertical walls, which may introduce noise and reflectivity issues.
1.7	Effective lighting should be provided to: • illuminate access and egress points; • avoid light spillage onto neighbouring properties; • ensure that lighting does not cause nuisance to motorists; and • should have a wide beam of illumination to avoid dark shadows.	The building design incorporates eight skylights for adequate internal lighting during most daylight conditions. Light spill to neighbouring properties (being principally Allied Pinnacle) is avoided. No windows allow light spill in the direction of Allied Pinnacle. External lighting will be directed only to the yard surface. Lighting will not impact motorists on the M5 Motorway. There is visual separation between the motorists and the facility due to mature vegetation along the Wolli Creek drainage line and the acoustic barrier/mound on the southern verge of the motorway. Illumination will use a wide beam to avoid deep shadows in operational areas.
1.8	The proposed site layout does not provide adequate setback to rear stormwater channel and the development may impact on vegetation within and external to the site.	The findings of the AIA report shown that all trees and vegetation located within the drainage reserve at the rear of the property area located outside of the proposed construction footprint. No impacts on these trees are foreseeable under the proposed development. More detailed are discussed under Section 7.6.
1.9	Further information regarding the refuelling area is required including: • whether there will be any permanent tanks on site; • will a vendor transport fuel to the site; and • method including the type of fuel proposal to be transported or stored on site.	There will no permanent fuel tanks on site. A licensed vendor (eg Refuelling Solutions; West Tankers) will transport fuel to the site. A mini-tanker will be used. Fuel is diesel only.
1.10	Details of any signage (type, form, style and location) to be included in a formal DA submission.	Business signage is not proposed as part of the DA, however, various safety signages will be installed.

Table 5.1 Summary of pre-lodgement meeting outcomes

ID	Council requirements	Comments / response
1.11	Details of the proposed type and form of fencing to be included in the formal DA submission. Fencing should be designed to complement streetscape and proposed buildings.	A tubular metal security fence is to be erected. This is identified on the Proposed Site Plan prepared by Robert Lee Architects in Appendix E. The fencing style is consistent with the fencing erected at most other industrial premises in The Crescent.
1.12	Concern is raised to the storage of skip bins (empty or full) or other materials outside of the sorting shed.	In most cases, skip bins are emptied and carted away by the same carrier. In the event that a change of skip bin size is required, there will be a logistical need to place the redundant sized bin on hardstand while the replacement sized skip bin is loaded to the truck. This is essentially a temporary arrangement while the transfer of bins takes place. Loaded skip bins will not be stored outside of the sorting shed. Placement of skip bins outside the sorting shed will be limited to empty bins.
1.13	A detailed description of the proposed use and the daily operations that will take place on the site to be included in the EIS. In addition, provision of visuals of the plant and equipment used on the site should be provided.	A detailed description of the proposed use and the daily operations that will take place on the site is included in Chapter 3. Dimensions of material bay inside the sorting shed is also shown in Appendix E.
1.14	There is an inconsistency between the current architectural plans (as at 23 August 2019) with respect to the number of gatehouses proposed to be built.	The apparent inconsistency stems from the proposal to install (a) a temporary site office during the construction period and (b) the construction of the permanent gatehouse which include an office, staff amenities and lunchroom. The plans now clearly distinguish between the permanent gatehouse and the temporary site office during construction period.
1.15	The proposed 10,000L rain tank located near the entry to the sorting shed seems to be in the way of truck movement. Additionally, architectural details of the tank should be provided.	Tanks are to be installed underground and will not impede vehicle movement. These are now shown on the drawings.
1.16	Clarify the subject site in its context to other recently subdivided allotments is required.	The EIS describes the subdivision and the creation of a new aggregated lot. The subject land was previously known as 2D The Crescent Kingsgrove, legally described as Lot 1837 DP 1200226, at the time Secretary's Environmental Assessment Requirements (SEARs) were issued. Subsequently, the site was amalgamated with the land to the immediate west which created a new lot identification as Lot 2 DP 1237586 and a new street address as 2F The Crescent, Kingsgrove.
1.17	Consideration should be given to the relocation of the outdoor rest area away from the main traffic prominent area.	The outdoor rest area is best located in close proximity to the other staff amenities such as lunchroom, change rooms, toilets and kitchen. These facilities and the administration office are located in the gatehouse which is, by necessity, situated at the weighbridge. This allows initial load inspections and communication with the truck drivers. The outdoor rest area, if located elsewhere, would lose functionality because the use of the outdoor rest area is reliant on ease of access from the 'companion' facilities such as lunchroom, toilets and kitchen. While consideration has been given to alternative sites, the logistics of separating two inter-related spaces preclude arrangements other than the location proposed.

Table 5.1 Summary of pre-lodgement meeting outcomes

ID	Council requirements	Comments / response
1.18	Submission of a reflectivity study is required due to the site's proximity to residents along Tallawalla Street and M5 Motorway. This requirement is reflected in the Hurstville DCP.	A reflectivity report has been prepared and included in Appendix T. There will be negligible impact, and virtually no line of sight, between the proposed facility and drivers on the M5 Motorway; and between the proposed facility and the residents of Tallawalla Street. There will be negligible impact on motorists using the M5 due to the screening provided by trees along the Wolli Creek drainage line and the relatively low elevation of the subject land relative to the M5. The future improvements to the M5 will include a Motorway Operations Centre and an acoustic barrier between the proposed facility and the west-bound motorists. In combination, these buffering elements will reduce glare, if any, to a negligible level.
1.19	An updated survey is required to confirm that the proposed building height does not exceed 10.0 m. Architectural plans should indicate proposed building height.	Building height does not exceed 10 m. Architectural drawings now indicate height.
1.20	A colour coded plan illustrating floor areas to calculate FSR is required.	FSR calculation is included in the plan.
1.21	The proposed development meets the car parking space requirements specified under the Hurstville DCP.	Noted.
1.22	The EIS should comprehensively address any environmental concerns:	The EIS addresses all relevant environmental matters.
	Appendix A does not contain any procedure for contaminated waste, asbestos, liquid waste, hazardous waste or radioactive waste. • Details of how wastewater or liquid (leachate) from the sorting shed will be treated. • Provide details of "deep leachate and fire test water storage pit".	Appendix A provides a table of DCP compliance. This may be an incorrect reference. Appendix C (which may be the intended reference) relates to materials processing of receivable waste materials, and this does not include contaminated waste, asbestos, liquid waste, hazardous waste or radioactive waste. The EIS notes that "An incoming waste quality plan will be prepared in accordance with the *NSW WorkCover Management of Asbestos in Recycled Construction and Demolition Waste Guide* (NSW WorkCover 2010) and *NSW EPA's Standards for managing construction waste in NSW* (NSW EPA 2020f)." The deep leachate and fire test water storage pit is described in the Soil and Water Report (Appendix L). This asset is designed as a sump with a holding tank connected to it. The sump will collect any water draining from either wet vehicles or equipment that enters the building and generate surface water or from the testing of the fire fighting equipment should a test of fire hoses and equipment need to be undertaken.
	Clarification of the site area. Documents should be consistent in describing site area.	All documents are now consistent.

Table 5.1 Summary of pre-lodgement meeting outcomes

ID	Council requirements	Comments / response
	There is a notation on the site plan that the existing fencing is to remain, if this is the case how will users of the car park access the sorting shed in a safe and direct manner?	The existing fencing within the now amalgamated site area (generally along the previous lot boundary) will be replaced with a pedestrian railing and will provide access ways at the two ingress/egress points along the western façade of the sorting shed. There is also an access way which links the carpark area to the gatehouse and office, which aligns with the proposed pedestrian crossing at the main vehicle entrance to the facility.
	The submitted statement indicated that "the processed materials will be dispatched directly to customers/retailers for re-use or to other specialists waste facilities for further processing to achieve marketable recycled products. • What are these processed materials to be reused and who are the customers/retailers? • Where will waste go for further processing and what kind of waste is it and how will it be transported? • How and which land fill will waste be transported?	The following materials are dispatched to the processing facilities and landfills as shown (refer also to Table 3.3 in the EIS): • One Steel – metals; • Benedict Recycling – aggregates; plastics; timber; paper; cardboard; • ReGyp – plasterboard; • Concrete Recyclers – concrete; • Tyrecycle – tyres; • Suez landfill – asbestos; and • Breen Kurnell – all other landfill.
	The submitted statement indicates that "no asbestos, liquid waste, hazardous waste or radioactive waste, as defined in the POEO Act or the guidelines will be accepted at the facility. All of the materials brought onto the site will be taken from the site as products or as rejects for disposal at an EPA licensed landfill. Odorous materials will not be received. There will be no materials land-filled or otherwise disposed anywhere within the site as a result of this proposal." • What are the safeguards to ensure these waste materials are not received? • And if for some reason received what is the strategy for safe disposal?	There are two inspections of incoming waste which are carried out – an initial scan of loads at the gatehouse; and a second inspection of material once it is tipped inside the sorting shed prior to processing. At both stages there is adequate opportunity to reject the material and require its removal by the carrier. There are two aspects to safe disposal: safe handling and materials management on site; and safe disposal at the end receiver. These are ensured by adherence to appropriate WHS and EPA guidelines, and by disposal only to appropriately licensed landfill facilities. Suez landfills at Elizabeth Drive, Lucas Heights and Wetherill Park are all licensed to accept asbestos.
	The submitted statement indicates that "the facility will operate Monday to Saturday from 6:00 am to 5:30 pm and the receival of material will be opened 24 hours a day (by appointment only). The facility will be closed on Sundays and public holidays." • Provide details of this process, will there be personal on site to greet or will driver have full access? • Details of trucks and frequency of deliveries after 5.30 pm?	When access is required outside the hours of 06:00 and 17:30 Monday to Saturday, an appointment is required and there will be facility staff in attendance to management operations. There is no set number of truck deliveries or frequency for the after-hours access. This is likely to be on an occasional occurrence and is preferable to turning a late-arriving truck away and creating additional externalities such as unnecessary additional haulage and the associated impacts on local roads and communities. Note that the small capacity and floor area of the proposed sorting shed are a self-limiting factor for after-hours receipt of waste. With approximately 118 m2 of floor area available for incoming material, the scope for after-hours receipt of skip bins is tightly constrained.

Table 5.1 Summary of pre-lodgement meeting outcomes

ID	Council requirements	Comments / response
	• Will there be sorting or works outside the shed within the concreted area? Please note that Council will not support processing outside the sorting shed and in addition Council will not support storage of bins outside the sorting shed. • Why is there a need for large amount of concreted area?	All sorting activities will occur within the enclosure. Waste processing requires an impervious surface in order to manage wastewater and leachate. It is noted that the majority of the subject site is already paved or sealed.
2.0	**Traffic and Parking**	
2.1	A "Traffic Impact and Parking Management Plan" is required to be submitted addressing the following: • A swept path analysis using AS2890.2:2018 Off Street Commercial Vehicles Facilities. • There shall be enough driveway width to allow two heavy vehicles to pass on the driveway at all times. • The route for trucks accessing and exiting the facility including intersection analysis of Kingsgrove Road / Commercial Road with the swept path analysis of the largest expected vehicle ensuring that there are no illegal manoeuvres by any of the trucks along the route to and from the site. • Measures to ensure that there will be no vehicles queuing on The Crescent or nearby streets whilst waiting to enter the facility. • Trucks will be prohibited from turning right onto Vanessa Street to avoid residential properties along Vanessa Street and Tooronga Terrace • Off-street car parking shall be provided in accordance with AS2890.1:2004 Off Street Parking and AS2890.2 2018 Off Street Commercial Vehicles Facilities and AS2890.6:2009, Off Street parking for people with disabilities • Provision of Safe pedestrian movements to be indicated from the car parking to the sorting shed and the gate house; and • The number of spaces shall comply with the DCP requirements. The car parking spaces appear to be located on the adjacent lot and could prohibit future development in that area.	A swept path analysis is provided as an appendix to the Traffic and Parking Impact Assessment (Appendix O to this EIS). The swept path analysis shows that two-way passing in the driveway is possible for 9 m rigid vehicles (see Sheet 9/9 of the swept path analysis drawings appended to the Traffic and Parking Impact Assessment). The transport of waste and materials by 9 m rigid trucks is the dominant vehicle type. The driveway can accommodate a 17 m truck and dog vehicle, and it is noted that while there are two loading bays available for 9 m rigid trucks, there is one loading bay for 17 m trucks. This means that the site is appropriately designed to provide for two 9 m trucks concurrently but does not need to provide for the passing of a 17 m truck with other trucks because the logistics of the sorting shed do not provide for more than one 17 m truck at any one time. Further, it Is noted that Section 3.2.3.2 of *AS2890.2:2018* allows the entire width of a two-way access driveway to be used for entering and exiting vehicle when the road is a minor road. Vehicle queuing on The Crescent will not be necessary as, in the unlikely event of congestion on site, there is capacity for vehicle holding in the western (vacant) portion of the subject site. Refer to section 3.3 of the Traffic and Parking Impact Assessment for further details of the management arrangements for vehicle queuing and logistics. The proposal does not require a right turn into Vanessa Street for trucks departing the proposed facility. Off-street parking complies with both the DCP requirements and the relevant standards. Safe pedestrian movement is available and there will be a marked pedestrian crossing at the entrance to the sorting shed driveway. Swept path diagrams have been prepared for all critical intersections, including the junction of Kingsgrove Road and Commercial Road. This indicates that a 9 m truck can execute a left turn safely and legally. There is no proposal to have 17 m vehicles turn left or right at Commercial Road. The haul route for 17 m trucks continues straight from Commercial Road to Kingsgrove Avenue. For 17 m trucks, access to the M5 Motorway is via Bexley Road.
3.0	**Biodiversity**	

Table 5.1 Summary of pre-lodgement meeting outcomes

ID	Council requirements	Comments / response
3.1	The formal DA should include the following: • Each impacted tree on the site plan needs to be financially valued by an AQF 5 Arborist to a value between $1,000 and $10,000, as per Section 4 of the Tree Management Policy and the Offset Fee for Tree Replacement (per tree) for trees on private land, found in Section 1.11 – Tree Management of the 19/20 Schedule of Fees and Charges; • This value, in accompaniment with the AIA will help Council determine if modifications are needed to the DA; and • The site be subject to further detailed assessment through the use of non-destructive excavation to determine viability for retention of 18 trees identified as worthy of retention. • The biodiversity impacts from any proposed clearing of vegetation should be formally assessed using the 5-part Test of Significance found in the Biodiversity Conservation Act 2016.	Section 4.3 of the Georges River Council *Tree Management Policy* (2019) provides that when approval is granted to remove a tree, Council will decide whether to require (a) replacement of the tree on a 2:1 basis; or (b) receive payment for an offset fee. The Policy also states that the required action will be determined as part of the DA assessment. Further, the policy provides that Council will determine or request the valuation. The Arboricultural Impact Assessment (Appendix P) identifies the trees impacted by the proposed development and the Landscaping Plan (Appendix E) identifies the locations for replacement trees.
4.0	**Tree comments**	
4.1	Submission of a detailed Arboricultural Impact Assessment (AIA) report which meets the rigid requirements set out in Appendix 2 of Council's Tree Management Policy and in accordance with AS 4970 -2009, Protection of trees on development sites. This type of report is crucial in the trees condition relating to the site and trees on adjacent sites and is crucial in aiding a design layout for the site.	An Arboricultural Impact Assessment (AIA) report is prepared as part of the DA. The report was prepared in accordance with Council's Tree Management Policy and AS 4970-2009 Protection of trees on development sites. A summary of findings of the report is in Section 7.6 and a full copy of the AIA is included in Appendix P.
4.2	The submitted Flora and Fauna Assessment dated March 2019, is in DRAFT form and includes as part of Appendix C, an Arboricultural Impact Assessment, by Eco Logical dated 2016. This report needs to be updated as the subject site has changed considerable since 2016. Council would need an updated, current Arboricultural Assessment, providing condition of all trees on the site, adjacent sites and encroachment percentages of all trees impacted by the proposal.	The AIA report submitted as part of the DA is the most updated AIA prepared in December 2019.
4.3	The Flora and Fauna Assessment (4.3 Threatened Ecological Communities) states that the "Swamp Oak Floodplain Forest of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions is an Endangered Ecological Community". The report mentions that "up to 13 trees and 4 saplings of swamp Oak will be removed from the site. The trees to be removed are in a fragmented condition". (Pg 17). Justification provided for removal of these trees are not accepted by Council. Council is of the view that these trees form a greening canopy of the locale and as mentioned are under Part 2 of the Biodiversity Conservation Act 2016 No 63 are listed as an Endangered ecological community. Within the Biodiversity Conservation Act 2016, No 63, Schedule 4, Key threatening processes, clearing of native vegetation, removal of these trees would constitute a breach of the Act.	The updated AIA report assessed all trees within the site boundary and trees in the adjacent drainage channel. A total of 16 trees will be impacted by the proposed development and therefore require removal. Replacement planting at a ratio of 2:1 is suggested in accordance to Council's Tree Management Policy. Replacement plantings are shown in Appendix E.

Table 5.1 Summary of pre-lodgement meeting outcomes

ID	Council requirements	Comments / response
	Council recommends that the proposal be sympathetic to the impacts to these trees and to minimise impacts to their ongoing viability. An AQF 5 Consulting Arborist shall be engaged to aid in the design of the proposal to minimise impacts to trees to be retained upon the site and adjacent site	
5.0	**Environment & Health**	
5.1	The formal DA will be referred to external bodies and it is recommended that discussion is commenced with NSW EPA and Sydney Water.	Discussion with EPA (Mr Greg Sheehy) undertaken on 27 November 2019.
5.2	Further information is required with respect to:	
	Process clarification: • Proposed Operational Management Plan to include the ergonomics of how the facility will be run. • Contamination Management Plan – This is to include a management plan for contaminated wastes that are dropped off at the facility including, but not limited to, asbestos, putrescible waste and dangerous goods.	The OMP will provide details of the workflow and processing stages of the facility. The Contamination Management Plan (CMP) will include procedures for dealing with contaminated wastes, which includes asbestos. Although putrescible waste and dangerous goods are not technically hazardous wastes (as defined by the EPA) there is capacity to articulate management procedures for those items in a CMP.
	Pollution: • Acoustic and Vibration Report. Consideration should be given, but not limited to, noise from vehicle movement, machinery and plant used on the premises; • Air Quality Impact Assessment; • Proposed Dust Management Plan. Dust Management Plan should identify areas where dust is likely to occur. Consideration should be given, but not limited to, dusty loads, machinery and plant equipment, vehicle movements, loading and unloading materials, stockpiles etc; • Water Pollution Management Plan. Water Pollution Management Plan should identify areas where water pollution is likely to occur. Consideration should be given, but not limited to leachate from storage of skip bins, leachate from the building envelope, wash down area etc; • Bunding of building to be shown on plans to prevent stormwater pollution; • Clarify if there will be a wash down area for trucks or skip bins. If so, provide on plans including specification and location; and • Ground stabilisation – clarify on plans the schedule of finish for the grounds on the proposed site. Ground Stabilisation Plan is to be provided for any unsealed grounds to avoid erosion of soil.	• Noise impact assessment: These matters are identified and assessed in the report (Appendix J). • Air quality impact assessment can be found at Appendix H. • Dust Management Plan: Sources of particulate matter are identified and discussed. Refer to Appendix I. • Soil and Water Report: Contains reference to water management and notes that no washdown area is proposed although a wheel wash is included. The sources of wastewater include the amenities for staff, the misting sprays within the sorting shed and the leachate from skip bins to the sorting shed floor. Wastewater will be captured and discharged to the Sydney Water sewer (including trade waste licence if required). Refer to Soil and Water Report in Appendix L. • Bunding: The bunding is now shown on plans (refer to Appendix E). • Wash down: There is no wash down area for bins and trucks. • Ground surface is concrete paved. Any unpaved area is for landscaping purpose.
6.0	**Engineering**	
	Overland flow levels: • The Detail Survey Plan submitted does not totally represent the proposed development site and needs to be updated and extended accordingly;	These matters are address in Appendix K, Appendix L and Appendix N.

Table 5.1 Summary of pre-lodgement meeting outcomes

ID	Council requirements	Comments / response
	• Map 2 of Council's 2016 Flood Study by SMEC includes the subject site however it is unclear whether the subject site is impacted by overland flow for the 1:100yr ARI storm event. A corresponding overlay of the amended Detail Survey plan on Council's flood map is to be provided; • An Overland Flow Analysis (OFA) is to be provided that includes all relevant Pre- and Post- Development scenario data, maps of overland flow, and any rise in finished site level compared with the existing ground level that could impact on overland flow entering the site via the western property boundary; • The OFA is to include a comment on matters of significance required to be addressed for the Environmental Protection Authority should a PMF storm event occur; and • Freeboards of 500mm for habitable areas and 300mm for non-habitable areas respectively are to apply to development on the site.	
	Drainage: • Stormwater runoff-is to be directed to Georges River Council's open stormwater channel located beside the northern property boundary of the subject development site; • An easement to drain water will need to be acquired from Council to accommodate the construction of a stormwater connection within Council's stormwater channel; • Disposal to the channel will be generally in accordance with the approach adopted by Sydney Water in relation to such proposals. Reference is made to the documents Stormwater Connections to Natural Waterways Guide/Stormwater Connections to Natural Waterways Guide – Rouse Hill Development Area; • An On-Site Detention system is to be provided, with stormwater runoff from 80% (min.) of the area of the site to be processed through that facility; and • A Hydraulic Grade Line Analysis is to accompany the Concept Stormwater Management Plan.	• Noted and these matters are addressed in Appendix K • An easement was acquired from Council in November 2019.

5.8 Consultation with other stakeholders

5.8.1 Allied Pinnacle

The proponent and representatives from EMM met with representatives of Allied Pinnacle (4 The Crescent, Kingsgrove), operators of the neighbouring industrial premises to the east of the site, on 5 March 2019.

Allied Pinnacle was identified as a key stakeholder because Allied Pinnacle had made a submission and raised a range of matters when the prior development application was under consideration by Council some time ago but not progressed.

The purpose of the meeting was to inform Allied Pinnacle regarding the proposed development, and to listen to any concerns which should be considered as part of the current assessment. Copies of preliminary site plans were provided to representatives of Allied Pinnacle for discussion and comment during the meeting.

Allied Pinnacle raised some concerns in relation to the future operation of the proposed facility, mainly with regard to air quality (potential dust emissions), contamination (asbestos) and traffic. The proponent advised that the proposal involves a fully enclosed operations shed and will include the installation of a sliding hangar style door plus misting sprays to mitigate potential airborne dust emissions.

On the 11 March 2019 Allied Pinnacle advised in writing that they were not in a position to be able to provide formal feedback on the proposal without having reviewed the EIS and all supporting technical information.

5.8.2 The Office of the Hon Matthew Kean MP, Minister for Energy and Environment

At the request of the Proponent, the Office of Minister Kean convened a meeting on 27 November 2019 between Mr Peter Poulos, Senior Advisor to Minister Kean, Mr Greg Sheehy, Director Waste Compliance, EPA, and representatives of the Proponent being Mr Warren Lee, Mr Mitchell Lee and Ms Susan May-Raynes.

Mr Poulos and Mr Sheehy were both supportive of the proposed development and Mr Sheehy noted that the enclosure of the operational area would adequately address noise and dust issues, and that the EIS should clearly indicate the types of waste to be received and processed at the facility, and that stormwater drainage details should be described in the EIS.

6 Hazards

6.1 Introduction

This chapter considers whether the facility is a potentially hazardous or offensive development according to SEPP 33 and whether a PHA is required. References were made to *Applying SEPP 33* (DPIE 2011a) and the *Hazardous Industry Planning Advisory Paper No.4: Risk Criteria for Land Use Safety Planning* guidelines (DPIE 2011b).

A description of the fire and incident management measures that will be implemented for the facility is also provided.

6.2 Hazardous materials

6.2.1 Applying SEPP 33 risk screening method

i Hazardous materials stored, processed or handled

Potentially hazardous or offensive development is defined by SEPP 33 as development which poses a significant risk to, or which would have a significant adverse impact on, human health, life, property or the biophysical environment, if it were to operate without employing any control measures. This includes developments for the handling, storing or processing of hazardous materials. A development is classified as a hazardous or offensive development if the thresholds in *Applying SEPP 33* — which compare the quantities of stored or used hazardous materials to the distance from publicly accessible areas — are exceeded. The hazardous materials classifications in the *Australian Code for the Transport of Dangerous Goods by Road and Rail Edition 7.5* (NTC 2017) are used in *Applying SEPP 33*.

The hazardous materials that are stored and used onsite consist of paint, oils, liquid petroleum gas (LPG), unleaded fuel, paint thinners, degreaser, fuel additive, grease, degreaser, other lubricants and tyre blackener. These materials will be kept in a lockable storage shed on site. No hazardous wastes will be accepted onto the site as in-bound waste. Diesel fuel for the operation of plant, such as front-end loaders operating within the shed, will be delivered as needed from off-site.

Storage conditions, quantities and NTC classifications of the materials are provided in Table 6.1.

Table 6.1 Potentially hazardous goods stored on site

Name	NTC 2017 Classification	Storage conditions	Approximate quantity
Dangerous goods			
LPG	Class 2.1 Flammable Gas	One 9kg gas bottle, kept in lockable storage shed	17 L (10.4 kg)
Aerosol paint cans	Class 2.1 Flammable Gas	Twenty aerosol cans, kept in lockable storage shed	7 L (<7 kg)
Unleaded fuel (for lawn mower)	Class 3 PGII	One drum, kept in lockable storage shed	5 L (3.74 kg)
Paint thinner	Class 3 PGII	One drum, kept in lockable storage shed	2 L (2.4 kg)
Aerosol degreaser	Class 2.1 Flammable Gas	5 cans, kept in lockable storage shed	2 L (2.0 kg)
Aerosol lubricant (WD40)	Class 2.1 Flammable Gas	20 cans, kept in lockable storage shed	8 L (6.4 kg)
Tyre wet	Class 2.1 Flammable Gas	5 cans, kept in lockable storage shed	2 L (2 kg)

Table 6.1 Potentially hazardous goods stored on site

Name	NTC 2017 Classification	Storage conditions	Approximate quantity
Other hazardous materials			
Engine oil	N/A	Four drums, kept in lockable storage shed	80 L (0.072 t)
Hydraulic oil	N/A	One drum, kept in lockable storage shed	20 L (0.016 t)
Grease cartridges	N/A	kept in lockable storage shed	13.5 kg
Fuel additive (Ad Blue)	N/A	Three 20 L drums, kept in lockable storage shed	60 L (69.3 kg)
Car washing liquid	N/A	3 bottles, kept in lockable storage shed	3 L (3.02 kg)
Windex	N/A	3 bottles, kept in lockable storage shed	3 L (3 kg)

Based on the information in Table 6.1, a screening test against the thresholds in SEPP 33 was undertaken for dangerous goods proposed to be stored on the sought as detailed in Table 6.2. The screening test determines that the proposed storage of dangerous goods is not potentially hazardous.

Table 6.2 Applying SEPP 33 screening test

Goods	Total quantities	SEPP 33 screening threshold	Potentially hazardous
Class 2.1 (LPG)	10.4 kg	10 t (if stored above ground)	No
Class 2.1 (pressurised excluding LPG)	17.4 kg	Greater than 0.1 t at specified distance	No
Class 3 PG II	6.14 kg	Greater than 5 t at specified distance	No

Note: Conversion used for LPG 1 L = 0.53 kg

ii Transport of hazardous materials

Applying SEPP 33 also sets threshold limits for the transportation of hazardous materials to and from a site. The number of weekly and annual deliveries and the approximate quantities per load to the site are below the SEPP 33 transport screening thresholds as shown in Table 6.3.

Table 6.3 Applying SEPP 33 transportation screening test

Hazardous materials	Deliveries (number of truck movements)		SEPP 33 screening threshold		Quantities per load (bulk)	SEPP 33 screening threshold	Potentially hazardous
	Weekly (peak)	Annual	Weekly (peak)	Annual			
Class 2.1 Flammable Gas	1	4	>30	>500	26 kg	2 t	No, truck movements and quantities will be below threshold values
Class 3 Flammable Liquids PG II	1	2	>45	>750	4 kg	3 t	No, truck movements and quantities will be below threshold values

Therefore, the transportation of dangerous goods will not qualify the development as potentially hazardous.

6.2.2 Other risk factors

Applying SEPP 33 requires an assessment of other hazards/risk factors outside the scope of the risk screening method. An assessment of other types of hazards associated with the proposal is provided in Table 6.4.

Table 6.4 Other types of hazards

Type of hazard	Comments
Any incompatible materials (hazardous and non-hazardous materials).	No
Any wastes that could be hazardous.	No. Wastes delivered to site will be inspected and will not be accepted if they contain hazardous materials.
The possible existence of dusts within confined areas.	Low risk – misting sprays will be used to suppress dust.
Types of activities the dangerous goods and otherwise hazardous materials are associated with (storage, processing, reaction, etc).	The dangerous goods will be stored on site in minor quantities and are not expected to present a hazard.
Incompatible, reactive or unstable materials and process conditions that could lead to uncontrolled reaction or decomposition.	No
Storage or processing operations involving high (or extremely low) temperatures and/or pressure.	No
Details of known past incidents (and near misses) involving hazardous materials and processes in similar industries.	No known incidents involving hazardous materials.

There are no other hazards/risk factors outside of the risk screening method that apply to the proposal.

6.2.3 Hazard management

A range of hazard control measures will be implemented during operation of the development. Each of these will be appropriate for the hazard they are designed to control and will generally follow the *Hierarchy of Hazard Controls* (WorkCover NSW 2008):

- engineering controls:
  - design: components have been designed and constructed to comply with relevant standards; and
  - enclosure: components are enclosed as appropriate. For example, storage shed will be enclosed and locked.
- administrative controls:
  - operating procedures;
  - scheduled maintenance; and
  - training and reinforcing correct work procedures.

The storage and use of hazardous materials will be in accordance with the following Australian Standards:

- *Australian Standard 1940: 2004 The Storage and Handling of Flammable and Combustible Liquids*; and

- *Australian Standard 1596: 2008 The Storage and Handling of LP Gas.*

6.3 Potentially offensive industry

Relevant emissions and discharges to air, noise and water arising from construction and operation of the facility have been assessed to determine if it is classified as potentially offensive industry.

6.3.1 Air quality

EMM assessed potential air quality impacts from the proposal. The assessment concluded air pollutants attributable to the development will be within the applicable assessment criteria at all times and will not lead to unacceptable levels of environmental harm.

6.3.2 Noise

Spectrum Acoustics assessed potential noise and vibration impacts from the proposal. The assessment concluded that the proposal is predicted to comply with relevant guidelines, policies and criteria in relation to noise emission, noise intrusion and road traffic noise. Further, that given the distance to residences and the general absence of significant vibration sources, a quantitative assessment of vibration impacts is not necessary.

6.3.3 Water

Barker Ryan Stewart assessed potential impacts to water from the development. The assessment concluded that, by implementing proposed management measures, the development will not have any impacts to water quality.

6.3.4 Waste

Only inert pre-classified general solid waste (non-putrescible) will be accepted at the facility. No hazardous, liquid, or general solid waste (putrescible) wastes will be accepted at the facility.

6.4 Conclusion: Is the proposal a potentially offensive industry?

An assessment of the storage and transport of hazardous materials against *Applying SEPP 33* determined that the development is not potentially hazardous. The proposed facility is subject to SEPP 33 and the SEPP 33 provisions indicate that a PHA is not required.

Further, the development will not result in unacceptable levels of pollution that will impact the amenity of the area. Therefore, the development is not a potentially offensive industry.

6.5 Other hazards

The following other hazards have been considered:

- flooding: the site is not in a flood plain and is located above the 1 in 100 year flood event level (detailed analysis under Section 7.9.2 and Appendix N);
- mine subsidence area: the site is not located within a mine subsidence area;
- sea level rise: sea level rise will not impact on built elements of the site; and
- bushfire: the site is not located within bushfire prone land.

These factors do not represent a hazard resulting from the development.

6.6 Fire and incident management

An assessment on fire and incident management was prepared by EMM that describes the procedures to manage incidents that may occur at the site that have the potential to harm people, property and the environment. An outline of the assessment is provided below.

6.6.1 Fire and incident prevention

A range of measures will be implemented to prevent air, water and noise emissions from causing impacts to people, property and the environment. These are documented in Chapter 7.

Additional measures that will be implemented to prevent fires will include:

- the site will be kept tidy;
- there will be no permanent fuel tanks on site;
- refuelling will be undertaken by a licensed vendor in a refuelling area clear of stockpiles;
- fuel is diesel only;
- site personnel will be trained in fire response;
- there will be fire hose reels in the sorting shed;
- there will be fire extinguishers in the gate house, kitchen and the office;
- limit the size of stockpiling of timber products to 28 m^3;
- keep a minimum 2 m separation distance between the skip bin containing timber products and any electrical or heat producing plant;
- internal stockpiling to be kept clear of ingress and egress routes; and
- spill response kits will be available should there be a spill of flammable substances.

6.6.2 Incidents

An incident is defined as:

- any inspection/test result that does not meet the acceptance criteria specified in any environmental approvals or relevant standard or legislation;
- any notice of non-compliance issued by a government agency with environmental jurisdiction;
- any non-conformance with identified objectives and targets;
- any action that causes unapproved environmental harm; and/or
- a community complaint.

6.6.3 Incident response

The following actions (as relevant) will be taken in the event of an incident that have the potential to harm people, property or the environment:

- site resources including spill kits and fire extinguishers will be used to respond to incidents immediately if safe to do so;
- emergency services will be contacted immediately for any non-minor incidents where there is a risk that the incident cannot be controlled using site resources;
- all efforts will be made to control potential air pollution from the site during an incident;
- all efforts will be made to contain any contaminated discharge, spill or run-off from the site;
- the site will be made secure; and/or
- at the request of the EPA, groundwater beneath the site and/or surface water leaving the site will be monitored.

6.6.4 Spill

Spill kits will be kept on site to be used in the event that a hydrocarbon spill occurs. The following actions will be taken if a spill occurs:

- the first employee to identify spill will notify the Site Manager;
- emergency services will be called if there is a threat to human health or property;
- spill kits will be deployed;
- containment measures will be implemented immediately; and
- for reportable spills, the relevant agencies will be immediately notified (see below).

6.6.5 Incident reporting

All site personnel will be required to report environmental incidents (potential or actual harm to the environment) immediately to the Site Manager so that an assessment of the level of response required can be determined.

The following information will be included in the incident reporting:

- time, date, location and name of person who identified the incident;
- description of the incident and investigation;
- how and why the incident occurred;
- what were the actual and potential environmental impacts;
- corrective actions to reduce short-term recurrence and risk; and
- preventative actions to prevent long-term recurrence of the incident.

The Site Manager will notify the relevant agencies of any reportable incident associated with the facility immediately becoming aware of the incident. As noted in Table 6.5, a detailed report will be provided to relevant agencies within seven days of the date of the incident.

Records of all incident records will be kept for at least four years.

Table 6.5 Incident notification

Incident	Notification period	Recipient
Pollution incident that causes, or may lead to, material harm to the environment	Immediately	EPA, DPIE, Ministry of Health, WorkCover, Council and emergency services
All incidents at the facility	Immediately	Site Manager
Exceedance of the limits/performance criteria	Within seven days	Written report to DPIE containing: • date, time and nature of exceedance/incident; • identifies the cause of exceedance/incident; • actions to date; and • proposed measures to address the exceedance.

7 Impact assessment

This chapter provides an assessment of the likely environmental impacts of the proposal as required by Division 5.1 of the EP&A Act. Further details of the existing environment, assessment methods, assessment criteria, predicted impacts and proposed management measures are provided in the following appendices:

- Air Quality Impact Assessment (Appendix H);
- Noise Impact Assessment (Appendix J);
- Stormwater Drainage Report (Appendix K);
- Soil and Water Report (Appendix L);
- Flood Risk Assessment (Appendix N);
- Traffic and Parking Impact Assessment (Appendix O);
- Arboricultural Impact Assessment (Appendix P);
- Flora and Fauna Assessment (Appendix Q);
- Aboriginal Due Diligence Report (Appendix R);
- Reflectivity Study (Appendix T); and
- Lighting Compliance (Appendix U).

7.1 Air quality and odour

An air quality impact assessment (AQIA) was prepared by EMM (refer to Appendix H). The assessment was conducted in general accordance with the guidelines specified by EPA in the *Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales* (EPA, 2016c).

The assessment considered the potential air quality impacts (including dust and odour) of the proposal on nearby private properties (residential and industrial). Impacts were determined based on consideration of 17 potential sensitive receiver locations (refer to Figure 7.1).

The site is located within an existing industrial estate with several potential emission sources and is also in close proximity to the M5 motorway. These emissions from local emission sources have been considered in the background air quality.

The assessment assumed that 35,000 tpa of waste will be accepted annually; the diurnal distribution of activities by hour of day, based on projected traffic volume distribution; all material unloading, handling, processing and loading is conducted within the processing shed and no wind erosion emissions are assumed to be associated with the project.

Source: EMM (2019); DFSI (2017); Nearmap (2019)

0 50 100 m
GDA 1994 MGA Zone 56

N

KEY

- Air quality assessment location
- Site boundary
- Rail line
- Main road
- Local road
- Watercourse/drainage line
- Cadastral boundary

Assessment locations

W & J Lee Property Investments Pty Ltd
Environmental impact statement
Kingsgrove resource recovery facility
2F The Crescent, Kingsgrove
Figure 7.1

EMM creating opportunities

7.1.1 Site generated airborne particulate matter (dust)

A summary of calculated annual emissions by source type is provided in Table 7.1. The most significant source of emissions is associated with the movement of vehicles across paved surfaces. The significance of diesel combustion emissions increases with decreasing particle size.

Table 7.1 Calculated annual TSP, PM_{10} and $PM_{2.5}$ emissions

Emissions source	Calculated peak day emissions (kg/year) by source		
	TSP	PM_{10}	$PM_{2.5}$
Delivery of materials to shed	107.3	20.6	5.0
Material unloading (in shed)	8.7	4.1	0.6
Material transfer to trommel (in shed)	8.7	4.1	0.6
Trommel screen (in shed)	65.6	22.6	0.2
Unloading from trommel (in shed)	8.7	4.1	0.6
Transfer to storage bins (in shed)	8.7	4.1	0.6
FEL movements (in shed)	22.0	4.2	1.0
Loading to production trucks (in shed)	8.7	4.1	0.6
Dispatch of product to market	38.4	7.4	1.8
Diesel combustion – onsite plant	40.1	40.1	36.7
Diesel combustion - trucks	0.4	0.4	0.4
Total annual emissions	**317.2**	**115.8**	**48.2**

7.1.2 Site generated odour

The majority of material received by the facility will be inert construction, demolition, commercial and industrial wastes. The facility will not accept odour generating materials, such as putrescible wastes, and will not generate odours on site, such as through the composting of green waste. Only small amounts of green waste will be stockpiled, and measures will be implemented to prevent vegetation waste (including green waste) composting. Therefore, the potential for odour emissions associated with the operation of the facility will be low. Nevertheless, odour emissions have been quantified for the waste streams with the highest odour potential, being green waste.

Following a literature review of publicly available odour impact assessments involving green waste storage in NSW, the maximum odour emission rate at 1.279 $OU.m^3/m^2/second$ is adopted as a conservative assumption.

The likely green waste stockpile area will total 15 m^2, which has been combined with the adopted odour emission rate indicated above. It is noted that while any odour generating materials will be stored within the sorting shed, no control factors have been applied to emission calculations.

7.1.3 Site generated dust and odour results

Predicted site generated (incremental) TSP, PM_{10}, $PM_{2.5}$, dust deposition and odour concentrations associated with the operation of the facility are provided in Table 7.2 for each of the assessment locations.

Table 7.2 Incremental (site-only) concentration and deposition results

Receptor ID	Predicted incremental concentration (µg/m³) deposition rate (g/m²/month)						Predicted odour concentration (OU)
	TSP	PM_{10}		$PM_{2.5}$		Dust deposition	
	Annual	24-hour maximum	Annual	24-hour maximum	Annual	Annual	99th percentile 1-second
Criterion	**90**	**50**	**25**	**25**	**8**	**2**	**2**
R1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<1
R2	<0.1	0.2	<0.1	0.1	<0.1	<0.1	<1
R3	<0.1	0.3	<0.1	0.1	<0.1	<0.1	<1
R4	<0.1	0.2	<0.1	0.1	<0.1	<0.1	<1
R5	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<1
R6	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<1
R7	<0.1	0.2	<0.1	0.1	<0.1	<0.1	<1
R8	<0.1	0.4	<0.1	0.2	<0.1	<0.1	<1
R9	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<1
R10	<0.1	0.2	<0.1	0.1	<0.1	<0.1	<1
R11	<0.1	0.2	<0.1	0.1	<0.1	<0.1	<1
R12	<0.1	0.1	<0.1	0.1	<0.1	<0.1	<1
R13	1.5	5.1	0.7	2.0	0.3	0.3	<1
R14	0.1	1.0	0.1	0.4	<0.1	<0.1	<1
R15	0.3	1.4	0.1	0.5	<0.1	0.1	<1
R16	0.1	0.4	<0.1	0.2	<0.1	<0.1	<1
R17	0.8	1.8	0.3	0.7	0.1	0.2	<1

Notes: Criteria for TSP, PM_{10} and $PM_{2.5}$ is applicable to cumulative (increment + background). Criteria is provided for comparison purposes only.

7.1.4 Cumulative assessment (site + background) results

Cumulative impacts at each of the sensitive receptor locations surrounding the site have been assessed in the following way:

- for 24-hour average concentrations, the maximum predicted 24-hour average model predictions for PM_{10} and $PM_{2.5}$ from the site have been combined with the adopted background concentrations from the NSW OEH Earlwood 2017 monitoring dataset; and
- for annual average concentrations, the predicted annual average concentrations have been paired with the corresponding background annual average concentration.

Predicted cumulative TSP, PM_{10} and $PM_{2.5}$ concentration associated with site operations are provided in Table 7.3 for each of the assessment locations.

Table 7.3 Cumulative (site + background) concentration results

Receptor ID	Predicted cumulative concentration (µg/m³)				
	TSP	PM_{10}		$PM_{2.5}$	
	Annual	24-hour maximum	Annual	24-hour maximum	Annual
Criterion	**90**	**50**	**25**	**25**	**8**
R1	45.1	37.4	18.0	20.5	7.3
R2	45.1	37.5	18.0	20.6	7.3
R3	45.1	37.6	18.0	20.6	7.3
R4	45.1	37.5	18.0	20.6	7.3
R5	45.1	37.4	18.0	20.5	7.3
R6	45.1	37.4	18.0	20.5	7.3
R7	45.1	37.5	18.0	20.6	7.3
R8	45.1	37.7	18.0	20.7	7.3
R9	45.1	37.4	18.0	20.5	7.3
R10	45.1	37.5	18.0	20.6	7.3
R11	45.1	37.5	18.0	20.6	7.3
R12	45.1	37.4	18.0	20.6	7.3
R13	46.6	42.4	18.7	22.5	7.6
R14	45.2	38.3	18.1	20.9	7.3
R15	45.4	38.7	18.1	21.0	7.3
R16	45.2	37.7	18.0	20.7	7.3
R17	45.9	39.1	18.3	21.2	7.4

The predicted cumulative concentrations for all pollutants and averaging periods comply with the applicable EPA assessment criterion at all assessment locations.

The results indicated that the daily operation of the facility is highly unlikely to result in exceedances of the applicable particulate matter or odour impact assessment criteria at any of the surrounding assessment locations.

7.1.5 Management measures

While the predicted cumulative concentrations for all pollutants and averaging periods comply with the relevant EPA criterion at all assessment locations. The following measure will be implemented to minimise dust emissions from the operation:

- 213 misters will be installed inside the shed and at the door entry to prevent dust lift-off (a detailed plan showing location and quantity of misting line and heads can be found in Appendix X);
- the screening plant will be contained within the sorting shed;
- the entire site will be sealed except for the landscaping area; and

- a wheel wash will be used to clean truck tyres to prevent mud or sediment being carried to and deposited on the access road and any public roads.

The following measures will be implemented to prevent odour emissions from the site:

- putrescible waste will not be accepted on site;
- no composting will be undertaken on site; and
- odorous materials will not be accepted on site.

A Dust Management Plan (refer to Appendix I) has been prepared for the proposal which includes emission sources and applicable mitigation measures during normal day operation and during adverse weather conditions.

7.2 Noise and vibration

Spectrum Acoustics prepared a Noise Impact Assessment (NIA) that assessed potential noise and vibration impacts from the proposal (refer to Appendix J). The assessment was undertaken in accordance with relevant EPA guidelines and *AS 1055 – 1997 Acoustics – Description and Measurement of Environmental Noise*.

The assessment considered impacts to two representative assessment locations most likely to be affected by the proposal. The processing scenario for the assessment assumes that all plant and equipment is operating simultaneously to allow maximum noise levels to be predicted and, as such is considered to represent a worst-case scenario. It is noted that it will be rare for all equipment to be running simultaneously.

The NIA suggests there is no potential adverse vibration impacts on residential receivers as they are located more than 200 m from the site. Given the distance and the general absence of significant vibration sources, assessment of vibration impacts is not warranted.

7.2.1 Ambient and background noise levels

Unattended noise loggers were programmed to monitor ambient noise levels over the 15-minute intervals, with internal software calculating and storing Ln percentile noise levels for each sampling period. The noise loggers were located at residential locations N1 and N2.

Ambient and background noise levels obtained from the loggers are summarised in Table 7.4.

Table 7.4 Measured ambient noise levels

Location	RBL, dB			Ambient (L_{Aeq}) noise level, dB		
	Day	Evening	Night	Day	Evening	Night
N1 (119 Tallawalla Street)	43	42	39	58	54	49
N2 (106 Armitree St)	43	41	38	57	53	46

7.2.2 Noise emission sources

Table 7.5 shows the plant items and sound power levels sourced from the Spectrum Acoustics database for a previous waste recycling facility or online databases.

Table 7.5 Noise emission sources

Plant item	Lw, dB (A)
Excavator JCB – JS 130 LC (handling metal)	108
Wheel loader JCB – 417 H (handling rubble)	105
Skid steer loader JCB – 225	101
Portafill Screen 5000 CT	98
Trommel, 10 mm aperture, direct on line	108
Light waste blower	102
Soil and rubble conveyors (each, including drive)	96
Picking line conveyor (including drive)	96
Truck arrival and departure (Leq(15 min))	98
Truck unload rubble or metal (Leq / Lmax)	107 / 121

The noise from vehicle movements on public roads associated with an industrial source is also included as a noise emission source.

7.2.3 Noise impact

Operational noise levels have been assessed for the day, evening and night time periods. As shown in Table 7.6, operational noise emission levels are predicted to not exceed the relevant criteria at all assessment locations. Further, the results show that predicted noise levels from the operation of the proposed facility are significantly below the night time intrusiveness criterion at the most potentially impacted residential receivers.

Table 7.6 Exceedance noise levels, dB(A), Leq (15min) - operations

Locations	Exceedance noise level during operations		
	Day	Evening	Night
N1	-6	-6	-3
N2	-13	-13	-19

The result also shows the average distance from operational noise sources to a point inside the boundary of the adjoining Allied Pinnacle industrial premises if 40 m. The worst case day time sound power level when all sources operating simultaneously and continuously does not exceed the NPI trigger level.

As noted in Section 3.6, there will be no processing from 5:30 pm to 6:00 am, Monday to Saturday, or on Sundays or public holidays. The NIA has modelled night time activities associated with waste receival (eg waste tipping inside the shed). Assessment of the potential for sleep disturbance from the operation of the facility is summarised in Table 7.7. The results indicate the predicted maximum noise level at night is below the sleep disturbance noise trigger level.

Table 7.7 Exceedance noise levels, dB(A), Lmax – sleep disturbance

Locations	Exceedance noise level at night
N1	-3
N2	-12

In summary, it is unlikely that project noise emissions will cause adverse impacts in the surrounding area.

7.3 Stormwater drainage

Warren Smith & Partners Pty Ltd was engaged to prepare a stormwater drainage report to accompany this EIS (refer to Appendix K).

7.3.1 Existing drainage

There is no existing Council drainage infrastructure fronting the property and no existing stormwater drainage within the funnel-shaped area to the eastern portion of the site where the sorting shed will be located. It is proposed that stormwater infrastructure will be constructed within this part of the site to serve the proposed operation.

The western portion of the land, which will predominantly be used for car parking and landscaping purposes, has three existing grated pits. They are connected by one existing 300 mm diameter stormwater pipe which reticulates north and discharges into the stormwater channel at the rear of the site.

7.3.2 Proposed stormwater system

The proposed stormwater system is to be installed along the eastern side of site, reticulating to a 70.40 m^3 onsite detention tank before discharging to the stormwater channel at the rear of the site. In the north-east corner.

The pit and pipe systems have been sized in accordance with the Hurstville City Council DCP and have a minimum capacity equivalent to the 20-year ARI storm event.

The stormwater runoff from the roof of the proposed sorting shed will be captured by a 300 mm wide box gutter along the south-west side and by a 200 mm diameter half-pipe eaves gutter on the north-east side. All stormwater runoff will be connected into two 10,000 L rainwater (underground) tanks which will each incorporate a first flush device. The rainwater collected by the tanks will be recycled and used for dust suppression purposes in the factory and yard. The rainwater tanks will be located at the south-west corner and the north-east corner of the proposed sorting shed. A 225 mm diameter overflow pipe will connect each rainwater tank to the proposed stormwater system and discharge to the stormwater channel.

7.3.3 Site discharge

A DRAINS model was used to calculate site discharge flows for different storm events as a result of the proposed development. The results for pre-development and post-development discharge flows are shown in Table 7.8.

Table 7.8 Site discharge results

Storm event (% AEP)	Pre-development area discharge (L/s)	Post-development area discharge (L/s)
1 year ARI storm event	35	8
5 year ARI storm event	76	12

Table 7.8 Site discharge results

Storm event (% AEP)	Pre-development area discharge (L/s)	Post-development area discharge (L/s)
10 year ARI storm event	90	13
20 year ARI storm event	108	15
50 year ARI storm event	121	19
100 year ARI storm event	137	21

7.3.4 Water quality management

It is proposed that all grated inlet pits within the property be fitted with Enviropod filter baskets. It is also proposed that the OSD tank be fitted with four Psorb 460 mm Stormfilter cartridges to provide further treatment to satisfy the relevant Council requirements.

The stormwater drainage system has been designed to direct all stormwater runoff from pavements and pervious areas within the development site to the treatment chamber of the on-site detention (OSD) tank before discharging into the stormwater channel at the rear of the site.

7.3.5 Sediment and erosion control

Various sediment and erosion controls shall be implemented during the demolition and construction phases. The proposed measures include installation of a 1.5 m long by 3 m wide cattle rack at the entry for construction vehicles leaving the site to pass over; all exposed earth area shall be protected with a sediment and erosion control silt fence; install construction fence around the site boundary in accordance with NSW Government guidelines and incorporating geotextile fabric; regularly water spray the site and regularly maintain sediment and erosion control devices.

7.4 Soil and Water

A soil and water assessment was undertaken by Barker Ryan Stewart. The assessment considered the existing site soil and water environment and the potential soil and water impacts associated with the proposal. The assessment recommends a suite of design and procedural measures to control and minimise those impacts. The soil and water assessment is included in Appendix L.

7.4.1 Existing soil and water condition

The existing soil consists of poorly to moderately compacted fill material over residual soil comprising of moderate to high plasticity clay generally firm too hard on extremely low to very low strength shale on low strength sandstone. The sub surface conditions are being underlain by Ashfield Shale which consists of laminate and dark grey siltstone.

A flood review has been undertaken by GRC Hydro which references the Georges River Council's Overland Flow Flood Study. It notes that the site is not flood affected.

In the bore holes that were excavated in preparation of the Geotech report. It was revealed that the groundwater table exists at a depth of approximately 2.5 to 4 m below the existing ground surface.

A review of the OEH's website showing Acid Sulfate Soil Risk occurrence at a scale of 1:25,000 for the area shows there is no acid sulfate soil risk in the area.

7.4.2 Future water use

The site will be split into two distinguished uses, one on the eastern portion will be used to locate the sorting shed and operational activities, and one on the western portion will be used as car parking and landscaping. The eastern portion will be developed to incorporate water quantity and quality measures in accordance with Council requirements. The western portion will remain in its current condition, utilising the existing drainage system that is separate to the part that will be developed.

Within the eastern portion of the site, a number of water handling methods will be implemented, they include:

- Rainwater tanks catching runoff from the sorting shed for reuse in a dust suppression fogging machine. The proposed dust suppression is expected to operate with a water flow of 15 L per minute over periods of time as required during operations. It is expected that this will require the device to operate for about 10 minutes every hour, which is equivalent to an average volume of 150 L per hour during operating hours.

- A gross pollutant trap (GPT).

- An onsite detention (OSD) structure. In addition, a shut off valve is proposed to be located below the OSD structure which will be accessible to the fire brigade in the event of a fire on the site, this way all fire fighting runoff will be captured and stored on site.

- A standard pit and pipe collection system which is designed as a sump with a holding tank connected to it. This sump will collect any water draining from either wet vehicles or equipment that enters the building and generate surface water or from the testing of the fire fighting equipment (if required).

- A water quality treatment system to reduce suspended solids, total nitrogen and total phosphorous down to the required reduction targets of 85%, 65% and 45%. A filter system will be installed either within the OSD structure or immediately upstream of it. The filter system proposed will absorb pollutants and retaining them and allowing cleaner water to drain through. Regular maintenance and replacement is required. The system is also capable of capturing trapping oil and grease from the driveway system.

- Wastewater generated from the amenities block will be discharged directly to Sydney Water's sewerage system.

7.4.3 Potential impacts and analysis

i Stormwater quality

Stormwater can carry pollutants (eg litter, organic matter, grease, oil, and heavy metals) which if not adequately captured or treated can cause a deterioration of receiving aquatic quality.

A full analysis of the water quality of the stormwater discharge leaving the site was undertaken with the implementation of mitigation measures. The results show that with the implementation of mitigation measures, the pollutant discharge volumes will be reduced to meet the requirements.

ii Soil and water quality

Soil contamination may occur due to spills or unplanned releases of materials that are considered contaminants during the construction and operation phases of the project. In relation to the proposal, the most likely source of contamination is fuel spills from vehicles, plant and equipment. These contaminants must be appropriately handled to minimise the risk of spills and unplanned releases. Should spills or unplanned releases occur, the contamination must be cleaned-up.

iii Stormwater discharge

The proposal includes installation of a standard pit and pipe drainage system that drains into a combined water quality and OSD structure. The results from the stormwater drainage report (refer to Appendix K) show that the post development flows are reduced back to their corresponding pre-development peaks from the existing site.

iv Water usage

The two main water uses are for the amenities block (toilet and lunch room) and for dust suppression (fogging device).

The water usage to supply the amenities block is considered small and will easily be catered for by the existing Sydney Water potable water mains.

The fogging device will be the main source of water use. It is estimated that on average 1.479 kilolitres (kL) of water will be required per day to operate the fogging device. Even though the supply of water for the fogging device could also be easily supplied from the existing Sydney Water reticulated water system, in order to minimise the usage of the mains water supply, rainwater tanks – which are connected to the downpipes from the sorting shed – will provide the primary water supply. By implementation this water saving mitigation measures, it is anticipated that 70% of the water for the fogging device will be supplied by the rainwater tanks.

v Soil loss

Generally, any soil disturbance during construction has the potential to result in the loss of soil. The proposal requires removal of vegetation (16 trees) and concrete slab, and minor excavation for the construction of footings. In the absence of appropriate controls, exposed soil has the potential to leave from the site through exposure to weather and through soil disturbing activities (eg trucks tracking soil out of sites).

In addition, a Bulk Earthworks Plan has been prepared to indicate the cut and fill volume. In summary, approximately 584.2 m^3 of soil would be excavated and approximately 6.8 m^3 of soil be filled, representing a net volume of 577.4 m^3 of earthworks as a result of the proposal. A detailed layout of the bulk earthworks plan can be found in Appendix M.

7.4.4 Mitigation measures

Appropriate mitigation measures have been designed to minimise the proposals impact to soil and water resources. These measures are described in Table 7.9.

Table 7.9 Mitigation measures and controls to minimise soil and water risks

Impact	Mitigation measure
Stormwater quality	• A minimum of two 10,000 L rainwater tanks will be installed to collect the roof runoff. • The rainwater tanks will be plumbed back into the system to supply the dust suppression fogging machine. • It has been assumed that the fogging machine will be running for a period of about 10 minutes every hour and draw water from the tanks at about 150 L per hour. • The stormwater will be treated by providing a combination of Stormfilter tanks, Stormfilter cartridges and EnviroPods.

Table 7.9 Mitigation measures and controls to minimise soil and water risks

Impact	Mitigation measure
Soil and water quality	• Spill kits are made available. • The facility is equipped with equipment specifically designed for the type of clean up operation likely to occur at the facility. • A spill management plan is developed and implemented at the facility. • Training provided to all staff with instructions on small- and large-scale spills being readily available. • Storage facilities are regularly inspected.
Stormwater discharge	• Installation of a standard pit and pipe collection system. • Installation of an OSD structure. • Install an isolation valve below the OSD structure to allow the fire brigade to be able to isolate the property in the event of a fire. This will ensure that all fire water runoff can be captured and stored on site once the valve is closed.
Water usage	• Installation of two 10,000 L rainwater tanks.
Soil loss	• Implement soil erosion sediment control plan during construction phase.

7.5 Traffic and parking

7.5.1 Overview

McLaren Traffic Engineering (MTE) has prepared a traffic and parking impact assessment (TPIA) to assess the development related traffic impacts associated with the proposal (refer to Appendix O). The assessment considered impacts of traffic generated by the proposal on the existing and future traffic network. It was based on average daily vehicle movements to and from the site, including:

- delivery of 35,000 tpa of waste;
- dispatch of recycled products and non-recyclable residues;
- employee and visitor vehicles; and
- daily operational traffic generation.

The proposal will import and process up to 35,000 t of waste per year. On average, up to 112.2 t of waste material will be delivered (and processed) per day. Imported waste material will be delivered to the site by 9 m rigid trucks with a capacity of 6 t per trip and processed materials will be dispatched from the site by 17 m truck and dog with a capacity of 35 t per trip. Site personnel will also contribute to traffic generation.

While it is anticipated that some of the staff will carpool to work, a worst case scenario of 10 light vehicles travelling to and from the site has been adopted and assessed.

The average estimated heavy vehicle related traffic generation on a typical operational day is provided in Table 7.10.

Table 7.10 Heavy vehicle related traffic generated by the proposal on a typical operational day

Types of movement	Daily vehicle tonnage (t)	Vehicle type	Loading capacity (t)	Daily delivery vehicles required	Daily heavy vehicle movements
Trucks delivering waste to the facility.	112.2 t	9 m rigid truck	6 t	19	38 (19 in, 19 out)
Trucks dispatching processed material from the facility.		17 m truck and dog	35 t	3.2 (4)	8 (4 in, 4 out)
Subtotal	-	-	-	**23**	**46 (23 in, 23 out)**

7.5.2 Peak operational traffic generation

The facility will operate between the hours of 6:00 am and 5:30 pm, however it is anticipated that truck movements will not occur between 6:00 am to 7:00 am when the facility first open up in the morning due to time allowed for processing any materials received after normal operational hours.

The estimated peak hourly traffic flows associated with a normal day site operation is outlined in Table 7.11. The peak number of truck movements will be between the hours of 9:00 am to 3:00 pm. The last input of waste materials for processing is expected to be at 4:30 pm to allow time for completion of the materials sorting, the clean-up of plant and the close down of the operational activities on site by 5:30 pm.

Table 7.11 Estimated hourly truck movements

Time	Number of truck movements	Percentage of total truck movements	Movements per hour
7:00 am – 7:30 am	2	3%	2 (1 in, 1 out)
7:30 am – 9:00 am	8	17.5%	6 (3 in, 3 out)
9:00 am – 12:00 pm	17	35.5%	6 (3 in, 3 out)
12:00 pm – 3:00 pm	13	31%	5 (3 in, 2 out)
3:00 pm – 5:00 pm	6	13%	3 (1 in, 2 out)
Total	**46**	**100%**	-

While staff will arrive on site prior to 7:00 am and depart between 3:00 pm and 5:30 pm, for consistency purpose of traffic assessment, worst-case scenario is assumed that light vehicle will also occur during the one-hour peak AM and PM periods.

The estimated AM and PM hourly peak traffic movements are summarised in Table 7.12.

Table 7.12 Estimated AM and PM hourly peak traffic movements

Peak hour	Staff peak hour movements	Heavy vehicles peak hour movements	Total peak hourly traffic movements
AM	5 in	6 (3 in, 3 out)	11 (8 in, 3 out)
PM	5 out	3 (1 in, 2 out)	8 (1 in, 7 out)

7.5.3 Impact on key intersections

SIDRA traffic modelling of the two key intersections found that the intersection is currently operating well, includes traffic delays corresponding to level of service C. The increase in traffic due to the project will not change the existing level of service of the key intersections (refer to Table 7.13).

Table 7.13 Future intersection capacity

Intersection	Peak hour	Existing base intersection capacity			Future intersection capacity with project		
		DOS	AVD	LOS	DOS	AVD	LOS
The Crescent/Vanessa Street	AM	0.37	1.8 (worst: 16.7)	N/A (worst: B)	0.37	2 (worst: 17)	N/A (worst: B)
	PM	0.35	0.7 (worst: 12.5)	N/A (worst: A)	0.36	0.8 (worst: 12.6)	N/A (worst: A)
Commercial Road/Kingsgrove Road/Kingsgrove Avenue	AM	0.84	33.5	C	0.84	34.6	C
	PM	0.78	31.4	C	0.78	31.5	C

Note: DOS = Degree of Saturation, AVD = Average Delay (sec/vehicle), LOS = Level of Service

Following the completion of the new M5 WestConnex project in the year 2023 (or thereabouts), the existing regional traffic capacity provided by the new Motorway duplication should substantially relieve the existing east-west traffic flows on surface routes parallel to the M5 corridor in the Kingsgrove and Bexley areas. For this reason, it is not considered necessary to undertake further detailed intersection traffic capacity analysis at any of the nominated intersections.

It is anticipated that in a 10-year traffic growth scenario, the existing baseline AM and PM peak hourly traffic volumes using the nominated intersections will decrease rather than increase.

The proposal is anticipated to generate relatively modest future daily and peak hourly traffic movements. This further suggests that any broader regionally-based analysis of the future traffic impacts is not warranted beyond the two identified intersections in the RMS submission.

7.5.4 Construction traffic generation

Detailed construction traffic management plan is normally provided during the construction certificate stage prior to construction and as part of a Council's consent condition. This includes number of construction staff and construction related vehicle movements, once a builder is engaged.

For a small-scale resource recovery facility like this proposal, construction related traffic is temporary in nature and is not expected to exceed the volume of operational related vehicle movements indicated in this EIS.

Generally during construction, construction staff and vehicle movements will be contained between 7:00 am to 3:00 pm. Considering the location and size of the site, all staff and construction vehicles will be contained fully on site, including parking spaces for construction staff.

7.5.5 Swept paths

The largest vehicle that enters and exit the site will be a 17 m truck and dog. Swept paths analyses have been undertaken at critical intersection and on site. Diagrams of swept path analyses can be found in Appendix O. The results show that two-way passing in the driveway is possible for 9 m rigid vehicles. The transport of waste and materials by 9 m rigid trucks is the dominant vehicle type. The driveway can accommodate a 17 m truck and dog

vehicle, and it is noted that while there are two loading bays available for 9 m rigid trucks, there is one loading bay for 17 m trucks. This means that the site is appropriately designed to provide for the passing of a 17 m truck with other trucks because the logistics of the sorting shed do not provide for more than one 17 m truck at any one time.

Swept path diagrams have been prepared for all critical intersections, including the junction of Kingsgrove Road and Commercial Road. This indicates that a 9 m truck can execute a left turn safely and legally. There is no proposal to have 17 m vehicles turn left or right at Commercial Road. The haul route for 17 m trucks continues straight from Commercial Road to Kingsgrove Avenue. Access to the M5 Motorway for 17 m truck is via Bexley Road.

7.5.6 Provision of parking spaces

Section 3 under the HDCP outlines the car parking requirements for various types of developments. While there is no specific rate for a resource recovery facility, the most similar listed development type, Industry (Not Warehouse), has a requirement of 1 space per 100 m^2 and has been applied to this proposal. 1 space is also required for the office area in accordance with the HDCP car parking requirement of 1 space per 60 m^2 for business and office premises. Therefore, a total of 11 parking spaces are required.

In addition, the HDCP requires the provision of one disabled space for every 20 spaces or part thereof for industrial premises. As such, one disabled parking space is required to be provided in accordance with the design requirements of AS 2890.6:2009.

The proposal provides 12 onsite car parking spaces, including one designed for a disabled user. Therefore, the proposal complies with the HDCP requirements.

7.6 Arboriculture

Tree Survey was engaged to prepare an Arboricultural Impact Assessment (AIA) to identify the trees within and adjacent to the proposed development; assess the current health and condition of the trees; assess the potential impacts of the development on the trees; and evaluate the significance of these trees and suitability for retention.

7.6.1 Methodology

A site inspection was conducted on 30 August 2019. A total of 30 trees and one group of trees were assessed. The AIA was completed following the site inspection and also based on *AS 4970-2009 Protection of Trees on Development Sites*. The findings were referenced to Georges River Council Tree Management Policy 2019.

The retention value of a tree or a group of trees is determined using a combination of environmental, cultural, physical, and social values. Three value categories were adopted:

- Low: trees are not considered important for retention, nor require special works or design modification to be implemented for their retention.
- Medium: trees are moderately important for retention. Their removal should only be considered if adversely affecting the proposed building/works, and all other alternatives have been considered and exhausted.
- High: trees are considered important for retention and should be retained and protected. Design modification or re-location of building/s should be considered.

7.6.2 Assessment results

Impact assessment is based on the likelihood of intrusion to the tree protection zone (TPZ). The encroachment in the TPZ is determined by structural root zone (SRZ), as shown in Figure 7.2. SRZ is the area of the root system used for stability, mechanical support and anchorage of the tree.

- No encroachment (0%): no likely or foreseeable encroachment within the TPZ.
- Minor encroachment (<10%): the area lost to this encroachment should be compensated for elsewhere and be contiguous with the TPZ.
- Major encroachment (>10%): the area lost to this encroachment should be compensated for elsewhere and be contiguous with the TPZ. Root investigation by non-destructive methods may be required for any proposed works within this area.

The results of the AIA are shown in Table 7.14.

Table 7.14 Results of tree assessment

	Number/group of trees	Assessment result
No encroachment (0%)	• 8 trees within the site boundary but outside the proposed construction footprint. • all trees and vegetation within the drainage reserve	All trees in this category can be retained.
Minor encroachment (<10%)	• 3 trees	All trees in this category can be retained.
Major encroachment (10-20%)	• 3 trees	All trees in this category can be retained providing mitigation measures are implemented.
Major encroachment (>20%)	• 16 trees located within or directly adjacent to the proposed construction footprint.	All trees in this category cannot be retained and require removal.

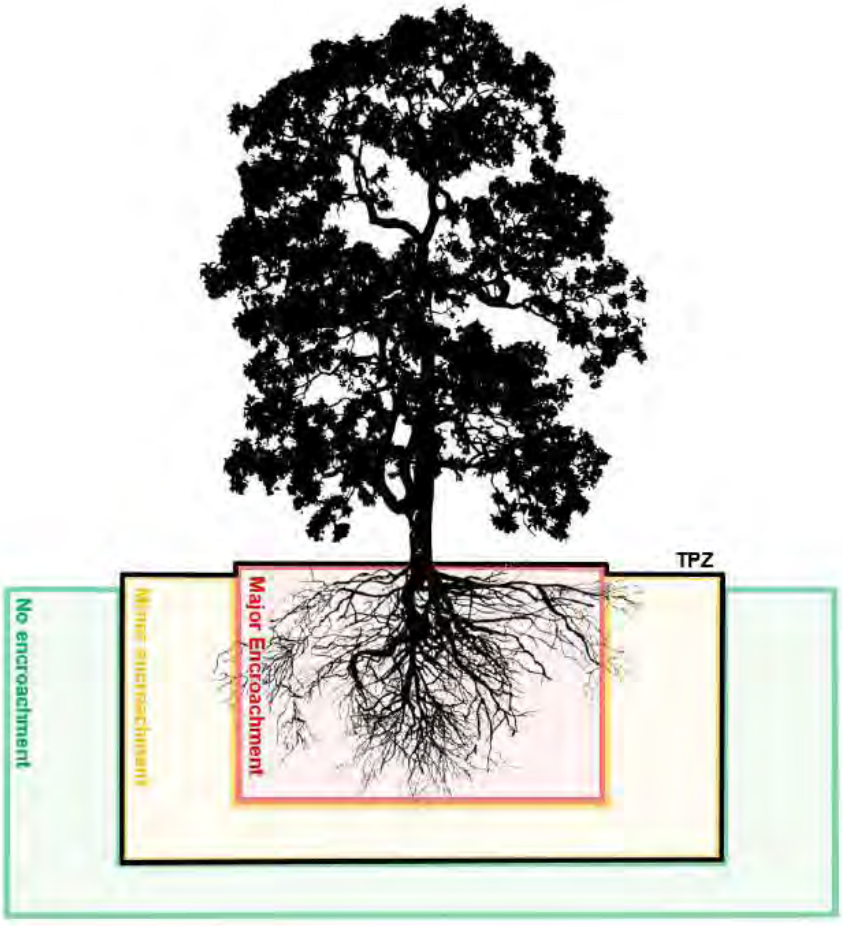


Figure 7.2 **Indicative zones of encroachment within the TPZ**

7.6.3 Mitigation measures

A total of 14 trees and one group of trees are proposed for retention. A tree protection plan should be implemented to protect these trees.

Site specific trees protection measures include:

- excavation within the tree protection zone of tree 1, 2 and 19 should be carried out under the supervision of the project arborist;
- removal and demolition of existing structures within the TPZ must be carried out using tree sensitive methods;
- no over-excavation, battering, or benching shall be undertaken beyond the footprint of any structure unless approved by the project arborist;
- structural soil should be used for any fill required in the TPZ. Soils used for this purpose must be consistent with the existing soils and preferably sourced from the same area to reduce the risk of contamination; and
- any underground services proposed within the TPZ must be installed using tree sensitive methods under the supervision of the project arborist.

A total of 16 trees are proposed for removal. All tree removal work is to be carried out by an arborist with a minimum AQF Level 3 qualification in Arboriculture, in accordance with *AS 4373-2007, Pruning of Amenity Trees* and the *NSW WorkCover Code of Practice for the Amenity Tree Industry*.

Any loss of trees should be offset with replacement planting at a ratio of 2:1, in accordance with the *Georges River Council Tree Management Policy*. Replacement plantings are shown in the landscape drawings at Appendix E.

7.7 Flora and fauna

EMM was engaged to prepare a flora and fauna assessment to assess the ecological impacts of the proposal, specifically the characteristics and ecological condition of the vegetation communities and habitat within the site; determine occurrence or likelihood of occurrence of threatened species, populations and threatened ecological communities (TECs) listed under the *Biodiversity Conservation Act 2016* (BC Act) and the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act); describe and quantify impacts on biodiversity resulting from the project and provide recommendations to avoid, minimise and mitigate potential impacts on biodiversity (refer to Appendix Q).

The assessment was based on a desktop assessment, followed by a site inspection on 7 March 2019. The assessment was also based on results of the Aboricultural Impact Assessment (refer to Appendix P).

The site inspection identified that the site has been predominantly cleared and is heavily disturbed due to past activities associated with industrial land use.

The site has been predominantly cleared with a total of 30 trees being the most significant vegetation present. Eight Swamp Oak and one unidentified *Eucalyptus* species occur within the proposed impact area will require removal. Additionally, seven trees are directly adjacent to the footprint of the proposed works, such that a major encroachment (>20%) to the tree protection zone (TPZ) will also require removal. A total of 16 trees require removal as a result of the proposed development.

The remaining 14 trees occur either adjacent to or outside of the proposed works are proposed to be retained.

The dominant tree species within the site and also within the drainage line to the north of the site is Swamp Oak and the site is within the known distribution of the endangered ecological community (EEC), therefore the vegetation to the north of the site, and those Swamp Oak trees that occur within the line of trees that bisect the site are considered part of the EEC.

An Assessment of Significance ('the five-part test') has been undertaken to assess the significance of the impacts of the project on this EEC. The results of the test show that the proposal will only result in a small reduction of the listed community in the site. The vegetation community within the drainage line to the north of the site will not be removed. Eleven trees represent a small proportion of the community and will have a negligible impact on the extent of the community and the community will not be placed at risk of extinction. As a result, the removal of 11 mature Swamp Oak trees will not have a significant impact on the *Swamp Oak Floodplain Forest of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions* EEC in the locality. The proposed clearing area represent a very low condition example of the EEC.

The assessment concludes that the proposal will not trigger any threshold outlined in the Biodiversity Conservation Regulation 2017 (BC Regulation) and therefore does not require entry into the biodiversity offset scheme (BOS) and offsets are not required. However, the assessment report provides recommended mitigation measures for direct and indirect impacts, including undertake the tree protection plan; excavation within the TPZ be carried out under the supervision of the project arborist; no over-excavation; adopt tree sensitive methods; avoid and minimise clearing impacts by marking clearing limits; and the development and implementation of an Erosion and Sediment Control Plan (ESCP) as part of the Construction Environmental Management Plan (CEMP).

7.8 Aboriginal heritage

EMM was engaged to complete an Aboriginal due diligence assessment to accompany this EIS (refer to Appendix R). The assessment was based on a desktop study and a site visit on 7 March 2019, information collected by both methods informs the findings of this assessment.

Both desktop survey and field inspection did not identify evidence of Aboriginal heritage items or presence on site. Further, the site was found to be significantly industrialised and in a well-developed area. The report concluded the site has no Aboriginal cultural heritage constraints; development works can proceed with caution.

The report recommends that, in the unlikely event that sites are discovered, work should immediately cease, and archaeological advice sought. Relevant authorities should also be notified.

7.9 Other matters

7.9.1 Acid sulfate soil

The site is not identified in Council's acid sulfate soils maps. A review of the OEH's acid sulfate soil risk maps at a scale of 1:25,000 similarly shows there is no acid sulphate soil risk on the site or in the immediate area.

7.9.2 Flooding

Stephen Gray of GRC Hydro conducted flood risk assessment in response to two criteria related to flooding as required by SEARs. The flood risk assessment referred to the flood study and the hydrologic/hydraulic model that included Wolli Creek and overland flow to assess existing flood liability. The model has been slightly updated by this assessment to re-align some fences around the site. The results show that the flow in Wolli Creek is confined to the drainage channel and does not affect the site to any significant degree. There is some overland flow at the site but this is below the cut off depth. With regards to the proposed development, the same hydraulic model was used to assess changes to flooding behaviour due to the proposed development. The results of the flood risk assessment shows there is a small increase in the peak flood level in the vicinity of the two buildings. The flood level impacts

are located within the site and as such compliance is achieved as there are no offsite impacts. In summary, the site is not flood liable during the 1% AEP flood event and the proposed development does not cause offsite flood impacts. There are no other potential impacts to water resources, hydrology, drainage lines and watercourses, relating to flooding.

7.9.3 Visual

The site and surrounds have a number of inherent mitigating features in terms of visual impact.

The irregular 'funnel' footprint of the facility means that the built form at the street frontage of the facility is narrow, and the view of the shed from public spaces, such as The Crescent, is minimal.

The area the subject of the built structures broadens to the rear and the bulk and scale of the materials processing building remains obscured by the earthen mounds and acoustic barriers on the verges of the M5 East Motorway, and the mature vegetation along the drainage line to the north of the site. The processing building is unlikely to be visible from the M5 or from the residential premises in Armitree Street, the nearest potential view receptors to the north of the site. Refer to Figure 7.3, which illustrates the role of the M5 East earthen mounds and operational buildings in blocking a line of sight to the proposed development. This M5 East mounding extends to the area occupied by Canterbury Golf Course, approximately 270 m to the north-west of the site, resulting in nil visibility of the proposed development from the golf course.

The proposed building will not be visible from Beverly Hills Park or residential dwellings in nearby Tallawalla Street. Figure 7.4 shows the screening by trees and intervening buildings.

The proposed building will be visible to neighbouring commercial and industrial premises, but it is noted that Foodlink (3 The Crescent), which is directly opposite the entrances to the site of the proposed development, does not overlook the proposed facility. The road-facing area of Foodlink is a receiving and despatch bay for vehicles. The office area of Foodlink is situated approximately 100 m to the west of the proposed facility and the windows are angled away from the proposed development, meaning that there will be negligible visual impact on any fenestrated rooms at Foodlink.

Similarly, the proposed processing facility will be visible from the premises occupied by Allied Pinnacle, immediately east of the site. The road-facing area of Allied Pinnacle has windows from which the proposed weighbridge and site office will be a peripheral feature to the far right of the outlook from those windows. This is not considered to be an intrusive or significant impact on the visual amenity of that view to the street. The proposed facility will be visible from the delivery and despatch bays situated to the rear of the Allied Pinnacle premises.

The visual character of the precinct is predominantly industrial, and it has a high capacity to absorb industrial development of a similar scale and character.

Landscaping is proposed at the south-eastern entry of the site, adjacent to the driveway, as well as along boundary areas. This will soften the built form and will be an improved aesthetic appearance compare to the current site.

Overall, the project is considered to be in keeping with the light industrial character of the area and will only result in low visual impacts to the nearest industrial premises. The impact on the view shed of public spaces (including roads) will be negligible and there will be nil impact on residential neighbourhoods.

Figure 7.3 Looking south from Armitree Street

Figure 7.4 Looking east from Tallawalla Street

7.9.4 Reflectivity

The reflectivity impact on drivers using the M5 Motorway will be negligible.

The following factors are relevant:

- the siting, design and orientation of the proposed building will minimise potential reflectivity;
- the choice of materials and muted finishes balance the need for low reflectivity with thermal efficiency;
- any line of sight is shielded by the mature vegetation along the Wolli Creek drainage line;
- the M5 Motorway upgrade provides for the construction of a Motorway Operations Complex between the proposed resource recovery facility and any west-bound motorists on the surface roads of the M5, which will obscure any line of sight to the proposed facility; and
- there is likely to be an acoustic berm or noise wall on the southern verge which will further obscure the proposed facility from passing motorists.

The reflectivity impact on industrial neighbours will be negligible.

The following factors are relevant:

- the siting, design and orientation of the proposed building will minimise potential reflectivity;
- the choice of materials and muted finishes balance the need for low reflectivity with thermal efficiency;
- for industrial neighbours to the west, any line of sight is shielded by the mature casuarina trees within the site;
- for industrial neighbours to the east and south, existing mature vegetation will shade the proposed structures; and
- any minor reflective impact will be directed towards areas of low sensitivity such as goods yards, driveways and 'back-of-house' operations.

The reflectivity impact on residential neighbours will be nil.

The following factors are relevant:

- the nearest residential premises to the west are in Tallawalla Street (approximately 300 m away) and this location is completely obscured from any direct line of sight or reflectivity impact due to the presence of mature vegetation (Beverly Hills Park) and other industrial premises in The Crescent.

7.9.5 Social and economic

i Recreational areas

There are recreational spaces to the north and south of M5 Motorway. The closest section of Canterbury Golf Course is about 200 m north-west of the site and the Beverly Hills Park is about 255 m south-west of the site.

Canterbury Golf Course is separated from the site by the M5 Motorway, the closest assessment receptor to the Canterbury Gold Course selected in the AQIA is a residential dwelling (ie R4). The air quality assessment concludes that operation of the facility will not have a significant impact on sensitive receptor R4. Given Canterbury Golf

Course is located further to R4, the future operation of the facility will not impact the recreational activities at Canterbury Golf Course.

Likewise, Beverly Hills Park is separated from the site by a number of industrial land uses, identified as R14 and R15 in the AQIA. The air quality assessment concludes that operation of the facility will not have a significant impact on sensitive receptors R14 and R15. Given the distance between the site and Beverly Hills Park, the amenity of the park will not be impacted.

ii Property value

The site is within a large existing industrial estate that is zoned IN2 Light Industrial and will be consistent with the character of the surrounding industrial area, particularly with the implementation of the project design and environmental management measures.

Further, the closest residences are 190 m from the site (to the north) and are separated by the M5 Motorway.

Therefore, the facility is not expected to reduce the value of local properties.

iii Value of recycling

The recycling sector is economically important and unique as it provides resources or inputs to a range of industries without depleting natural resources. This constitutes a significant distinction between recycling and waste management activity, such as landfill disposal.

The facility will provide a convenient destination for the management of waste materials generated by local development activity, and will enable a high proportion of that material to be recycled. This will reduce waste disposal costs, including travel times, which in turn can help to reduce building costs for housing, commercial and industrial buildings in the region.

Recycling can create a sense of civic pride and satisfaction felt through participation in recycling; and an improved natural resource base for future generations due to higher recycling uptake.

iv Socio-economic value

Direct socio-economic benefits of the facility include the full-time employment of seven persons and three employed on a casual basis.

Other socio-economic benefits of the proposed facility within the locality include:

- a more active and diversified industrial precinct;
- utilisation of suitable industrial land that is currently a vacant lot; and
- efficiencies in resource consumption.

7.9.6 Waste management

A detailed waste management plan has been prepared for both the construction and operational phases of the proposal, refer to Appendix S.

i Construction waste management

Activities associated with construction waste management includes:

- identify and locate essential service supplies, such as water, electricity, sewerage and drainage and any other underground services, their entry points to and from the site. Negligible waste is expected to be generated by these activities; and
- site establishment and preparation work, such as removal of soil and hardstand, and some limited vegetation. The waste volumes generated during this stage will either be disposed at a waste management facility (off-site) for processing; reuse on site; or go to landfill. There are no structures currently on the subject site, therefore, no building demolition waste will arise.

The key principles to be applied to the management of waste during construction are:

- to avoid the importation of waste associated with construction materials;
- to minimise the amount of waste generated during construction activities; and
- where unavoidable wastes are generated, maximise the amount of materials that can be reused, recycled or reprocessed and minimise the amount of materials that need to be transferred to landfill for disposal.

Management practices can assist in achieving these outcomes, such as:

- precision in procurement – avoid generating waste by specifying exact requirements for construction materials;
- minimise packaging and ask suppliers to take back packaging and unused materials, such as pallets and spare bricks;
- ensure that materials are appropriately stored and managed whilst on-site to minimise potential damage from weather or machinery, and eliminate the need for the purchase of replacement materials and waste generation; and
- assign and communicate responsibilities to site personnel for waste minimisation and monitoring of construction activities to ensure this plan is being implemented appropriately.

Several measures will be implemented to ensure waste is contained securely on-site and that fugitive waste is minimised. These measures include:

- fencing and a secure entry and exit gate will be installed to exclude public entry or scavenging;
- all waste materials will be stored on-site;
- any accumulated litter will be regularly removed from the areas adjacent to the work site;
- removal of rubbish in covered truck trays or skip bins; and
- regular housekeeping of the skip area and the driveway to minimise accumulation of any loose waste materials.

ii Operational waste management

A project specific Operational Environmental Management Plan (OEMP) will be prepared to guide day-to-day operations and processes at the facility.

The OEMP will include the protocols and procedures relating to:

- waste checking, sampling and acceptance;
- weighbridge operation;
- waste source control;
- on-site storage requirements;
- stockpile management;
- special waste management; and
- waste tracking (transport and disposal).

The OEMP will be reviewed annually, consistent with the requirements of *ISO 14001 Environmental Management Systems,* which provides that a management plan is reviewed at least annually or as changes occur to operations, as risks are reviewed, or as recommendations are made as a result of an audit.

7.9.7 Lighting

Data 2 Electrical Pty Ltd was engaged to conduct flood light spillage design and obtrusive lighting calculations for the proposed development. A complete assessment can be found in Appendix U.

Obtrusive lighting has been calculated as per the nominated marked up line. In order to comply with obtrusive lighting requirements, the luminaire mounting height on the sorting shed wall has increased from 4 m to 6 m and angle been tilted to reduce to 5 degrees except one luminaire to 10 degrees. The result of the obtrusive lighting calculations shown illuminance, the luminous intensity per luminaire and upward waste light ratio pass the test.

In addition, emergency exit signs and emergency lightings will be installed inside the sorting shed and each level of the gate house. A layout map indicating the locations of emergency exit signs and emergency lightings are illustrated in Appendix U.

8 Statement of commitments

A site specific Environmental Management Plan (EMP), to be required as a condition of consent, will be prepared for the proposal that incorporates the site-specific measures summarised in Table 8.1. All management and operational staff at the facility, will be trained to understand and implement the EMP as it relates to the tasks that they are undertaking.

Table 8.1 Summary of mitigation measures to be included in the EMP

Key issue	Management measure
Air quality	Management measurements that will be implemented during construction and operations phases to minimise air quality impacts will include: • Construction: – dust and air quality complaints will be recorded, identifying cause(s), and the measures taken to reduce emissions in a timely manner; – any incidents that cause exceptional dust emissions and the actions taken to resolve the situation will be recorded; – the site speed limit will be 5 km/h; – idling vehicles will be shut-down where practicable; – all plant engine will be tuned and maintained regularly; – all loaded vehicles entering and leaving sites will be covered to prevent escape of materials during transport; and – water from the rainwater tanks will primarily be used for effective dust suppression. • Operations: – misters will be installed inside the sorting shed; – screening plant will be contained within the sorting shed; – the entire site will be sealed except for the verge along The Crescent; and – a wheel wash will be used to clean truck tyres to prevent mud or sediment being carried to and deposited on the access road (and public roads). A Dust Management Plan is to be implemented prior to the commencement of operation.
Odour	The following measures will be implemented to prevent odour emissions from the site: • putrescible waste will not be accepted on site; • no composting will be undertaken on site; and • odorous materials will not be accepted on site.
Noise	Management measures that will be implemented to minimise noise impacts will include: • there will be no processing between 5:30 pm to 6:00 am Monday to Saturday, on Sundays, or on public holidays; • the use of equipment that generates impulsive noise will be minimised; • quieter plant and equipment will be chosen on the optimal power and size to most efficiently perform the required tasks; • plant and equipment will be operated in the quietest and most efficient manner; • plant and equipment will be regularly inspected and maintained to minimise noise and vibration, and to ensure that all noise and vibration reduction devices are operating efficiently; • activities will be scheduled within the hours of operations only; and • noise-related complaints will be handled promptly.

Table 8.1 Summary of mitigation measures to be included in the EMP

Key issue	Management measure
Soil and water	Management measurements that will be implemented during construction and operations phases to minimise impacts to soil and water, they include: • Construction: – an erosion and sediment control plan. • Operation: – spill kits; – the facility is equipped with equipment specifically designed for the type of clean up operation likely to occur at the facility; – develop and implement a spill management plan; – provide training to all staff with instructions on small and large scale spills; and – inspect storage facilities regularly.
Fire and incident	Management measurements that will be implemented during operations to minimise fire risk will include: • the site will be kept tidy; • refuelling will be undertaken in a refuelling area clear of stockpiles; • site personnel will be trained in fire response; • fire hose reels will be installed inside the sorting shed; • fire extinguishers will be placed in the gate house, kitchen and the office; • limit the size of stockpiling of timber products to 28 m^3; and • keep a minimum 2 m separation distance between the skip bin containing timber products and any electrical or heat producing plant. An Emergency Plan will be implemented prior to the commencement of operation.
Spill	Management measures that will be implemented during operation to minimise the risk of spill will include: • internal stockpiling to be kept clear of ingress and egress routes; and • spill response kits will be available should there be a spill of flammable substances.

Table 8.1 Summary of mitigation measures to be included in the EMP

Key issue	Management measure
Waste	The following measures will be implemented to manage waste during construction and operation phases of the facility, they include: • Construction: – precision in procurement – avoid generating waste by specifying exact requirements for construction materials; – minimise packaging and ask suppliers to take back packaging and unused materials, such as pallets and spare bricks; – ensure that materials are appropriately stored and managed whilst on site to minimise potential damage from weather or machinery, and eliminate the need for the purchase of replacement materials and waste generation; – assign and communicate responsibilities to site personnel for waste minimisation and monitoring of construction activities to ensure this plan is being implemented appropriately; – fencing and a secure entry and exit gate will be installed to exclude public entry or scavenging; – all waste materials will be stored on site; – any accumulated litter will be regularly removed from the areas adjacent to the work site; – removal of rubbish in covered truck trays or skip bins; and – regular housekeeping of the skip area and the driveway to minimise accumulation of any loose waste materials. • Operations: – develop and implement a project specific OEMP to guide day to day operations and processes at the facility. A combined Waste Management Plan (WMP) is to be implemented for both the construction and operation phases of the facility.
Management Plans	The following management plans will be implemented during construction and operation phases of the facility: • a Construction Environmental Management Plan, that include: – an Erosion and Sediment Control Plan; – a Waste Management Plan; and – a Construction Traffic Management Plan. • an Operations Environmental Management Plan, that include: – an Incoming Waste Quality Plan; – a Dust Management Plan; – an Emergency Plan (include a Spill Management Plan); and – a Waste Management Plan.

9 Conclusion and justification

9.1 Introduction

This chapter provides justification for the carrying out of the proposal against the principles of ecologically sustainable development (ESD). It also discusses the suitability of the site, any submissions made and whether the proposal is in the public interest as required by Section 4.15(1)(c)-(e) of the EP&A Act.

Justification for the proposal based on biophysical, economic and social considerations is provided in Chapter 1.7.

9.2 Principles of ecologically sustainable development

Principles of ESD are defined in Clause 7(4) of Part 3 in Schedule 2 to the EP&A Regulation and include the following:

a) the **precautionary principle**, namely, that if there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation. In the application of the precautionary principle, public and private decisions should be guided by:

   i) careful evaluation to avoid, wherever practicable, serious or irreversible damage to the environment, and

   ii) an assessment of the risk-weighted consequences of various options,

b) **inter-generational equity**, namely, that the present generation should ensure that the health, diversity and productivity of the environment are maintained or enhanced for the benefit of future generations,

c) **conservation of biological diversity and ecological integrity**, namely, that conservation of biological diversity and ecological integrity should be a fundamental consideration,

d) **improved valuation, pricing and incentive mechanisms**, namely, that environmental factors should be included in the valuation of assets and services, such as:

   i) polluters pay, that is, those who generate pollution and waste should bear the cost of containment, avoidance or abatement,

   ii) the users of goods and services should pay prices bases on the full life cycle of costs of providing goods and services, including the use of natural resources and assets and the ultimate disposal of any waste, and

   iii) environmental goals, having been established, should be pursued in the most cost-effective way, by establishing incentive structures, including market mechanisms, that enable those best placed to maximise benefits or minimise costs to develop their own solutions and responses to environmental problem.

Consideration of the facility against the four principles of ESD is provide below.

9.2.1 The precautionary principle

Consideration of the precautionary principle requires two things:

1. that the proponent properly assesses all potential impacts using plausible worst-case assumptions and, either, avoids them in project planning or incorporates effective safeguards into the project design; and

2. that the relevant authorities make a well-informed decision about the project based on a sound knowledge of the project's implications and impacts, including any limitations on the accuracy of impact predictions.

There are no anticipated 'threats of serious or irreversible damage', and planning and design for the facility meets the first test above. The design and management measures incorporated as safeguards are described in Chapters 3 and 7 of this EIS. The Statement of Commitments, in Chapter 8, summarises the key measures that will be implemented by W & J Lee Property Investments to avoid, manage or mitigate predicted environmental impacts.

The second test will be satisfied by the comprehensive decision-making and approvals processes to be followed by the relevant NSW Government authorities and the Council.

9.2.2 Inter-generational equity

The facility will recycle inert waste materials that would otherwise be sent to lower order uses or landfill. The proposal will, therefore, extend the benefits provided by existing landfills for current and future generations. The recycled materials will largely be used in construction projects that will also benefit current and future generations.

9.2.3 Conservation of biological diversity and ecological integrity

The site is largely devoid of vegetation other than the northern boundary of the site. Given this, and that the site is within an industrial area, the existing ecological integrity of the site is poor.

Further, the proposal will not impact habitat for any of the BC Act and EPBC Act listed threatened flora and fauna species.

9.2.4 Improved valuation, pricing and incentive mechanisms

The proposal will use waste diverted from landfill to produce construction materials containing recycled material that have economic value. This will avoid the economic (and environmental) cost of disposing of the materials to landfill, and therefore, incorporates improved valuation, pricing and incentive mechanisms.

9.3 Suitability of the site

As described in Section 2.2, the site is considered highly suitable for the proposed activities given that it is within an industrial area, has existing site access, provides significant separation from sensitive residential receptors, and is ideally 'hidden' behind the M5 Motorway and mature vegetation.

The business model for this facility requires frequent dispatch of processed materials. Therefore, the site can accommodate the proposed processing capacity of 35,000 tpa as waste materials will not be stored on site long-term.

9.4 Submissions made

The EIS for the proposal will be placed on public exhibition for a determined period of time. During this period, the public will be invited to provide submissions on the proposal. These submissions will be considered by Council in the assessment of the proposal.

9.5 Public interest

The proposal is considered to be in the public interest for the following reasons:

- the proposal provides a suitable use for existing industrial zoned land;
- it provides an essential urban service;
- it enables waste materials to be recycled, assisting the NSW Government in meeting recycling targets expressed in public policy commitments;
- it meets communities' expectations that unwanted resources are recycled to the greatest possible extent rather than being disposed to landfill;
- the proposal will provide socio-economic benefits through employment; and
- the proposal has only minor or negligible environmental and social amenity impacts with the implementation of the recommended mitigation and management measures.

9.6 Conclusion

This EIS has been prepared in accordance with the SEARs; EP&A Act and EP&A Regulation; and feedback received during consultation.

Resource recovery services are often difficult to accommodate in areas where existing development includes residential dwellings or other sensitive receptors. Those services are, however, an essential part of managing the growth of Sydney because waste materials continue to be generated through activities such as residential redevelopment, office refurbishment and infrastructure delivery.

The proposed facility has been tailored to fit a vacant site which has a number of inherent advantages for this type of industrial activity. Not only is the site suitably zoned, but the screening provided by the M5 Motorway and the nesting of the facility to the rear of the site, both serve to minimise any intrusion in terms of visual, acoustic or air quality impacts on neighbours.

The proposed facility will provide a modest through-put of up to 35,000 tonnes of waste material per year and this is a limit derived from the relatively small area available for the plant and equipment within the sorting shed. There is a functional limit to processing and the intention is for the facility to provide a convenient local processing centre for waste materials. In the absence of local materials processing services such as this, there is a displacement effect and impacts are increased through greater truck movements over greater distances through more communities in order to transport waste materials to distant facilities. It also therefore alleviates the risk of undesirable waste disposal activity such as illegal dumping in local areas.

The broader context for waste management in Sydney was summarised by the recent report by the Audit Office of New South Wales (2019) Domestic waste management in Campbelltown City Council and Fairfield City Council. Although focussed on other local government areas, the report makes relevant observations such as:

- the EPA is working on a longer-term waste strategy for New South Wales. The strategy is expected to set a 20-year vision with an aim of reducing waste, encouraging sustainable recycling markets and identifying and improving the State waste infrastructure network; and

- the 2018 NSW Parliamentary inquiry into 'Energy from waste' technology commented that it 'appears that successive NSW Governments have taken a backseat in waste infrastructure planning and delivery, which has led to a projected shortfall of services across the State'.

The EPA 'Waste and Resource Recovery Infrastructure Strategy: Draft for consultation, 2017' highlighted that 'significant investment is needed to develop infrastructure that will process this forecast increase in waste volume'. The Draft Strategy predicted that, to meet the State's targets for diverting waste from landfill, the Sydney metropolitan area will require the following new facilities by 2021:

- 3 facilities for processing residual waste;

- 2 energy recovery facilities;

- 2 dry recyclable processing facilities;

- 5 garden organic processing facilities; and

- 4 food and garden organic processing facilities.

The draft for consultation also commented that some capacity for energy recovery may need to be developed and that 'failure to meet the 2021 target (for diversion to landfill) could result in significant increased demand for landfill capacity and an accompanying decrease in demand for resource recovery facilities'.

The Greater Sydney Commission's *Greater Sydney Region Plan, A Metropolis of Three Cities – Connecting People* also commented on waste management facility and landfill infrastructure shortfalls and the associated costs to the community. It also commented that 'identifying suitable sites is challenging due to the potential impacts of odour, truck movements and noise'.

The projected shortfall needs to be considered in the context of the five to ten years it usually takes investors to obtain all the necessary approvals and to build the type of facilities the Sydney metropolitan area needs.

The EPA's longer-term strategy should seek to introduce more contestability in the market or, if this is not feasible, introduce methods to regulate natural monopolies or oligopolies.

Based on the assessment undertaken and outlined in this EIS, it can be concluded that the proposal will not cause significant adverse impact to the surrounding environment and sensitive receivers. It will contribute to the solutions outlined by the Audit Office of New South Wales and the recycling and re-use goals of the NSW Government.

We recommend this proposal be favourably considered.

Abbreviations

AHD	Australian Height Datum
AIA	Arboriculture Impact Assessment
AQIA	Air Quality Impact Assessment
AVD	average delay by second
BC Act	*Biodiversity Conservation Act 2016*
BC Regulation	Biodiversity Conservation Regulation 2017
BCA	Building Code of Australia
BOS	Biodiversity Offset Scheme
C & D	construction and demolition
CBD	Central Business District
CEMP	Construction Environmental Management Plan
CLM Act	*Contaminated Land Management Act 1997*
DA	development application
DCP	Development Control Plan
DOS	degree of saturation
DP	deposited plan
DoP	Department of Planning (former)
DPE	Department of Planning and Environment (former)
DPI	Department of Primary Industries
DPIE	Department of Planning, Industry and Environment
EEC	Endangered ecological community
EIS	Environmental Impact Statement
EMM	EMM Consulting Pty Ltd
EMP	Environmental Management Plan
EP&A Act	*Environmental Planning & Assessment Act 1979*

EP&A Regulation	Environmental Planning & Assessment Regulation 2000
EPA	Environment Protection Authority
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999*
EPL	Environment Protection Licence
ESCP	Erosion and Sediment Control Plan
ESD	ecologically sustainable development
FM Act	*Fisheries Management Act 1994*
FRNSW	Fire & Rescue NSW
GPT	gross pollutant trap
GRC	Georges River Council
GSC	Greater Sydney Commission
HLEP	Hurstville Local Environmental Plan 2012
LEP	Local Environmental Plan
LGA	local government area
LOS	level of service
LPG	liquid petroleum gas
MNES	matter of national environmental significance
MUSIC	model for urban stormwater improvement conceptualisation
NIA	Noise Impact Assessment
NTC	National Transport Commission
OEH	Office of Environment and Heritage
OEMP	Operational Environmental Management Plan
OSD	on site detention
PHA	Preliminary Hazard Analysis
PM_{10}	particulate matter less than 10 microns in aerodynamic diameter
$PM_{2.5}$	particulate matter less than 2.5 microns in aerodynamic diameter
POEO Act	*Protection of the Environment Operations Act 1979*

RL	reduced level
RMS	Roads and Maritime Services
SEARs	Secretary's Environmental Assessment Requirements
SEPP	State Environmental Planning Policy
SRZ	structural root zone
TECs	threatened ecological communities
TIN	triangulated irregular network
tpa	tonnes per annum
TPIA	Traffic and Parking Impact Assessment
TPZ	tree protection zone
TSP	total suspended particulates
WARR Act	*Waste Avoidance and Resource Recovery Act 2001*
WHS	workplace health and safety
WM Act	*Water Management Act 2000*
WMP	Waste Management Plan

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Appendix A

Compliance assessment against relevant development criteria in Hurstville DCP No.1 2018

Appendix B

Planning Secretary's Environmental Assessment Requirements

Appendix C

Flowchart of material handling process

Appendix D

Survey plan

Appendix E

Architectural plans

Appendix F

SEPP 33 analysis

Appendix G

Fire and incident management

Appendix H

Air quality impact assessment

Appendix I

Dust management plan

Appendix J

Noise impact assessment

Appendix K

Stormwater drainage report

Appendix L

Soil and water report

Appendix M

Bulk earthworks plan

Appendix N

Flood risk assessment

Appendix O

Traffic and parking impact assessment

Appendix P

Arboricultural impact assessment

Appendix Q

Flora and fauna assessment

Appendix R

Aboriginal due diligence assessment

Appendix S

Waste management plan

Appendix T

Reflectivity study

Appendix U

Lighting compliance

Appendix V

Pre lodgement meeting notes

Appendix W

BCA report

Appendix X

Misting line and heads