

Waste Recycling Facility

Nos 37-51 & 57-67 Violet Street, Revesby

Environmental Impact Statement

59915106



Prepared for
Enviro Recycling Pty Ltd

29 September 2016

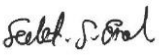
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1	20 June 2016	Draft	Shaun Grevler	Sedat Erol
2	27 July 2016	DPE Adequacy Review	Shaun Grevler	Sedat Erol
3	23 September 2016	Final for lodgement at DPE	Shaun Grevler	Sedat Erol

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Declaration

This Environmental Assessment has been prepared under Part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

Environmental Assessment Approved by:

Name:	Sedat Erol
Company:	Cardno (NSW/ACT) Pty Ltd
Position:	Senior Specialist Planner
Qualifications:	BA GDipURP (UNE)
Address:	Cardno, Level 9, The Forum, 203 Pacific Highway, St Leonards NSW 2065

Project to which the Environmental Assessment relates:

Project Description:	Proposed Expansion of Existing Waste Recycling Facility and Diversification of Materials Processed.
Applicant's Name:	Enviro Recycling
Applicant's Address:	37 – 51 & 57 - 67 Violet Street, Revesby NSW 2212

Pursuant to Schedule 2, Part 3, clause 6 to the *Environmental Planning and Assessment Regulation 2000*, the following declaration is made.

I declare:

- > that this Environmental Impact Statement has been prepared in accordance with the requirements of *Schedule 2 Environmental Impacts Statements* to the *Environmental Planning and Assessment Regulation 2000*;
- > that the Environmental Impact Statement contains all available information that is relevant to the environmental assessment of the development, to which the statement relates; and
- > that the information contained in the Environmental Impact Statement is neither false nor misleading.

Signature:



Sedat Erol
Senior Specialist Planner, BA GDipURP (UNE)
Date: 23 September 2016

0 Executive Summary

This Environmental Impact Statement (EIS) has been prepared on behalf of Enviro Recycling Pty Ltd (the Proponent) to accompany State Significant Development (SSD) application no. 7349 under Part 4, Division 4.1 State Significant Development (Sections 89C-89L) of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

The proposal seeks consent to undertake the following:

- > Expansion of the area of the existing Waste Recycling Facility use carried out at premises located at no. 51 (aka nos 37-51) Violet Street, into adjoining premises to the south at no. 57 (aka nos 57-67) Violet Street.
- > Diversification of waste recycling streams to include both:
 - Construction and Demolition (C&D) waste (existing approved waste stream); and
 - Commercial and Industrial (C&I) waste (proposed additional waste stream).
- > Expansion of waste recycling volumes from 30,000 t/annum to 250,000 t/annum.
- > Partial demolition, rebuilding and fitout works to existing site buildings and associated engineering (structural, civil, hydraulic) to accommodate the proposed operations.
- > The proposed development is declared to be State Significant Development (SSD) under clause 8(1) of *State Environmental Planning Policy (State and Regional Development) 2011* (SRD SEPP). A SSD proposal is required to be accompanied by an EIS, which meets the form and content requirements of clauses 6 and 7 of Schedule 2 of the *Environmental Planning and Assessment Regulation 2000*. Under the provisions of Section 89D of the EP&A Act, the Minister is the consent authority for SSD, unless the Minister delegates the consent authority function under Section 23 of the EP&A Act.

Cardno (NSW/ACT) Pty Ltd (Cardno) has prepared this EIS on behalf of Enviro Recycling for submission to the NSW Department of Planning and Environment (DPE), for the Minister's determination.

This EIS provides an assessment and analysis of key issues in relation to the proposed expanded recycling facility as specified by the Secretary's Environmental Assessment Requirements (SEARs) (SSD 7349 dated 20 November 2015), in consultation with key government authorities. In accordance with the SEARs, the environmental assessment includes consideration of the following key issues:

- > Waste Management (**Section 5.1**);
- > Air quality and Greenhouse Gas (**Section 5.2 and Appendix E**);
- > Traffic and Transport (**Section 5.3 and Appendix C**);
- > Noise and Vibration (**Section 5.4 and Appendix D**);
- > Soils and Contamination (**Section 5.5**);
- > Flood Risk (**Section 5.6 and Appendix G**);
- > Site Water Balance and Stormwater Management (**Section 5.7 and Appendix F**);
- > Visual Amenity (**Section 5.8**);
- > Flora and Fauna (**Section 5.9**);
- > Heritage (**Section 5.10**);
- > Socio-economic (**Section 5.11**);
- > Hazards and Risks (**Section 5.12**);
- > Cumulative Impacts (**Section 5.13**);
- > Environmental Risk Assessment (**Section 6**);
- > *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) Search (**Appendix J**);

- > Consultation (**Section 7 and Appendix K**);
- > Drawings (**Appendix B**); and
- > Contamination (**Appendix Q** contains the Preliminary Site Investigation).

This EIS has been prepared by Cardno on behalf of Enviro Recycling, in accordance with the Secretary's Environmental Assessment Requirements (SEARs) issued by the Department of Planning and Environment (DPE) on 20 November 2015 and the form and content requirements of clauses 6 and 7 of Schedule 2 of the *Environmental Planning and Assessment Regulation 2000*.

0.1 Secretary's Environmental Assessment Requirements

Secretary's Environmental Assessment Requirements (SEARs) for the preparation of the EIS were obtained by Cardno from the Department of Planning and Environment (DPE) on 23 November 2015. The SEARs provide guidance on the environmental assessment requirements for the project.

A summary of the SEARs and a reference to each requirement addressed in the EIS report is provided in the SEARs Table below. A copy of the complete SEARs for the project is attached as **Appendix A**.

Table 0-1 SEARs Table

Issue	Requirement	EIS Location
General Requirements	The EIS for the development must meet the form and content requirements in clauses 6 and 7 of Schedule 2 of the <i>Environmental Planning and Assessment Regulation 2000</i> . The EIS must include a: ▪ Detailed description of the development including: – Need for the proposed development; – Justification for the proposed development; – Likely staging of the development – including construction, and operational stage/s; – Likely interactions between the development and existing, approved and proposed operations in the vicinity of the site; and – Plans of any proposed building works. ▪ Consideration of all relevant environmental planning instruments including identification of any inconsistencies with these instruments; ▪ Risk assessment of the potential environmental impacts of the development, identifying the key issues for further assessment; ▪ Detailed assessment of the key issues specified below, and any other significant issues identified in this risk assessment, which includes: – A description of the existing environment using sufficient baseline data; – An assessment of the potential impacts of all stages of the development, including any cumulative impacts, taking into consideration relevant guidelines, policies, plans and statutes; – A description of the measures that would be implemented to avoid, minimise and if necessary, offset the potential impacts of the development, including proposals for adaptive management and/or contingency plans to manage any significant risks to the environment; and – A consolidated summary of all the proposed environmental management and monitoring measures, highlighting commitments included in the EIS.	See Declaration above
		Chapter 3
		Chapter 3
		N/A No Staging is proposed.
		Section 5.13
		Appendix B Drawings
		Chapter 4
		Chapter 6
		See below
		Chapters 1, 2 & 5
		Section 5
		Chapter 5 ("Existing Environment" subsections for each Key Issue)
		Chapter 8
	The EIS must also be accompanied by a report from a qualified quantity surveyor providing: ▪ A detailed calculation of the capital investment value (as defined in clause 3 of the <i>Environmental Planning and Assessment Regulation</i>	Appendix N QS Report

Issue	Requirement	EIS Location
	2000) of the proposal, including details of all assumptions and components from which the CIV is derived;	
	A close estimate of the jobs that will be created by the development during construction and operational phases of the development; and	Section 5.11.2
	Certification that the information provided is accurate at the date of preparation.	See Declaration above
Waste Management	A detailed description of the likely waste streams that would be handled, stored, processed at the facility including the waste source, if known, the maximum volumes of each type of waste to be stored on site at any one time and the maximum throughput of each waste type;	Section 2.3.5 & Section 5.1
	Details of how this waste would be stored and handled on site and transported to and from the site including details of how the receipt of non-conforming waste would be dealt with;	Section 5.1
	Details of the proposed location and size of stockpiles of unprocessed and processed recycled waste on the site;	Section 5.1
	The measures that would be implemented to ensure that the project is consistent with the aims, objectives and guidance in the <i>NSW Waste Avoidance and Resource Recovery Strategy 2014-2012</i>;	Section 5.1.3
	A description of the technology and timeframes for processing waste and the quality control measure that would be implemented;	Section 2.3.4
	Details of the potential impacts associated with processing, storing, resource recovery and disposing of this waste and waste product; and	Section 5.1.2
	Details of the end use of each waste type or finished product.	Section 5.1.3
Air Quality	An assessment of the potential air quality, dust and odour impacts of the project on surrounding landowners in accordance with relevant EPA guidelines;	Section 5.2.3
	Details of the building's mechanical ventilation to ensure sufficient air change suitable for maintaining a healthy environment;	N/A, no new buildings are proposed
	A description of the mechanical extraction system and method of treatment prior to discharge to the external environment;	N/A, no new buildings are proposed
	Details of the building doors or other structures that effectively contain emissions;	N/A, no new buildings are proposed
	A greenhouse gas assessment; and	Section 5.2 Appendix E Section 8 of Air Quality & Greenhouse Gas Assessment
	Details of the proposed mitigation, management and monitoring measures.	Section 5.2.5 Appendix E Section 9 of Air Quality & Greenhouse Gas Assessment
Traffic and Transport	Details of all traffic types and volumes likely to be generated during construction and operation, including a description of the haul routes;	Section 5.3.2 Appendix C Section 4 of Traffic Impact Assessment
	An assessment of the predicted impacts of this traffic on road safety and the capacity of the road network, including consideration of cumulative traffic impacts at key intersections using SIDRA or similar traffic model;	Section 5.3.2 of EIS. Appendix C Section 4 of Traffic Impact Assessment

Issue	Requirement	EIS Location
	Detailed plans of the proposed layout of the internal road network and parking on the site in accordance with the relevant Australian standards; and	Appendix C Section 5 of Traffic Impact Assessment
	Detailed plans of any proposed road upgrades, infrastructure works or new roads required for the development.	N/A
Noise	A quantitative assessment of potential construction, operational and transport noise and vibration impacts, including potential impacts on nearby sensitive receivers; and	Section 5.4 Appendix D Section 6 of Noise and Vibration Assessment
	Details and justification of the proposed noise mitigation and monitoring measures.	Section 5.4.4 Appendix D Section 7 of Noise and Vibration Assessment
Soil and Water	Identification of water and soil resources, drainage lines and watercourses;	Section 5.5 & 5.6 Appendix F Section 3.1 of Site Water Balance & Stormwater Management Report
	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 the water use at the site;	Appendix F Site Water Balance and Stormwater Management Report Appendix H Sydney Water Feasibility Letter
	Potential impacts on watercourses and groundwater;	Section 5.5, & 5.6 Appendix G Flood Risk Assessment
	The proposed erosion and sediment controls during construction, of onsite detention systems, and measures to treat, reuse or dispose of water; and	Section 5.5.3 Appendix F Section 3 of Site Water Balance & Stormwater Management Report Appendix B Drawings
	Consideration of any potential salinity, soil contamination, flooding and acid sulfate soil impacts of the project.	Sections 5.5.1 & 5.5.2 Appendix F Section 4 of Site Water Balance & Stormwater Management Report.
Hazards and Risk	A preliminary risk screening undertaken in accordance with <i>State Environmental Planning Policy No.33 – Hazardous and Offensive Development</i> (SEPP 33) and Applying SEPP 33 (DOP, 2011a), and if necessary, a Preliminary Hazard Analysis (PHA).	Sections 5.12 & 6
Visual	An assessment of the potential visual impacts of the project on the amenity of the surrounding area.	Section 5.8
Socio-economic	An assessment of the economic and social impacts of the development, particularly of any benefits to the community.	Section 5.11
Plans and Documents	The EIS must include all relevant plans, architectural drawings, diagrams and relevant documentation required under Schedule 1 of the <i>Environmental Planning and Assessment Regulation 2000</i>. These documents should be included as part of the EIS rather than as separate documents.	Appendix B Drawings
Consultation	During the preparation of the EIS, you must consult with relevant local, State or Commonwealth Government authorities, service providers, community groups and affected landowners.	Section 7 Appendix K Consultation

Issue	Requirement	EIS Location
	In particular, you must consult with: ▪ Bankstown City Council; ▪ Environment Protection Authority; ▪ Department of Primary Industries; ▪ NSW Roads and Maritime Service; and ▪ Surrounding land owners and occupiers that may be affected by the proposal.	
References	▪ The assessment of the key issues listed above must take into account relevant guidelines, policies, and plans.	Chapter 10 References
Contamination	▪ An analysis of the previous land uses of the site.	Appendix Q Preliminary Site Investigation

0.2 Environment Protection Authority Requirements

The Environment Protection Authority (EPA) has identified the information that it requires to issue its general terms of approval. They have been outlined in the table below.

Table 0-2 Environment Protection Authority Requirements

Issue	Requirement	EIS Location
Summary	1. Air Quality (including potential impacts and mitigation measures)	Section 5.2 – Appendix E Air Quality and Greenhouse Gas Assessment
	2. Noise (including potential impacts and mitigation measures)	EIS Section 5.4 Appendix D Noise and Vibration Assessment
	3. Waste Management	EIS Section 5.1
In addition, the EPA requires the EA to specifically address the following requirements:	▪ All waste handling activities, inclusive of receiving, sorting, processing, sampling, quarantine and storage must be conducted within an enclosed building. No waste, inclusive of finished product, may be stored outside. The EA should provide details which comprehensively detail: ○ The assessment of the likely emissions from the manufacturing process;	Appendix E Air Quality and Greenhouse Gas Assessment
	○ The buildings mechanical ventilation to ensure sufficient air change suitable for maintaining a healthy working environment;	N/A, no new buildings are proposed
	○ Description of the mechanical extraction system and method of treatment prior to discharge to the external environment;	N/A, no new buildings are proposed
	○ The building doors or other structures that effectively contain all particulate and noise emissions and odour within. Consideration should be given to fast closing automatic doors to minimise the potential for emissions during ingress and egress of vehicles;	N/A, no new buildings are proposed
	○ Stormwater management. The building must exclude all stormwater. Internal surfaces must grade inwards to contain all waste and leachate. Provide details of the drainage of these internal surfaces and storage systems;	Appendix F Site Water Balance Assessment and Stormwater Management Report
	○ Any external area where waste vehicles wait for loading/unloading must drain to a stormwater quality treatment device sufficient to remove any contaminants, both solid and dissolved prior to discharge to the offsite stormwater system.	Appendix F Site Water Balance and Stormwater Management Report
	○ Any workshop or garaging of waste vehicles. All vehicle repair or washing must be conducted in an area that excludes	Appendix F Site Water Balance and

Issue	Requirement	EIS Location
	rainwater, is sufficiently bunded to contain all fluids within and is sealed to be impervious to these fluids.	Stormwater Management Report
	Noise modelling to ensure potential impacts on the local community are adequately determined, and	EIS Section 5.4 Appendix D Noise and Vibration Assessment
	Detailed plans of any dust and odour suppression systems.	Section 5.2.5 & 5.7 – Appendix E Air Quality and Greenhouse Gas Assessment Appendix F Site Water Balance and Stormwater Management Report
	- The development application report states that the facility would process up to 250,000 tonnes per year of general solid waste (non-putrescible). The EA must explicitly state: - The types of waste that will be received at the facility, with reference to the EPA's <i>Waste Classification Guidelines</i> and definitions in the <i>Protection of the Environment Operations ACT 1997</i> (the Act);	Section 2.3
	If known, what kinds of commercial operations will the waste come from;	Section 2.3
	Details of the maximum volume of each waste type to be stored onsite at any one time and the maximum throughput of each waste type;	Section 2.3.5
	Details of the end use of each waste type or finished product;	Section 2.3
	A floor diagram that includes: site boundaries, weighbridge, areas for haulage, waste receipt, processing, storage and quarantine and infrastructure for environmental controls including dust, noise, stormwater management and drainage areas;	Appendix B Drawings
	A detailed description of how the proponent will deal with receipt of non-conforming waste.	Section 5.1.3

0.3 Department of Primary Industries Requirements

Table 0-3 Department of Primary Industries Requirements

Issue	Requirement	EIS Location
DPI – Water	Annual volumes of surface water and groundwater proposed to be taken by the activity (including through inflow and seepage) from each surface and groundwater source as defined by the relevant water sharing plan.	Section 5.5 Appendix F Site Water Balance and Stormwater Management Report Section 2.3 No river or groundwater is proposed to be extracted
	Assessment of any volumetric water licensing requirements (including those for ongoing water take following completion of the project).	Appendix F Site Water Balance and Stormwater Management Report
	The identification of an adequate and secure water supply for the life of the project. Confirmation that water can be sourced from an appropriately authorised and reliable supply. This is to include an	Appendix F Site Water Balance and Stormwater Management Report

Issue	Requirement	EIS Location
	assessment of the current market depth where water entitlement is required to be purchased.	Appendix H Sydney Water Feasibility Letter
	A detailed and consolidated site water balance.	Appendix F Site Water Balance and Stormwater Management Report
	Assessment of impacts on surface and ground water sources (both quality and quantity), related infrastructure, adjacent licensed water users, basic landholder rights, watercourses, riparian land, and groundwater dependent ecosystems, and measures proposed to reduce and mitigate these impacts.	Appendix F Site Water Balance and Stormwater Management Report confirms at Table 1-1 that this is N/A as no river or groundwater is proposed to be extracted
	Full technical details and data of all surface and groundwater modelling.	Appendix F Site Water Balance and Stormwater Management Report confirms no ground water modelling undertaken (rainwater tank modelling is described in Section 2.3 & Appendix B)
	Proposed surface and groundwater monitoring activities and methodologies.	Appendix F Site Water Balance and Stormwater Management Report confirms at Table 1-1 that no monitoring is proposed
	Assessment of any potential cumulative impacts on water resources, and any proposed options to manage the cumulative impacts.	Appendix F Site Water Balance and Stormwater Management Report confirms at Table 1-1 that this is N/A as no river or groundwater is proposed to be extracted
	Consideration of relevant policies and guidelines.	Chapter 4: Legislation Appendix F Site Water Balance and Stormwater Management Report, Section 3.4
	A statement of where each element of the SEARs is addressed in the EIS (i.e. in the form of a table).	Executive Summary of EIS
DPI – Geological Survey of NSW (GSNSW)	The proposed industrial development does not occur within the vicinity of any recognised mineral or extractive resource; accordingly GSNSW has no concerns with the proposal.	Noted
DPI – Agriculture	DPI – Agriculture advised no issues.	Noted
DPI – Fisheries	DPI – Fisheries advised no issues.	Noted

0.4 Roads and Maritime Services Requirements

Roads and Maritime Services (RMS) has reviewed the Preliminary Environmental Assessment report submitted and is generally satisfied with the key issues in relation to traffic and access impacts identified for further detailed assessment (see **Appendix A**). RMS has also re-confirmed via e-mail on 07 June 2016 that no additional assessment requirements are required to be included (see **Appendix K**).

0.5 Office of Environment and Heritage Requirements

The Office of Environment and Heritage (OEH) has confirmed that the site does not contain biodiversity, natural hazards or Aboriginal or cultural heritage issues that require a formal OEH response, and have no further need to be involved in the assessment of the project (see **Appendix A**). Cardno's additional consultation letters were not responded to.

0.6 Bankstown City Council Requirements

Bankstown City Council seeks the following issues to be considered as part of the EIS:

Table 0-4 Bankstown City Council Requirements

Issue	Requirement	EIS Location
Details of the Proposed Operation	1. Hours of operation – The proposed hours should be the 'total' hours of operation without exemptions.	Section 2.3.7
	2. Details of processing and transportation of the materials – Provide details on the sorting process (including height of waste material stacks), transportation management plan and arrangements with landfill operators.	Section 2.3.4
	3. Licence – Outline the licensing requirements under the <i>Protection of the Environment Operations Act 1997</i> .	Section 4.2.4 Appendix I Environment Protection Licence
	4. Emergency Management Plan – Prepare an Emergency Response Management Plan. The plan should include the following:	Appendix P Operational Environmental Management Plan prepared by Enviro Recycling
	a. Identification of potentially hazardous situations	
	b. Procedure for incident reporting	
	c. Details and locations of spill stations and signage	
Traffic	d. Containment and clean up facilities and procedures	
	5. Vehicle enter and egress direction – All vehicles are to enter in a forward direction and exit in a forward direction from the driveway.	Section 5.3 Appendix C Traffic Impact Assessment, Section 6
	6. Driveway design – Driveways are to be designed allowing the largest vehicles accessing the site to comply with Australian Standards. Currently there are 90 degree on-street angle parking spaces opposite the existing driveways. Consideration needs to be taken into account when checking the turning swept paths accessing these driveways. The EIS must review the appropriateness of the existing driveways for intended purpose to avoid damaging Council property.	Appendix B Drawings Appendix C Traffic Impact Assessment, Section 6
	7. Sight distance – Sight distance to approaching traffic in Violet Street are to comply with AS2890.1-2004 Figure 3.2.	Appendix C Traffic Impact Assessment, Section 5
	8. Sight lines – Design plans are to comply with AS2890.1-2004 Figure 3.3, providing clear sight lines to pedestrians for vehicles exiting Violet Street.	Appendix C Traffic Impact Assessment, Section 5

Issue	Requirement	EIS Location
	9. Parking – Sufficient off-street parking for staff and visitors is to be provided.	Appendix C Traffic Impact Assessment, Section 5
	10. Separated vehicular exits – Staff and visitor vehicles should exit on Violet Street through a separate driveway to the heavy vehicles to avoid conflict and improve safety.	Appendix C Traffic Impact Assessment, Sections 3 & 5
	11. Swept paths – Details of the largest vehicles are to be provided, including swept paths of these vehicles circulating between the various buildings complying with Australian Standards.	Appendix C Traffic Impact Assessment, Section 6
	12. Routes – Travel routes of the heavy vehicles accessing to and from the site are to be identified and provided on a plan.	Appendix C Traffic Impact Assessment, Section 6
	13. Traffic surveys – In addition to the surveys mentioned in the Application Report, traffic surveys are needed including heavy and light vehicle counts on roads which will be used by heavy vehicles accessing the site including: Violet Street, Daisy Street, Queen Street, Marigold Street, Gordon Parker Street and Carrington Road. These counts will assist in determining the potential increase in truck movement in Violet Street and the surrounding Streets, and if a levy may need to be charged for the impact to the pavement as a result of the increase in truck movement.	Appendix C Traffic Impact Assessment, Section 4 & Appendix A
Flooding and Water Quality	14. Riverine flooding – The site is located within the Georges River floodplain and will require the consideration of Bankstown Development Control Plan 2015 – Part 12 (Flood Risk Management).	Section 5.6.1 Appendix G Flood Risk Assessment
	15. Water quality – The site is located within the Georges River floodplain and will require the consideration of the water quality targets in accordance with the Georges River Coastal Zone Management Plan.	Appendix F Site Water Balance and Stormwater Management Report Appendix G Flood Risk Assessment
	16. Stormwater flooding – The site is located within the Milperra Drain Catchment identified in a flood risk precinct and will require consideration of the Bankstown DCP 2015 – Part 12 (Flood Risk Management).	Appendix F Site Water Balance and Stormwater Management Report Appendix G Flood Risk Assessment
Biodiversity	17. Council's Biodiversity Strategic Plan – The site is situated within the Conservation Corridor, which will require native vegetation landscape planting (Cooks River/Castlereagh Iron bark forest type). Any tree removal will need to be offset on-site at a ratio of 3:1 and must be canopy tree size exceeding a two storey building at mature age.	Section 5.9 Tree removal and replacement under separate DA 332/2016, approved by Canterbury Bankstown Council on 31 May 2016
	18. Removal of trees – Prepare tree location plan for existing trees and list of tree species proposed for removal prepared by a qualified arborist.	Section 5.9 Tree removal and replacement under separate DA 332/2016, approved by Canterbury Bankstown Council on 31 May 2016
	19. Landscape plan – Prepare landscape plan with locally endemic plant species prepared by a qualified landscape architect.	Section 5.9 Tree removal and replacement under separate DA 332/2016,

Issue	Requirement	EIS Location
		approved by Canterbury Bankstown Council on 31 May 2016
	20. Other sustainability initiatives – The proposal should consider implementation of initiatives such as green roofs to offset the impacts of heat island effect and promote biodiversity.	N/A, no new buildings are proposed
Air Quality Assessment	21. Assess the potential air quality impacts to the surrounding area, including but not limited to the residential dwellings south of the M5 and east of Queen Street.	Section 5.2 Appendix E - Air Quality and Greenhouse Gas Assessment
Noise Impact	22. Prepare an acoustic report to include potential noise impacts associated with the use of all machinery and equipment such as metal crusher onsite.	Section 5.4 Appendix D Noise & Vibration Report

0.7 Land Ownership

Landowner's Consent and property titles are provided at Appendix L. Enviro Recycling has confirmed that its holding company, Bells Hire Pty Ltd is the legal landowner of the land comprising the site, consisting of:

- Lots 168 & 169 DP 7866 & Lot 2 DP 519053, No. 51 Violet Street, Revesby; and
- Lot 1 DP 734866, No. 57 Violet Street, Revesby.

The property titles found at Appendix L confirms that Bells Hire Pty Ltd is the owner of all four Lots comprising the subject site.

0.8 QS Report

Cardno's Quantity Surveyor's Report appended to this EIS states that the CIV Capital Investment Value for the proposal is \$461,571.75 (see **Appendix N**).

0.9 Development Contributions

Bankstown City Council's Section 94A Development Contributions Plan applies to the development. The Section 94A Contributions payable for the DA, based on a Capital Investment Value of \$461,571.75, would be: 1% (\$4,615.72), as is currently required by the Contributions Plan. This estimate is subject to variation, due to CPI indexation or amendments to Council's S.94 Plan.

0.10 Consultation

A comprehensive consultation programme has been undertaken for the proposal. Agency and Community consultation has been carried out by Cardno as detailed in Chapter 7 of this EIS. Agency consultation included DPE, Council, EPA, RMS and DPI. Community consultation included placing an advertisement in a local newspaper, hosting an information day at a community hall, and providing a consultation letter to neighbouring properties. Additional evidence containing consultation documentation is also appended to this EIS (see **Appendix K**).

Furthermore, as part of the DA assessment process, the Department of Planning and Environment must, under Section 89F of the EP&A Act, place the SSD application and accompanying documentation on public exhibition for a period of not less than 30 days.

0.11 Political Donations Declaration

Enviro Recycling has declared that there are no Political Donations to consider (see **Appendix M**).

0.12 Consents to be Surrendered

Previous Development Consents for the site, that are to be surrendered, are attached (see **Appendix O**) and identified as: DA-1029/2014 at 51 Violet Street; and DA-61/2015/1 at 57 Violet Street.

DA-1029/2014 at 51 Violet Street (aka nos 37 – 51)

Proposal: Use of Premises as a Materials Recycling Yard.

Property: No. 51 Violet Street, Revesby.

Date of Approval: 12 March 2015, subject to conditions.

Consent Authority: Bankstown City Council.

DA-1029/2014/1 at 51 Violet Street (aka nos 37 – 51)

Modification of condition nos 2, 24, 36 & 39.

Date of Approval: 5 June 2015.

Consent Authority: Bankstown City Council.

DA-1029/2014/2 at 51 Violet Street (aka nos 37 – 51)

Modification of condition nos 2 & 36.

Date of Approval: 8 April 2016.

Consent Authority: Bankstown City Council.

DA-61/2015/1 at 57 Violet Street 2015 (aka nos 57 – 67)

Proposal: Use of Premises as a Materials Recycling Yard.

Property: No. 57 Violet Street, Revesby.

Date of Approval: 20 August 2015, subject to conditions.

Consent Authority: Bankstown City Council.

DA-332/2016 for Site Preparation at 51 & 57 Violet Street, Revesby

Proposal: Demolition of Existing Buildings and Construction of Boundary Fencing.

Property: Lot 168 DP 7866, Lot 169 DP 7866, Lot 2 DP 519053, and Lot 1 DP 734866

Date of Approval: 31 May 2016, subject to conditions.

Consent Authority: Bankstown City Council.

0.13 Preliminary Site Investigation

Cardno has prepared a Preliminary Site Investigation (PSI) which is attached (see **Appendix Q**). The PSI examines the site, its features and surrounds; assesses the site conditions and the surrounding environment; and undertakes searches and review of historical information from land titles, aerial photography and NSW EPA maintained registers. The PSI makes recommendations regarding any activities, including further assessment that may be required to make the site suitable for its intended use.

0.14 Mitigation Measures

The EIS identifies the relevant mitigation measures that are required to ensure that the expanded Waste Recycling Facility operates in a manner which reduces its potential impacts upon the environment and the community. The Statement of Commitments at Chapter 8 collates the recommended mitigation measures.

It is considered that the proposal:

- > is an appropriate and suitable development at the subject site, located within an existing industrial use area; and
- > would not likely result in any significant adverse environmental impacts.

This EIS finds the proposal to be acceptable and it is therefore recommended that the Minister grants consent to this SSD application.

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Glossary and Abbreviations

AHD	Australian Height Datum. A geodetic datum for altitude measurement in Australia
AHIMS	Aboriginal Heritage Information Management System
AHIP	Aboriginal Heritage Impact Permit
AIA	Air Impact Assessment
Ambient Sound	Of an environment: the all-encompassing sound associated with that environment, being a composite of sounds from many sources, near and far. Usually taken to mean the L_{Aeq} value.
ANZECC	Australian and New Zealand Environment Conservation Council
APZs	Asset Protection Zones
ASS	Acid Sulfate Soils
A-weighted Level	As per dB(A) defined below.
AWS	Automatic Weather Station
AWT	Alternative waste technologies
Background Sound Level	The average of the lowest levels of the sound levels measured in an affected area in the absence of noise from occupants and from unwanted external ambient noise sources. Usually taken to mean the L_{A90} value.
Bankstown LEP 2015	<i>Bankstown Local Environmental Plan 2015</i>
BOD	Biochemical Oxygen Demand
BOM	Australian Bureau of Meteorology
CAA	Controlled Activity Approval
CCA	copper chrome arsenate
CEEC	Critically Endangered Ecological Community, listed under Part 2 Schedule 1A of the TSC Act
CEMP	Construction Environmental Management Plan
CH ₄	Methane
CO	Carbon monoxide
CO ₂	Carbon dioxide
COD	Chemical Oxygen Demand
CO ₂ -e	Carbon dioxide equivalent emissions, used to measure the GWP of other GHGs
CORTN	Calculation of Road Traffic Noise
Council	Bankstown City Council
CPRS	Carbon Pollution Reduction Scheme
DA	Development Application
db	Dry basis
dB	Decibel. A scale used in sound measurement. It is equivalent to 10 times the logarithm (to base 10) of the ratio of a given sound pressure to a reference pressure
dB(A)	A value used for 'A-weighted' sound pressure levels. 'A' frequency weighted is an adjustment made to sound-level measurement to approximate the response of the human ear
db	Dry basis
DCCEE	Australian Department of Climate Change and Energy Efficiency
DCP	Development Control Plan
DECC	Former NSW Department of Environment and Climate Change (now OEH)
DECCW	Former NSW Department of Environment, Climate Change and Water (now OEH)
DOP	Former NSW Department of Planning (now DP&I)
DP&E	NSW Department of Planning and Environment

DPI	NSW Department of Primary Industries
DWE	NSW Department of Water and Energy
EIS	Environmental Impact Statement
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>
EP&A Regulations	<i>Environmental Planning and Assessment Regulation 2000</i>
EPA	NSW Environment Protection Authority, part of OEH
EPBC Act	<i>Environmental Protection and Biodiversity Conservation Act 1999</i>
EPL	Environment Protection Licence, issued under the PoEO Act
ESCP	Erosion and Sediment Control Plan
ESD	Ecologically Sustainable Development. Development that aims to meet the needs of people today, while conserving ecosystems for the benefit of future generations
GHG	Greenhouse Gas. Gases that contribute to global warming, known as the Greenhouse Effect. There are several GHGs, and they all have varying GWP
GLC	Ground Level Concentration
Gt	Gigatonne
GWP	Global Warming Potential. The higher the GWP of a gas, the more impact each tonne of that gas has on the Greenhouse Effect. To standardise GHGs for reporting and accounting purposes GHGs can be expressed as tonnes of carbon dioxide equivalent emissions, where carbon dioxide has a GWP of 1
HAZOP	Hazard and operability study
HFC	Hydrofluorocarbon
HTC	High Temperature Creosote
ICNG	Interim Construction Noise Guideline
Infrastructure SEPP	<i>State Environmental Planning Policy (Infrastructure) 2007</i>
INP	<i>NSW Industrial Noise Policy</i>
IPCC	Intergovernmental Panel on Climate Change
JRPP	Joint Regional Planning Panel
kL	Kilolitres
Kwh	Kilowatt hours
L ₉₀ , L ₁₀ etc	A statistical measurement giving the sound pressure level which is exceeded for the given percentile of an observation period, i.e. L ₉₀ is the level which is exceeded for 90 percent of an observation period. L ₉₀ is commonly referred to as a basis for measuring the background sound level.
LEP	Local Environmental Plan
LFG	Landfill Gas
LGA	Local Government Area
LOSP	Light Organic Solvent Preservative
LPG	Liquefied Petroleum Gas
MRF	Materials Recovery Facility
MUSIC	Model for Urban Stormwater Improvement Conceptualisation. A program used to model stormwater quality
MWh	Megawatt hours
MSDS	Material Safety Data Sheets
NES	National Environmental Significance. Matters of NES are listed under the EPBC Act
NGER Act	<i>National Greenhouse and Energy Reporting Act 2007</i>
NIA	Noise Impact Assessment
N ₂ O	Nitrogen oxide
NOW	NSW Office of Water
NO _x	Oxides of Nitrogen

NO ₂	Nitrous Oxide
NSW	New South Wales
NTC	Australian National Transport Commission
OEH	NSW Office of Environment and Heritage
OEMP	Operational Environmental Management Plan
PAC	Planning Assessment Commission
PEC	pigmented emulsified creosote
PFCs	Perfluorocarbons
PHA	Preliminary Hazard Analysis
PM ₁₀	Particulate Matter at or less than 10 micrometres
POEO Act	<i>Protection of the Environment Operations Act 1997</i>
PVC	Poly-vinyl chloride
PSNL	Project specific noise levels. These are the target noise levels for a particular noise generating facility. These are based upon the most stringent of the intrusiveness of amenity criteria. Which of the two criteria is the most stringent is determined by measuring the level and nature of existing noise in the area surrounding the actual or proposed noise generating facility.
RADF	Regional Australia Development Fund
Ramsar	The Ramsar Convention is an international treaty for the conservation and sustainable use of wetlands of international importance.
RBL	Rating Background Noise Level. The overall single figure background noise level representing each assessment period (day evening/night) over the whole monitoring period (as opposed to over each 24-hour period used for the assessment background level). The rating background level is the level used for assessment purposes. Where the rating background level is found to be less than 30 dB(A), then it is set to 30 dB(A).
RL	Relative Level
RMS	Roads and Maritime Services
RO	Recycled organics
RNP	Road Noise Policy
SEARs	Secretary's Environmental Assessment Requirements
SEPP	State Environmental Planning Policy
SEPP 33	<i>State Environmental Planning Policy No 33 – Hazardous and Offensive Development</i>
SEPP 44	<i>State Environmental Planning Policy No 44 – Koala Habitat Protection</i>
SEPP 55	<i>State Environmental Planning Policy No 55 – Remediation of Land</i>
SEPP State and Regional Development	<i>State Environmental Planning Policy (State and Regional Development) 2011</i>
SES	State Emergency Services
SF ₆	Sulphur Hexafluoride
SO ₂	Sulphur dioxide
Sound Power Level, L _w , dB Of a source:	Sound power level is a measure of the sound energy emitted by a source, does not change with distance, and cannot be directly measured. Sound power level of a machine may vary depending on the actual operating load and is calculated from sound pressure level measurements with appropriate corrections for distance and/or environmental conditions. Sound power level is equal to 10 times the logarithm to the base 10 of the ratio of the sound power of the source to the reference sound power of 1 picoWatt.
Sound Pressure Level, L _p , dB Of a sound	Sound power level is a measure of the sound energy emitted by a source, does not change with distance, and cannot be directly measured. Sound power level of a machine may vary depending on the actual operating load and is calculated from sound pressure level measurements with appropriate corrections for distance and/or environmental conditions. Sound power level is equal to 10 times the logarithm to the base 10 of the ratio of the sound power of the source to the reference sound power of 1 picoWatt.
SSD	State Significant Development

SWMMP	Site Waste Minimisation and Management Plan
TN	Total Nitrogen
TOC	Total organic carbon
TP	Total Phosphorus
TPH	Total Petroleum Hydrocarbons
TPH C ₁₀ -C ₃₆	Total Petroleum Hydrocarbons within the carbon chain range of C ₁₀ and C ₃₆ .
tph	Tonnes per hour
TSC Act	<i>Threatened Species Conservation Act 1995</i>
TSS	Total suspended solids
WARR Act	<i>Waste Avoidance and Resource Recovery Act 2001</i>
WH&S	Work, Health and Safety
Wires	NSW Wildlife Information, Rescue and Education Service
WM Act	<i>Water Management Act 2000</i>
WMC	Waste Management Centre

1 Background to the Project

1.1 Overview

This Environmental Impact Statement (EIS) accompanies a State Significant Development (SSD) application, SSD 7349 for the proposed expansion of an existing Waste Recycling Facility. The proposal seeks to:

1. increase the volume of recyclable materials recovered;
2. diversify the recyclable waste streams processed; and
3. increase the site area (currently located at no. 51 Violet Street) to also include the adjoining property (located at no. 57 Violet Street).

Enviro Recycling Pty Ltd (Enviro Recycling) “the Proponent” owns and operates an existing Waste Recycling Facility located at 51 Violet Street, Revesby, within the Bankstown Local Government Area (LGA). The legal property description of the existing Waste Recycling Facility operations is:

- > Lot 168 DP 7866;
- > Lot 169 DP 7866; and
- > Lot 2 DP 519053.

On 12 March 2015 Bankstown City Council (BCC) granted consent to Development Application (DA) 1029/2014 for the “*Use of Premises as a Materials Recycling Yard*” at 51 Violet Street, Revesby. Condition 24 restricts the maximum tonnage to 30,000 t/annum. Condition 26 restricts the hours of operation to between 7.00 am to 6.00 pm on weekdays and 7.00 am to 2.00 pm Saturdays. The existing Waste Recycling Facility processes *construction and demolition waste* (C&D) and has been in operation since June 2015.

This proposal seeks consent to expand the approved Waste Recycling Facility operations into the neighbouring premises adjoining to the south, located at 57 Violet Street. Previously, no. 57 Violet Street contained a motor vehicle recycling facility. The legal property description of no. 57 adjoining is:

- > Lot 1 DP 734866.

The site therefore comprises 51 Violet Street (the existing operations) and 57 Violet Street (proposed expanded operations). The site is currently zoned IN1 General Industrial, pursuant to *Bankstown Local Environmental Plan 2015* (Bankstown LEP), gazetted 7 August 2015.

The proposal seeks consent to undertake the following:

- > Expansion of the area of the existing Waste Recycling Facility use carried out at premises located at 51, into adjoining premises to the south at 57 Violet Street.
- > Diversification of waste recycling streams to include both:
 - o Construction and Demolition (C&D) waste (existing approved waste stream); and
 - o Commercial and Industrial (C&I) waste (proposed additional waste stream).
- > Expansion of waste recycling volumes from 30,000 t/annum to 250,000 t/annum.
- > Partial demolition, rebuilding and fitout works to existing site buildings and associated engineering (structural, civil, hydraulic) to accommodate the proposed operations.

The proposed development is declared to be State Significant Development (SSD) under clause 8(1) of *State Environmental Planning Policy (State and Regional Development) 2011* (SRD SEPP), which states:

8 Declaration of State significant development: section 89C

(1) Development is declared to be State Significant Development for the purposes of the Act if:

(a) the development on the land concerned is, by the operation of an environmental planning instrument, not permissible without development consent under Part 4 of the Act, and

(b) the development is specified in Schedule 1 or 2.

Schedule 1 State significant development to the SRD SEPP states:

23 Waste and resource management facilities

...

(2) Development for the purpose of resource recovery or recycling facilities that handle more than 100,000 tonnes per year of waste.

The Project proposes a materials recycling facility, for general solid waste (non-putrescible) as defined in Schedule 1 of the *Protection of the Environment Operations Act 1997* (POEO Act), of up to 250,000 tonnes/annum. The waste streams would primarily comprise of construction and demolition (C&D) waste, commercial and industrial (C&I) waste, green waste, soils and timber waste. C&D and C&I waste materials are proposed be transported to the site, separated and/or crushed and stockpiled according to waste streams, and then transported to the end user or further processing facility. Any residual, non-reusable materials would be transferred to a licensed landfill site.

This Environmental Impact Statement (EIS) assesses the potential environmental impacts of the proposed expansion of the Revesby Waste Recycling Facility.



Figure 1-1 Overview of the Subject Site

Source: NearMap

1.2 Purpose and Structure of Environmental Impact Statement

Enviro Recycling (the proponent) is seeking planning approval under Part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act) for a State Significant Development (SSD 7349). A SSD proposal is required to be accompanied by an EIS, which meets the form and content requirements of clauses 6 and 7 of Schedule 2 of the *Environmental Planning and Assessment Regulation 2000*. The Consent Authority is the Minister for Planning under s89E of the EP&A Act. Cardno has prepared this EIS on behalf of Enviro Recycling for submission to the consent authority, being the NSW Department of Planning and Environment (DP&E), for determination.

This EIS provides an assessment and analysis of key issues in relation to the proposed expanded recycling facility as specified by the Secretary's Environmental Assessment Requirements (SEARs) (SSD 7349 dated 20 November 2015), in consultation with key government authorities. In accordance with the SEARs and DPE's 'Adequacy Review' comments, the environmental assessment includes consideration of:

- > Waste Management (**Section 5.1**);
- > Air quality and Odour (**Section 5.2**);
- > Traffic and Transport (**Section 5.3**);
- > Noise and Vibration (**Section 5.4**);
- > Soil and Contamination (**Section 5.5**);
- > Hydrology and Water Quality (**Section 5.6**);
- > Visual Amenity (**Section 5.7**);
- > Flora and Fauna (**Section 5.8**);
- > Heritage (**Section 5.9**);
- > Socio-economic (**Section 5.10**);
- > Hazards and Risks (**Section 5.11**);
- > Cumulative Impacts (**Section 5.12**).

Table 1-1 outlines the structure of the EIS document and provides a brief description of the information contained within each chapter and the appendices to the EIS.

Table 1-1 Structure of the EIS Document

Document Chapters and Appendices	Description of Chapter Content
Chapter 1: Background to the Project	Provides a brief introduction to the proposed expansion of the existing Waste Recycling Facility and details the structure of the EIS document.
Chapter 2: Description of the Proposal	Presents an introduction to the project and provides a description of each of the key aspects of the proposed expanded Waste Recycling Facility.
Chapter 3: Justification for the Project	Provides discussion on the need and justification for the development of the proposed facility. The strategic and planning context of the project is considered along with discussion on how the project relates to State and National waste strategies and policies.
Chapter 4: Legislation	Discusses the statutory environmental and planning requirements for the project under Local, State and Commonwealth legislation. Consideration of the project in the context of ecologically sustainable development is also provided.
Chapter 5: Assessment of Environmental Impacts	Identifies the potential environmental impacts associated with the proposed Recycling Facility. The assessment and analysis of key issues has been undertaken in accordance with the SEARs and includes a range of measures to mitigate and manage the potential impacts on the environment.
Chapter 6: Environmental Risk Assessment	Details the environmental risk assessment undertaken for the proposed development. Each risk was considered as part of the environmental assessment and mitigation measures were developed, where practicable. An overview of the residual environmental risk (following application of mitigation measures) is also provided.
Chapter 7: Consultation	Describes the consultation undertaken during preparation of the EIS report. It includes discussion relating to consultation with relevant Local and State Government authorities, service providers, community groups and affected landowners in accordance with the SEARs.
Chapter 8: Statement of Commitments	Provides a consolidated summary of the proposed environmental management and monitoring measures, highlighting commitments included in the EIS. It describes the measures that would be implemented to avoid, minimise and if necessary, offset the potential impacts of the development,

Document Chapters and Appendices	Description of Chapter Content
	including proposals for adaptive management and/or contingency plans to manage any significant risks to the environment.
Chapter 9: Conclusion	Provides a summary of the findings of the EIS and gives consideration to the likely residual impacts of the proposed development after mitigation measures are implemented.
Chapter 10: References	Provides the references used in the preparation of the EIS. Additional references are also included in specialist technical reports in the appendices.
Appendix A	Secretary's Environmental Assessment Requirements
Appendix B	Drawings & Site Survey, prepared by Cardno
Appendix C	Traffic Impact Assessment, prepared by Cardno
Appendix D	Noise and Vibration Assessment, prepared by Cardno
Appendix E	Air Quality and Greenhouse Gas Assessment, prepared by Pacific Environment
Appendix F	Site Water Balance and Stormwater Management Report, prepared by Cardno
Appendix G	Flood Risk Assessment, prepared by Cardno
Appendix H	Sydney Water Feasibility Letter
Appendix I	Environment Protection Licence
Appendix J	EPBC Act Search
Appendix K	Consultation
Appendix L	Landowner's Consent & Title Plans
Appendix M	Political Donations Declaration
Appendix N	Quantity Surveyor's Report
Appendix O	Consents to be Surrendered
Appendix P	Emergency Management Plans, prepared by Enviro Recycling
Appendix Q	Preliminary Site Investigation

1.3 The Proponent

Enviro Recycling (the Proponent) is a Revesby based company specialising in the waste recycling industry. It is backed by people who are passionate about recycling and have a history in the waste industry with a proven track record in achieving leading recycling rates in NSW (<http://www.envirorecycling.com.au/>).

The existing Waste Recycling Facility was formerly owned by CMA Recycling, which recycled scrap metal, and was purchased in 2014 by Bruce Fordham, the Managing Director of Enviro Recycling. Bruce, having managed an earthmoving business specialising in construction and demolition, commenced the business to continue his passion for recycling these waste streams away from landfill.

With this passion comes investment in state of the art machinery, including Leibherr material handlers and loaders. Enviro Recycling has also forged a new relationship with Mandalay Technology, providing industry leading weighbridge data and waste management. The site is readily accessed via the major road routes in south-western Sydney, with under cover tipping zones, provides a convenient, weather-proof and cost effective location.

Summit Enviro Consulting is a consultancy with experience in the approval of waste management and processing facilities and has been commissioned by Enviro Recycling to provide strategic advice and guidance for the approval process and to assist with recycling process and environmental issues.

2 Description of the Proposal

2.1 Subject Site

The Subject Site comprises both the existing premises located at no. 51 (aka nos 37-51) Violet Street, Revesby and the proposed expansion into the adjoining premises located at no. 57 (aka nos 57-67) Violet Street, Revesby. The existing site is legally described as: Lot 168 & 169 in DP7866 and Lot 2 in DP519053. The site is located in the Revesby industrial area, with access to the M5 South Western Motorway via The River Road interchange approximately 2 km to the east.



Figure 2-1 Existing Recycling Facility

Source: NearMap

The proposed expansion of the site includes the adjoining premises located at no. 57 Violet Street, Revesby legally described as Lot 1 in DP734866. The proposed expanded operations comprising both properties at nos 51 & 57 Violet Street comprises the Subject Site.



Figure 2-2 Proposed Expanded Recycling Facility
Source: NearMap

2.2 Project Description

The proposal seeks to:

1. Increase the volume of recyclable materials recovered;
2. Diversify the recyclable waste streams processed; and
3. Increase the site area (currently located at no. 51 Violet Street) to also include the adjoining property to the south (located at no. 57 Violet Street).

In order to maximise the resource recovery rates at the facility, Enviro Recycling proposes to increase the throughput tonnage of the existing facility by accepting additional waste streams and increasing efficiency by installing an automated waste separation processing line. The proposed installation of a well-planned and viable sorting plant line would increase resource recovery rates. Based on a throughput of 250,000 tonnes of waste, the proposed facility expansion would increase resource recovery rates from the current 51% to above 80%, resulting in over 200,000 t/annum being diverted from landfill, saving over \$50 million in landfill costs, and preventing 33,250 t/annum of carbon emissions from landfill alone. There would also be an anticipated reduction in potential worksite injuries due to the enhanced automation of the waste separation processing.

2.2.1 Project Objectives

The mission of the expanded Waste Recycling Facility is to provide quality disposal opportunities in a convenient and efficient manner for the Sydney-wide community and industry while at the same time reducing the amount of waste disposed to landfill through reuse of waste streams.

The objectives of the Project are to establish a facility that will provide a means of recycling and processing of construction and demolition waste (C&D) and commercial and industrial waste (C&I) to service the local Bankstown LGA and the broader Sydney region. The existing facility currently processes C&D and has a

throughput of 30,000 t/annum. Enviro Recycling aims to maximise the recovery rate of both C&D and C&I in an efficient and economical way so as to reduce landfill waste and greenhouse gas emissions.

Another objective is to reduce the incidence of illegal dumping. The provision of additional recycling services for the Bankstown Community may reduce illegal dumping and help to protect the local environment from pollution.

2.2.2 Existing Infrastructure

The existing facility covers an area of approximately 11,200 m² which includes processing facilities, stockpile/storage and handling areas, vehicular access and manoeuvring areas (refer Figure 2-1).

The existing infrastructure at the facility caters for 30,000 t/annum of materials and includes:

- > Entry and exit driveways on Violet Street;
- > Steel floored weighbridge;
- > Site offices;
- > Two (2) open sided processing buildings and one (1) covered area;
- > Utility services including power, water and sewerage;
- > Stormwater management systems; and
- > Dust suppression systems.

Existing project components are shown in Table 2-1.

Table 2-1 Existing Facility Infrastructure

Description	Photograph
Existing Office Area There is one (1) main office building, adjoining the western boundary of the site, containing open plan office space, private internal offices and a board room. There is currently phone and internet connection to all offices, and toilet and washroom facilities.	
Existing Weighbridge The site has one steel floored weighbridge located adjacent to the main office.	

Building 1

Building 1 has an area of approximately 890 m² and is a warehouse with concrete flooring.



Building 2

This building has an area of approximately 780 m² and is a warehouse with concrete flooring.

Materials are currently unloaded and sorted in Building 2 and the covered area.



Covered Area

This is a large warehouse area approximately 1,220 m² in area.

Materials are currently unloaded and sorted in Building 2 and the covered area.



Holding Yards

Separated waste stream materials are stockpiled within storage bays along the northern boundary of the site.

Stockpiles include:

- > Crushed concrete;
- > Road base;
- > Top soil;
- > Mulch; and
- > Landscaping materials.



Car parking Area

Existing off-street car parking is available along the southern boundary of No. 51 Violet Street which has parking for 15 vehicles (between the dish drain and the southern boundary fence).



Stormwater Management

The existing stormwater drainage system for the site comprises:

- > A three stage sump pit adjacent to the parking spaces on the southern boundary of the site. All stormwater runoff from the southern portion of the site drains to this pit and is then conveyed into the drain along Violet Street;
- > Stormwater run-off to the north of the site drains into a sediment tank located in the north-west corner of the site which discharges to the drain along Violet Street; and
- > Three (3) x 10,000 L tanks collect rainwater from the roof of the covered areas which is then used for dust suppression by water cart. Overflow from the rainwater tanks is piped to the existing stormwater system.



Dust Suppression

The existing site has a number of dust suppression systems including:

- > External water spray system for the yard storage areas;
- > Internal fogging system for the main processing building; and
- > Mobile water carts for general dust suppression.



2.3 Detailed Description of the Proposed Development

2.3.1 Existing Site

The existing facility at 51 Violet Street was owned by CMA Recycling until 2014 when it was purchased by Enviro Recycling, subsequent to obtaining planning approval from Bankstown City Council (BCC) (DA/1029/2014) for the operation of a Waste Recycling Facility. Current operations at this address began in June 2015 following approval of DA/1029/2014 for the 'Use of Premises as a Materials Recycling Yard' by BCC on 12 March 2015. Existing operations allow skip bin operators, demolition firms, and builders to dispose of their C&D waste for recycling.

2.3.2 Proposed Expanded Facility

The proposal seeks to expand operations from the existing facility, at 51 Violet Street, to incorporate the neighbouring premises, 57 Violet Street, Revesby. The neighbouring site was used as a car wrecking yard by the previous owners. Enviro Recycling has purchased 57 Violet Street, and taken possession of the site that has been cleared of car wrecks by the former owners.

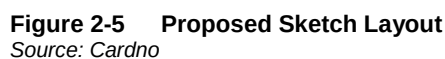
The proposed expanded facility covers an area of approximately 19,400 m² and comprises processing facilities, stockpile, storage and handling areas, vehicular access and manoeuvring areas.

Figures 2-3, 2-4 and 2-5 respectively show the existing and proposed layouts of the site. Larger sets of drawings are provided at **Appendix B**.



Figure 2-3 Existing Site Layout

Source: Cardno



The proposed expanded facility includes the following key components:

- > Capacity to process up to 250,000 t/annum of C&D and C&I general solid waste (non-putrescible) as defined in Schedule 1 of the *Protection of the Environment Operations Act 1997*;
- > Entry weighbridge near gate 1 / Exit weighbridge near gate 2;
- > A new Material Separator Machine to be located along the eastern boundary of the site to separate the materials, all undercover (refer to **Figure 2-6**);
- > Installation of new processing equipment including screener and shredders;
- > Demolition of slab of former office building at 57 Violet Street and construction of a 20-vehicle capacity staff carpark with boom-gate access via gate 3. Note: demolitions to slab level of redundant warehouses and office buildings is under separate DA 332/2016, approved by Canterbury Bankstown Council on 31 May 2016;
- > Separate Entry / Exit Driveways, with Entry via Driveway No. 1 and Exit via Driveway No. 2;
- > Widening of existing driveways: Entry Driveway No. 1 and Exit Driveway No. 2 to accommodate swept paths;
- > Civil engineering and stormwater drainage works;
- > Provision of additional materials stockpile areas at 57 Violet Street; and
- > Upgrade of stormwater and outdoor dust suppression systems at 57 Violet Street.

2.3.3 Overview

The proposed development involves installation of an automated waste processing line that is capable of processing mixed general commercial skip bin material at a rate of up to 60 t p/hr.

The Waste Recycling Facility is designed to process clean aggregate that is free of timber, plastic, paper and organic materials. A material stream of timber, steel and bulk sorted materials such as plastic, bulk timber, oversize aggregate and bulk metal will also be recovered. The aim of the Waste Recycling Facility is to regain as much recyclable materials from the input waste streams as possible. Enviro Recycling facilitates the recovery of materials that can be diverted away from landfill and reused or recycled into new products.

The existing development employs 25 people to operate the recycling facility. The proposed development would continue the employment of the existing 25 employees with no job losses required due to the increased processing volumes along with the increased automation. Enviro Recycling also foresees a realistic opportunity for further job creation, as the site reaches maximum output.

2.3.4 Material Sorting Line Process

A summary of the operational process that would take place is provided below.

2.3.4.1 Delivery inspections during unloading

The site's delivery receiving procedures ensures that a thorough visual inspection of all waste material delivered to the site is carried out as each delivery vehicle is unloaded, prior to processing. Trained staff, with the assistance of a platform and CCTV, review all waste material upon arrival to classify the waste stream.

Drivers are then directed to deposit their waste recycling load in a particular area to ensure that there is appropriate segregation of material being unloaded and to ensure that delivered waste materials are not mixed with other loads, before the inspection is completed. During unloading, procedures are then implemented to confirm the initial waste classification made upon arrival, based upon whether the load is observed as being either a 'low risk' load or a 'high risk' load.

A 'low risk' load, containing material such as clean concrete or clean brick would be observed during unloading to confirm whether any suspected asbestos-containing material can be identified.

A 'high risk' load, containing a mix of materials such as concrete, bricks, timber, soil and plastics would be unloaded and spread over a sufficiently large area to enable a comprehensive inspection of all sides of the

material. Where appropriate, larger sections of concrete would be inverted to permit a visual check for any embedded or underlying asbestos product or debris.

Having completed the visual inspections above, the load is then added to the processing line. This ensures that any loads containing hazardous materials, such as asbestos, drums and gas bottles do not enter the materials processing line. Any loads where contamination is detected will be rejected, re-loaded and returned to the supplier of the material.

2.3.4.2 General Mobile Equipment Pre-sort

Infeed material is firstly pre-sorted with an excavator to remove bulk items that would be detrimental to the processing plant. This includes items such as bulk metal, large concrete pieces, long lengths of timber, rolls of carpet, bulky waste items, green waste and other items of such nature that are impractical for the sorting system or staff to hand remove. The pre-sort would provide another opportunity to remove any items such as batteries, gas bottles and asbestos from the process line.

2.3.4.3 Main Finger Screen

The Main Finger Screen is loaded directly by the bulk infeed conveyor system, fed by a loader or excavator with suitable attachment. The Main Finger Screen takes material over the finger deck separating materials by size, into two streams:

- > Materials over 300 mm, to the main pick line; and
- > Materials less than 300 mm, to the main screening and air separator lines.

2.3.4.4 Main Sorting Line Bulk Materials – 300 mm plus

Materials of a size of 300 mm or larger are fed into the main sorting line for the positive hand sorting of selected materials. Generally any bulk metals, plastics, timber, aggregate and cardboard are separated at this stage.

2.3.4.5 300 mm minus Material Process Flow

Stage 1: Magnetic Separation

Material that passes through the Main Finger Screen is presented to an inline over band belt magnet to remove steel products. Metal Products are then separated onto the transfer conveyor leading to a bunker.

Stage 2: Combination Screen Separation

The Combination Screen Separation integrates a 50 mm minus cut Metal Louver Screen onto a 10 mm Flip Flop Trisomat Polyurethane Panelled Screen. The key advantage of this screen is its small footprint and ability to make 3 product cuts whilst also being able to handle a material of high moisture content.

Over the louvre screen passes 50-300 mm material fraction, and over the Trisomat Screen passes 10-50 mm fraction. A 10 mm minus sand product passes through the Screen.

The sand material generated is transferred into a bunker via a transfer conveyor SC2 which receives material from the Flip Flop Trisomat under conveyor SC1. When dry, the sand removal process has the potential to generate dust within the plant and thus sealed conveyors and bunker, plus the addition of misting sprays, are proposed so as to reduce potential dust generation.

The Trisomat Flip Flop Screen operates using self-cleaning polyurethane panels that will screen organic soil and dirt with up to a 23% moisture content to produce a good clean sand material.

Stage 3: Air Separation

The two fraction cuts of materials 10-50 mm and 50-300 mm are important for quality air separation of the material and final recovery of the aggregate material. Each fraction is presented to two independent Air Separation units. The 50-300 mm fraction feeds into a Nihot Double Drum Air Separator, removing aggregate, timber and light waste. The drums remove aggregate on the first drum and then the second drum removes timber products and all light material which are blown into the expansion chamber and conveyed to the light waste bunker.

The 10-50 mm fraction is presented to a single air separator to remove all organic matter from the smaller aggregate material. With controlled air separation, aggregates and timber products are recovered clean and only require a final quality control check to produce market acceptable materials.

Stage 4: Final Quality Control of Timber and Aggregate

The Quality Control stations are aimed at supplying an even stream of material with forward hand sorting to increase sorting rates and reduce operator fatigue.

The aggregate stream provides forward sorting of timber material to locate large timber items that were too heavy to pass over into the timber area of the air separation. Thus the sorter can simply remove any timber material within the aggregate stream and place it directly onto the timber line and drop waste any other unexpected items, such as shoes or batteries (which are rarely present), onto the waste line. The aggregate then transfers from the end of the line into a bunker.

The timber stream is generated from the second separation drum with the 50-300 mm DDS Nihot unit. Timber is then transferred to the quality control pick line that enables sorting personnel to sort forward any aggregate contamination directly into the aggregate bunker and waste down a central chute dropping waste into the waste bunker. The timber then finally runs directly into a bunker off the end of the quality control line.

Stage 5: Waste

The Nihot Air Separator removes the light waste, plastic, paper and organics along with small timber and other non-recoverable items. A key feature of the Nihot is its ability to provide product separation and waste removal by interval air balance and control. Thus waste materials pass out the end discharge conveyor at each Air Separator unit and are transferred into a waste bunker. The process line can handle both C&I materials as well as C&D materials.

Figure 2-6 below shows the new Material Separator Machine to be located along the eastern boundary of the site. Larger sets of drawings are provided at **Appendix B**.

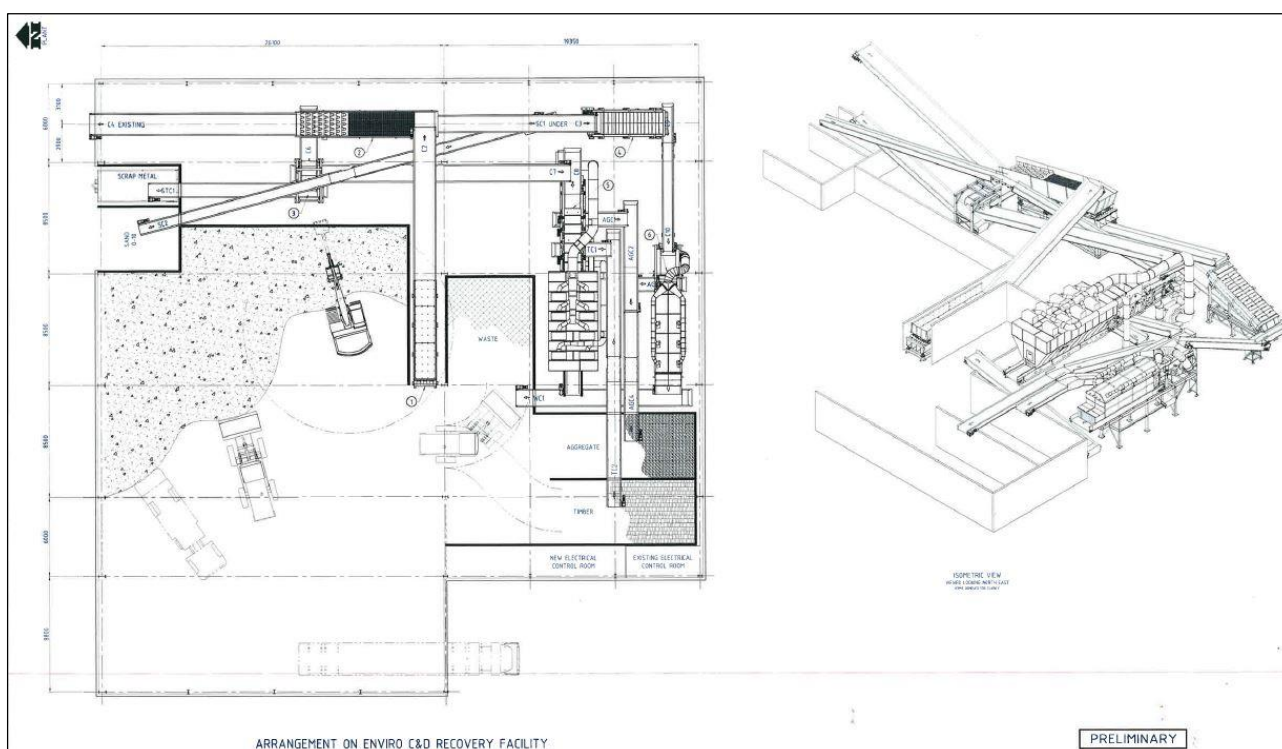


Figure 2-6 Proposed Sorting Equipment

Source: Enviro Recycling

2.3.5 Waste Streams

The proposed expanded Waste Recycling Facility would process up to 250,000 t/annum of C&D and C&I general solid waste (non-putrescible) as defined in Schedule 1 of the *Protection of the Environment Operations Act 1997* (POEO Act).

It is proposed that the expanded Waste Recycling Facility would accept the following waste streams for processing:

- > C&D waste including crushed concrete, road-base materials, soil, bricks, stones, masonry, timber, metal, gyprock, batteries, glass, bottles, paper, cardboard mulch and landscaping materials. This would equate to approximately 60% of throughput or 150,000 t/annum.
- > C&I waste including paper, cardboard, glass, timber, metals, plastics, whitegoods and other materials from C&I sources. This would equate to approximately 25% of throughput or 62,500 t/annum.
- > Green waste, soils and timber. This would equate to approximately 15% or 37,500 t/annum.

The above waste stream numbers are approximates only and could vary considerably. However, in total the waste processed will not exceed 250,000 t/annum.

It is not intended to receive any putrescible waste materials however, should these materials be discovered in the incoming waste streams, they would be separated and placed into a bin for appropriate disposal at a licensed facility that accepts these materials.

Similarly any noxious, special, hazardous or contaminated materials found inadvertently arriving at the facility would be appropriately handled and removed to a licensed facility. Procedures to identify and appropriately handle and dispose of any unexpected hazardous materials would be included in the Management Plan for the Waste Recycling Facility including methods to be adopted to restrict their occurrences. In particular, the facility's acceptance policy would not allow asbestos waste to be accepted and any load found to contain asbestos would be refused. However, should any such waste be unlawfully left on site, appropriate handling, in accordance with the relevant legislation, would be undertaken.

2.3.6 Operational Processes

The waste materials would be screened, sorted and stockpiled into appropriate groups and then on-sold to other end users or further processing facilities. The operation of the facility would generally be as follows:

- > Waste materials would be transported to the facility (by Truck and Dog Trailers, Semi-Trailers, private vehicles or other means);
- > When trucks enter the site, they would proceed to the weighbridge;
- > The waste would be inspected to verify it meets the acceptance criteria. The waste would be classified and charged in accordance with a number of categories;
- > Trucks would then proceed to Building 2 to be visually inspected during unloading, according to low or high risk classification, in accordance with the site's waste receiving protocols;
- > Contaminated loads would be rejected, re-loaded and returned to supplier;
- > Any contaminated material that is found during processing would be quarantined, analysed and disposed of to an appropriately licensed facility;
- > Acceptable waste materials would be appropriately stockpiled to be processed through the separator machine;
- > Soil wastes would be transferred to Building 1 to be transferred to holding yards for further processing;
- > Output materials would all be contained under covered areas;
- > Separated materials would then be transported to the relevant stockpile area in the holding yards for the appropriate level of quality testing before sale to other users;
- > Materials from the stockpile area/holding yards would be on-sold to other end users or further processing facilities;

- > Metal wastes would be transferred to metal recycling plants;
- > Concrete would be crushed on-site using the existing concrete crushing machine and aggregate would be on-sold to others; and
- > Non re-useable waste would be collected on-site then taken to an appropriate licensed waste disposal facility.

Waste material would arrive at the proposed Waste Recycling Facility from a variety of sources, including waste collection contractors, and waste self-hauled by businesses and residents.

Recycled materials would be sold under various NSW EPA General or Specific Exemption orders. Materials would be sold to a number of different companies which may include Sell & Parker (metals), Cardboard King (cardboard), Oil Collection Services (oils), Northern Rivers Timber Recyclers (timber), and WTR Bringelly (green waste). Unwanted waste would be transported to a licensed waste facility.

2.3.7 Hours of Operation

2.3.7.1 *Total Hours*

The total proposed hours of operation for the expanded Waste Recycling Facility are:

- > 6:00 am – 12:00 midnight Monday to Friday;
- > 6:00 am – 12:00 midnight on Saturdays; and
- > No work on Sundays and public holidays.

2.3.7.2 *Processing Hours*

Generally, most of the machinery is proposed to operate between the hours of 6:00 am to 6:00 pm, comprising:

- > Concrete Crusher
- > Rotochopper
- > L580 Wheel Loader
- > VB750 Shredder
- > Terex Finlay 694
- > Forklift
- > R950 Excavator
- > R922 Excavator
- > LH22 Material Handler

It is noted that, on some occasions, the processing of materials and maintenance of equipment may be required to be carried out until 10:00 pm. On such occasions, truck movements, associated with the loading and removal of recycled material from the facility, may be required to be carried out until 12.00 midnight.

2.3.7.3 *Delivery Hours*

Deliveries could occur between 6.00 am and 12.00 midnight.

2.3.8 Construction Methodology

It is noted that the bulk of site works form part of a separate DA 332/2016, approved by Canterbury Bankstown Council on 31 May 2016. DA 332/2016 addresses the demolition of redundant buildings, tree removal and additional landscaping; replacement boundary fencing to southern and eastern boundaries of the portion of the site located at No. 57 Violet Street.

The remaining site works proposed as part of SSD 7349 are:

- > The balance of civil works to create new 20 vehicle capacity staff carpark with boom-gate access via Driveway No. 3;
- > Widening of Entry Driveway No. 1 and Exit Driveway No. 2 to accommodate the swept paths;
- > New Entry / Exit weighbridges;
- > Concrete pavement ramp connecting Nos 51 & 57 Violet Street internally; and
- > Associated stormwater drainage works.

The construction stages of the proposed Waste Recycling Facility may be generally summarised as follows:

- > Site establishment – installation of site fencing, environmental controls and traffic management;
- > Site demolition – removal of former office building slab at 57 Violet Street to facilitate new staff carpark construction at 51 & 57 Violet Street;
- > Site construction – Civil construction and stormwater drainage works including: new 20 car capacity staff carpark; ramped connection between nos 51 & 57; boom gate to driveway no. 3; driveway widenings; and installation of new weighbridges;
- > Site fitout – fitout of the buildings including installation and assembly of the new materials separating machine; and
- > Site restoration – removal of all construction materials and equipment from the site, and removal of temporary works, restoration and replacement landscaping (refer DA 332/2016, approved by Canterbury Bankstown Council on 31 May 2016), as required.

The construction works are proposed to be undertaken during standard working hours (Monday to Friday 7:00 am to 6:00 pm, Saturdays 8:00 am to 1:00 pm, with no construction work on Sundays or Public Holidays).

A future Construction Environmental Management Plan (CEMP) would detail appropriate mitigation measures for the construction activities and would address relevant environmental management measures.

3 Justification for the Project

This chapter provides discussion on the need and justification for the proposed expanded waste recycling facility. The strategic and planning context is also considered.

3.1 Strategic and Planning Context

The Project would be consistent with State and Local Strategic Planning, as documented in the following reports:

- > *NSW 2021: A Plan to Make NSW Number One* (NSW Government, 2011): This is a 10 year plan to rebuild the economy, provide quality services, renovate infrastructure, restore government accountability, and strengthen our local environment and communities. The Project supports the Plan's environment goals of protecting the natural environment and increasing opportunities for people to look after their own neighbourhoods and environments. The Project will support these goals through the recycling of approximately 250,000 tonnes of waste per year, and the provision of additional recycling facilities for the Bankstown Community. The plan aims to increase recycling to meet the 2014 NSW waste recycling targets by increasing recycling and supporting Community Drop-Off Centres to make it easier for people to recycle and remove problem waste from bins. Based on a throughput of 250,000 tonnes of waste, the proposed facility expansion would increase resource recovery rates from the current 51% to above 80%, resulting in over 200,000 t/annum being diverted from landfill, saving over \$50 million in landfill costs, and preventing 33,250 t/annum of carbon emissions from landfill alone. One other target of the strategy is to reduce the incidence of illegal dumping. The provision of additional recycling services for the Bankstown Community may reduce illegal dumping and help to protect the local environment from pollution;
- > *A Plan for Growing Sydney* (DPE, 2014): The NSW Government's plan for the future of the Sydney Metropolitan Area over the next 20 years. The Plan provides key directions and actions to guide Sydney's productivity, environmental management, and liveability, including the delivery of housing, employment, infrastructure and open space. The plan acknowledges that Sydney will require additional waste management and recycling infrastructure including additional recycling infrastructure capacity of 165,000 tonnes per year for municipal (local council) waste, and 380,000 tonnes per year for C&I waste, and an additional 25 community recycling centres for recycling of household hazardous waste. The Project supports the direction of managing the impacts of development on the environment under the goal of Sydney's sustainable and resilient environment, by providing an option for recycling of C&D and C&I waste in the Bankstown LGA;
- > *Waste Less, Recycle More* (EPA, 2015): The NSW Government produced a Waste and Resource Recovery Initiative, with the aim of meeting recycling targets and conserving valuable landfill space. The Waste Less Recycle More program provides funding for waste management and recycling projects which will deliver conveniently located, value for money waste infrastructure to make it easier for households and businesses to do the right thing. The Project assists in supporting the Waste Less, Recycle More initiative by providing a facility to accept the increasing volumes of waste being generated from both business and the community. As part of the Project, a new sorting line will be introduced increasing recovery rates from 51% to 80% to help boost the recycling processing capacity in NSW;
- > *Metropolitan Plan for Sydney 2036* (DoP, 2010): The Metropolitan Plan provides a framework for sustainable growth and development across the city to 2036, integrating land use, and urban and transport planning. It aims to guide the growth of Australia's leading city towards greater sustainability, affordability, liveability and equity for generations to come. Part of the Plan is to develop a more sustainable city and to reduce greenhouse emissions. The aim of the Project is to maximise the recovery rate of the commercial waste, both C&D and C&I in an efficient and economical way, to reduce landfill waste and greenhouse gas emissions. Based on a throughput of 250,000 tonnes, the Project will divert over 200,000 tonnes from landfill saving over 33,250 tonnes of carbon emissions per annum.

- > *Bankstown Community Plan 2023* (Bankstown City Council, 2013): Bankstown's Community Plan envisages a culture, place, and city of excellence. A main goal is to create a sustainable city that respects its natural environment. The Project supports this 'Green' goal, as it promotes recycling, and decreases the likelihood of C&D and C&I waste going to landfill. The Project will also assist Council in achieving its vision to operate in a socially responsible way by providing the Bankstown Community with a recycling centre and increasing the rate of recycling.

3.2 NSW Waste Avoidance and Resource Recovery (WARR) Act 2001

The objectives of the *Waste Avoidance and Resource Recovery Act 2001* (WARR Act) include:

- > To encourage the most efficient use of resources;
- > To minimise the consumption of natural resources and the final disposal of waste by encouraging the avoidance of waste and the reuse and recycling of waste; and
- > To ensure the industry shares with the community the responsibility for reducing and dealing with waste.

The WARR Act provides a legislative framework for promoting construction and demolition recycling infrastructure and business development for recycling construction and demolition materials. The Project aligns with the objectives of the WARR Act, as it promotes the reuse and recycling of waste, encourages an efficient use of resources, and shares the responsibility for dealing with waste with the Bankstown Community, in particular, through the provision of additional recycling services for the local community.

3.3 NSW Waste Avoidance and Resource Recovery Strategy

The *NSW Waste Avoidance and Resource Recovery Strategy* (EPA, 2014) provides a clear framework for waste management over the next seven years and aligns with the NSW Government's waste reforms in *NSW 2021: A Plan to Make NSW Number One* (NSW Government, 2011). The key result areas identified in the Strategy will support investment in much-needed infrastructure, encourage innovation and improve recycling behaviour. They will also promote the development of new markets for recycled materials and reduce litter and illegal dumping.

The outlined objectives and targets for the period of 2014 – 2021, include:

- > Avoid and reduce waste generation;
 - By 2021–22, reduce the rate of waste generation per capita
- > Increase recycling;
 - By 2021–22, increase recycling rates for:
 - Municipal solid waste from 52% (in 2010–11) to 70%,
 - Commercial and industrial waste from 57% (in 2010–11) to 70%,
 - Construction and demolition waste from 75% (in 2010–11) to 80%,
- > Divert more waste from landfill;
 - By 2021–22, increase the waste diverted from landfill from 63% (in 2010–11) to 75%
- > Manage problem wastes better;
 - By 2021–22, establish or upgrade 86 drop-off facilities or services for managing household problem wastes state wide
- > Reduce litter;
 - By 2016–17, reduce the number of litter items by 40% compared with 2011–12 levels and then continue to reduce litter items to 2021–22
- > Reduce illegal dumping;

- From 2013–14, implement the NSW Illegal Dumping Strategy 2014–16 to reduce the incidence of illegal dumping state wide,
- As part of this strategy, by 2016–17:
 - Reduce the incidence of illegal dumping in Sydney and the Illawarra, Hunter and Central Coast regions by 30% compared with 2010–11, and
 - Establish baseline data to allow target-setting in other parts of the state.

The implementation of the proposed recycling facility aligns with the objectives of the Strategy. The facility results in the diversion of waste from landfill, would assist in promoting the reduction of illegal dumping of such waste, and supports an increase in recycling, particularly in the Bankstown LGA, as additional recycling services for the community would be provided.

3.3.1 Regional Waste Avoidance and Resource Recovery Strategy 2014 – 2021

The *Regional Waste Avoidance and Resource Recovery Strategy 2014 – 2021* (SSROC, 2014) for the Southern Sydney Regional Organisation of Councils (SSROC) sets out the guiding principles, and vision for the future to reduce the environmental impact of waste, and to use resources more efficiently. The strategy outlines how SSROC plans to reduce waste, to increase recycling, and to tackle problem waste, illegal dumping and littering. The Regional Strategy supports the *NSW Waste Avoidance and Resource Recovery Strategy*.

The Project will help fulfil a number of the Strategy goals:

- > Encouraging and enabling reuse: the Project will encourage and enable the reuse of materials through recycling and on-sale of the recycled products, and
- > Processing residual waste to recover resources: the Project will improve recycled C&I and C&D wastes and improve recovery rates from 51% to 80%.

3.4 Reducing Waste: Implementation Strategy 2011-2015

The *Reducing Waste: Implementation Strategy 2011-2015* (DECCW, 2011) sets out focus areas to achieve the NSW Government's waste targets. The five areas of focus are:

- > Making it easier for households to separate and recover waste:
- > Making it easier for businesses to separate and recover waste;
- > Reducing or removing problem wastes to improve resource recovery and produce environmentally safe recyclable materials;
- > Facilitating investment in waste infrastructure; and
- > Reducing litter and combating illegal dumping.

The proposed waste recycling facility aims to produce environmentally safe recycled materials through its processes, and remove the likelihood of C&D and C&I waste being sent to landfill.

3.5 Justification for the Project

Sydney is an iconic global city which is consistently growing. By 2031, Sydney's economic output will almost double to \$565 billion a year and there will be 689,000 new jobs. In the next 20 years, Sydney's population will grow by 1.6 million people, with 900,000 of this population growth occurring in Western Sydney (DPE, 2014). This will lead to significant redevelopment in order to provide housing for this population growth and hence will increase the need for recycling facilities such as the one proposed.

The NSW Government (*A Plan for Growing Sydney*, DP&E, 2014) aims to transform the productivity of Western Sydney through growth and investment. To achieve this, new strategic employment corridors along transport infrastructure investments that will service Badgerys Creek Airport will be developed. Economic growth will be directed to a number of enterprise corridors including the Bankstown to Liverpool Enterprise Corridor.

To accommodate the expected increase in population and economic growth in Western Sydney (including construction of Badgerys Creek Airport) there will be a requirement for new infrastructure and revitalisation of existing infrastructure. As a result there will be an increase in C&D waste material and a greater need for recycling facilities. C&I waste volumes are also likely to increase as this growth will result in more offices, retail outlets, restaurants, factories and institutions in the area.

The proposed facility would help to meet the waste requirements of a growing Western Sydney, providing a centrally located recycling facility in an appropriately industrial zoned area with good environmental controls. The facility would help business' comply with all government waste strategies and help the NSW Government meet its recycling targets.

3.6 Recycling of C&D and C&I Waste

Construction and demolition (C&D) waste refers to waste produced by demolition and building activities, including road and rail construction, and maintenance and excavation of land associated with construction activities. Commercial and industrial (C&I) waste is generated from commercial and industrial enterprises and includes wastes such as paper/cardboards, plastics, metals and soils.

C&D and C&I activities are two of the largest producers of waste in Australia. The Australian Bureau of Statistics (ABS) reveals that of the 43.8 million tonnes of solid waste generated in Australia in 2006-2007, C&D waste made up 38% of this, and C&I waste made up 33%. During 2006-2007, nearly half (48%) of all waste was disposed of to landfill. Approximately 44% of C&I waste and 43% of C&D waste went into landfill across that period.

The recycling of waste materials reduces the volume of waste which is disposed of in landfills. Landfill has been the customary method for disposal of C&D and C&I waste, but for environmental reasons, and the lack of additional lands for landfill usage, recycling is imperative so that materials may be reused instead of contributing to landfill waste.

The Bankstown Draft Demolition and Construction Policy outlines the need for the recycling and reuse of materials (Clause 2.16), whereby "demolition procedures must maximise the reuse and recycling of demolished materials in order to reduce the environmental impacts of waste disposal". The proposed facility would assist in reducing the environmental impacts of waste disposal as it encourages the recycling and reuse of materials. There are a number of nearby waste recycling facilities (as outlined below in Section 3.8), however the introduction of a facility with the capacity of 250,000 tonnes would assist in ensuring that the amount of C&D and C&I waste in the area can continue to be recycled and reused in an environmentally sustainable manner.

C&I waste is not reaching its NSW State Government recycling targets and hence an additional facility can only be beneficial.

3.7 Bankstown Development Control Plan 2015

Bankstown's Development Control Plan (DCP) Section 5 – Site Waste Minimisation and Management outlines objectives and controls for waste minimisation during demolition of buildings or structures (5A), and construction of buildings and structures (5B).

The objectives of Section 5A – Demolition of buildings or structures, are:

- > Optimise adaptive reuse opportunities of existing building/structures;
- > Maximise reuse and recycling of materials;
- > Minimise waste generation;
- > Ensure appropriate storage and collection of waste;
- > Minimise the environmental impacts associated with waste management;
- > Avoid illegal dumping; and
- > Promote improved project management.

The objectives of Section 5B – Construction of buildings or structures, are:

- > Maximise reuse and recycling of materials;
- > Minimise waste generation;
- > Ensure appropriate collection and storage of waste;
- > Minimise the environmental impacts associated with waste management;
- > Avoid illegal dumping;
- > Promote improved project management; and
- > Optimise adaptive reuse opportunities of existing building/structures.

The proposed facility assists in meeting the objectives of the Bankstown DCP, as it is maximising reuse and recycling of materials, whilst minimising waste generation and environmental impacts associated with waste.

3.8 Proximity to other Waste Disposal Facilities

The nearest recycling facility to the Revesby facility is approximately 9 km to the north-east, being Suez Environment's Chullora Resource Recovery Park, located at 70 Anzac Street, Chullora. However, the facility at Chullora does not accept C&D materials in any significant volumes.

Smaller recycling facilities that accept C&D and/or C&I waste, as outlined by 'Recycling Near You' (<http://recyclingnearyou.com.au/>) website, include:

- > Gow Street Recycling, Padstow – 3.6km from the site;
- > Benedict Recycling, Chipping Norton – 5.7km from the site;
- > JJ Richards and Sons, Chipping Norton – 5.9km from the site;
- > WasteOp, Chester Hill – 6km from the site (currently not receiving waste); and
- > Get Fast Waste Bins, Mortdale – 8.6km away from the site.

The above smaller recycling facilities do not accept any significant volumes of C&I waste, and the proposed expanded Waste Recycling Facility would cater for this waste stream in order to recover recyclable resources from it.

3.9 Benefits of Recycling and Waste Recovery

Existing landfills are filling up, and available land resources allocated to landfill are lessening. Landfill can have negative effects on the environment such as the production of greenhouse gases, and generation of leachate. Recycling and waste recovery has a range of environmental and economic benefits in this regard. Primarily, it reduces and minimises the volume of waste which is sent to landfill. In addition, it reduces the reliance on raw materials production, offering an economic benefit through the reuse of materials (Veolia 2014). Building material wastes account for approximately 40% of the solid waste generated in Australia, and as such it is imperative that this waste stream is dealt with in the most environmentally sustainable way.

According to the ABS figures released in April 2016 (Australian Environmental-Economic Accounts, ABS 2016), while the economy grew by 71% between 1996/97 and 2013/14, waste increased by 163%. Rapid innovation, decreasing product lifespans and declining prices of both electronics and raw materials have led to more and more items being discarded. As awareness grows that our current consumption rates and waste are unsustainable, we need to move towards a zero waste approach and think of waste as a resource. The generation of waste is a burden for both businesses and the environment. Thus reducing waste and recovering valuable materials is a growing focus for NSW. Moving towards a zero waste economy, which encompasses good design, resource conservation and closed material loops, will help reduce the growth of waste to landfill.

3.10 Alternatives Considered

The three alternative scenarios considered for the project are: Do Nothing; Establishment of a New Recycling Facility; or Expansion of Existing Recycling Facility. Each alternative scenario has been considered below.

Do Nothing

Currently, the facility at Revesby uses a manual waste sorting process. After waste has been delivered by vehicles accessing the site, a material handler and manual labour is utilised to sort the waste. While achieving just over 50% recovery rates, the process is inefficient as the smaller recyclables are missed during the process. Due to its intensity of manual handling, it also exposes employees to undue hazards leading to potential for manual handling injuries. Overall this scenario is not an ideal one considering the benefits that could be gained from the proposed installation of an automated waste processing line and the associated additional reductions in waste going to landfill.

If the proposal did not proceed, the site would be limited to a processing capacity of 30,000 t/pa of C&D material, as per current approvals from Bankstown Council. Under this scenario, the site would not be able to cater for the existing and future waste recycling needs of Greater Sydney and also would not diversify the waste streams from currently C&D waste to also include for C&I waste. This would lead to more recyclable waste materials being diverted to landfill, thereby wasting scarce resources that could otherwise be recycled or re-used, and adversely impacting upon the environment.

Establishment of a New Recycling Facility Site

Establishment of a new recycling facility at alternative locations were considered. New facilities are constrained by available property sizes, land and site establishment costs, existing and surrounding land uses, land use zoning, road access, proximity to motorways and markets, and client history at the current site location. Alternative sites were considered however, they were either not financially viable due to land, transport and capital costs, limited growth due to proximity to residential receivers, or were not appropriately located with proximity to motorways and markets.

Expansion and Automation of Existing Recycling Facility Site

Various waste sorting plant processing lines and equipment options and alternatives were analysed to determine the best equipment to address the ongoing needs of Enviro Recycling. The automated processing line proposed could allow Enviro Recycling to meet business needs to process waste at current rates, as well as managing future expected increases in volumes of waste received.

The installation of a viable sorting plant line is anticipated to increase the recovery rates from 51% which is currently being achieved to above 80%. Based on a throughput of 250,000 tonnes of waste, the proposed automated sorting line would result in over 200,000 tonnes being diverted from land fill, saving over \$50 million in land fill costs, as well as saving over 33,250 tonnes of carbon emissions from landfill alone. Risk of worksite injuries to workers is also anticipated to be reduced, due to greater automation of the waste separation process.

The proposed expansion of the existing recycling facility operations was selected as the preferred option for the proposed expansion of the recycling facility for the following reasons:

- > the availability of additional land adjoining the existing operations;
- > consideration of the potential financial, environmental, social and economic impacts of the expanded waste recycling facility compared to other alternatives;
- > road access to motorways, surrounding areas and growth centres;
- > cost effective means by which waste material from C&D and C&I projects can be removed and recycled;
- > consistent with the LEP land zoning objectives at the site, and
- > The site comprises adjoining land and is already operating as recycling facilities. Much of the required infrastructure is already in place and the site has development consent from Bankstown City Council for recycling of C&D materials up to 35,000 t/pa.

The site is also located at least 200 m away from any sensitive residential receivers and separated by high level noise bunds along the M5 motorway which allows adequate buffers to mitigate against potential amenity impacts. As it is located within an existing industrial area with adequate distance to sensitive residential receivers, the proposed expansion of the existing facility represents the most efficient option.

4 Legislation

This chapter discusses the statutory environmental and planning requirements for the project under commonwealth, state and local legislation. Consideration of the project in the context of Ecologically Sustainable Development is also provided.

4.1 Commonwealth Legislation

4.1.1 Environmental Protection and Biodiversity Conservation Act 1999

The *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act) provides a legal framework to protect and manage nationally and internationally important flora, fauna, ecological communities and heritage places defined in the Act as matters of national environmental significance (NES matters). The NES matters include:

- > World heritage sites;
- > National heritage places;
- > Wetlands of international importance (Ramsar wetlands);
- > Nationally threatened species and ecological communities;
- > Migratory species;
- > Commonwealth marine areas;
- > The Great Barrier Reef Marine Park; and
- > Nuclear actions.

The EPBC Act also covers actions that are considered to have a significant impact on the environment for Commonwealth land or where works are undertaken by a Commonwealth agency. All actions that are considered likely to have a significant impact on a matter of NES require referral to the Minister for Sustainability, Environment, Water, Population and Communities. Approval from the Commonwealth is required where the proposed works are deemed to be a 'controlled action' by the Minister, under the EPBC Act. Where this is the case assessment and approval under the EPBC Act must be obtained prior to the commencement of works.

The requirement for any Commonwealth approval of the proposed activity is determined via a referral process to the Commonwealth Department of the Environment (DoE). Should the activity be determined to be likely to result in a significant impact upon the environment, the activity would then be a 'controlled action' and approval of the Minister would also be required. The necessity for a Commonwealth referral is determined by whether the proposed activity relates to any matters of NES, and whether that activity is likely to have a significant impact upon NES matters.

A search of the EPBC Protected Matters Search Tool on 18 May 2016 (1 km buffer) (see **Appendix J**) identified the following with regard to NES matters:

- > World Heritage Properties: None
- > National Heritage Places: None
- > Wetlands of International Importance: None
- > Great Barrier Reef Marine Park: None
- > Commonwealth Marine Area: None
- > Listed Threatened Ecological Communities: 4
- > Listed Threatened Species: 28
- > Listed Migratory Species: 13

Additionally the NES Protected Matters Search Report (see **Appendix J**) notes that there are no *Commonwealth Heritage Places*, no *Critical Habitats*, no *Agreements* and no *Wetlands* at the site.

The site is comprised of industrial lands that have been highly modified over time and present limited opportunity to provide any habitat. It is considered that there is unlikely to be any adverse impact upon any EPBC Act Protected Matters, as a result of the proposed expansion of the existing waste recycling facility. Based on the environmental impact assessments carried out as part of this EIS, it is considered that no Commonwealth referral or approval is required under the EPBC Act. The EPBC Act Protected Matters Report is appended to this EIS.

4.2 NSW Legislation

4.2.1 Environmental Planning and Assessment Act 1979

The *Environmental Planning and Assessment Act 1979* (EP&A Act) sets out the laws under which planning in NSW takes place. The main parts of the EP&A Act that relate to the proposed development are Part 4 (Development Assessment).

Section 5 Objects of the EP&A Act state:

5 Objects

The objects of this Act are:

(a) to encourage:

- (i) the proper management, development and conservation of natural and artificial resources, including agricultural land, natural areas, forests, minerals, water, cities, towns and villages for the purpose of promoting the social and economic welfare of the community and a better environment,*
- (ii) the promotion and co-ordination of the orderly and economic use and development of land,*
- (iii) the protection, provision and co-ordination of communication and utility services,*
- (iv) the provision of land for public purposes,*
- (v) the provision and co-ordination of community services and facilities, and*
- (vi) the protection of the environment, including the protection and conservation of native animals and plants, including threatened species, populations and ecological communities, and their habitats, and*
- (vii) ecologically sustainable development, and*
- (viii) the provision and maintenance of affordable housing, and*

(b) to promote the sharing of the responsibility for environmental planning between the different levels of government in the State, and

(c) to provide increased opportunity for public involvement and participation in environmental planning and assessment.

Part 4 Development Assessment, Division 4.1 State Significant Development, Section 89C of the EP&A Act provides an approval pathway for State Significant Development (SSD). It applies only to development declared to be SSD by a State Environmental Planning Policy (SEPP) as per Section 89C of the EP&A Act.

The Minister for Planning is the consent authority for SSD applications. SSD applications are assessed by the Department of Planning and Environment (DP&E). In addition, if an SSD proposal is not supported by the relevant local council(s), or DP&E has received more than 25 public objections, the DP&E recommendation is referred to the independent Planning and Assessment Commission (PAC) for determination.

This EIS has been prepared in accordance with Part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

4.2.2 Environmental Planning and Assessment Regulation 2000

The *Environmental Planning and Assessment Regulation 2000* (EP&A Regulation) sets out how certain functions under the EP&A Act should be carried out, fees associated with development assessment and other procedures.

Clauses 6 and 7 of *Schedule 2 Environmental impact statements* of the EP&A Regulation, provides the form and content requirements that this EIS must meet and states:

6 Form of environmental impact statement

An environmental impact statement must contain the following information:

- (a) the name, address and professional qualifications of the person by whom the statement is prepared,*
- (b) the name and address of the responsible person,*
- (c) the address of the land:*
 - (i) in respect of which the development application is to be made, or*
 - (ii) on which the activity or infrastructure to which the statement relates is to be carried out,*
- (d) a description of the development, activity or infrastructure to which the statement relates,*
- (e) an assessment by the person by whom the statement is prepared of the environmental impact of the development, activity or infrastructure to which the statement relates, dealing with the matters referred to in this Schedule,*
- (f) a declaration by the person by whom the statement is prepared to the effect that:*
 - (i) the statement has been prepared in accordance with this Schedule, and*
 - (ii) the statement contains all available information that is relevant to the environmental assessment of the development, activity or infrastructure to which the statement relates, and*
 - (iii) that the information contained in the statement is neither false nor misleading.*

7 Content of environmental impact statement

(1) An environmental impact statement must also include each of the following:

- (a) a summary of the environmental impact statement,*
- (b) a statement of the objectives of the development, activity or infrastructure,*
- (c) an analysis of any feasible alternatives to the carrying out of the development, activity or infrastructure, having regard to its objectives, including the consequences of not carrying out the development, activity or infrastructure,*
- (d) an analysis of the development, activity or infrastructure, including:*
 - (i) a full description of the development, activity or infrastructure, and*
 - (ii) a general description of the environment likely to be affected by the development, activity or infrastructure, together with a detailed description of those aspects of the environment that are likely to be significantly affected, and*
 - (iii) the likely impact on the environment of the development, activity or infrastructure, and*
 - (iv) a full description of the measures proposed to mitigate any adverse effects of the development, activity or infrastructure on the environment, and*
 - (v) a list of any approvals that must be obtained under any other Act or law before the development, activity or infrastructure may lawfully be carried out,*
- (e) a compilation (in a single section of the environmental impact statement) of the measures referred to in item (d) (iv),*

(f) the reasons justifying the carrying out of the development, activity or infrastructure in the manner proposed, having regard to biophysical, economic and social considerations, including the principles of ecologically sustainable development set out in subclause (4).

Note. A cost benefit analysis may be submitted or referred to in the reasons justifying the carrying out of the development, activity or infrastructure.

(2) Subclause (1) is subject to the environmental assessment requirements that relate to the environmental impact statement.

(3) Subclause (1) does not apply if:

(a) the Secretary has waived (under clause 3 (9)) the need for an application for environmental assessment requirements in relation to an environmental impact statement in respect of State significant development, and

(b) the conditions of that waiver specify that the environmental impact statement must instead comply with requirements set out or referred to in those conditions.

(4) The principles of ecologically sustainable development are as follows:

(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) polluter pays, 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 based 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,

(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 problems.

This EIS complies with clauses 6 and 7 of *Schedule 2 Environmental impact statements* of the EP&A Regulation.

4.2.3 NSW Environmental Planning Instruments

4.2.3.1 State Environmental Planning Policy (State and Regional Development) 2011

Some types of development are deemed to have State significance due to the size, economic value or potential impacts that a development may have. Development that is State significant development (SSD) is identified in *State Environmental Planning Policy (State and Regional Development) 2011* (SRD SEPP). A development proposal for any of the identified types is SSD if it:

- > is over a certain size;

- > is located in a sensitive environmental area; or
- > will exceed a specific capital investment value.

Schedule 1 of SRD SEPP identifies the particular categories of development that are SSD and relevantly provides:

23 Waste and resource management facilities

(1) Development for the purpose of regional putrescible landfills or an extension to a regional putrescible landfill that:

- (a) has a capacity to receive more than 75,000 tonnes per year of putrescible waste, or*
- (b) has a capacity to receive more than 650,000 tonnes of putrescible waste over the life of the site, or*
- (c) is located in an environmentally sensitive area of State significance.*

(2) Development for the purpose of waste or resource transfer stations in metropolitan areas of the Sydney region that handle more than 100,000 tonnes per year of waste.

(3) Development for the purpose of resource recovery or recycling facilities that handle more than 100,000 tonnes per year of waste.

(4) Development for the purpose of waste incineration that handles more than 1,000 tonnes per year of waste.

(5) Development for the purpose of hazardous waste facilities that transfer, store or dispose of solid or liquid waste classified in the Australian Dangerous Goods Code or medical, cytotoxic or quarantine waste that handles more than 1,000 tonnes per year of waste.

(6) Development for the purpose of any other liquid waste depot that treats, stores or disposes of industrial liquid waste and:

- (a) handles more than 10,000 tonnes per year of liquid food or grease trap waste, or*
- (b) handles more than 1,000 tonnes per year of other aqueous or non-aqueous liquid industrial waste.*

The proposed expanded waste recycling facility seeks consent to process up to 250,000 tonnes of waste per annum and is therefore considered SSD as it is *development for the purpose of resource recovery or recycling facilities that handle more than 100,000 tonnes per year of waste.*

The Minister for Planning is the consent authority for SSD applications. SSD applications are assessed by the Department of Planning and Environment. In some cases, the Minister may delegate the decision making function to Department staff. In addition, if a SSD proposal is not supported by the relevant Council, or the Department has received more than 25 public objections, the Department's recommendation is referred to the independent Planning and Assessment Commission (PAC) for determination.

4.2.3.2 State Environmental Planning Policy (Infrastructure) 2007

State Environmental Planning Policy (Infrastructure) 2007 (Infrastructure SEPP) has specific planning provisions and development controls for particular types of infrastructure works or facilities and relevantly includes provisions for '*waste or resource management activities*'. The Infrastructure SEPP outlines the planning rules for such works and facilities, including; where such development can be undertaken; what type of development can be approved by the Minister for Planning under Part 4 of the EP&A Act; and the relationship of other statutory planning instruments to the Infrastructure SEPP.

The Infrastructure SEPP aims to facilitate the effective delivery of infrastructure across NSW and overrides most other environmental planning instruments under the EP&A Act to permit the development of infrastructure on suitably zoned land.

Division 23 Waste or resource management facilities, (clauses 120 – 123) of the Infrastructure SEPP relates to the development of waste or resource development facilities.

Clause 120 Definitions states:

120 Definitions

In this Division:

prescribed zone means any of the following land use zones or a land use zone that is equivalent to any of those zones:

- (a) *RU1 Primary Production,*
- (b) *RU2 Rural Landscape,*
- (c) *IN1 General Industrial,*
- (d) *IN3 Heavy Industrial,*
- (e) *SP1 Special Activities,*
- (f) *SP2 Infrastructure.*

resource recovery facility means a facility for the recovery of resources from waste, including such works or activities as separating and sorting, processing or treating the waste, composting, temporary storage, transfer or sale of recovered resources, energy generation from waste gases and water treatment, but not including re-manufacture of material or goods or disposal of the material by landfill or incineration.

waste disposal facility means a facility for the disposal of waste by landfill, incineration or other means, including associated works or activities such as recycling, resource recovery and other resource management activities, energy generation from waste gases, leachate management, odour control and the winning of extractive material to generate a void for disposal of waste or to cover waste after its disposal.

waste or resource management facility means a waste or resource transfer station, a resource recovery facility or a waste disposal facility.

waste or resource transfer station means a facility for the collection and transfer of waste material or resources, including the receipt, sorting, compacting, temporary storage and distribution of waste or resources and the loading or unloading of waste or resources onto or from road or rail transport.

The site is zoned IN1 General Industrial under the provisions of Bankstown Local Environmental Plan 2015 and is therefore in a 'prescribed zone'. The proposed development is considered to meet the requirements to be defined as a waste or resource management facility.

Clause 121 Development permitted with consent states:

121 Development permitted with consent

(1) *Development for the purpose of waste or resource management facilities, other than development referred to in subclause (2), may be carried out by any person with consent on land in a prescribed zone.*

(2) *Development for the purposes of a waste or resource transfer station may be carried out by any person with consent on:*

- (a) *land in a prescribed zone, or*
- (b) *land in any of the following land use zones or equivalent land use zones:*
 - (i) *B5 Business Development,*
 - (ii) *B6 Enterprise Corridor,*
 - (iii) *IN2 Light Industrial,*
 - (iv) *IN4 Working Waterfront, or*

(c) *land on which development for any of the following purposes is permitted with consent under any environmental planning instrument:*

- (i) *industry,*
- (ii) *business premises or retail premises,*
- (iii) *freight transport facilities.*

(3) Development for the purpose of the recycling of construction and demolition material, or the disposal of virgin excavated natural material (as defined by the Protection of the Environment Operations Act 1997) or clean fill, may be carried out by any person with consent on land on which development for the purpose of industries, extractive industries or mining may be carried out with consent under any environmental planning instrument.

Thus the proposed development of a waste or resource management facility may be carried out by any person with consent on land in a prescribed zone. The IN1 General Industrial zone (as applicable for the proposed development) is a prescribed zone under the Infrastructure SEPP and as such the proposed development is permissible with development consent, under Part 4 of the EP&A Act.

4.2.3.3 State Environmental Planning Policy No. 33 – Hazardous and Offensive Development

State Environmental Planning Policy No. 33 – Hazardous and Offensive Development (SEPP 33) provides a systematic approach to planning and assessing proposals for potentially hazardous and offensive development.

Through SEPP 33, the permissibility of a proposal to which the policy applies is linked to its safety and pollution control performance. While SEPP 33 is an enabling instrument (that is, it allows for the development of industry) it also aims to ensure that the merits of proposals are properly assessed (in relation to off-site risk and offence) before being determined. By providing for merit-based assessment, the policy overcomes the limitations of previous definitions — in which a use was considered hazardous or offensive on the basis of a particular type of industry, in isolation. The merit-based approach ensures that locational and design considerations are an integral part of the assessment process. SEPP 33 ensures that only those proposals which are suitably located, and able to demonstrate that they can be built and operated with an adequate level of safety and pollution control, can proceed.

SEPP 33 applies to any proposals which fall under the policy's definition of 'potentially hazardous industry' or 'potentially offensive industry'. For activities to be defined as potentially hazardous or potentially offensive, the activities would need to involve handling, storing or processing a range of substances which in the absence of locational, technical or operational controls are considered likely to create an off-site risk or offence to people, property or the environment.

3 Definitions of “potentially hazardous industry” and “potentially offensive industry”

In this Policy:

potentially hazardous industry means a development for the purposes of any industry which, if the development were to operate without employing any measures (including, for example, isolation from existing or likely future development on other land) to reduce or minimise its impact in the locality or on the existing or likely future development on other land, would pose a significant risk in relation to the locality:

- (a) *to human health, life or property, or*
- (b) *to the biophysical environment,*

and includes a hazardous industry and a hazardous storage establishment.

potentially offensive industry means a development for the purposes of an industry which, if the development were to operate without employing any measures (including, for example, isolation from existing or likely future development on other land) to reduce or minimise its impact in the locality or on the existing or likely future development on other land, would emit a polluting discharge (including for example, noise) in a manner which would have a significant adverse impact in the locality or on the

existing or likely future development on other land, and includes an offensive industry and an offensive storage establishment.

For development proposals classified as 'potentially hazardous industry' the policy establishes a comprehensive test by way of a preliminary hazard analysis (PHA) to determine the risk to people, property and the environment at the proposed location and in the presence of controls. Should such risk exceed the criteria of acceptability, the development is classified as 'hazardous industry' and may not be permissible within most industrial zonings in NSW.

The site does not accept hazardous or offensive waste materials and would not pose a risk of any significant impact upon the locality or the environment in this regard. With the implementation of mitigation measures with regard to noise, dust, traffic the proposal would not be regarded as a hazardous industry nor an offensive industry. Chapter 5 (Assessment of Environmental Impacts) of this EIS details the Environmental Risk Assessment and finds that the management of any potentially hazardous or potentially offensive materials is acceptable.

Furthermore, current site operations operate under Environment Protection Licence No. 20607 granted by the Environment Protection Authority on 13 August 2015.

4.2.3.4 State Environmental Planning Policy No. 44 – Koala Habitat Protection

State Environmental Planning Policy No. 44 – Koala Habitat Protection (SEPP 44) aims to encourage the proper conservation and management of areas of natural vegetation that provide habitat for koalas to ensure a permanent free-living population over their present range and reverse the current trend of koala population decline.

SEPP 44 applies to each of the local government areas listed in Schedule 1. Bankstown LGA is not listed under Schedule 1 to SEPP 44 as a nominated LGA and therefore no further assessment is required.

4.2.3.5 State Environmental Planning Policy No. 55 – Remediation of Land

The *State Environmental Planning Policy No 55 – Remediation of Land* (SEPP 55) aims to promote the remediation of contaminated land for the purpose of reducing the risk of harm to human health or any other aspect of the environment by:

- > Specifying when consent is required, and when it is not required, for remediation work;
- > Specifying certain considerations that are relevant in rezoning land and in determining DAs in general and DAs for consent to carry out remediation work in particular; and
- > Requiring that remediation work meets certain standards and notification requirements.

Clause 7 requires consideration is given to whether the land to which a DA relates is contaminated. Specifically it states that:

(1) *A consent authority must not consent to the carrying out of any development on land unless:*

- (a) *it has considered whether the land is contaminated, and*
- (b) *if the land is contaminated, it is satisfied that the land is suitable in its contaminated state (or will be suitable, after remediation) for the purpose for which the development is proposed to be carried out, and*
- (c) *if the land requires remediation to be made suitable for the purpose for which the development is proposed to be carried out, it is satisfied that the land will be remediated before the land is used for that purpose.*

(2) *Before determining an application for consent to carry out development that would involve a change of use on any of the land specified in subclause (4), the consent authority must consider a report specifying the findings of a preliminary investigation of the land concerned carried out in accordance with the contaminated land planning guidelines.*

No change to the Industrial land use is being proposed. The site is currently used for materials recycling and predominantly sealed with asphalt and concrete. No bulk earthworks are proposed and therefore the requirements of SEPP 55 are not applicable. Local Environmental Planning Instruments.

4.2.4 Other NSW Legislation and Policy

4.2.4.1 Contaminated Land Management Act 1997

The general objective of the *Contaminated Land Management Act 1997* is to establish a process for investigating and (where appropriate) remediating land that the EPA considers to be significantly contaminated.

A desktop contamination assessment was undertaken for the Proposal (refer Section 5.5). On the basis of historical land uses and existing state of the site, it is considered unlikely that contamination is present on the site at concentrations sufficient to constrain the ongoing use of the site for commercial / industrial purposes. Operations at the site are considered unlikely to pose a meaningful risk to environmental receptors on the site.

4.2.4.2 Heritage Act 1977

The *Heritage Act 1977* encourages the conservation of the State's heritage through the protection of non-Aboriginal historic artefacts and/or sites (older than 50 years).

According to the Act a person cannot impact a heritage item listed on the Stage Heritage Register (SHR) or protected by an interim heritage order unless approval has been obtained under Part 4 of the Act. Works also cannot disturb / excavate any land known or likely to contain historic relics unless the disturbance / excavation is carried out in accordance with an excavation permit issued under Section 139 of the Act.

As the proposed works are not expected to disturb / excavate any areas of known or likely non-Aboriginal heritage significance, it is anticipated that no permits would be required under the *Heritage Act 1977*. Refer to **Appendix J** (EPBC Act Search) and **Appendix K** (email from OEH to DPE in response to SEARs dated 3 November 2015) for further information.

4.2.4.3 Native Vegetation Act 2003

The objectives of the *Native Vegetation Act 2003* (NV Act) are to provide for, encourage and promote the management of native vegetation on a regional basis in the social, economic and environmental interests of the State, in accordance with the principles of Ecologically Sustainable Development (ESD).

Under Section 12 of the NV Act, native vegetation must not be cleared except in accordance with development consent granted or a property vegetation plan. Under section 89J of the EP&A Act, an authorisation to clear native vegetation under Section 12 of the NV Act is not required for State significant development.

No native vegetation would be cleared as part of the proposed development. Any vegetation removal and replacement landscaping has been carried out as a local development application to Bankstown Council (DA 332/2016 approved 31 May 2016).

4.2.4.4 Noxious Weeds Act 1993

The objective of the *Noxious Weeds Act 1993* is to reduce the negative impact of weeds on the economy, community and environment of NSW by establishing control mechanisms to prevent, eliminate and/or restrict the spread and/or establishment of significant weeds in NSW and effectively manage widespread significant weeds in NSW.

Although no permits are required under the Act for the proposed works, Council is responsible for the control of declared noxious weeds within the Council controlled areas, which includes any declared noxious weeds that may be encountered by works at the site.

As the works are anticipated to be confined to an area mostly devoid of vegetation, it is considered highly unlikely that noxious weeds would be encountered.

4.2.4.5 Protection of the Environment Operations Act 1997

The *Protection of the Environment Operations Act 1997* (POEO Act) aims to protect, restore and enhance the quality of the environment in NSW, to reduce risk to human health and to rationalise, simplify and strengthen the regulatory framework for environmental protection. Chapter 3 of the POEO Act requires that an Environment Protection Licence (EPL) is obtained where activities associated with the proposed works are determined to be a scheduled activity in accordance with Schedule 1 of the Act.

Clause 34 (Resource Recovery) of Schedule 1 of the POEO Act relates to the recovery of general waste, meaning the receiving of waste (other than hazardous waste, restricted solid waste, liquid waste or special waste) from off site and its processing, otherwise than for the recovery of energy.

Recovery of general waste, if the premises are in the regulated area, is declared to be a scheduled activity if:

- > Involves having on site at any time more than 1,000 tonnes or 1,000 cubic metres of waste, or
- > Involves processing more than 6,000 tonnes of waste per year.

Enviro Recycling would be required to obtain an EPL, as the facility is a scheduled activity as defined in Schedule 1 of the POEO Act.

The existing facility holds a current EPL (Licence Number 20607) for resource recovery (recovery of general waste) and waste storage. The existing EPL limits the tonnage of building and demolition waste to 30,000 tonnes on site at any one time (see p. 8 of EPL). A new EPL would be required for the proposed development to allow for an increase in waste volumes and waste streams to be stored and processed on site.

4.2.4.6 Rural Fires Act 1997

The *Rural Fires Act 1997* provides for the prevention, mitigation and suppression of bush and other fires and the coordination of bush firefighting and bush fire prevention activities throughout NSW. The Act also seeks to protect people, property and the environment from injuries and damages arising from fires.

Under Section 100B of the *Rural Fires Act 1997* authorisation is required from an authority as defined in Section 100E of the *Rural Fires Act 1997*, for:

- > A subdivision of bush fire prone land that could lawfully be used for residential or rural residential purposes; or
- > Development of bush fire prone land for a special fire protection purpose.

As the proposed development is neither of the above the Proposal does not require referral to the NSW Rural Fire Service under section 100B of the *Rural Fires Act 1997*.

4.2.4.7 Threatened Species Conservation Act 1995

The *Threatened Species Conservation Act 1995* (TSC Act) protects threatened species, communities and critical habitat in NSW. The objectives of the TSC Act are to:

- > Conserve biological diversity and promote ESD;
- > Prevent the extinction and promote the recovery of threatened species, populations and ecological communities;
- > Protect the critical habitat of those threatened species, populations and ecological communities that are endangered;
- > Eliminate or manage certain processes that threaten the survival or evolutionary development of threatened species, populations and ecological communities;
- > Ensure that the impact of any action affecting threatened species, populations and ecological communities is properly assessed; and
- > Encourage the conservation of threatened species, populations and ecological communities by the adoption of measures involving co-operative management.

The proposed development would be located on an industrial area of hardstand with minimal vegetation. It is considered that the proposed expansion of an existing waste recycling facility would not adversely impact threatened species, communities and critical habitat in NSW.

4.2.4.8 Fisheries Management Act 1994

The objective of the *Fisheries Management Act 1994* is to conserve, develop and share the fishery resources of NSW for the benefit of present and future generations. Permits are required for works which may impact

aquatic habitat under Section 201 (carrying out of dredging and reclamation works), Section 205 (works that harm marine vegetation) and Section 219 (works that block the passage of fish).

The proposed works would not involve any of the above-listed activities occurring within the natural watercourses in the vicinity of the works. No permits under the Act would be required for the works.

4.2.4.9 Roads Act 1993

Section 138 of the *Roads Act 1993* prohibits a number of activities, such as conducting work in, on or over a public road, without gaining consent from the appropriate roads authority.

The proposed development would not require undertaking works on a public road thus approval or permit from the NSW Roads and Maritime Services is not required.

4.2.4.10 Water Management Act 2000

The *Water Management Act 2000* (WM Act) makes provisions to provide for the sustainable and integrated management of the water sources of the State for the benefit of both present and future generations. The WM Act aims to:

- > Apply the principles of ESD;
- > Protect, enhance and restore water sources, their associated ecosystems, ecological processes and biological diversity and their water quality;
- > Recognise and foster the significant social and economic benefits to the State that result from the sustainable and efficient use of water, including benefits to the environment, urban communities, agriculture, fisheries, industry, recreation, culture and heritage, and to the Aboriginal people in relation to their spiritual, social, customary and economic use of land and water;
- > Recognise the role of the community, as a partner with government, in resolving issues relating to the management of water sources;
- > Provide for the orderly, efficient and equitable sharing of water from water sources;
- > Integrate the management of water sources with the management of other aspects of the environment, including the land, its soil, its native vegetation and its native fauna;
- > Encourage the sharing of responsibility for the sustainable and efficient use of water between the Government and water users; and
- > Encourage best practice in the management and use of water.

A Controlled Activity Approval (CAA) is required from the NSW Office of Water (NOW) under Section 91 of the WM Act for any controlled activities being carried out on waterfront land; being land up to 40 m inland from the top of bank. Controlled activities include removal and deposition of material (earthworks) on waterfront land. The proposed works are not located on waterfront land.

Licences may be required to extract water from either a surface or groundwater source. Based on the proposed operations at the site there would be no licencing requirements from NOW.

4.2.4.11 Work Health and Safety Act 2011

The main objective of the *Work Health and Safety Act 2011* is to provide for a balanced and nationally consistent framework to secure the health and safety of workers and workplaces. The construction and operation of the proposed facility would be in accordance with the requirements of the Act and its Regulations.

4.2.4.12 Public Health Act 2010

The objects of the *Public Health Act 2010* are as follows:

- > To promote, protect and improve public health;
- > To control the risks to public health;
- > To promote the control of infectious diseases;

- > To prevent the spread of infectious diseases; and
- > To recognise the role of local government in protecting public health.

The construction and operation of the proposed recycling facility would be in accordance with the requirements of the Act and its Regulations.

4.2.5 Local Environmental Planning Controls

4.2.5.1 Bankstown Local Environmental Plan 2015

Pursuant to the *Bankstown Local Environmental Plan 2015* (Bankstown LEP) the site is zoned IN1 General Industrial, as shown in Figure 4-1 below.

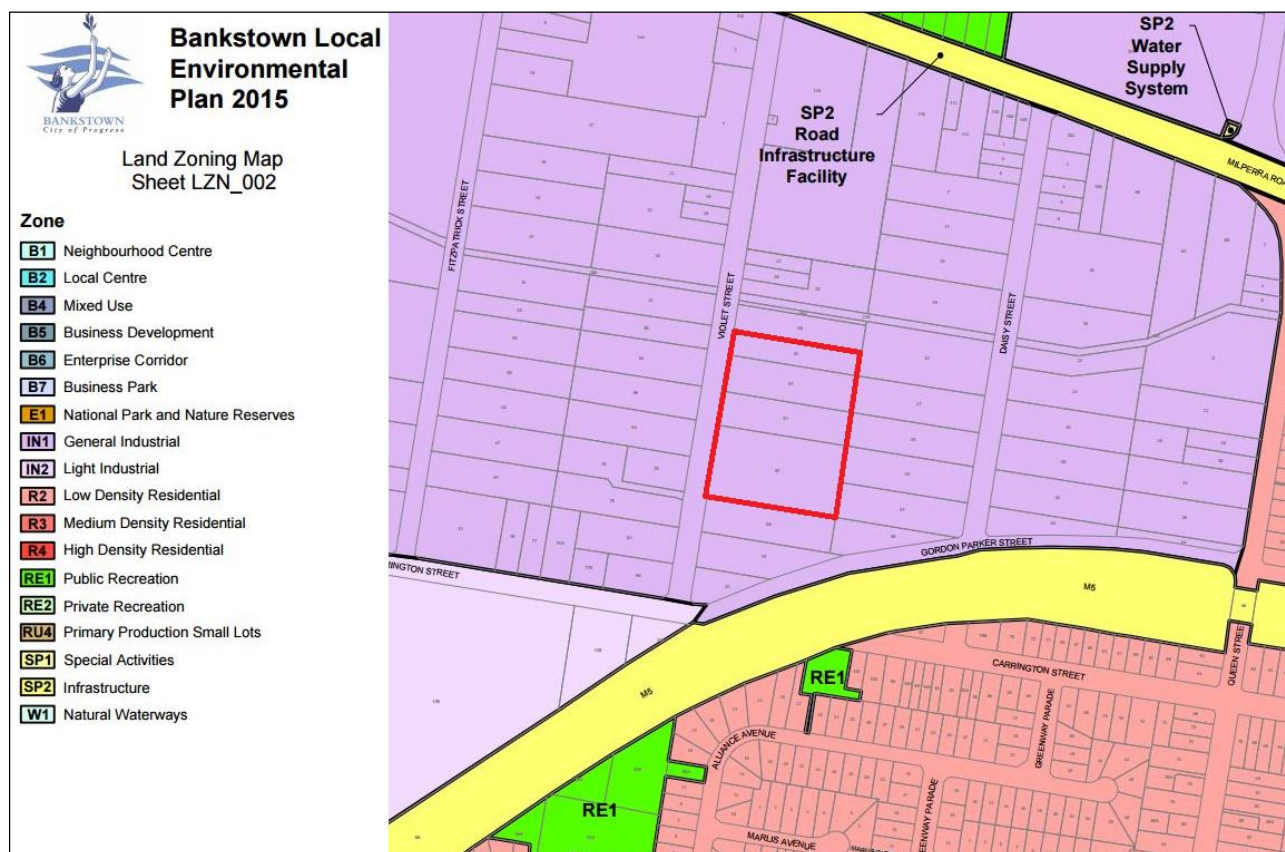


Figure 4-1 Bankstown City Council Land Zoning Map

Source: Bankstown LEP 2015

The objectives of the IN1 General Industrial zone are as follows:

- > To provide a wide range of industrial and warehouse land uses.
- > To encourage employment opportunities.
- > To minimise any adverse effect of industry on other land uses.
- > To support and protect industrial land for industrial uses.

The Land Use Table in the Bankstown LEP provides that any development not specified in item 2 or 4 is permissible with consent. It is on this basis the waste recycling facility is permitted with consent. Further, Clause 121(1) of the Infrastructure SEPP provides that a 'waste disposal facility' may be carried out by a person, with consent, in a prescribed zone. IN1 General Industrial is a prescribed zone and the provisions of the Infrastructure SEPP prevail over the Bankstown LEP, meaning that in this case the proposed development is permissible with consent.

Clause 6.1 of the Bankstown LEP relates to Acid Sulfate Soils (ASS). The objective of this clause is to ensure that development does not disturb, expose or drain acid sulfate soils and cause environmental damage.

According to the Bankstown LEP ASS map, see **Figure 4-2** below, the site is classified as Class 5 within 500 m of Class 4 land indicating possible ASS across the site. Development consent (including preparation of an ASS Management Plan in accordance with the Acid Sulfate Soils Manual) is required for the carrying out of works on Class 5 land for works below the ground surface or works by which the water table is likely to be lowered. Development consent is not required, under Clause 7.1 of the Bankstown LEP, to carry out any works if the works involve disturbance of less than 1 tonne of soil, and the works are not likely to lower the water table.

The volume of soils which would be disturbed during construction is considered to be minimal and associated with the construction of a new staff carpark. An ASS Management Plan should be developed for the site, if required, once construction methodologies are known.

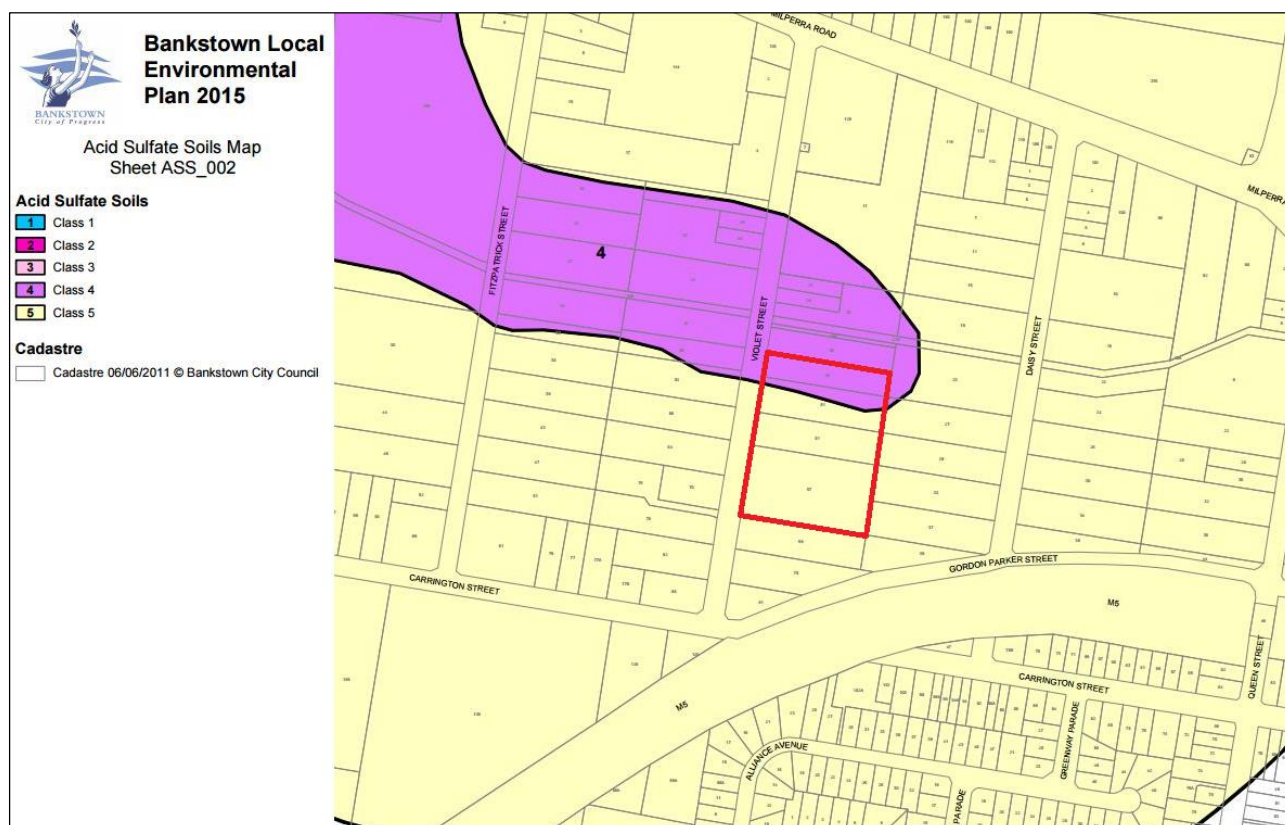


Figure 4-2 Bankstown City Council Acid Sulfate Soils Map

Source: Bankstown LEP 2015

4.2.5.2 Bankstown Development Control Plan 2015

The *Bankstown Development Control Plan 2015* (Bankstown DCP) applies to the proposal. The Bankstown DCP is divided into chapters, which relate to different aspects of the Council's development control framework.

The following chapters of the Bankstown DCP are applicable to the proposed works:

- > Part 3 – Industrial Precincts;
- > Part B12 – Flood Risk Management.

Part B3 of Bankstown DCP applies to both the IN1 General Industrial zone and to the IN2 Light Industrial zone and provides additional controls to enhance the function and appearance of industrial precincts.

As demonstrated in Table 4-1 and Table 4-2 below, the proposed development is considered to comply with the relevantly applicable provisions of the Bankstown DCP.

Table 4-1 Bankstown DCP 2015 – Part B3 – Industrial Precincts

Control	Comment	Compliance
Section 1 – Introduction		
Desired character objectives		
a) To have general industrial precincts in the City of Bankstown that accommodate a wide range of contemporary industries, warehouses and other compatible land uses within a generous landscape setting, and protect the industrial land for industrial uses.		
b) To have light industrial precincts in the City of Bankstown that accommodate a range of contemporary light industries and warehouses within a landscaped setting, and will not cause nuisance or adversely affect the surrounding amenity for example by way of noise or emissions.		
Section 2 – Building Envelopes		
Site Coverage		
2.1 – The sum of the site coverage on an allotment must not exceed:	N/A as there are no new buildings proposed.	
a) 70% of the site area if a single business is to occupy the allotment; or	A proposed new 20-space staff carpark will be in place of former office building.	
b) 60% of the site area if two or more businesses are to occupy the allotment.		
Section 3 – Building Design		
Safety and Security		
3.15 – Unless impractical, access to outdoor car parks must be closed to the public outside of business hours via a lockable gate.	Complies. A security gate to the car park is proposed.	
3.16 – Development must provide lighting to the external entry paths, common lobbies, driveways and car parks using vandal resistant, high mounted light fixtures.	Complies. Existing external lighting is appropriate and will be maintained.	
General		
3.18 – Council must take into consideration the following matters for development in the industrial zones:	Complies. A proposed new 20-space staff carpark will be provided in place of former office building, which will adequately cover staff parking requirements for the facility.	
a) whether the proposed development will provide adequate off-street parking, relative to the demand for parking likely to be generated;		
b) whether the site of the proposed development will be suitably landscaped, particularly between any buildings and the street alignment;	Complies. Existing landscaping between the buildings and the street will be retained and enhanced under separate DA to Local Council that involves 12 x replacement trees to street setback areas.	
c) whether the proposed development will contribute to the maintenance or improvement of the character and appearance of the locality;	Complies. The facility will maintain the character and appearance of the locality.	
d) whether access to the proposed development will be available by means other than a residential street but, if no other means of practical access is available, the consent authority must have regard to a written statement that:	Complies. Access is via a non-residential street.	
i. illustrates that no alternative access is available otherwise than by means of a residential street; and		
ii. demonstrates that consideration has been given to the effect of		

Control	Comment	Compliance
traffic generated from the site and the likely impact on surrounding residential areas; and iii. identifies appropriate traffic management schemes which would mitigate potential impacts of the traffic generated from the development on any residential environment;		
e) whether goods, plant, equipment and other material used in carrying out the proposed development will be suitably stored or screened;	Material used in carrying out proposed development will be appropriately stored as per the Erosion and Sediment Control Plan at Appendix B.	
f) whether the proposed development will detract from the amenity of any residential area in the vicinity; and	Complies. The proposed development is located in an industrial zone and thus will not adversely impact on any residential areas.	
Section 4 – Environmental Management		
Acoustic Privacy		
4.1 – Development must:	Complies. A Noise and Vibration Assessment accompanies the application and implementation of its recommended mitigation measures will ensure that there are no significant adverse impacts (Appendix C).	
a) Consider the Industrial Noise Policy and the acoustic amenity of adjoining residential zoned land; and		
b) May require adequate soundproofing to any machinery or activity that is considered to create a noise nuisance.	Complies. A Noise and Vibration Assessment accompanies the application and finds the proposal to be acceptable (Appendix C).	
Pollution Control		
4.2 – Development must adequately control any fumes, odour emissions, and potential water pollutants in accordance with the requirements of the relevant public authority.	Complies. An Air Quality assessment has been submitted with the application demonstrating compliance with relevant requirements and finds the proposal to be acceptable (Appendix E).	
Open Space		
4.3 – Development must provide a landscaped area along the primary and secondary frontages of an allotment in accordance with the following minimum widths	Existing landscaping between the buildings and the Violet Street setback will be retained and enhanced under separate DA 332/2016, approved by Canterbury Bankstown Council on 31 May 2016 that involves 12 x replacement trees to street setback areas to compensate for 4 trees to be removed along the southern boundary, approved 31 May 2016.	
> Greater than 4,000m² > Minimum landscaped area: 10 Despite this clause, Council may vary the minimum setback provided the development complements a high quality landscaped image of neighbouring development or the desired future character of the area.		
4.4 – Where development provides a landscaped area, the development should also provide employee amenities that utilises or has access to the landscaped area. The landscaped area should include a combination of grass, plantings, pavement, shade, and seating to allow employees to engage in a pleasant working environment.	Complies. The landscaped area is as per existing arrangements.	
4.5 – Development must:		
a) retain and protect any existing trees identified by Council on an allotment and adjoining allotments; and	Existing landscaping between the buildings and the street will be retained and enhanced under separate DA to Local Council that involves 12 x replacement trees to street setback areas.	

Control	Comment	Compliance
b) must not change the natural ground level within 3 metres of the base of the trunk or within the dripline, whichever is the greatest.	Existing landscaping between the buildings and the street will be retained and enhanced under separate DA to Local Council that involves 12 x replacement trees to street setback areas.	
4.6 – Development with a primary road frontage of 5 metres or more must provide at least 1 street tree per 5 metres of primary road frontage. Council may vary this requirement if a street tree already exists in good condition or site constraints limit their inclusion.	Existing landscaping between the buildings and the street will be retained and enhanced under separate DA to Local Council that involves 12 x replacement trees to street setback areas.	
4.7 – Development must plant trees in the landscaped area at a minimum rate of 1 canopy tree per 30 m ² of the landscaped area. The canopy tree must be capable of achieving a mature height greater than 5 metres.	Several canopy trees greater than 15 m currently exist in the landscaped area.	
4.8 – Where development proposes an outdoor car park with 20 or more car parking spaces, the car park design must include at least 1 tree per 5 car parking spaces to the following specifications: (a) a tree must be a single trunk species to allow a minimum visibility clearance of 1.5 metres measured above natural ground level; and	Existing landscaped areas are located to the west of the proposed carpark.	

Table 4-2 Bankstown DCP 2015 – Part B12 – Flood Risk Management

Control	Assessment
Schedule 2 – Land Use Categories	The site is considered to fall under the category of 'material recycling yards', which in turn comes under the category of 'Commercial or Industrial' in Schedule 2 of Part B12 of Bankstown DCP 2015.
Schedule 3 – Georges River Floodplain	
Using the planning and development matrix included in Schedule 3, the relevant flood related development controls are below.	
<u>Floor Level</u> 5. The level of habitable floor areas to be equal to or greater than the 100-year flood level plus freeboard. If this level is impractical for a development in a Business zone, the floor level should be as high as possible 6. Non-habitable floor levels to be no lower than the 20-year flood unless justified by site-specific assessment 7. A restriction is to be placed on the title of the land, pursuant to S.88B of the Conveyancing Act, where the lowest habitable floor area is elevated more than 1.5m above finished ground level, confirming that the undercroft area is not to be enclosed. The use of roller shutters or similar measures (such as hit and miss brickwork) to enclose this area is however permissible.	The controls relating to floor levels are not relevant for this DA, as no new buildings are proposed for construction, and no additions are proposed for existing buildings on the site. Additionally, the existing buildings on the site that are to be retained, are not located within the 100 year ARI flood extents and therefore controls relating to floor levels are not a concern for the existing structures. Full flooding details can be found in the Flood Risk Assessment letter prepared by Cardno at Appendix G to this EIS.
<u>Building Components & Method</u>	

Control	Assessment
1. All structures to have flood compatible building components below the 100-year flood level plus freeboard.	The above controls relating to building components are not relevant for this DA as no new buildings are proposed for construction, and no additions are proposed for existing buildings on the site. Additionally, the existing buildings on the site that are to be retained are not located within the 100 year ARI flood extents and therefore controls relating to building components are not a concern for the existing structures. Full flooding details can be found in the Flood Risk Assessment letter prepared by Cardno at Appendix G to this EIS.
<u>Structural Soundness</u> 1. Engineer's report to certify that the structure can withstand the forces of floodwater, debris and buoyancy up to and including a 100-year flood plus freeboard.	The above controls relating to structural soundness are not relevant for this DA, as no new buildings are proposed for construction, and no additions are proposed for existing buildings on the site. Additionally, the existing buildings on the site that are to be retained, are not located within the 100 year ARI flood extents and therefore controls relating to structural soundness are not a concern for the existing structures. Full flooding details can be found in the Flood Risk Assessment letter prepared by Cardno at Appendix G to this EIS.
<u>Flood Effects</u> 2. The flood impact of the development to be considered to ensure that the development will not increase flood effects elsewhere, having regard to: i. loss of flood storage; ii. changes in flood levels and velocities caused by alterations to the flood conveyance and iii. the cumulative impacts of multiple potential developments in the floodplain. An engineer's report may be required.	The overland flow affectation of the site is minor, and the catchment contributing to the affectation is mostly site generated stormwater. Therefore the risk of flood effects due to loss of flood storage is negligible and the risk of increased conveyance is expected to be addressed within the stormwater design for this site as most of the flows are sourced on-site. Similarly, affectation does not occur upstream of the site as the catchment is local therefore there is no need for any easement to be created. Full flood risk details can be found in the Flood Risk Assessment letter prepared by Cardno at Appendix G to this EIS.
<u>Car Parking and Driveway Access</u> 1. The minimum surface level of open car parking spaces or carports shall be as high as practical, but no lower than the 20-year flood or the level of the crest of the road at the location where the site has access. In the case of garages, the minimum surface level shall be as high as practical, but no lower than the 20-year flood. 3. Garages capable of accommodating more than 3 motor vehicles on land zoned for urban purposes, or enclosed car parking, must be protected from inundation by floods up to the 100-year flood. 5. The level of the driveway providing access between the road and parking space shall be no lower than 0.3m below the 100-year flood or such that the depth of inundation during a 100-year flood is not greater than either the depth at the road or the depth at the car parking space. A lesser standard may be accepted for single detached dwelling houses where it can be	These controls relate to ensuring vehicle stability and the safety of pedestrians in the event of flooding of carpark areas. The peak depth of affectation in the 100 year ARI event for the proposed carpark is less than 0.2 metres with a velocity-depth product of less than 0.05 m²/s, meaning a velocity of less than 0.25 m/s. As shown in the figure below, the overland flow conditions experienced on site in all events up to and including the 100 year ARI event do not pose a risk to either vehicle or pedestrian stability therefore the controls relating to carpark design are deemed to be satisfied. Full flooding details can be found in the Flood Risk Assessment letter prepared by Cardno at Appendix G to this EIS.

Control	Assessment
<i>demonstrated that risk to human life would not be compromised.</i> 6. <i>Enclosed car parking and car parking areas accommodating more than 3 vehicles (other than on Rural zoned land), with a floor level below the 20-year flood or more than 0.8m below the 100-year flood level, shall have adequate warning systems, signage and exits.</i> 7. <i>Restraints or vehicle barriers to be provided to prevent floating vehicles leaving a site during a 100-year flood.</i>	
<u>Evacuation</u> 2. <i>Reliable access for pedestrians or vehicles required during a 100-year flood.</i> 3. <i>The development is to be consistent with any relevant flood evacuation strategy, Flood Plan adopted by Council or similar plan.</i>	The majority of the site is not affected by floods up to and including the 100 year ARI event, with the majority of the site flood free. Additionally, the site lies outside of the Georges River Probable Maximum Flood (PMF) extents, and it is therefore assumed that the site does not require any evacuation routes to be assigned as flood risk is negligible. Full flooding details can be found in the Flood Risk Assessment letter prepared by Cardno at Appendix G to this EIS.
<u>Management and Design</u> 2. <i>Site Emergency Response Flood Plan required where floor levels are below the design floor level, (except for single dwelling-houses).</i> 3. <i>Applicant to demonstrate that area is available to store goods above the 100-year flood level plus freeboard.</i> 5. <i>No storage of materials below the design floor level which may cause pollution or be potentially hazardous during any flood.</i>	No new buildings or additions are proposed as part of the EIS, and therefore the requirement for the preparation of a Site Emergency Response Flood Plan is not applicable to the proposal. The extent of flooding in the 100 year ARI event is restricted to the proposed access driveways and portions of the proposed carpark. The areas of minor affectation are not proposed for storage of any goods that may result in pollution or potentially hazardous materials. Therefore these controls are deemed to be satisfied. Full flooding details can be found in the Flood Risk Assessment letter prepared by Cardno at Appendix G to this EIS.

4.2.5.3 Section 94 Development Contributions

Bankstown City Council's Section 94A Development Contributions Plan applies to the development. The Section 94A Contributions payable for the DA, based on a Capital Investment Value of \$461,571.75, would be 1% (\$4,615.72), as is currently required by the Contributions Plan.

4.3 Sustainable Development

Ecologically Sustainable Development (ESD) is development that aims to meet the needs of people today, while conserving our ecosystems for the benefit of future generations. The *National Strategy for Ecologically Sustainable Development* (ESDSC 1992) sets out the broad strategic and policy framework for governments to cooperatively make decisions and take actions to pursue ESD in Australia. The Strategy defines ESD as "using, conserving and enhancing the community's resources so that ecological processes, on which life depends, are maintained, and the total quality of life, now and in the future, can be increased".

4.3.1 Principles of Ecologically Sustainable Development

Clause 5 (a) (vii) of the EP&A Act states that ESD is a primary objective of the planning process under the Act. In accordance with the EP&A Act, Schedule 2 of the *Environmental Planning and Assessment Regulation 2000* sets out the principles of ESD as follows:

- (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. polluter pays, 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 based 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,*
 - 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 problems.*

4.4 Application of Principles

The following sections outline how each of the principles of ESD have been addressed within the assessment for development of the proposed recycling facility.

The Precautionary Principle

This EIS report has been prepared using the most accurate information and data available at the time of writing. Preparation and review of the document has been undertaken by specialist and experienced environmental professionals. Assessments and investigations have been undertaken for potential impacts on all aspects of the environment, and specialist investigations have been undertaken for those components of the environment where higher levels of impact were anticipated such as air quality, noise and traffic and transport.

An assessment of the residual risk has also been undertaken as part of this EIS report (Section 6). These risk assessments provide an indication of the likely environmental consequences of implementation of the proposed works. To minimise the risks associated with potential environmental impacts, environmental impact mitigation and management measures have been recommended based on best-practice environmental standards.

None of the potential risks identified during the assessment of the Proposal would pose a threat of serious irreversible environmental damage. As detailed in Section 5 of this Environmental Assessment, where potential impacts have been identified, mitigation measures have been put into place which would mitigate those potential impacts.

Inter-Generational Equity

The Bankstown Draft Demolition and Construction Policy outlines the need for the recycling and reuse of materials (Clause 2.16), whereby “*demolition procedures must maximise the reuse and recycling of demolished materials in order to reduce the environmental impacts of waste disposal*”. The proposed facility would assist in reducing the environmental impacts of waste disposal, as it encourages the recycling and reuse of materials.

The Proposal, would provide an environmental benefit through the recovery of materials from commercial waste, both C&D and C&I, thus removing some of the pressure on natural material resources which might otherwise have been required to produce newly manufactured materials.

The proposed development would also divert waste from the waste stream which might otherwise have been directed to landfill, which would:

- > Minimise the environmental impacts to existing landfill operations;
- > Assist in extending the lifespan of landfill operations,
- > Assist in stalling the need for the creation of new landfill sites; and
- > Reduce greenhouse gas emissions.

Conservation of Biological Diversity and Ecological Integrity

The Proposal is located on existing hardstand with minimal vegetation in the vicinity. Design considerations for the proposed facility have attempted to avoid or minimise impacts on native vegetation. Desktop flora and fauna investigations undertaken for the project did not record or predict any threatened species listed as Vulnerable, Endangered or Extinct under the TSC Act within the site (Section 5.8). Due to the highly disturbed nature of the site, it is considered that biological diversity or ecological integrity of the area would not decline.

Improve Valuation Pricing and Inventive Mechanisms

It is proposed to introduce a mechanical sorting line to improve recovery rates of recyclable material. The anticipated improvement in recovery rates would allow a greater portion of the waste stream that is recoverable to be on-sold and utilised for beneficial re-use.

More generally, the money saved in waste disposal costs is such that there is an economic incentive to recycle waste.

The Proposal would provide:

- > Increased life to existing landfill operations by the removal of road construction waste from the waste stream;
- > A means by which the waste reduction targets of the State government can be achieved;
- > An avenue whereby what would otherwise be waste becomes a valuable resource and, hence, improves its value; and
- > A strategy which would provide benefits to future generations through the reduction in the use of raw materials for the production of materials for road construction, and extending the life of existing landfill operations elsewhere, where unrecovered recyclable materials would otherwise be placed.

5 Assessment of Environmental Impacts

This chapter identifies the potential environmental impacts associated with the proposed expanded waste recycling facility. The assessment and analysis of issues has been undertaken in accordance with the SEARs and includes a range of measures to mitigate and manage the potential impacts on the environment.

5.1 Waste Management

5.1.1 Existing Environment

The existing waste recycling facility has been in operation since June 2015 and is currently licensed to accept up to 30,000 t p/annum of C&D waste.

The existing waste handling process is as follows:

- > Waste materials are transported to site, where they are screened for waste type and weighed at the existing weighbridge.
- > Drivers are then directed to a particular part of the site to unload their deliveries where the waste materials are physically inspected and initially sorted with the use of a material handler.
- > Material is manually sorted by staff to remove recyclable products, such as metals, concrete, clean timber and paper/cardboard. Manual sorting currently achieves just over 50% recovery rates.
- > Sorted waste streams are stockpiled at the stockpile yard (Figure 5-1 and Figure 5-2). The operational area are segregated according to the different recyclable material types that are transported to the site. Existing stockpiles include:
 - Road base;
 - Top soil; and
 - Mulch.
- > Once separated, these materials are then sold on to a number of different companies for re-use and recycling; and
- > The remaining unwanted material is stockpiled by a wheel loader for transportation to landfill.



Figure 5-1 Stockpile yard and bays



Figure 5-2 Operational stockpiles

5.1.2 Potential Impacts

5.1.2.1 *Construction Phase*

It is proposed to demolish the slab of the former site office located on 57 Violet Street. Note: building demolitions form part of a separate local DA to Canterbury Bankstown Council (DA 332/2016, approved 31 May 2016). A new 20-vehicle staff carpark is proposed to be constructed at the site located on part no. 51 & part no. 57 Violet Street. The demolition of slab and the construction of the new building would produce C&D waste that can be recycled at the facility.

Other waste streams that would be generated during the construction of the proposal include:

- > Packaging materials from items delivered to the site, such as pallets, crates, plastics and wrapping materials. Products utilising minimal packaging of raw materials would be strongly encouraged. Where possible, components of this waste stream would be recycled or reused;
- > Wastes produced from the maintenance of various heavy construction equipment including liquid wastes from cleaning, repairing and maintenance. Leaks and spills of fuels/oils during construction would need to be managed and disposed of appropriately;
- > Sewage waste, generated through the use of workers' facilities such as toilets; and
- > Office waste, such as paper, cardboard, food wastes and other general waste.

Additionally, the construction phase of the proposal would necessitate the storage and handling of various types of hazardous materials

- > Hydrocarbon based (e.g. fuels and lubricants)
- > Alkane products (e.g. cement)
- > Minor quantities of paints, solvents and glues.

5.1.2.2 *Operational Phase*

Subject to consent, the proposed facility would be licensed to accept up to 250,000 t p/annum of general solid waste (non-putrescible) as defined in Schedule 1 of the POEO Act. It is expected that the facility would primarily accept:

- > C&D waste including crushed concrete, road-base materials, soil, bricks, stones, masonry, timber, metal, gyprock, batteries, glass, bottles, paper, cardboard mulch and landscaping materials;
- > C&I waste including paper, cardboard, glass, timber, metals, plastics, whitegoods and other materials from C&I sources; and
- > Green waste, soils and timber.

The proposed new waste processing system would be capable of processing mixed general commercial skip bin material at a rate of 60 t p/hr.

The plant is designed to produce clean aggregate free of timber, plastic, paper and organic material. A timber stream of material, steel and bulk sorted materials such as plastic, bulk timber, oversize aggregate and bulk metal will also be recovered.

The aim of the plant is to remove as much alternative market material from landfill as practically and commercially possible.

Material Sorting Process

The proposed material sorting process is outlined in Table 5-1.

Table 5-1 Material Sorting Process

Process	Description
General Mobile Equipment Pre-Sort	Infeed material is firstly pre-sorted with an excavator to remove bulk items that would be detrimental to the processing plant. This includes items such as bulk metal, large concrete pieces, long lengths of timber, rolls of carpet, bulky waste items, green waste and other items of such nature that are impractical for the sorting system or staff to hand remove
Main Finger Screen	The Main finger Screen is loaded directly by the bulk infeed conveyor system, fed by a loader or excavator with suitable attachment. The screen walks material down over the finger deck separating material into two streams, plus 300mm to main pick line and minus 300mm to the main screening and air separator lines.
Main Sorting Line Bulk Material 300 mm Plus	The 300mm Plus size material is presented to the main sorting line for the positive hand sorting of selected materials. In principal, bulk metals, plastics, long timber, large aggregate and potentially cardboard boxes are the items of value and weight for removal. Products are dropped into bunkers under the sorting platform and off the end of the main sorting line the material transitions into a waste bunker.
300 mm Minus Material Process Flow	<u>Stage 1: Magnetic Separation</u> Material that passes through the Main Finger Screen is presented to an inline over band belt magnet to remove steel products. Metal Products are thrown forward onto the transfer conveyor leading to a bunker. <u>Stage 2: Combination Screen Separation</u> The Combination Screen integrates a 50mm minus cut Metal Louvre Screen onto a 10mm Flip Flop Trisomat Polyurethane Panelled Screen. The key advantage of this screen is its small footprint and ability to make 3 product cuts whilst also being able to handle a material of high moisture content. Over the louvre screen passes 50-300mm material fraction, and over the Trisomat Screen passes 10-50mm fraction. A 10mm Minus sand product passes through the Screen. <u>Sand</u> The Sand material generated is transferred into a bunker via a transfer conveyor SC2 which receives material from the Flip Flop Trisomat under conveyor SC1. When extremely dry, the sand removal has the potential to generate dust within the plant and thus sealed conveyors and bunker plus the addition of misting sprays is planned to be fitted to reduce any dust that is generated The Trisomat Flip Flop Screen operates using self-cleaning polyurethane panels that will screen organic soil and dirt with up to a 23% moisture content to produce a good clean sand material. The two fraction cuts of materials 10-50mm and 50-300mm are important for quality air separation of the material and final recovery of the aggregate material. <u>Stage 3: Air Separation</u> Each fraction is then presented to two independent Air Separation units. The 50-300mm fraction feeds into a Nihot Double Drum Air Separator, removing aggregate, timber and light waste. The drums firstly remove aggregate on the first drum and the second drum removes timber products and all light material is blown into the expansion chamber and conveyed to the light waste bunker. The 10-50mm fraction is presented to a single air separator to remove all light contamination and organic matter from the smaller aggregate material. With controlled air separation aggregates and timber products are recovered clean and only require a final quality control check to produce market acceptable materials. <u>Stage 4: Final Quality Control of Timber and Aggregate</u> The Quality Control stations are aimed at supplying an even stream of material with forward hand sorting to increase sort rates and reduce operator fatigue.

Process	Description
	Aggregate QC The aggregate stream provides forward sorting of timber material, heavy timber items that were too heavy to pass over into the timber area of the air separation. Thus the sorter can simply remove any timber material contaminating the aggregate stream and place it directly onto the timber line and drop waste items such as shoes or batteries which rarely present themselves onto the waste line. The aggregate then transfers from the end of the line into a bunker. Timber QC The timber stream is generated from the second separation drum with the 50-300mm DDS Nihot unit. Timber is then transferred to the QC pick line that enables sorting personnel to sort forward any aggregate contamination directly into the aggregate bunker and waste down a central chute dropping waste into the waste bunker. The timber then finally runs directly into a bunker off the end of QC line. Stage 5: Waste The Nihot Air Separator removes the light waste, plastic, paper, organics along with small timber and other non-recoverable items. The key features of the Nihot are its ability to provide product separation and waste removal by interval air balance and control. Thus waste materials pass out the end discharge conveyor at each Air Separator unit and are transferred into to a waste bunker.

The installation of a well-planned and viable sorting plant line will increase the recovery rates from 51% which is currently being achieved to above 80%. Based on a throughput of 250,000 tonnes of waste, the proposed facility expansion would increase resource recovery rates from the current 51% to above 80%, resulting in over 200,000 t/annum being diverted from landfill, saving over \$50 million in landfill costs, and preventing 33,250 t/annum of carbon emissions from landfill alone.

Stockpiles

Three additional stockpiles are proposed for the facility, which includes:

- > Crushed concrete;
- > Landscape materials; and
- > Metals.

The additional stockpiles would be located along the southern boundary of the site (no. 57 Violet Street).

End suppliers

Recycled materials would be sold under various NSW EPA General or Specific Exemption orders. Materials would be sold to a number of different companies which may include Sell & Parker (metals), Cardboard King (cardboard), Oil Collection Services (oils), Northern Rivers Timber Recyclers (timber) and WTR Bringelly (green waste). Unwanted waste would then be transported to a licensed waste facility.

Non-conforming waste

Non-conforming waste materials, that is those materials not licensed to be accepted at the facility, such as putrescible waste, noxious, special, hazardous or contaminated material, may not be brought onto site. However, should these types of materials be found, there are procedures to deal with these materials.

Other impacts

A number of other adverse impacts may arise from the operation of the facility including runoff of contaminants and particulates having potential to pollute stormwater and downstream waterways, adverse visual amenity from stockpiled waste and recycled materials, dust emissions from stockpiled waste, the generation of litter from users of the site, excessive accumulation of materials, and stockpile instability.

Impacts on visual amenity, water and dust emissions are discussed further in Section 5.8, Section 5.5 and Section 5.7 respectively.

5.1.3 **Management and Mitigation Measures**

Waste will be managed in compliance with relevant legislation. Waste will be recycled and sold after the required testing and compliance is achieved as per current Resource Recovery Legislation and Exemptions.

An EPL issued by the EPA under the POEO Act will be required for the facility. The licence conditions of the EPL will be complied with.

Waste management would be a component of the Operational Environmental Management Plan (OEMP) for the operational phase of the facility. Methods for managing and monitoring waste generated by the proposed facility will be detailed in the OEMP and will include:

General Litter

- > Regular litter inspection and collection will be undertaken and should problem areas be identified the need for waste receptacles will be reviewed. Inspections will involve weekly check to locate and remove any stray litter around the area.

Stockpile Management

- > The current EPL for the site (EPL 20607) permits a maximum tonnage of 30,000 on site at any one time. Subject to the granting of consent, the proposed maximum storage tonnage at the expanded site shall not exceed 60,000 tonnes on site at any one time.
- > The EPL requires that each type of waste stored on site shall be stockpiled separately.
- > The EPL requires that stockpiles shall be placed within external stockpile bays or stockpile areas. The height of the materials within the external stockpile bays shall not exceed the height of the storage bays, being 3.2 m in height.
- > The EPL requires that the storage of materials shall not be closer than 3 metres from the boundary unless stored in the approved storage bays.
- > In the event of excessive rain, cover erodible stockpiles and monitor operations until runoff is appropriately managed. Inspect sediment controls after rain events, and implement a regular maintenance programme to ensure continued performance.

General Management

- > Contractors and staff for all phases of the proposed works will undergo an induction program that outlines the relevant procedures within the OEMP:
 - o Legal requirements for waste management;
 - o Procedures for waste minimisation;
 - o Location of waste receptacles and stockpiles;
 - o Recycling practices and procedures;
 - o Potential risks and means to minimise them; and
 - o Reporting procedures for breaches of the procedures.
- > Records will be kept regarding the amount of material brought onto site and removed from site utilising the weighbridge Mandalay software. Waste transfer dockets will be collected and transferred into a record of the type and weight of waste brought onto site. The system will be regularly reviewed and monitored to ensure effective operation. Records to be kept include:
 - o Monthly volume of recyclable material brought onto site;
 - o Monthly volume of non-recyclable material brought onto site; and
 - o Monthly volume of recyclable material removed from site.
- > All training records, and records of waste will be filed in site records for verification purposes.
- > Entry and exit gates will be locked outside of working hours.

Non-conforming waste

The waste recycling facility does not intend to receive any putrescible materials but should these materials be discovered in the incoming waste streams, then the putrescible materials will be placed into a bin dedicated for these materials and be disposed of to a facility licensed to accept these materials.

Similarly any noxious, special, hazardous or contaminated material inadvertently arriving at the site will be appropriately handled and removed to a licensed facility. Measures will be included in the Management Plan for the facility for such materials including methods to be adopted to restrict their occurrences. In particular, the facility's acceptance policy will not allow asbestos waste to be accepted and any load found to contain asbestos would be refused. However, should any such waste be discovered on site, appropriate handling shall be undertaken in accordance with the relevant legislation.

The site's delivery receiving procedures ensures that a thorough visual inspection of all waste material delivered to the site is carried out as each delivery vehicle is unloaded, prior to processing. Trained staff, with the assistance of a platform and CCTV, review all waste material upon arrival to classify the waste stream.

Drivers are then directed to deposit their waste recycling load in a particular area to ensure that there is appropriate segregation of material being unloaded and to ensure that delivered waste materials are not mixed with other loads, before the inspection is completed. During unloading, procedures are then implemented to confirm the initial waste classification made upon arrival, based upon whether the load is observed as being either a 'low risk' load or a 'high risk' load.

A 'low risk' load, containing material such as clean concrete or clean brick would be observed during unloading to confirm whether any suspected asbestos-containing material can be identified.

A 'high risk' load, containing a mix of materials such as concrete, bricks, timber, soil and plastics would be unloaded and spread over a sufficiently large area to enable a comprehensive inspection of all sides of the material. Where appropriate, larger sections of concrete would be inverted to permit a visual check for any embedded or underlying asbestos product or debris.

Having completed the visual inspections above, the load is then added to the processing line. This ensures that any loads containing hazardous materials, such as asbestos, drums and gas bottles do not enter the materials processing line. Any loads where contamination is detected will be rejected, re-loaded and returned to the supplier of the material.

5.2 Air Quality and Greenhouse Gas

Pacific Environment has carried out an Air Quality Assessment and a Greenhouse Gas Assessment of the proposal. The Air Quality Assessment is based on the use of the computer-based dispersion modelling (CALPUFF) to predict off-site dust levels. To assess the effect that potential emissions could have on existing air quality, the dispersion model predictions have been compared to relevant regulatory air quality criteria. This section examines the existing environment in the context of air quality and considers the potential impacts of the Proposal during operation. Mitigation measures to reduce impacts on air quality have also been recommended.

5.2.1 Introduction

Two types of air emissions are of relevance to the Proposal: emissions of particulate matter, emissions of Greenhouse Gases (GHG).

Particulate matter (PM) consists of tiny pieces of solid or liquid matter suspended in the atmosphere as an aerosol. PM less than 50 micrometres (μm) are referred to as Total Suspended Particulates (TSP), while finer dust particles less than 10 μm and 2.5 μm in diameter are referred to as PM10 and PM2.5 respectively. TSP are associated with the potential for nuisance or loss of amenity, while PM10 and PM2.5 are associated with potential adverse health effects. Potential environmental impacts from PM include vegetation stress and death from dust covered leaves, which may reduce photosynthesis rates and reduce gas exchange through stomata. Indirect impacts on fauna may result from habitat loss through vegetation die back.

GHGs absorb re-radiating energy from the earth, which in turn warms the atmosphere. This mechanism is known as the greenhouse effect (DoE, 2013). Whilst GHGs are naturally occurring, human activities such as the combustion of fuels, increase the concentration of GHGs in the atmosphere, and contributes to the

enhanced greenhouse effect. There are several key GHGs which have varying Global Warming Potential (GWP). The higher the GWP of a gas, the more impact each tonne of that gas has on the Greenhouse Effect. In order to standardise GHGs for reporting and accounting purposes, each greenhouse gas has been compared to the warming potential of carbon dioxide over a 100-year period. This provides a global warming potential for each greenhouse gas, which are referred to in terms of carbon dioxide-equivalent emissions (or CO₂-e).

5.2.1.1 Air Quality Assessment Criteria

Section 3 of Pacific Environment's Air Quality Assessment report appended to this EIS provides the following Air Quality Assessment Criteria, summarised below.

The air quality criteria relevant to this assessment are those related to particulate matter (PM), commonly called dust. The Approved Methods specify impact assessment criteria relevant for assessing impacts from air pollution (EPA, 2005). The impact assessment criteria refer to the total pollutant load in the environment and impacts from new sources of these pollutants must be added to existing background levels for compliance assessment. The criteria are health-based, that is they are set at levels to protect against health effects, including for the most vulnerable in society. The EPA criteria are consistent with the National Environment Protection Measures for Ambient Air Quality (referred to as the Ambient Air-NEPM) (NEPC, 1998). There currently exists an advisory reporting standard for fine particulate matter with an equivalent aerodynamic diameter of 2.5 µm or less (PM_{2.5}).

Figure 5-2 below summarises the air quality goals for concentrations of particulate matter that are relevant to this study.

Table 5-2 Assessment Criteria for Particulate Matter Concentrations

Pollutant	Criterion	Averaging Period
Total suspended particulate (TSP)	90 µg/m ³	Annual average
Particulate matter <10 µm (PM ₁₀)	50 µg/m ³	24-hour average
	30 µg/m ³	Annual average
Particulate matter <2.5 µm (PM _{2.5})	25 µg/m ³	24-hour average
	8 µg/m ³	Annual average

5.2.1.2 Air Quality Assessment Methodology

Section 4 of Pacific Environment's Air Quality Assessment report appended to this EIS provides the following Methodology, summarised below. The air dispersion modelling conducted for this assessment is based on an advanced modelling system using the models TAMP and CALMET/CALPUFF.

The assessment follows a conventional approach using the procedures outlined in the NSW Environment Protection Authority's (EPA) document titled "Approved Methods and Guidance for the Modelling and Assessment of Air Pollutants in NSW" (EPA, 2005). Other documents such as the "Generic Guidance and Optimum Model Settings for the CALPUFF Modelling System for Inclusion into the 'Approved Methods for the Modelling and Assessments of Air Pollutants in NSW, Australia' (Barclay and Scire 2011) were considered for modelling.

5.2.2 Existing Environment

On an annual basis, wind directions are fairly uniformly distributed in all directions although wind from the northeast (NE), southwest (SW) and northwest (NW, WNW, NNW) are slightly more frequent than from other directions. Seasonal variations are very strong, with predominant wind directions of NE, ENE and SE in summer, and predominant wind directions in the quadrant of SW - NNW in winter.

No air quality data are collected in the immediate vicinity of the site. Chullora, the closest monitoring station to the site, is operated by the NSW Office of Environment and Heritage (OEH) and is located approximately 6 km to the north-east of the site.

PM₁₀ concentrations

The 24-hour average PM₁₀ data shows significant variability in day-to-day 24-hour average PM₁₀ concentrations at Chullora. There were 13 occasions where the 24-hour average impact assessment criterion of 50 µg/m³ was exceeded over the six year period. These are most likely the result of regional weather events affecting measurements at this monitor.

The measurements show that there are exceedances of 50 µg/m³ from time to time, but the majority of concentrations are less than 30 µg/m³. To exceed 50 µg/m³, the contribution from the site would therefore need to contribute more than 20 µg/m³ on those occasions.

Median 24 hour and annual average PM₁₀ concentrations for the last six years are summarised in Table 5-3 below.

PM_{2.5} concentrations

The 24-hour average PM_{2.5} data shows significant variability in day-to-day 24-hour average PM_{2.5} concentrations at Chullora. There were four occasions where the 24-hour average advisory reporting standard of 25 µg/m³ was exceeded over the six year period. These are most likely the result of regional weather events affecting measurements at this monitor.

The measurements show that there are exceedances of 25 µg/m³ from time to time, but the majority of concentrations are less than 10 µg/m³ up to 2012 but higher in following years due to a change in instrumentation used at the Chullora facility. To exceed 25 µg/m³, the contribution from the Project would therefore need to contribute more than 10 µg/m³ on those occasions.

Median 24 hour and annual average PM_{2.5} concentrations for the last six years are summarised in Table 5-3 below.

Table 5-3 Monitoring Data at the OEH Chullora Site

Year	PM 10 (µg/m ³)		PM 2.5 (µg/m ³)	
	Median 24-hour	Annual average	Median 24-hour	Annual average
2010	17	18	5	6
2011	18	20	5	6
2012	17	18	5	6
2013	17	18	7	8
2014	17	18	8	9
2015	16	18	7	8
Average	17	18	6	7

Summary of existing air quality data

It is noted that OEH data were not available for TSP concentrations or dust deposition levels.

A value of 45 µg/m³ for annual average TSP has been derived from the annual average PM₁₀ (18 µg/m³) and assumes that 40% of the TSP is PM₁₀.

Annual average dust deposition has been conservatively taken to be 2 g/m²/month, based on similar previous studies where dust deposition data were not available.

In summary, from the available monitoring data it has been assumed that the following background concentrations apply in the vicinity of the project.

- > Annual average PM₁₀ of 18 µg/m³.
- > Annual average PM_{2.5} of 7 µg/m³.
- > Annual average TSP of 48 µg/m³.
- > Annual average dust deposition of 2 g/m²/month.

Existing operations

Section 7.1 of Pacific Environment's Air Quality Assessment report appended to this EIS describes the existing operations and finds the following.

Maximum 24-hour average PM₁₀ concentrations from site operations are expected to be less than 10 µg/m³ at residential areas around the existing Project site. Maximum cumulative 24-hour PM₁₀ concentration, taking existing air quality into account, are expected to be less than 30 µg/m³.

No exceedances of the 24-hour average NSW EPA criterion of 50 µg/m³ are anticipated as a result of operations at the site.

Predicted concentrations and levels of annual PM₁₀, PM_{2.5}, TSP and dust deposition levels are also predicted to be well below the impact assessment criterion/advisory reporting standard as a result of existing Project operations at all nearby residences.

5.2.3 Potential Impacts

5.2.3.1 Construction Phase

Temporary and minor emissions of particulate matter may occur during the construction phase of the proposal.

5.2.3.2 Operation Phase

Particulate Matter Emissions

Section 7.2 of Pacific Environment's Air Quality Assessment report appended to this EIS describes the proposed operations and finds the following.

Maximum 24-hour PM₁₀ concentrations from site operations are expected to be higher than in the existing operations case but again less than 10 µg/m³ at residential areas around the proposed Project site. Maximum cumulative 24-hour PM₁₀ concentration, taking existing air quality into account, are expected to be less than 30 µg/m³.

No exceedances of the 24-hour average NSW EPA criterion of 50 µg/m³ are anticipated as a result of proposed operations at the site.

Predicted concentrations and levels of annual PM₁₀, PM_{2.5}, TSP and dust deposition levels are also predicted to be well below the impact assessment criterion/advisory reporting standard as a result of existing Project operations at all nearby residences.

Odour

It is noted that there may be some green waste and soils which arrives on site as part of general demolition and construction waste streams. However, it is anticipated that this will be separated and removed from the site in a timely manner (within 48 hours) and as such will not be at the site long enough to be of concern from an odour perspective. There is not anticipated to be any processing or extended storage of this organic material on site. As such, it is considered that there will be no odour impacts associated with the proposed operation of the facility.

Greenhouse Gas Emissions

Section 8 of Pacific Environment's Air Quality Assessment and Greenhouse Gas Assessment report, appended to this EIS, contains the Greenhouse Gas Assessment for the proposal and states the following.

GHG emissions have been estimated based on the methods outlined in the following:

- > World Resources Institute / World Business Council for Sustainable Development (WRI/WBCSD) Greenhouse Gas Protocol;
- > National Greenhouse and Energy Reporting (Measurement) Determination 2008; and
- > Commonwealth Department of Climate Change and Energy Efficiency (DCCEE) National Greenhouse Accounts (NGA) Factors 2012.

The GHG Protocol establishes an international standard for accounting and reporting of GHG emissions. The GHG Protocol has been adopted by the International Standard Organisation, endorsed by GHG initiatives.

Three 'scopes' of emissions (scope 1, scope 2 and scope 3) are defined for Greenhouse Gas (GHG) accounting and reporting purposes. This terminology has been adopted in Australian GHG reporting and measurement methods and has been employed in this assessment.

- > Scope 1 emissions are direct greenhouse gas emissions that occur from sources that are owned or controlled by the reporting entity;
- > Scope 2 emissions are a category of indirect emissions that account for GHG emissions from the generation of purchased energy products; and
- > Scope 3 emissions are other indirect GHG emissions that are a consequence of the activities of an entity, but which arise from sources not owned or controlled by that entity. Scope 3 emissions are optional and are not reported in the assessment.

Emissions of carbon dioxide (CO₂) and methane (CH₄) would be the most relevant GHGs for the facility. These gases are formed and released during the combustion of fuels used on site. Relevant sources included in the assessment are as follows:

- > Fuel consumption (diesel) used for concrete agitator trucks – scope 1; and
- > Indirect emissions associated with on-site electricity use – scope 2.

A summary of the annual GHG emissions is provided in Table 5-4.

Table 5-4 Summary of Estimated GHG Emissions

Emission Factor		Quantity	Units	
Energy Inputs				
Diesel used (scaled for increased production from 30,000 – 250,000 t/y)		2,757,300	l/y	
LPG used (scaled for increased production from 30,000 – 250,000 t/y)		2,375	l/y	
Electrical energy used		763,270	kWh/y	
Calculation of greenhouse gas emissions				
CO2-e from diesel usage	Scope 1	2.72 kg CO2-e/litre diesel	7,503	t/y
CO2-e from LPG usage	Scope 1	1.56 kg CO2-e/litre LPG	4	t/y
CO2-e from electrical energy	Scope 2	0.84 kg CO2-e/kWh electricity	672	t/y
Total CO2-e			8,179	t/y

5.2.4 Air Quality and GHG Assessment Conclusion

Pacific Environment has completed an air quality assessment and a GHG Assessment for the proposal. The assessment modelled both the current and future operations at the site to represent the potential air quality impacts upon sensitive receptors (i.e. residences) in the vicinity of the site. Dispersion modelling was conducted to predict the ground level concentrations for all relevant dust anticipated emission sources.

The dispersion modelling indicates that there are not predicted to be any exceedances of the dust assessment criterion at nearby sensitive receptors for future operations. There is also not anticipated to be a measurable or discernible change in odour levels experienced at nearby receptors.

5.2.5 Management and Mitigation Measures (Air Quality and GHG Emissions)

The proposed measures to reduce dust emissions are:

- > Water sprays on truck haulage areas within the site;
- > Watering of storage bays;
- > Relevant dust emission controls include water sprays on the crushing and screening operations (hoppers, transfer points, impact bars and conveyor belts). There are also dust suppression sprays at the material storage bays and internal misting/fogging systems in the buildings to reduce dust emissions; and

- > Misting systems within the processing building.

The proposed measures to reduce greenhouse gas emissions are:

- > Consideration of energy efficiency in plant and equipment selection/purchase, including the installation of timers on all equipment;
- > Power factor correction on incoming electricity supply; and
- > Recycling all concrete, water and aggregates that are returned to the plant. This would indirectly mitigate greenhouse gas emissions by reducing emissions associated with waste disposal and production of supplementary materials.

5.3 Traffic and Transport

Cardno has prepared a Traffic Impact Assessment for the proposal in accordance with the SEARs requirements. It accompanies this EIS at **Appendix C**.

Traffic impacts on the local surrounding road network are not expected to be significant during either the construction or operation of the proposed Recycling facility.

The existing traffic situation and the potential impacts of the construction and operational phases of the proposed development on local traffic movements and volumes are addressed in this section. Where traffic impacts have been identified mitigation measures are proposed to minimise disruptions to the surrounding local traffic network and ensure safety at the works site.

5.3.1 Existing Environment

The proposed Recycling Facility would be located at the 37-51 Violet Street, Revesby. The site is approximately 1.8 km from the entry ramp onto to S Western Motorway as shown in Figure 5-3. The site would be accessed via an existing driveway to the waste management centre off Violet Street.



Figure 5-3 Site Context in Road Network

Source: NearMap

The existing road network in the vicinity of the site is summarised as follows:

- > Violet Street – a single unmarked carriageway which runs in a north south direction from Milperra Road to Gordon Parker Street. Violet Street is 10-12 m wide and is suitable for trucks, trailers and semi-trailers. The street has a posted speed limit of 50 km/hr;
- > Milperra Road – is a major arterial road and in the vicinity of the site. The road is 3 lanes in each direction and has a posted speed limit of 70 km/hr. There is a public bus route which travels along this road;
- > South Western Motorway (M5 Motorway) – six lane motorway which runs from Prestons to Beverly Hills;
- > Queen Street – Runs in a north south direction from Milperra Road to Gordon Parker Street. The road has two lanes in each direction and has a posted speed limit of 60 km/hr; and
- > Marigold Street - a single unmarked carriageway providing access to industrial premises. The street has a posted speed limit of 60 km/hr.

It is estimated that 30% of customer vehicles to the facility would be truck and dog type configuration or semi-trailers, while the remaining 30% would be of the smaller skip bin type truck configuration. In addition a small number of small personal vehicles would access the site. When operating at maximum capacity, there would be approximately 18 truck movements per hour expected at the facility i.e. 9-in & 9-out (see Table 4.2 in **Appendix C** containing Cardno's Traffic Impact Assessment).

Access and departure from the proposed facility is via the entry and exit points off Violet Street where there is wide street frontage and good visibility. A turning bay and pull-in zone would be established during the detailed design phase of the Project to facilitate circulation of traffic within the facility.

5.3.2 Potential Impacts

It is anticipated that traffic impacts during the construction phase of the project are likely to be minimal. The key impact would be a slight increase in the number of heavy vehicles, construction equipment and construction personnel accessing the site from the S Western Motorway. It is anticipated that the delivery of any oversize equipment and materials would occur outside of peak traffic times.

Traffic and transport impacts on the local road network, associated with the operation of the proposed facility are not expected to be significant. A detailed assessment of the traffic and access impacts of the proposed works included:

- > Traffic surveys at the following five intersections:
 - o Milperra Road (A34) / Marigold Street (signalised intersection);
 - o Milperra Road (A34) / Violet Street (priority controlled intersection);
 - o Milperra Road (A34) / Queen Street (signalised intersection);
 - o Queen Street / Gordon Parker Street (priority controlled intersection); and
 - o Marigold Street / Carrington Street / Green Street (priority controlled intersection).
- > Trip generation, trip distribution and traffic assignment analysis for the proposed recycling facility;
- > Transport analysis for the following scenarios:
 - o 2015 No Development Weekday AM/PM;
 - o Future Opening Year – No Development Weekday AM/PM (Baseline scenario); and
 - o Future Opening Year – With Development Weekday AM/PM (Baseline plus Development scenario).
- > SIDRA modelling of the nominated five intersections;
- > Swept path analysis for the design vehicle (19m Semi-Trailer) for the proposed access point/s, on-site operation and Violet Street intersections;

- > Review of on/off street parking requirements; and
- > Review of the public transport and active transport context of the site, in regards to trips generated by staff.

The types of vehicle movements associated with the existing and proposed situation, along with the expected change in traffic movements as a result of the project are shown in the Traffic Impact Assessment at **Appendix C**.

5.3.3 Management and Mitigation Measures

The Traffic Impact Assessment prepared by Cardno recommends the following designs to be implemented in the proposed plans to improve the safety of all personnel on site:

- > Physically separate the staff carpark from the operational area with painted kerbs;
- > Provide a pedestrian zebra crossing to guide pedestrians from the staff carpark to the main office building;
- > Street sweeper machine and dust mitigation measures to keep pedestrian crossing visible to drivers and pedestrians;
- > Sign posting of zebra crossing to assist drivers.

It is further recommended that all on-site personnel, including contractors, should be inducted on site safety prior to commencing work on site, including wearing of high-visibility clothing when walking on-site.

The Traffic Impact Assessment considers that there are no further traffic and transport considerations that would preclude the proposed expansion of the existing waste facility from being approved and considers that the overall development is generally in accordance with the DPE, Council's DCP and AS2890 requirements.

5.4 Noise and Vibration

The proposed expanded waste recycling facility, whilst located in a predominantly industrial area, is located in reasonably close proximity to sensitive noise receivers; and as such, a noise and vibration impact assessment has been carried out to determine the noise and vibration impacts from the existing and proposed operations in accordance with the NSW Industrial Noise Policy.

- > NSW Industrial Noise Policy (INP) (EPA, 2000);
- > NSW Interim Construction Noise Guideline (ICNG) (DECC, 2009);
- > Assessing Vibration: A Technical Guideline (AVATG) (DEC, 2006);
- > NSW Road Noise Policy (RNP) (DECCW, 2011); and
- > Australian Standard AS 1055.1:1997 – Acoustics Description and Measurement of Environmental Noise.

Attended and unattended noise measurements were conducted in order to establish the existing ambient noise environment around the site. Plant and equipment were measured on site and a 3D computer noise model was constructed.

Attended measurements were taken on site and at nearby noise sensitive receivers in order to verify the noise logger results, and to determine the nature of the existing ambient noise environment at each nearby receiver location. The computer noise model was then used to predict the potential future noise impact from the expansion of the waste recycling facility's operations.

During the construction phase of the project, noise and vibration impacts are predicted to comply with the construction noise criteria. The implementation of best-practice mitigation measures during operation of the proposed facility would be adequate to control noise emissions to achieve project specific noise levels (PSNLs). Traffic noise levels are predicted to be negligible and would comply with relevant noise criteria.

Noise and vibration from construction and operation of the proposed development have the potential to impact on inhabitants within the surrounding areas. The sections below examine the existing environment in the

context of noise and vibration and consider the potential impacts of noise and vibration from the proposed development on receivers, and propose measures to mitigate any identified impacts.

5.4.1 **Statutory Noise and Vibration Criteria**

5.4.1.1 **Existing Environmental Protection Licence**

The site currently operates under an EPA licence that states the following with respect to noise emissions:

L3.1 Noise from the premises shall not exceed 70 dB(A) from the nearest industrial boundary.

5.4.1.2 **Construction Noise Criteria**

The NSW Office of Environment & Heritage (OEH) provides guidance for assessing construction noise impacts in the Interim Construction Noise Guideline (DECC, 2009) (NSW ICNG).

The level of noise impact and the requirement for mitigation measures is generally determined by the timing and duration of the noise emissions and the perceived impact of the noise above existing background noise levels.

The noise criterion for potentially affected residential properties, as taken from Section 4.2 of the guideline, is detailed in Table 5-5 below.

Table 5-5 Noise at Residences Using Quantitative Assessment

Time of Day	Management Level LAeq (15 min)	How to Apply
Recommended standard hours: Monday to Friday: 7am – 6pm Saturday: 8am – 1pm No work on Sundays or public holidays	Noise affected RBL + 10 dB	> The noise affected level represents the point above which there may be some community reaction to noise. > Where the predicted or measured LAeq (15 min) is greater than the noise affected level, the proponent should apply all feasible and reasonable work practices to meet the noise affected level. > The proponent should also inform all potentially impacted residents of the nature of works to be carried out, the expected noise levels and duration, as well as contact details.
	Highly noise affected 75 dB(A)	> The highly noise affected level represents the point above which there may be strong community reaction to noise. > Where noise is above this level, the relevant authority (consent, determining or regulatory) may require respite periods by restricting the hours that the very noisy activities can occur, taking into account: 1. Times identified by the community when they are less sensitive to noise (such as before and after school for works near schools, or mid-morning or mid-afternoon for works near residences) 2. If the community is prepared to accept a longer period of construction in exchange for restrictions on construction times.
Outside recommended standard hours	Noise affected RBL + 5 dB	> A strong justification would typically be required for works outside the recommended standard hours. > The proponent should apply all feasible and reasonable work practices to meet the noise affected level. > Where all feasible and reasonable practices have been applied and noise is more than 5 dB(A) above the noise affected level, the proponent should negotiate with the community.

5.4.1.3 Operational Noise Criteria

In assessing the noise impacts from industrial sources, the NSW Industrial Noise Policy (INP) requires the consideration of two separate criteria in developing the project specific criteria. These are the intrusiveness criteria and the amenity criteria. Generally the more stringent of the two criteria is adopted for the assessment of noise impacts. The application of these criteria are summarised below:

Intrusiveness Criteria

The Intrusiveness Criteria is used to evaluate the extent to which a noise intrudes above the background, particularly where the receiver is a dwelling. The NSW INP considers that the $L_{Aeq, 15\text{-minute}}$ level associated with a broad-band industrial noise source may be up to 5 dB(A) above the rating background noise level (L_{A90}) at a receiver without being considered offensive.

The rating background noise level is similar to the 10th percentile background L_{A90} however uses a different sampling technique to determine the value.

Where a noise source contains certain characteristics, such as tonality, intermittency, impulsiveness, irregularity or low-frequency dominance, correction factors may need to be applied to the noise annoyance.

Amenity Criteria

The NSW INP also considers that there is a community expectation for a certain level of environmental noise amenity, depending on the type of area in which the noise sensitive receiver is located. The NSW INP provides a table of recommended L_{Aeq} noise levels that, subject to the type of area and time of day, are considered desirable.

Depending on the level of existing industrial or commercial noise, these desirable levels are adjusted so as to require progressively more stringent amenity compliance levels. The objective of this approach is to prevent the background noise level from continually increasing as a result of each progressive new development.

For an 'urban' amenity area, the NSW INP proposes that the L_{Aeq} noise emission level should not exceed the following acceptable noise emission levels:

- > Daytime (7 am to 6 pm): 60 dB(A);
- > Evening (6 pm to 10 pm): 50 dB(A); and
- > Night (10 pm to 7 am): 45 dB(A).

For an industrial premises an acceptable L_{Aeq} noise level of 70dB(A) applies at the most affected point on the property boundary of the site, when the site is in use.

5.4.1.4 Operational Vibration Criteria

Vibration from activities associated with the project could potentially impact on the amenity of the occupants of dwellings or buildings located close to the site. Generally, vibration impact can be summarised into two categories:

- > Effect on human comfort; and
- > Structural or cosmetic damage to buildings.

Vibration criteria is addressed in the NSW ICNG and refers to Section 2.5 of the document Assessing Vibration: A Technical Guideline (NSW AV:ATG) issued by DEC (2006). The NSW AV:ATG outlines vibration limits in relation to human comfort. Criteria in this guideline are based on the British Standard BS6472-1992 Evaluation of human exposure to vibration in buildings (1-80Hz).

In relation to structural damage, there is currently no Australian Standard that provides criteria for the assessment of structural damage to buildings. However, the British Standard BS7385 Part 2 can be used to assess structural damage to buildings. It defines damage in several categories including, for example, "cosmetic", "minor" and "major" damage. Alternatively, the German Standard DIN4150 Part 3 provides maximum vibration levels, which are assessed over a frequency range.

The following vibration criteria (generally adopted for assessment of construction vibration) have been adopted for operational vibration impacts associated with plant operations at the proposed site.

Table 5-6 Vibration Limit Criteria (mm/s)

Applicable Assessment Criteria	Assessment Criteria dB(A)	
	Vibration Limits	Standard
Disturbance to Persons (Day) 0.28 – 0.56 peak BS6472	0.28 – 0.56 peak	BS6472
Disturbance to Persons (Night)	0.20 - 0.40 peak	BS6472
Damage to Dwellings	5 (rms) at 1-10Hz 5 to 15 (rms) at 10-50Hz 15 to 20 (rms) at 50-100Hz	German Standard DIN 4150
Damage to Heritage Buildings	3 (rms) at 1-10Hz 3 (rms) to 8 at 10-50Hz 8 to 10 (rms) at 50-100Hz	German Standard DIN 4150

5.4.1.5 Noise Assessment Methodology

The nearby receiver areas have been grouped into noise catchment areas (NCAs), which are expected to have similar ambient noise levels and located a similar distance from the site. Loggers were placed at the most exposed locations within these areas to capture this information:

The following sensitive receivers are located in proximity to the existing waste management facility:

- > 21 Alliance Avenue Revesby (NCA 1) – located approximately 187m from the nearest site boundary
- > 75C Carrington Street Revesby (NCA 2) - located approximately 173 m from the nearest site boundary
- > 25 Queen Street Revesby (NCA 3) - located approximately 424 m from the nearest site boundary

The locations of the nearest sensitive receivers are shown in Figure 5-4.

Unattended noise monitors were installed at the following three locations to measure ambient (i.e. background) noise levels for a period of 8 days. Noise monitors were configured to measure 15-minute statistics, between the 17 and 24 November 2015.

- > Logger 1: 51 Violet Street, Revesby (in front of the weighbridge office)
- > Logger 2: Adjacent to 58 Tracey Street, Revesby
- > Logger 3: At the end of Carrington Street, Revesby

Monitoring results from Logger 1 were used to verify the noise model and noise monitoring results from Logger 2 and 3 were used to determine the appropriate noise criteria for the receiver areas to the south and east of the site.

SoundPLAN 7.4 3D noise modelling software was used to predict the noise impact from both the existing facility and from the proposed expansion on to the nearest sensitive receivers. A noise model was constructed to predict noise levels for plant sources associated with the existing site operations, based on site topography and existing plant sources. The noise model for the existing situation was verified against measurements carried out at and in the area surrounding the existing facility.

A prediction model to include the expansion for the proposed operational scenario, was then constructed, and proposed operations added. The noise model was designed to represent a worst case scenario, based on the supplied information. This was achieved by assuming that all items of plant will operate simultaneously and assessing the noise at the closest receiver location to the site within the noise catchment area. The locations of the noise catchment receiver areas (NCA) adopted for the modelling are shown in Figure 5-5.

The scenarios modelled are set out in Table 5-7 below.

Table 5-7 Modelled Scenarios

Scenario	Description	Details
1	Existing Operations	Based on existing topography and operations. Constructed and compared to the measured site levels for model verification.
2	Proposed Operations (Day) – No Mitigation	Based on the expanded site and proposed operations for day time, with no proposed noise mitigation measures included.
3a	Proposed Operations (Day) – With Barrier	Based on the expanded site and proposed operations for day time, with recommended barrier included.
3b	Proposed operations (Day) – With Barrier & Reduced Source Noise Levels	Based on the expanded site and proposed operations for day time, with recommended barrier and plant source noise mitigation measures included.
4	Proposed Operations (Night) – No Mitigation	Based on the expanded site and proposed operations for night time, with no mitigation measures included.
5	Proposed Operations (Night) – With Mitigation	Based on the expanded site and proposed operations for night time, with recommended noise mitigation measures included.

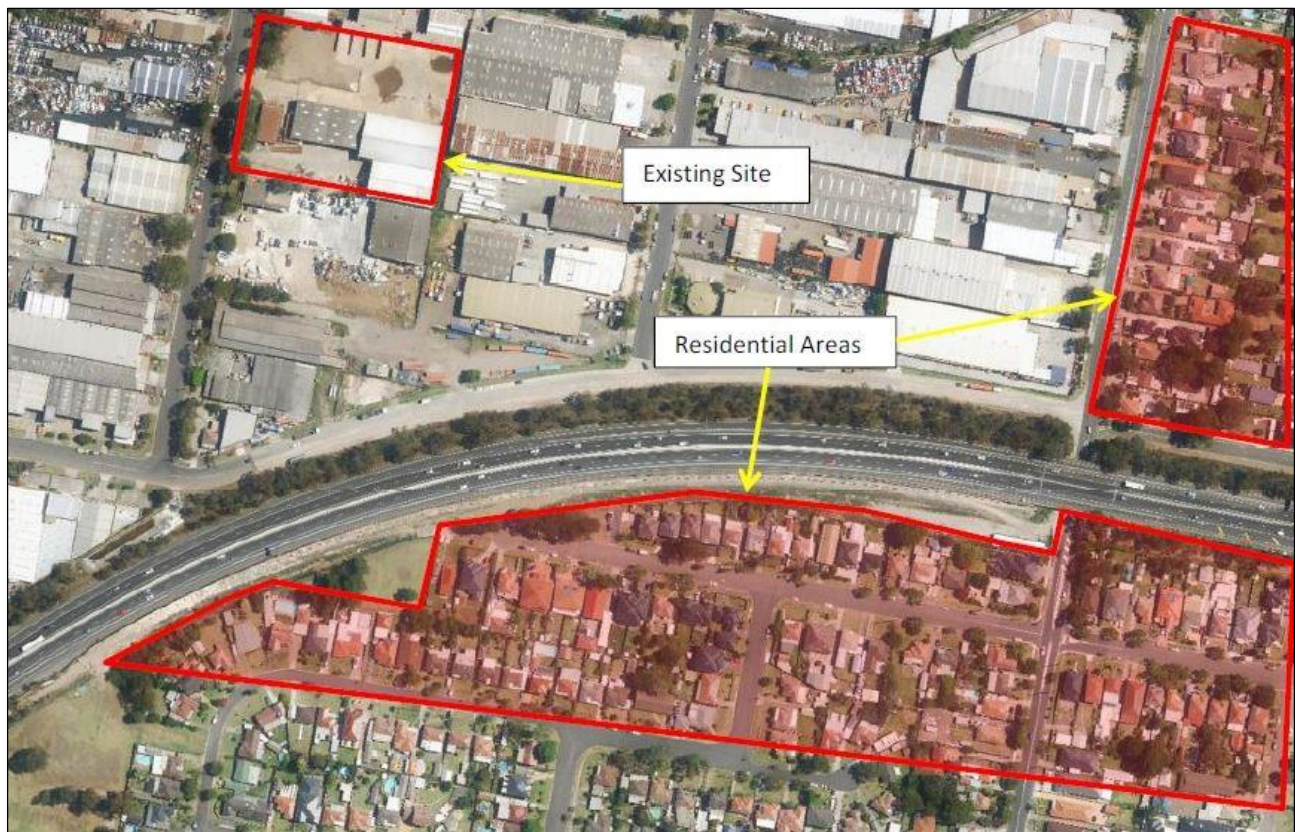


Figure 5-4 Existing Site Location and Surrounds

Source: Appendix D – Noise & Vibration Impact Assessment



Figure 5-5 Location of Selected Noise Catchment Areas (NCA)

Source: Appendix D – Noise & Vibration Impact Assessment

5.4.2 Existing Environment

The existing facility located on Violet Street is bounded by industrial properties to the north, south, east and west of the site. Figure 5-4 shows the location and distance of nearby residences in relation to the waste management facility. Times of operation are currently day time hours, typically 7am – 6pm, week days, and 7 am – 2pm on Saturdays

The site is located on Violet Street and is approximately 100 m north of the South Western Motorway (M5). Residential properties are located to the south and east of the site, but there are industrial and motorway land uses located between these properties and the site.

The observed existing noise environment at each logger location is identified in Table 5-8 below, and the rating background noise levels measured during the monitoring period (17 to 24 November 2015) are as shown in Table 5-9 below.

Table 5-8 Observed Existing Noise Environment

Logger	Location	Observed
1	51 Violet Street, Revesby	The primary source of noise was trucks entering and leaving the site, along with some traffic on Violet Street, and plant noise from the northern part of the site.
2	Adjacent to 58 Tracey Street, Revesby	Traffic on the M5 Motorway, some birds and insects.
3	Opposite 98 Carrington Street, Revesby	Traffic on the M5 Motorway, some local traffic, some birds and insects.

Table 5-9 Measured Ambient Noise Levels

Parameter	Measurement Description	Measured Noise Level, dB(A)		
		7am – 6pm	6pm – 10pm	10pm – 7am
51 Violet Street, Revesby (on site) – Logger 1				
-	Rating Background Noise Level	50	49	49
L _{Aeq}	Existing Industrial Noise Level	75	57	69
L _{A10}	Approx. Average of the Maximums	72	56	60
Adjacent to 58 Tracey Street, Revesby – Logger 2				
-	Rating Background Noise Level	49	46	44
L _{Aeq}	Existing Industrial Noise Level	57	52	53
L _{A10}	Approx. Average of the Maximums	58	53	53
Opposite 98 Carrington Street, Revesby – Logger 3				
-	Rating Background Noise Level	52	48	45
L _{Aeq}	Existing Industrial Noise Level	60	55	56
L _{A10}	Approx. Average of the Maximums	60	57	57

5.4.2.2 Existing Plant

The type and quantity of plant to be utilised on site was provided by Enviro Recycling. Equipment Sound Power Levels have been sourced from measurements, conducted by Cardno, of current equipment on site and supplemented with noise data supplied by Enviro Recycling and values referenced from Australian Standard AS 2436:2010 – “Guide to noise and vibration control on construction, demolition and maintenance sites” for standard earth moving equipment etc.

Attended measurements were conducted on 17 November 2015 to measure the existing operational plant noise on-site. Based on the measurements, existing operating plant and associated calculated sound power levels are presented in Table 5-10. The plant was modelled at the locations shown in Figure 5-6.

Table 5-10 Existing Plant Sound Power Levels

Source	Number of Plant	SWL dB(A)	Height above Ground (m)
Sources Outside the Covered Area			
Large Excavator	1	106	2
Large Sorter	1	108	2
Truck Movement (13 Trucks Per Hour)	1	105	1
Water Truck (1 Truck Every 2 Hours)	1	94	1
Sources Under the Covered Area			
Excavator	2	105	2
Small Sorter / Windsifter	2	108	2



Figure 5-6 Location of Existing Plant

Source: Cardno

5.4.3 Potential Impacts

5.4.3.1 Construction Phase

The construction stages of the proposed Waste Recycling Facility may be generally summarised as follows:

1. Site establishment – installation of site fencing, environmental controls and traffic management;
2. Demolition of slab to create new staff carpark;
3. Site construction – construction of building to replace the existing warehouse at 57 Violet Street and any water management measures;
4. Site fitout – assembly of the new materials separating machine; and
5. Site restoration – removal of all construction materials and equipment from the site, and removal of temporary works, restoration and landscaping, as required.

The construction works are proposed to be undertaken during standard working hours (Monday to Friday 7:00 am to 6:00 pm, Saturdays 8:00 am to 1:00 pm, with no construction work on Sundays or Public Holidays).

Noise

Detailed plant and equipment lists for each phase were not available at the time of preparation of this noise impact assessment. However, predicted noise impacts during Phases 1 to 3 are expected to be similar to the operational impacts given that the operational plant is similar to that which would be used on site during site establishment and building demolition and construction. The ICNG criteria for construction noise impacts during standard hours will range from 59 to 62 dB(A). Given that the operational criterion is 10 dB (A) below this level, general construction noise is expected to comply with the ICNG criteria provided the recommendations in Table 5-17 are adopted. This assumption is on the basis that very noisy and / or impulsive noise is not likely to occur during the construction stages of this project, such as piling or rock hammering. If these activities are proposed, impacts should be addressed in more detail as part of the construction noise management plan for the project.

Vibration

During the construction phase of the project, vibration impacts are predicted to comply with the vibration criteria.

5.4.3.2 Operation Phase

Noise

The project specific noise levels (PSNL) for the development are determined as the most stringent of the intrusiveness and amenity criteria. The noise limits adopted for the proposed resource recycling facility area as follows:

- > Day (0700-1800) – L_{eq} , 52 dB(A)
- > Evening (1800-2200) - L_{eq} , 42 dB(A)
- > Night (2200-0700) - L_{eq} , 43 dB(A).

An explanation of how these noise limits were adopted is provided in Sections 4.4 and 5.1 of the Noise Impact Assessment. For an industrial premises an acceptable noise level of L_{eq} 70dB(A) applies at the most affected point on the property boundary of the site, when in use.

Proposed Operation – Daytime – Model Scenarios 2 and 3

Sound power levels for plant / equipment associated with proposed operation are presented in Table 5-11. These sound power levels were entered into the computer model at the locations shown in Figure 5-7 to predict the noise impact from the proposed operation at the nearest sensitive receivers.

Table 5-11 Proposed Plant Sound Power Levels – Daytime

Source	Number of Plant	SWL dB(A)	Height Above Ground (m)
Concrete Crusher	1	115	2
L580 Wheel Loader	2	105	2
VB750 Shredder	1	116	2
Terex Finlay 694	1	111	2
Forklift	1	92	2
R950 Excavator	1	106	2
Rotochopper (Wood Chipper)	1	116	2
R922 Excavator	1	101	2
LH22 Material Handler	1	100	2
Existing Operations	Refer to Table 13 and Figure 6 in attached Noise and Vibration Assessment for details		

Noise modelling completed for proposed daytime operations at 80 surrounding residences predicted that operational noise from the site would exceed the INP criteria by up to 7 dB(A) at up to 30 locations. Mitigation measures were designed to achieve compliance at these receivers (refer Section 5.4.4). Predicted noise levels were then modelled with the recommended mitigation measures included. No significant exceedances of the INP criteria were predicted with the proposed mitigation measures in place.

Proposed Operation – Evening and Night time – Model Scenarios 4 and 5

Limited operations are proposed for the facility during the evening and night time period. It is noted that processing of material and maintenance of equipment may occur until 10 pm at night. Truck movements, associated with the loading and removal of recycled material from the facility, may occur until 12am midnight on occasions. Therefore deliveries could occur between 6 am and 12 am.

Proposed operations and associated sound power levels for evening and night time operation are presented below in Table 5-12. These sound power levels were entered in the computer model at the locations shown in Figure 5-7 and Figure 5-8 to predict the noise impact from the proposed operations at the nearest sensitive receivers during evening and night period.

Table 5-12 Proposed Plant Sound Power Levels – Evening and Night

Source	Number of Plant	SWL dB(A)	Height Above Ground (m)
L580 Wheel Loader	1	105	2
LH22 Material Handler	1	100	2
Truck Movement (up to 2 Trucks Per Hour)	1	97	1
Forklift	1	92	2
Excavator	1	101	2

Noise modelling completed for proposed evening and night time operations at 80 surrounding residences predicted that two locations would exceed the INP criteria by up to 2 dB(A). Mitigations measures were designed to achieve compliance at these receivers (refer Section 5.4.4). Predicted noise levels were then modelled with the recommended mitigation measures included. No exceedances of the INP criteria were predicted with the proposed mitigation measures in place.


Figure 5-7 Modelled location of plant for proposed daytime operations

Source: Cardno



Figure 5-8 Modelled location of plant for proposed evening and night time operations

Source: Cardno

Proposed Operation – Commercial Receivers

Noise levels have also been assessed to each boundary of the site which are currently bounded by industrial and / or commercial receivers. The current site EPA licence and INP industrial criteria of 70 dB(A) was predicted to be exceeded at all of the site boundaries for worst case operation, near to the site boundaries.

It should be noted that this assessment provides the worst case scenario and this level of impact is only likely to occur occasionally. In addition, the modelling does not include all of the current buildings proposed for the site, and therefore provides a conservative assessment.

On this basis extension of the noise barrier around the entire site is not recommended. However, a reasonable level of benefit is likely to be gained from extending the barrier along the western boundary. This is recommended to provide a practical mitigation solution.

Given the nature of the surrounding area, this is likely to be acceptable and not result in significant impacts on the adjacent industrial properties.

Road Traffic Noise

The Calculation of Road traffic Noise (CoRTN 1988 UK Department of Transport Welsh Office) calculation methodology was adopted to determine the effect of increasing the heavy vehicles on roads surrounding the site as a percentage of the total vehicles on each road segment near to the site. The predictions assume that half of the traffic will travel north to and from the site and half will travel south.

The modelling assumptions, traffic volume information assumed for the assessment is detailed in Section 6.1.5 and Tables 20 and 21 of the Noise & Vibration Assessment.

The predicted noise levels indicate that the maximum expected increase in LAeq noise level due to increased truck movement to and from the site is 0.6 dB(A) in the surrounding area. This is generally due to the existing high level of heavy vehicles on the local roads surrounding the site. This is significantly less than the 2 dB(A) increase nominated by the RNP as a recognised discernible increase in perceived noise level. On this basis noise from increased trucks accessing the site as a result of the proposal is not expected to impact amenity on the nearest sensitive receivers or require the implementation of mitigation measures.

Vibration

Vibration levels vary depending on the distance from the equipment in use, the energy level imparted to the ground by the construction process, and the bedrock type. The concrete crusher, wheel loaders, shredder and excavators may generate some vibration external to the site depending on their mounting and isolation. These sources are considered to provide intermittent vibration.

An assessment of potential for operation vibration impact at the nearest sensitive receivers was completed, with the assumption that crushing and loading vibration levels would be similar to those emitted by vibratory rollers.

When assessing intermittent vibration, DECCW recommends using the vibration dose value (VDV). The screening method outlined in Assessing Vibration: a Technical Guideline (DEC 2006) was used to evaluate the likely vibration at 140 metres from the site (the closest residences from the site, identified as 102 Carrington Street). Ground vibration levels at 140 metres from the operation activities are expected to range between approximately 0 mm/second and approximately 0.4 mm/second.

Based on this, the estimated vibration level at all dwellings near to the proposed facility is likely to comply with both the human comfort and building damage criteria adopted for this project.

5.4.4 Management and Mitigation Measures

The Noise and Vibration Impact Assessment prepared by Cardno recommends the measures below be implemented:

The following best practice construction noise and vibration mitigation measures are based on recommendations provided within the NSW ICNG and Australian Standard AS 2436-1981: Guide to Noise Control on Construction, Maintenance and Demolition Sites. Whilst significant construction is not proposed for the site, the following best practice measures apply to the proposed operational sources which are similar in nature.

Construction noise and vibration should be minimised as far as is practically possible using methods such as:

- > Development and implementation of all reasonable and feasible site specific mitigation measures to meet noise criteria applicable to the proposal.
- > Use of noise attenuating controls at the source, such as mufflers, acoustic screens, etc.
- > Keeping plant and equipment well maintained.
- > Locating concentrated areas of noise such as the crushers as remotely as possible from noise sensitive receivers.
- > Adopt hours of operation which minimise potential impacts as far as is practically feasible.
- > Conducting noise monitoring during operations for the purposes of assisting in noise mitigation and to verify the findings of this noise assessment, if complaints are received or proposed activities and number of plant exceed those assumed in this assessment.
- > Use of noise barriers where practical.
- > Use of broadband reversing alarms, or “quackers”, on mobile equipment in accordance with the relevant health and safety regulations.
- > Modification of work activities where noise or vibration is found to cause unacceptable impact.
- > Should operations be required outside daytime hours, all reasonable and feasible efforts should be undertaken to ensure noise levels will not exceed the INP Noise criteria stated in Table 5-3 of this assessment.

- > Implementing a procedure for dealing with complaints to ensure that all complaints are registered and dealt with appropriately.

An operational Noise and Vibration Management Plan should be prepared for the project, to include, but not be limited to, the above measures.

The following site specific measures are also recommended.

Recommended Mitigation Measures – Daytime Operation

- > A 3 metre high noise barrier is recommended along the south and south-eastern site boundary. The barrier shall be constructed from a material of at least 12.5 kg/m² panel mass and shall be continuous and free from gaps.
- > Adoption of maximum sound power levels for some plant items is recommended. The maximum sound power levels, and number of equipment/plant to be used during proposed daytime operation should not exceed the sound power levels presented in Table 7-1 of the Noise and Vibration Impact Assessment report.
- > Trucks should be restricted to 13 trucks per hour during the daytime (7am to 6pm) period.
- > Water truck movement should be restricted to 1 water truck circuit in every 2 hours during the daytime (7am to 6pm) period, and none at night.
- > Provide local temporary barriers around the Rotochopper and the Concrete Crusher to a height of 3 metres. Details of an example of the proposed temporary barriers are included in Appendix E of the Noise and Vibration Impact Assessment report.

Recommended Mitigation Measures – Evening / Night-time Operation

- > A 3 metre high noise barrier is recommended along the south and south-eastern site boundary. The barrier shall be constructed from a material of at least 12.5 kg/m² panel mass and shall be continuous and free from gaps.
- > Trucks shall be restricted to 2 trucks per hour during evening (6 pm to 10 pm) and night-time (10 pm to 7 am) period.
- > Water truck movement shall not occur at night.
- > Maximum allowable sound power levels and number of equipment / plant during the proposed evening and night-time operations shall be as per the equipment list and sound power levels presented in Table 7-3 of the Noise and Vibration Impact Assessment report.

Management of Hours of Operation

- > Carrying out “proposed daytime” works within daytime hours as follows:
 - o 7:00 am to 6:00 pm Monday to Friday and 7:00 am to 2:00 pm on Saturdays.
- > Evening and night-time operation shall be limited to 2 trucks per hour, for material handling and loading / unloading activities only. The recommended maximum number of plant / equipment and associated sound power levels for these activities are presented in Table 7-1 of the Noise and Vibration Impact Assessment report.

Management of Behaviour Controls

- > Investigate whether “at plant” mitigation or muffled plant is available. This may not be practical for some of the plant given the nature of crushers and screeners, and the openness of the conveyors etc. However, provision of insulation lined steel enclosures around the stationery plant, and damping material applied to the areas impacted by dumping can significantly reduce noise emissions. Local noise barriers have also proven to be effective for similar facilities.
- > Keep all plant and equipment well maintained.
- > Use of broadband reversing alarms, or “quackers”, on mobile equipment in accordance with the relevant health and safety regulations.
- > Preference should be for electric powered plant over combustion engine powered plant.
- > Preference should be for hydraulic or electric powered plant over pneumatic powered plant.

- > Avoid metal to metal contact on equipment to reduce impulsive scraping noise.
- > Ensure that managers effectively communicate acceptable and unacceptable work practices for the site, through staff site inductions, notice boards and pre-start meetings.
- > Avoid the need for reversing in the new area by creating a loop road or similar.
- > Avoid dropping materials from height.

Workers should avoid shouting, minimise talking loudly and slamming vehicle doors.



Figure 5-9 Location of recommended 3 m high Noise Barrier

Source: Cardno

- > Adoption of maximum sound power levels for some plant items is recommended. The maximum sound power levels, and number of equipment/plant to be used during proposed daytime operation will not exceed the sound power levels presented in Table 5-13. The maximum sound power levels, and number of equipment/plant to be used during proposed evening and night time operation will not exceed the sound power levels presented in Table 5-12.
- > Truck movements will be restricted to 13 trucks per hour during the daytime (7am to 6pm) period, and two trucks per hours during the evening (6pm to 10pm) and night time period (10pm to 7am). Use of trucks during the evening and night time period will be restricted to material handling and loading/unloading activities only.

- > Water truck movement will be restricted to 1 water truck circuit in every 2 hours during the daytime (7am to 6pm) period, and none at night.
- > Provide local temporary barriers around the Rotochopper and the Concrete Crusher to a height of 3 metres. Details of an example of the proposed temporary barriers are included in Appendix E to the Noise and Vibration Impact Assessment report.

Table 5-13 Maximum Allowable Sound Power Levels – Daytime Operations

Source	Number of Plant	Maximum Plant Sound Power Levels, dB(A)		Notes
		Modelled (with no mitigation)	Recommended	
Concrete Crusher	1	115	115	-
Rotochopper	1	116	112	Assumes that the Rotochopper only operates 40% of the time.
L580 Wheel Loader	2	105	105	-
VB750 Shredder	1	116	112	Assumes that the Shredder only operates 40% of the time.
Terex Finlay 694	1	111	108	Assumes that this machine only operates 50% of the time.
Forklift	1	92	92	-
R950 Excavator	1	106	106	-
R922 Excavator	1	101	101	-
LH22 Material Handler	1	100	100	-

5.5 Soils and Contamination

This section examines the existing environment in the context of soil and contamination potential and considers the potential impacts of the proposal upon users of the site and nearby sensitive receptors. Where relevant, mitigation measures have also been recommended to manage potential impacts arising from soil and contamination issues during construction.

To ascertain the presence of Acid Sulfate Soils (ASS) and history or current occurrence of contamination in the area, a search of the Environment Protection Authority (EPA) Contaminated Land Record and List of NSW contaminated sites notified to EPA were undertaken.

5.5.1 Existing Environment

5.5.1.1 **Topography**

The site is located on the Georges River floodplain. The site slopes slightly from east to west. The elevation ranges from approximately 14 m AHD in the south-eastern corner, to approximately 11 m AHD at the western boundary of the site. A topographical low point occurs to the north of the site at the Milperra Drain. The wider area slopes towards the north-west leading to the Georges River.

5.5.1.2 **Geology**

The geology of the site can be described as Quaternary alluvium (gravel, sand, silt and clay). The Wianamatta Group (sandstone, siltstone and shale) is located in the wider area to the south. The site of the proposed work is located on the Georges River floodplain between Georges River and Salt Pan Creek (a tributary of the Georges River).

5.5.1.3 Soil

Based on the Soil Landscapes of the Sydney Region (1:100,000 sheet) (Chapman and Murphy, 1989), soil landscapes in the study area are a mixture of the following types:

- > Birrong (fluvial) - generally consists of deep yellow podzolic soils, solodic soils and yellow solonetzic soils derived from the Wianamatta Group. Limitations of this landscape include high soil erosion hazard, saline subsoil and seasonal waterlogging;
- > Blacktown (residual) – generally consists of shallow to moderately deep red and brown podzolic soils and deep yellow podzolic soil and soloths derived from the Wianamatta Group. Limitations of this landscape include moderately reactive highly plastic subsoil and poor soil drainage; and
- > Disturbed terrain - varies depending on location, but often comprises turfed filled areas. Limitations of this landscape include mass movement hazard, unconsolidated low wet-strength materials, impermeable soil, poor drainage and toxic materials.

Soils in the location of the proposed works consist of the Birrong landscape in the northern section, disturbed terrain in the south-western section, and Blacktown landscape in the south-eastern corner.

It is noted that the majority of the site is hardstand, with the exception of the landscaping setbacks to Violet Street and part of the site at no. 57 Violet Street.

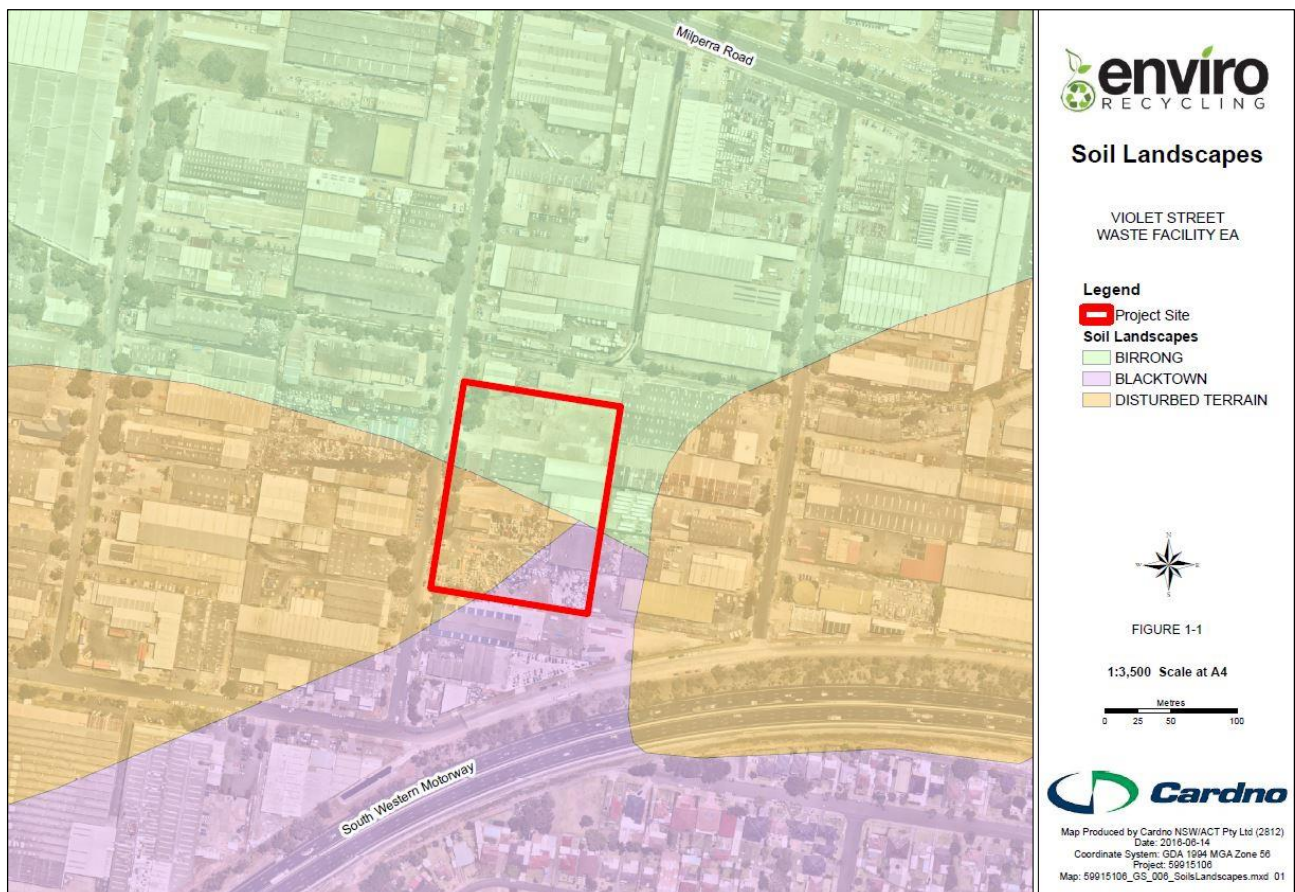


Figure 5-10 Soil Landscapes

Source: Cardno

5.5.1.4 Acid Sulfate Soils

Review of the *Bankstown Local Environmental Plan 2015* (Bankstown LEP) Acid Sulphate Soil (ASS) risk maps, identified that the Site is located within a Class 5 ASS risk area. These Acid Sulfate Soils Planning Maps establish 5 classes of land based on the probability of acid sulfate soils being present (Class 1 being the most likely and Class 5 being the least likely). The subject site is classified as having ASS of Class 4 and Class 5 based on the Bankstown LEP 2015.

Clause 6.1 of the Bankstown LEP provides that development consent is required for the carrying out of works when the following conditions are met:

- > Class 4 - works more than 2 metres below the natural ground surface. Works by which the water table is likely to be lowered more than 2 metres below the natural ground surface; and
- > Class 5 - works within 500 metres of adjacent Class 1, 2, 3 or 4 land that is below 5 metres Australian Height Datum and by which the water table is likely to be lowered below 1 metre Australian Height Datum on adjacent Class 1, 2, 3 or 4 land.

The objective of this clause is to ensure that development does not disturb, expose or drain acid sulfate soils and cause environmental damage. According to the Bankstown LEP ASS map, see Figure 5-11, the site is classified as Class 5 within 500 m of Class 4 land indicating possible ASS across the site. Development consent (including preparation of an ASS Management Plan in accordance with the Acid Sulfate Soils Manual) is required for the carrying out of works on Class 5 land for works below the ground surface or works by which the water table is likely to be lowered. Development consent is not required, under Clause 7.1 of the Bankstown LEP, to carry out any works if the works involve disturbance of less than 1 tonne of soil, and the works are not likely to lower the water table.

No excavation works are proposed on Class 5 ASS land. The volume of soils which would be disturbed on Class 4 ASS land during construction is considered to be minimal and associated with the demolition of slab and construction of a new staff carpark and drainage works. An ASS Management Plan should be developed for the site, if required, once construction methodologies are known.

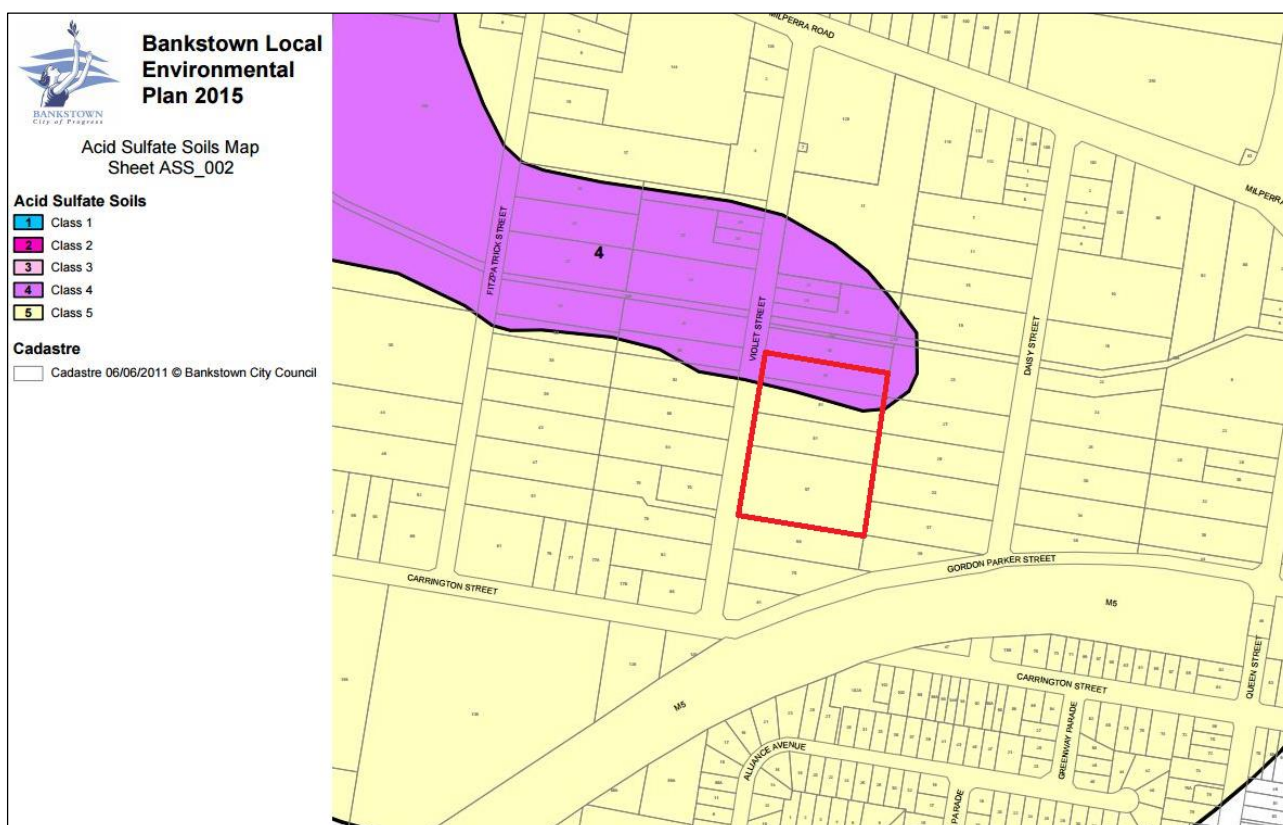


Figure 5-11 Bankstown LEP Acid Sulfate Soils Map

Source: Bankstown LEP 2015

Groundwater and Salinity

Birrong soil landscape is reported as being sodic to strongly sodic, and Blacktown soil landscape is reported as exhibiting localised sodicity (Chapman and Murphy, 1989). Changes to a water table or soil salinity usually occur as the result of the following typical activities:

- > Major earthworks;
- > Extraction of groundwater; or

- > Increased or concentrated infiltration of stormwater into the ground.

None of the above activities are proposed as part of the development. Therefore any impact on the groundwater conditions or salinity is expected to be negligible.

5.5.1.5 Contamination

Cardno has prepared a Preliminary Site Investigation (PSI) to provide preliminary advice on the contamination status of the site and the consequent implications for its intended use. It accompanies the EIS as Appendix Q.

The Contaminated Land Record of Notices was searched on 10 August 2016 for the suburb of Revesby. Five notices relating to two sites were returned:

- > 21 Marigold Street (2 notices) – located 550 metres north-west of the Site; and
- > 33-35 Violet Street (3 notices) – located 35 metres north of the Site.

The notices regarding 33-35 Violet Street, a bituminous product factory, relate to an agreed voluntary remediation proposal, and has the potential to pose a risk of off-site migration of contaminants on to the site.

The PoEO Public Register contains Environmental Protection Licences (EPLs), application and notices issued by the EPA. The Public Register was searched on 10 August 2016 within the suburb of Revesby to identify any issues of relevance to the site.

Nineteen active licences, applications or notices were identified within the selected suburb. The site operates under an Environment Protection Licence (EPL20607) to undertake resource recovery and waste storage. The site operates as a waste recycling facility currently accepting 30,000 tonnes/annum of C&D waste including:

- > Garden waste (not exceeding 30 cubic metres or 30 tonnes on site at any one time);
- > Soils meeting CT1 thresholds of General Solid Waste (with maximum threshold values for contaminants including some metals, petroleum hydrocarbons, polycyclic aromatic hydrocarbons, polychlorinated biphenyls, and no ASS or PASS); and
- > Building and demolition waste (not to exceed 30,000 tonnes on site at any one time).

A search of the List of NSW Contaminated Sites Notified to the EPA on 10 August 2016 identified four sites within the suburb of Revesby. These sites, a petrol station located at 181 The River Road (2.2km south-east of the Site), Dorf Clark Industries (a bathroom and kitchen taps and accessories manufacturer) located at 184-194 Milperra Road (620m north-west of the Site) and Mirotone Pty Ltd (an industrial coatings supplier) located at 21 Marigold Street (650 metres north-west of the site) are not considered sufficiently close to the site to constitute a potential risk of off-site contamination. One site, Bituminous Products located at 33-35 Violet Street (35 metres north of the Site) is considered sufficiently close to the site to constitute a potential risk as a source of off-site contamination.

Based on the findings of the PSI the following Potential Sources of Contamination (PSOC) were identified on the site:

- > Use of site as a waste recycling facility;
- > Plant/equipment maintenance activities and associated storage of chemicals (including oils, greases, hydraulic fluids, oxyacetylene, solvents and diesel) on site, primarily within the workshop area;
- > Demolition or renovation of historical structures and the potential presence of residual demolition waste and / or imported fill material;
- > Historical metal processing and manufacturing and storage of waste oils, fuels, tyres and batteries associated with automobiles;
- > Historical agricultural activities;
- > Stockpiling and processing / sorting of materials and soils onsite;
- > Migration of contaminants from nearby properties onto the site; and

- > Spills and leaks from surrounding properties.

As the site is used and will continue to be used as a waste recycling facility including a concrete hardstand across the site, the PSI concluded that the site would be suitable for the commercial / industrial land use provided the concrete hardstand is maintained across the site.

5.5.2 Potential Impacts

5.5.2.1 *Construction Phase*

The proposed works would not involve any significant disturbance of the ground surface at the site during construction. As the site is generally paved (concrete & asphalt) except for a landscaped setback areas fronting Violet Street and part of the site located at no. 57, contamination of soils, or exposure of potentially contaminated soils during construction activities is considered unlikely. The exposure or disturbance of ASS or saline soils is also considered unlikely at the site.

5.5.2.2 *Operation Phase*

No excavation of the hardstand or ground surface areas will occur from operational activities. As such, the potential exposure of ASS, saline soils, or potentially contaminated soils is considered unlikely.

The site does not intend to receive any putrescible materials, or any noxious, hazardous or contaminated material. Measures to manage incoming materials are outlined in Section 5.5.3 below. Therefore, it is not expected that there are any contamination issues that will affect the proposed operation.

There may be the potential for erosion from stockpiled materials to occur during heavy rains or for dust emissions during strong winds and appropriate mitigation measures have been proposed below.

5.5.3 Management and mitigation measures

The following mitigation measures are proposed:

- > In the event of heavy rain or strong winds, cover any erodible stockpiles.
- > Regularly inspect and maintain sediment controls.
- > Stockpiles are screened from Violet Street through the application of a fine mesh fabric screen to control dust emissions from the site.

Maximum stockpile heights to comply with Environment Protection Licence of EPA.

The waste recycling facility does not intend to receive any putrescible materials but should these materials be discovered in the incoming waste streams, then the putrescible materials will be placed into a bin dedicated for these materials and be disposed of to a facility licensed to accept these materials.

Similarly any noxious, special, hazardous or contaminated material inadvertently arriving at the site will be appropriately handled and removed to a licensed facility. Measures will be included in the Management Plan for the facility for such materials including methods to be adopted to restrict their occurrences. In particular, the facility's acceptance policy will not allow asbestos waste to be accepted and any load found to contain asbestos would be refused. Nevertheless, should any such waste be discovered on site, appropriate handling, in accordance with the relevant legislation, would be undertaken.

The site's delivery receiving procedures ensures that a thorough visual inspection of all waste material delivered to the site is carried out as each delivery vehicle is unloaded, prior to processing. Trained staff, with the assistance of a platform and CCTV, review all waste material upon arrival to classify the waste stream.

5.6 Flood Risk

Cardno has prepared a Flood Risk Assessment for the site, to assess the compliance of the proposal against relevantly applicable flood risk related development controls. The Flood Risk Assessment has been carried out in accordance with the SEARs and Bankstown City Council's requirements and is appended to the EIS.

5.6.1 Existing Environment

The site is located within the suburb of Revesby in the Bankstown LGA. The site is located near the Milperra Drain which is a waterway that drains stormwater from the suburbs of Revesby and Milperra. Milperra Drain directs flows in a westerly direction before discharging to the Georges River.

Bankstown City Council provided Cardno with mapping of the 100 year ARI and 20 year ARI flood behaviour including depth, water level, and velocity-depth product for the site.

The key points to note in relation to the 100 year ARI flood affectation of the site is as follows:

- > The peak depth of flooding in the site is less than 0.2 metres for the majority of the site, with very minor locations of depths up to 0.3 metres deep. The affectation of the site is restricted to the western edge of the property near two existing access driveways.
- > The site is affected by negligible areas of flooding with a velocity depth product in excess of 0.05 m²/s meaning that not only is depth of flooding minimal but also the velocity of flows is less than 0.25 m/s.
- > The water level gradient through the site is quite steep in a north-west direction with water levels being higher than the flatter water level gradients on Violet Street adjacent to the site. This implies that the minor affectation of the site is not caused by tailwater flooding from Milperra Drain but rather by overland flow from the minor stormwater catchment upstream.

Therefore, the minor affectation of the site in the 100 year ARI event is caused by the local catchment upstream and not tailwater flooding from Milperra Drain or Georges River. The majority of overland flow is expected to be sourced on site and therefore the affectation is likely to be suitably addressed by stormwater infrastructure design.

5.6.2 Potential Impacts

Cardno's Flood Risk Assessment has found that the overland flow affectation of the site is minor, and the catchment contributing to the affectation is mostly site generated stormwater. Therefore the risk of flood effects due to loss of flood storage is negligible and the risk of increased conveyance is expected to be addressed within the stormwater design for this site as most of the flows are sourced on-site. Similarly, affectation does not occur upstream of the site as the catchment is local therefore there is no need for any easement to be created.

Cardno's Flood Risk Assessment concludes that the proposed development of the site aligns with the minor overland flow affectation experienced at the site up to the 100 year ARI and is in accordance with Bankstown City Council's flood controls as specified in the DCP.

5.6.3 Management and Mitigation Measures

No further Management and Mitigation measures are proposed as:

- > The overland flow conditions experienced on site in all events up to and including the 100 year ARI event do not pose a risk to either vehicle or pedestrian stability therefore the controls relating to carpark design are deemed to be satisfied.
- > The majority of the site is not affected by floods up to and including the 100 year ARI event with the majority of the site flood free. Additionally, the site lies outside of the Georges River Probable Maximum Flood (PMF) extents therefore it is considered that the site does not require any evacuation routes to be assigned as flood risk is negligible.
- > No new buildings or additions are proposed; therefore the requirement for the preparation of a Site Emergency Response Flood Plan is not applicable to the proposed development.

- > The extent of flooding in the 100 year ARI event is restricted to the proposed access driveways and portions of the proposed carpark. The areas of minor affectation are not proposed for storage of any goods that may result in pollution or potentially hazardous materials. Therefore these controls are deemed to be satisfied.

5.7 Site Water Balance

Cardno has prepared a Site Water Balance report that is appended to this EIS. The report also covers drainage and stormwater within the site.

The Site Water Balance includes identification of water requirements for 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.

Also included is detailed stormwater analysis for the site.

5.7.1 Existing Environment

The site is located in the Milperra drainage catchment which drains to the Georges River via a piped drainage network, open channels and overland flow routes. The Georges River continues to flow south west and eventually discharges into Botany Bay. The site is located in close proximity to Milperra Drain, a second order stream, which runs approximately 30 metres to the north of the site in an east to north-west direction.

The site is relatively flat, sloping gently from east to west towards Violet Street which is located along the western boundary of the site. The site is almost all sealed with concrete hardstand apart from the landscaping buffer zone along Violet Street.

5.7.1.1 **Water Use**

Amenities

Amenities include toilet flushing, hand basins and kitchen use. The annual volume required was estimated using plumbing guidelines and based on the number of employees. The current use is estimated as 0.35 ML annually.

Dust Suppression

Dust suppression is the principal water use on the site. Three dust suppression systems also exist on 51 Violet Street including a water spray system for the yard storage areas (**Figure 5-15**), fogging system for the main processing building (**Figure 5-16**), and mobile water carts for general dust suppression. Water from these systems drains to either the sump pit or sediment tank and then into Council's stormwater system. Relevant dust emission controls include water sprays on the crushing and screening operations (hoppers, transfer points, impact bars and conveyor belts). There are also dust suppression sprays at the material storage bays and internal misting/fogging systems in the buildings to reduce dust emissions.

- > Internally, dust suppression is achieved using a fog machine that pressurizes water at 1000 psi through nozzles to produce water droplet particles known as fog. This fog will encapsulate and suppress any dust particles that may be present in the atmosphere whilst falling to the ground. The existing machine provides a 30 second burst every 5 minutes at a flow rate of 18L/s.
- > Sprinklers are used in the areas of the recycled material storage bins. The volume of water used in this process has been estimated based on information by Enviro Recycling that the sprinklers are used for about an hour a day. Additional sprinklers are proposed for the stockpile areas proposed for the southern, extended part of the site.
- > Trafficable areas are sprayed with a water truck. Enviro Recycling has advised that they spray with a 10 kL truck about twice a day using 30-50% of the tank contents each day.

5.7.1.2 **Water Sources**

The site currently has three 10kL rainwater tanks giving a total of volume 30kL. The tanks collect water from 2000 m² of roof area. Water collected by the tanks is used to fill the water truck for dust suppression of trafficable areas and it is proposed to continue this practice in the future. All other water uses are supplied by potable water.

5.7.1.3 Site Drainage and Stormwater

The site has 3 catchments each with its own connection to Council's stormwater network. Cardno drawing no. 59915106-CI-1500 shows the 3 catchments.

- > Catchment 1 is located at the northern portion of the site. Runoff is conveyed by dish drains to a gross pollutant trap (GPT) then discharged to the kerb and gutter via twin 100x200 RHS;
- > Catchment 2 includes most of the existing buildings. A piped storm water system collects runoff from roof and ground surface areas and conveys it to a 3 compartment oil and grit separator (also known as a "triple interceptor pit"). Runoff is then conveyed by 450mm diameter pipe that connects to the Council stormwater network on the western side of Violet Street.

Catchment 3 drains No.57 Violet Street. It also includes an undeveloped portion of no. 33-35 Daisy St which drains to a 500mm x 700mm open channel around the existing building at the rear of the site. Catchment 3 discharges via a 600mm diameter pipe which is assumed to cross under Violet Street to join Council's stormwater line. There is no known water quality measures on Catchment 3.



Figure 5-12 Sediment tank located in north-west corner of the site



Figure 5-15 Water spray system for yard storage areas



Figure 5-13 Drainage line in northern portion of site leading to sediment tank



Figure 5-16 Fogging system for main processing building



Figure 5-14 Rainwater storage tanks

5.7.2 Potential Impacts

5.7.2.1 **Construction Phase**

During construction, potential water quality impacts may arise from the accidental spill of materials (including chemicals) from construction plant and equipment, and runoff from unclean surfaces.

The site may experience flooding during construction works if drains and drainage lines are not maintained and kept free from construction materials, vehicles, and other clutter

5.7.2.2 **Operation Phase**

Water Usage

It is assumed that as a result of the increases in both site area and truck movements, the dust suppression by water truck will double, however other water consumption associated with internal dust suppression and sprinklers will remain unchanged.

Table 5-14 Estimated Water Use

Item	Annual Use (ML)		Sources
	Current	Proposed	
1. <u>Amenities</u> including toilets, showers, hand basin and kitchenette	0.35	0.35	Potable water
2. <u>Dust suppression</u>			
> Fog Machine (internal)	0.34	0.34	Potable water
> Sprinkler (external)	0.34	0.68	Potable water
> Water truck (external)	3.39	6.08	Rainwater tanks and potable water
Total Water Use	4.42	8.32	

Water Sources

Given the increase in trafficable area that the proposed expansion would achieve, the volume of water available from the roof catchment is insufficient to meet daily demands. This will therefore require the rainwater tanks to be supplemented by potable water.

Water Balance Analysis

A long term daily water balance of the external dust suppression demand and the rainwater tanks was carried using historical rainfall data. It was found that based on rainfall over the past 74 years of rainfall data, the rainwater tanks would meet about 14% of the estimated water truck demand for the expanded trafficable area for the pre-development site area, 26% of the estimated water truck demand is met by the rainwater tanks. The annual portion of demand met for the expanded each year varies with rainfall patterns ranging from just under 9% to 23%.

Water Quality

Council has requested "consideration of the water quality targets in accordance with the Georges River Coastal Zone Management Plan (GRCZMP)". The GRCZMP includes the following relevant recommendations to the proposed development:

1. Councils apply the pollution reduction targets in Table 3-2 their Development Control Plans, and
2. Consideration must be given to the most appropriate devices and treatments trains for each situation and location.

With regard to no.1 above, it is noted that:

- > The proposed Humesceptor is able to achieve the target for suspended solids and will make a significant contribution towards the nutrient reduction targets. However the existing water quality devices would need to be augmented to meet the targets.

- > the pollution reduction targets have not yet been included in Bankstown Council's DCP or Engineering Guidelines; and
- > the pollution reduction targets were not specified in recent DA approvals for the site.

With regard to the most appropriate devices and treatments trains for the situation and location, the following factors should be taken into consideration:

- > The pollutants generated by the recycling activities on the site are primarily sediment and fine particulates. Therefore it is recommended that water quality measures and or targets for the development should primarily focus on these sediment and suspended solids rather than nutrients which usually dictate the choice of treatment measures.
- > The treatment devices that fall short of the GRCZMP recommended targets are in areas of the site where no other works are proposed.

Ground water contamination is not anticipated due to the majority of the site being sealed with concrete hardstand.

5.7.3 Management and Mitigation Measures

As there are no additional buildings proposed as part of the proposed development, there is no opportunity to provide additional rain water tanks. The use of other alternative water sources is limited by health guidelines.

There are 3 separate stormwater catchments on the site each with a separate connection to the Council stormwater network in Violet Street. As only a small increase in impervious area is proposed the increase peak stormwater flows is negligible.

A HumeCeptor hydrodynamic separator is proposed to treat stormwater runoff from the catchment on No.57 Violet Street (Catchment No.3). This device is expected to meet the targets for reduction of sediment and suspended solids recommended in the Georges River Coastal Zone Management Plan. The remaining catchments (Catchments no.1 & no.2) already include stormwater treatment devices. No changes are proposed to the stormwater infrastructure in these catchments.

5.8 Visual Amenity

This section provides an assessment of the visual impacts likely to be associated with the proposed recycling facility. It considers the potential impacts on visual amenity and scenic quality on a local and regional scale. Where relevant, mitigation measures have also been recommended to manage potential impacts.

The site and the operations of the existing waste management facility, being within an established industrial use area is not considered to be a site that is highly visible in the locality. Visual impacts from the development are anticipated to be minimal due to the nature of the site and the existing local visual landscape, consisting mainly of industrial premises.

5.8.1 Existing Environment

The proposed facility is located on Violet Street in an industrial area of Revesby and is not currently significantly visible in the locality. The site is characterised by large warehouse buildings, open hardstand areas and has a row of mature trees on the western edge of the site along Violet Street and central to the site.

Figure 5-17 shows an aerial image of the site showing the surrounding industrial landscape. Figure 5-18 to Figure 5-22 show images of existing premises and neighbouring premises.

The existing site buildings include:

- > Site office on the western edge of the site near the entry to 51 Violet Street;
- > Building 1 to the east of the site office;
- > Covered area to the east of Building 1, on the eastern edge of the site;
- > Building 2 south of the covered area, on the eastern edge of the site;
- > Warehouse south of Building 2, on the eastern edge of the site; and

- > Site office on the western edge of the site near the entry to 57-67 Violet Street.

Existing stockpile storage bays are located on the northern boundary of the site. These stockpile areas are shielded from view from outside the site by concrete walls to the north, east and west of each storage bay. Additional stockpile areas are proposed to the southern boundary, without formal storage bays.

The site is surrounded by:

- > Three warehouse buildings on the northern edge of the site;
- > Warehouse buildings and a bus depot on the eastern edge of the site;
- > A warehouse building on the southern edge of the site; and
- > Violet Street on the western edge of the site and warehouse buildings further west.

Further afield, the area bounded by Milperra Road to the north and the M5 South Western Motorway to the south, with the local area improved with numerous office, warehouse and industrial building developments. A line of trees, and acoustic screening along the South Western Motorway provides additional visual screening.

Table 5-15 Key Existing Landscape Features and Associated Visual Quality

Landscape Feature	Description	Visual Quality
Mature trees along western boundary	A line of mature trees along the western Violet Street setback of the site between the site buildings and the boundary fence. These trees are approximately 10m tall. Some shrubs are also located along the boundary fence. Similar trees exist along the length of Violet Street. An additional 12 trees are proposed to be planted within the Violet Street setback, under separate DA to Canterbury Bankstown Council, to compensate for 4 trees to be removed along the southern boundary (DA 332/2016, approved 31 May 2016).	Low
Industrial buildings / warehouses	Industrial buildings and warehouses on the site are similar to those in surrounding properties.	Low
Stockpiles	Stockpiles are screened from Violet Street through the application of a fine mesh fabric screen to control dust emissions from the site.	Low



Figure 5-17 Aerial photograph of the site and surrounding industrial area
Source: NearMap



Figure 5-18 View from site towards eastern boundary



Figure 5-19 View of existing operations and stockpiles

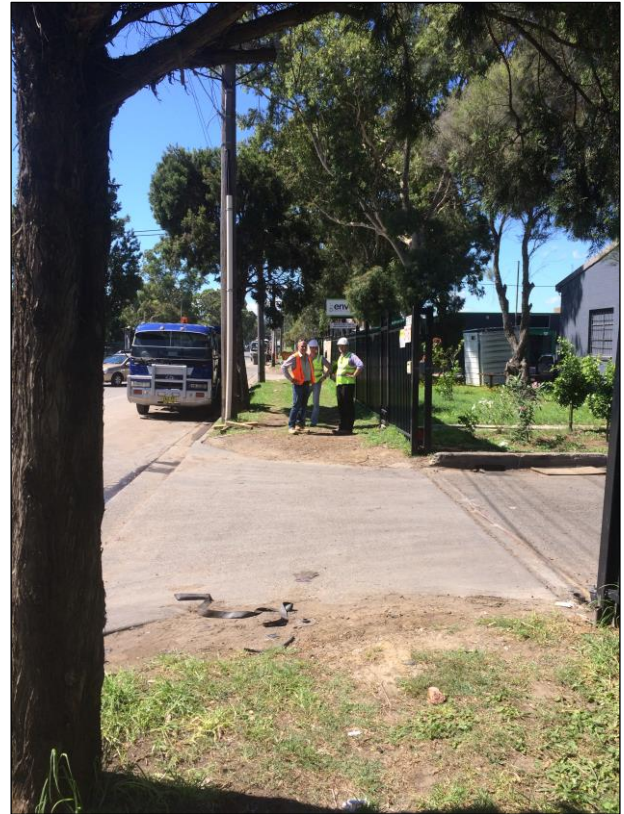


Figure 5-21 Existing Landscape Features – view to north along Violet Street



Figure 5-20 Mature trees and dust screen to western Violet Street boundary



Figure 5-22 Existing Landscape Features – view to south along Violet Street

5.8.2 Potential Impacts

5.8.2.1 *Construction Phase*

The proposed expanded waste recycling facility would be screened by existing warehouse / office buildings from surrounding developments plus substantial street setback landscaping to Violet Street. Therefore no significant adverse impacts upon the landscape or aesthetics of the site and environs are considered likely. Temporary construction phase visual impacts of the development may include:

- > Visual impacts with construction activities (plant and machinery); and
- > Temporary stockpiles of materials during construction, in accordance with the site's Erosion and Sediment Control Plan.

5.8.2.2 Operation Phase

Visually, the layout of proposed facility will be similar to that of the existing facility. The office building slab located at 57 Violet Street would be demolished to facilitate a new staff car parking facility, with separate access driveway. Additional stockpile areas would be established along the southern boundary of the site. No other visual impacts are considered likely during operation.

5.8.3 Management and mitigation measures

Given the localised nature of potential visual amenity impacts associated with the proposed works which are in an industrial area, extensive mitigation measures are not considered to be necessary. The following would be undertaken as part of the proposed works or currently exists to minimise the extent of visual impacts during construction and operation:

- > Works will be undertaken in an orderly manner during construction and operation;
- > Stockpiles of sorted waste will be stored in appropriately contained areas;
- > The western boundary fence has a dust screen / shade cloth, shielding the premises from the roadway; this shade cloth will be maintained during construction and operation to mitigate against potential adverse visual and dust impacts; and
- > Existing and additional vegetation along the western Violet Street setback area, which provides a natural visual screening effect shall be protected and managed to ensure the vegetation remains healthy and continues to provide adequate screening during the operation of the facility.

5.9 Flora and Fauna

Some vegetation exists along the front street setback to the site's Violet Street frontage. The balance of the site is generally cleared of vegetation and mostly sealed with hardstand areas. As a result, the proposal is considered unlikely to have any impacts on the flora and fauna of the area.

The following sections examine the existing environment in the context of flora and fauna and consider the potential impacts of the proposed works on the ecology of the area. Where relevant, measures have also been recommended to mitigate and manage potential impacts on the ecology of the area.

5.9.1 Existing Environment

Site inspections were carried out to identify potential ecological constraints in the vicinity of the site. Limited vegetation was identified, consisting of:

- > A row of trees (approximately 15 trees) and shrubs running parallel to Violet Street within the western boundary of the site (refer Figure 23);
- > Shrubs located at the boundary between 51 and 57 Violet Street; and
- > 4 x trees located at the southern boundary of 57 Violet Street (approved on 31 May 2016 for removal under DA 332/2016 to be replaced with 12 x additional trees to street setback frontage).

No fauna was sighted during the site inspection.



Figure 5-23 Vegetation running parallel to Violet Street – north-east

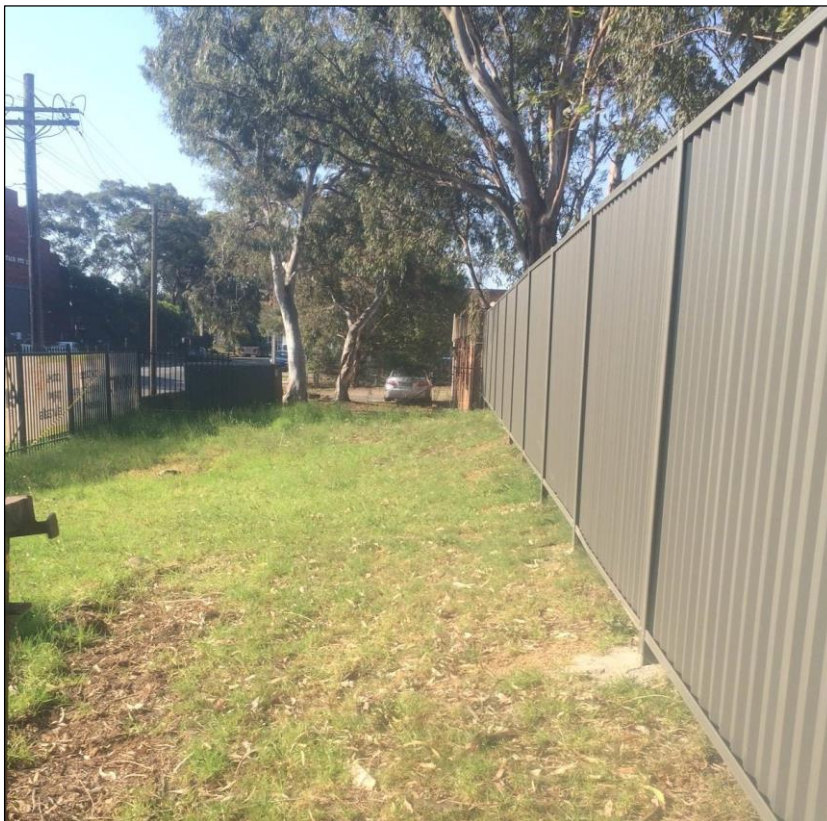


Figure 5-24 Vegetation running parallel to Violet Street – north

Searches of the OEH BioNet Database, OEH Spatial data, EPBC Database and DPI NSW Threatened Species Database were undertaken on 4 February 2015 to determine the presence of threatened fauna and flora at and in the vicinity of the proposed development.

Seventy species were listed by the OEH BioNet search for Revesby and the surrounding area (encompassing an approximate 10 km x 10 km block around the site). The closest sightings to the proposed development were of the Downy Wattle (*Acacia pubescens*) and the Green and Gold Bell Frog (*Litoria aurea*) which were recorded approximately 800 m and 1.2 km respectively from the site.

The EPBC Database search (within an approximate 1 km buffer zone from the site) returned (refer to **Appendix J**):

- > Two threatened ecological communities: the Shale Sandstone Transition Forest of the Sydney Basin Bioregion and the Western Sydney Dry Rainforest and Moist Woodland on Shale, both are critically endangered;
- > Twenty seven listed threatened species were identified including: six bird species, three frog species, six mammal species, 11 plant species and one species of reptile; and
- > Twenty two listed migratory species were also noted, all of which were birds, identified as marine, terrestrial or wetland species.

Table 5-16 Threatened flora and fauna species (EPBC Database)

Scientific Name	Common Name	Commonwealth Status	Type of Presence
<i>Anthochaera phrygia</i>	Regent Honeyeater	Endangered	Species or species habitat known to occur within area
<i>Botaurus poiciloptilus</i>	Australasian Bittern	Endangered	Species or species habitat known to occur within area
<i>Dasyornis brachypterus</i>	Eastern Bristlebird	Endangered	Species or species habitat may occur within area
<i>Lathamus discolor</i>	Swift Parrot	Endangered	Species or species habitat may occur within area
<i>Rostratula australis</i>	Australian Painted Snipe	Endangered	Species or species habitat may occur within area
<i>Heleioporus australiacus</i>	Giant Burrowing Frog	Vulnerable	Species or species habitat likely to occur
<i>Litoria aurea</i>	Green and Golden Bell Frog	Vulnerable	Species or species habitat may occur within area
<i>Litoria raniformis</i>	Growling Grass Frog, Southern Bell Frog, Green and Golden Frog, Warty Swamp Frog	Vulnerable	Species or species habitat may occur within area
<i>Chalinolobus dwyeri</i>	Large-eared Pied Bat, Large Pied Bat	Vulnerable	Species or species habitat likely to occur within area
<i>Dasyurus maculatus</i> (SE mainland population)	Spot-tailed Quoll, Spotted-tail Quoll, Tiger Quoll (south-eastern mainland population)	Endangered	Species or species habitat likely to occur within area
<i>Petrogale penicillata</i>	Brush-tailed Rock-wallaby	Vulnerable	Species or species habitat may occur within area
<i>Phascolarctos cinereus</i> (combined populations of Qld, NSW and the ACT)	Koala (combined populations of Queensland, New South Wales and the Australian Capital Territory)	Vulnerable	Species or species habitat known to occur within area
<i>Pseudomys novaehollandiae</i>	New Holland Mouse, Pookila	Vulnerable	Species or species habitat likely to occur within area
<i>Pteropus poliocephalus</i>	Grey-headed Flying-fox	Vulnerable	Foraging, feeding or related behaviour known to occur within area
<i>Acacia pubescens</i>	Downy Wattle, Hairy Stemmed Wattle	Vulnerable	Species or species habitat likely to occur within area
<i>Allocasuarina glauca</i>	--	Endangered	Species or species habitat may occur within area
<i>Caladenia tessellata</i>	Thick-lipped Spider-orchid, Daddy Long-legs	Vulnerable	Species or species habitat likely to occur within area

Scientific Name	Common Name	Commonwealth Status	Type of Presence
<i>Deyeuxia appressa</i>	--	Endangered	Species or species habitat likely to occur within area
<i>Genoplesium baueri</i>	Yellow Gnat-orchid	Endangered	Species or species habitat likely to occur within area
<i>Grevillea parviflora</i> subsp. <i>parviflora</i>	Small-flower Grevillea	Vulnerable	Species or species habitat likely to occur within area
<i>Hibbertia puberula</i> subsp. <i>glabrescens</i>	--	Critically Endangered	Species or species habitat likely to occur within area
<i>Persoonia nutans</i>	Nodding Geebung	Endangered	Species or species habitat likely to occur within area
<i>Pimelea spicata</i>	Spiked Rice-flower	Endangered	Species or species habitat likely to occur within area
<i>Pterostylis saxicola</i>	Sydney Plains Greenhood	Endangered	Species or species habitat likely to occur within area
<i>Streblus pendulinus</i>	Siah's Backbone, Sia's Backbone, Isaac Wood	Endangered	Species or species habitat likely to occur within area

A search of the DPI NSW Threatened Species Database also returned Adam's Emerald Dragonfly (*Archaeophya adamsi*), which is listed as an endangered species in NSW. Although sightings of this species are few, it could potentially occur in the greater Sydney Region, including the Revesby area.

According to OEH (2013), mapping of the Sydney Metropolitan Area, no endangered ecological communities are present within close proximity to the site. The closest mapped vegetation patches are approximately 120 m to the south and west of the site. These patches are classified as Urban Exotic/Native and are likely to comprise a mixture of planted native and exotic species.

5.9.2 Potential Impacts

5.9.2.1 **Construction Phase**

Noting that there are threatened species potentially present in the vicinity of the proposed facility, known sightings of these species were recorded at a distance where they would not be impacted by development or operations at the site. Further, none of these species were observed during the site inspections and the limited vegetation clearing at the site. The vegetation along the boundary with Violet Street would be retained and enhanced with an additional 12 trees to replace the 4 trees removed from the southern boundary of 57 Violet Street under DA 332/2016, approved 31 May 2016 by the City of Canterbury Bankstown Council. It is noted that the small trees/shrubs located between the internal boundary of 51 and 57 Violet Street are not covered by the Bankstown City Council Tree Preservation Order and have since been removed. No adverse ecological impacts are considered likely as a result of the proposed works. Although considered unlikely, potential impacts may include:

- > Flora outside the works footprint may be accidentally damaged during the course of construction works;
- > Fauna at the site may be accidentally injured during the course of construction works; and
- > Indirect impacts (e.g. hydrological changes) to the adjacent vegetation.

5.9.2.2 **Operation Phase**

No operational impacts are expected.

5.9.3 Management and Mitigation Measures

In order to manage potential impacts to flora and fauna the following mitigation measures shall be adhered to:

- > Tree protection fencing will be installed during construction to protect any trees adjacent to the site or access routes that are being retained, to avoid accidental damage; and

- > If any animals are injured during the course of construction works, in particular threatened or native species, the NSW Wildlife Information, Rescue and Education Service (WIRES) will be contacted immediately.

5.10 Heritage

5.10.1 Existing Environment

To ascertain the presence of Aboriginal heritage items and places within the vicinity of the proposed development, a search of the Australian Heritage Information Management System (AHIMS) and National Native Title Register were undertaken on 4 February 2015. Based on the search of the AHIMS, no Aboriginal sites were recorded or had been declared in or near the site of the proposed works. In addition, no sites in the area were listed on the National Native Title Register. The Office of Environment and Heritage (OEH) has confirmed, in its response to the SEARs, that the site does not contain biodiversity, natural hazards or Aboriginal or cultural heritage issues that require a formal OEH response, and have no further need to be involved in the assessment of the project. Cardno's additional consultation letters were also not responded to.

To ascertain the presence of non-Aboriginal heritage items and places within the vicinity of the proposed works, a search of the Australian Heritage Database (AHD) and the NSW State Heritage Inventory (SHI) were undertaken on 4 February 2015.

A search of the AHD identified one item, Georges River Wetlands, within Revesby. The wetlands are located on Henry Lawson Drive, Padstow Heights over 4 km from the site, and are listed on the non-statutory Register of the National Estate.

A search of the NSW SHI returned no heritage sites listed under the NSW *Heritage Act 1977* and two heritage sites listed by State Agencies (Section 170 Registers), in the suburb of Revesby. Three sites were also listed as having local heritage in the suburb of Revesby. These sites are outlined in Table 5-17 below and are all greater than 1 km from the site.

Table 5-17 Non-Aboriginal Heritage Listed Sites – NSW State Heritage Inventory

Place Name	Address	Register/List
Cattle Duffers Flat	925 Henry Lawson Drive, Revesby	Local Government/LEP
Electricity Substation No. 1226	21 Doyle Road, Revesby	State Agency s170
Pah, The (House, "The Pah")	4 Tompson Road, Revesby	Local Government/LEP
Revesby Public School	84 The River Road, Revesby	Local Government/LEP
Revesby Railway Station Group	Blamey Street	State Agency s170

Schedule 5 to Bankstown LEP 2015 and its accompanying Heritage Map (Sheet 2) does not identify any local heritage items or Archaeological items in Violet Street and surrounding areas. The nearest local heritage item is the site of the Bankstown Aerodrome, located north-west of the site and north of Milperra Road. This EIS has assessed the impacts of the proposed development on the heritage of the area, and has determined that a detailed heritage assessment is not considered necessary. The assessment involves:

- > Update database searches relating to heritage;
- > Assess the impacts of the proposed development on heritage items; and
- > Identify feasible and reasonable mitigation measures relevant to the construction and operational stages of the Project.

5.10.2 Potential Impacts

Given that the site has been heavily disturbed, consists mainly of hardstand and is a considerable distance from the identified items in Table 5-17 above, it is considered highly unlikely that any Aboriginal or non-Aboriginal heritage objects or places are present on the site or in the vicinity.

Considering the highly disturbed nature of the site, it is not considered likely that any Aboriginal heritage exists at the site.

5.10.3 **Management and Mitigation Measures**

In order to manage potential impacts on heritage the following mitigation measures shall be adhered to:

- > Should any Aboriginal objects/sites be uncovered during the works, all work should cease in the vicinity of the find and Bankstown City Council must be notified. If the sites/objects cannot be avoided, an Aboriginal Heritage Impact Permit (AHIP) under Section 90 of the *National Parks and Wildlife Act 1974* may be required. If skeletal remains are identified then NSW Police also need to be contacted; and
- > In the event that a non-Aboriginal object is uncovered during construction, work is to cease in the vicinity of the find and Bankstown City Council must be notified. An excavation permit or an exception notification may be required under the *Heritage Act 1977*.

5.11 **Socio-economic**

5.11.1 **Existing Environment**

5.11.1.1 ***Population***

Bankstown LGA experienced population growth between the 2006 census and the 2011 census of about 1.4% per year. Bankstown LGA's population was 182,000 and the suburb of Revesby was 13,000 at the time of the 2011 census (ABS, 2011). The site is located within the industrial area of Revesby, north of the South-Western Motorway. The main residential area of Revesby is located south of the Motorway. To the west of Revesby industrial area is the suburb of Milperra with a population of around 3,800 (ABS, 2011).

5.11.1.2 ***Employment***

The main occupations for Bankstown LGA are shown in Table 5-18. The major employment industries are school education, cafes, restaurants and takeaway food services, road freight transport, hospitals and depository financial intermediation.

Table 5-18 Employment Distribution (ABS, 2011)

Occupation	Bankstown (%)	NSW (%)
Clerical and administrative workers	18.0	15.1
Professionals	17.3	22.7
Technicians and trade workers	15.4	13.2
Managers	10.0	13.3
Labourers	9.8	8.7
Sales workers	9.5	9.3
Machinery operators and drivers	8.9	6.4
Community and personal service workers	8.6	9.5

5.11.1.3 ***Income***

Personal income in Bankstown LGA was reported as \$428 per week, less than the NSW average of \$561 per week. Household income in Bankstown LGA was reported as \$1,091 per week, slightly lower than the NSW average of \$1,237 per week (ABS, 2011).

5.11.2 **Potential Impacts**

5.11.2.1 ***Construction Phase***

The temporary construction phase may have some short term impacts to the community relating to air quality, traffic and transport, and noise. Mitigation and management measures are proposed to ensure that there would be no adverse impact upon the community, as discussed in Sections 5.2, 5.3 and 5.4 respectively.

5.11.2.2 Operation Phase

Employment

The existing recycling facility currently employs 25 people. Notwithstanding the increased automation of waste processing at the proposed expanded recycling facility, the site would continue to employ 25 people once the facility has been upgraded, due to the increase in waste volumes to be processed.

Waste and Recycling

The Bankstown Draft Demolition and Construction Policy outlines the need for the recycling and reuse of materials (Clause 2.16), whereby “demolition procedures must maximise the reuse and recycling of demolished materials in order to reduce the environmental impacts of waste disposal”. The proposed facility would assist in reducing the environmental impacts of waste disposal, as it encourages the recycling and reuse of materials.

Recycling and waste recovery provides many benefits, environmentally and economically. If this process is undertaken, it reduces and minimises the volume of waste which is sent to landfill. With building materials accounting for approximately 40% of the solid waste generated in Australia, it is imperative that it is dealt with in the most environmentally sustainable way. Landfill can have negative effects on the environment such as the production of greenhouse gases, and generation of leachate. Recycling and waste recovery reduces the reliance on raw materials production, offering an economic benefit through the reuse of materials.

The installation of a well-planned and viable sorting plant line will increase the recovery rates from 51% which is currently being achieved to above 80%. Based on a throughput of 250,000 tonnes of waste, the proposed facility expansion would increase resource recovery rates from the current 51% to above 80%, resulting in over 200,000 t/annum being diverted from landfill, saving over \$50 million in landfill costs, and preventing 33,250 t/annum of carbon emissions from landfill alone. There will also be an anticipated reduction in potential worksite injuries due to the increased automation of waste separation and processing.

Social

Community consultation is a requirement under the SEARs provided by the NSW Department of Planning and Environment. Community consultation was undertaken in two forms, notifying local landowners and holding a community drop-in session. This methodology ensured the general public and the surrounding area were able to make any comments on the proposed development.

The Community Consultation Session was held at the Revesby Community Hall at Macarthur Avenue Revesby between 4 pm – 6 pm on Wednesday 16 December 2015. On 09 December 2015 a public advertisement for the meeting was published in the Bankstown Canterbury Torch, a local and online newspaper in the Bankstown-Canterbury region. Through the advertisement, members of the public were invited to join Cardno and Enviro Recycling representatives in a Community Drop-In Session with the intention of providing an overview of the project and answering any questions that may arise. A table of display material was set up for public viewing, as can be seen in the photographs below. Company representatives from Cardno, Enviro Recycling and Summit Enviro Consulting were in attendance during the entire allotted timeslot however, there were no public attendees to the Public Meeting and no responses to the neighbour notification letters.

Potential amenity considerations likely to result in any adverse social impacts would relate to air quality, traffic and transport, and noise. These issues are discussed in Sections 5.2, 5.3 and 5.4 respectively.

5.11.3 Management and Mitigation Measures

It is anticipated that key amenity considerations likely to result in any adverse social impacts would relate to air quality, traffic and transport, and noise. Mitigation and management measures are proposed to ensure that there would be no adverse impact upon the community, as discussed in Sections 5.2, 5.3 and 5.4 respectively.

5.12 Hazards and Risks

Environmental risks can be defined as the actual or potential threat of adverse effects on living organisms and the environment arising out of an organisation’s activities. These activities include, but are not limited to generation of effluents, emissions, wastes, resource depletion etc.

State Environmental Planning Policy No 33 – Hazardous and Offensive Development (SEPP 33) aims to ensure that development that is classified as potentially hazardous or offensive is identified and assessed appropriately and that conditions to reduce or minimise any adverse impact are identified.

Under SEPP 33, the proposed development would be considered as 'potentially offensive' as waste related activities could potentially impact on the surrounding locality, even after measures are taken to reduce or minimise the potential impacts. However, according to the DOP (2011a) *Hazardous and Offensive Development Application Guidelines – Applying SEPP 33* (referred to as 'Applying SEPP 33 Guidelines') if assessments can demonstrate that the offence can be controlled to a level that is not significant, then the activity would not be considered to be offensive. On the basis that the development shall comply with any updated EPL for the expanded waste recycling facility, then the development is not considered to be an offensive development.

Development which could potentially pose a significant risk to human health, life or property or the biophysical environment if not managed appropriately is classified as development for the purposes of a 'potentially hazardous industry' under SEPP 33. In accordance with the SEARs and the *Applying SEPP 33 Guidelines* (DOP 2011a) a risk screening was undertaken to determine if the proposed modification would be considered 'potentially hazardous'. Results of the risk screening determined that the proposed development would not be considered as potentially hazardous under SEPP 33. A Preliminary Hazard Analysis (PHA) was undertaken below in accordance with Clause 12 of SEPP 33 and the *Hazardous Industry Planning Advisory Paper No 6 – Hazard Analysis* DOP (2011b).

Mitigation measures to ensure avoidance or management of these risks are provided in Section 5.12.4.

5.12.1 Existing Environment

The following hazardous materials are currently maintained on site:

- > LPG gas bottles (in a steel cage);
- > Oils greases and hydraulic fluids (on a bunded pallet);
- > Oxyacetylene for welding;
- > Solvents for maintenance; and
- > Waste oil (on a bunded pallet).

5.12.1.1 *Bushfire*

The Bankstown/Hurstville BMFC Bush Fire Risk Management Plan 2012 (Bankstown Central South Map), shows that the site is not located on or near bushfire prone land.

5.12.2 Potential Impacts

The site contains an existing 7,000 L tank for the storage of diesel fuel. The tank is located within the existing warehouse building and stored above ground and self-bunded. Diesel fuel in the tank is refilled 2-3 times p/week.

No hazardous materials would be accepted on site, however, hazardous materials may inadvertently make their way onto site with other waste material.

There are a number of potential hazards and risks that require consideration in the context of the proposed activities. Hazards and risks can be considered to be substances or events that have the potential to place the local community in danger or cause loss of property or life.

Potential hazard receivers are considered to be the local surrounding environment, Enviro Recycling staff and contractors, waste truck drivers, visitors to the site and residential areas nearest to the Revesby Industrial Area.

5.12.3 Preliminary Hazard Analysis

5.12.3.1 Risk Screening

It has been identified that consideration should be made as to whether the proposed activities are considered hazardous or potentially hazardous under SEPP 33. In accordance with the *Applying SEPP 33 Guidelines* (DOP, 2001a), a risk screening for the proposed development has been undertaken which presents the details of the determination as to the classification of the proposed activities under SEPP 33.

The *Applying SEPP 33 Guidelines* (DOP, 2001a) lists five main factors which risk typically depends on:

- > The properties of the substance(s) being handled or stored;
- > The conditions of storage or use;
- > The quantity involved;
- > The location with respect to the site boundary; and
- > The surrounding land use.

An inventory of potentially hazardous materials proposed for use associated with the proposed activities has been compiled, based on information provided by Enviro Recycling. Potentially hazardous materials are defined in the Australian National Transport Commission (NTC, 2011) *Australian Code for the Transport of Dangerous Goods by Road and Rail* (referred to as the “Australian Dangerous Good Code”), which may include storage, transport, use or production of hazardous materials associated with the management of liquid waste at the site.

An inventory of the hazardous materials that are likely to be stored onsite associated with the proposed activities is provided below.

Table 5-19 Hazards associated with the proposed facility upgrade

Hazardous Material	Description	Storage Location	Storage Quantity	Classification	Screening threshold from Applying SEPP 33 Guidelines
LPG	Forklifts	Gas bottle cage	180 kg (12 x 15 kg bottles)	2.1	N/A
Oxyacetylene	For welding	Tool storage shed	110 kg (2 x 55 kg bottles)	2.1	If stored at a distance of 30 m from site boundary, maximum allowable quantity is: ~400 kg for sensitive uses ~700 kg other uses
Oils	For plant machinery and maintenance	Bunded pallet	720 L (3 x 240 L drums)	3	N/A
Greases		Tool storage shed	32.4 kg (72 x 450 g canisters)	3	N/A
Solvents / Degreaser		Tool storage shed	16 L (4 x 4 L bottles)	3	N/A
Diesel			7000 L	3	If stored at a distance of 40 m from site boundary, maximum allowable quantity is: ~1000 tonnes (or ~1,175 kL) for sensitive uses

Hazardous Material	Description	Storage Location	Storage Quantity	Classification	Screening threshold from Applying SEPP 33 Guidelines
					~1150 tonnes (or ~975 kL) for other uses
Incoming hazardous waste	Incidental incoming hazardous waste (asbestos)	Rear yard, if required	< 10 m ³ (1-2 kg asbestos)	9	N/A
Incoming hazardous waste	Incidental incoming hazardous waste (car batteries)	Rear yard, if required	< 10 m ³	8	5 T (PG I), 25 T (PG II) or 50 T (PG III)

The risk screening indicates that the screening threshold for diesel and oxyacetylene may be exceeded if the materials are stored within the distances indicated from the boundary of the site. The tool area, where oxyacetylene would be stored is located approximately 30 metres from the nearest site boundary, and the diesel tank is located 40 metres from the nearest site boundary. As such the proposed development is not be considered to be potentially hazardous and SEPP 33 will no longer apply. All other hazardous materials have been assessed to be below the SEPP 33 screening thresholds.

The proposed development may also be potentially hazardous if the number of generated traffic movements (for significant quantities of hazardous materials entering or leaving the site) is above the cumulative annual or peak weekly vehicle movements outlined in Applying SEPP 33. Hazards associated with the transportation of materials to the site is provided in Table 5-20 below.

Table 5-20 Hazards associated with the proposed materials transport

Hazardous Material	Classification	Average no. of loads per annum	Load Size	Screening Threshold from Applying SEPP 33 Guidelines
LPG	2.1	52	90 kg	>500 vehicle movements per annum (cumulative) for loads >5T (packages)
Oxyacetylene	2.1	52	110 kg	>500 vehicle movements per annum (cumulative) for loads >5T (packages)
Oils / Greases	3	6	Up to 720 L	PGI: >500 vehicle movements per annum (cumulative) for loads >1T (packages) PGII: >750 vehicle movements per annum (cumulative) for loads >10T (packages) PGIII: >1000 vehicle movements per annum (cumulative) for any load (packages)
Diesel	3	156	7000 L (equivalent to approx. 6T)	PGIII: >1000 vehicle movements per annum (cumulative) for >10T load-bulk
Incoming hazardous waste (e.g. asbestos)	9	12	< 10 m ³	>1000 vehicle movements per annum (cumulative) for any load (bulk)
Incoming hazardous waste (car batteries)	8	12	< 10 m ³	>500 vehicle movements per annum (cumulative) for loads >5T (packages)

The risk screening for the transportation of hazardous materials to the site does not exceed the SEPP 33 Guidelines. Therefore, a route evaluation study does not need to be completed for the proposed expansion of the existing waste recycling facility.

5.12.3.2 Level of Assessment

According to the *Applying SEPP 33 Guidelines* the purpose of a Preliminary Hazard Analysis (PHA) is to:

- > Identify all potential hazards associated with the proposal;
- > Analyse all hazards in terms of their consequences (effects) to people and the biophysical environment and their likelihood of occurrence;
- > Quantify the analysis and estimate the resultant risks to surrounding land uses and the environment; and
- > Assess the risks in terms of the location, land use planning implications and existing criteria and ensure that the proposed safeguards are adequate and thus demonstrate that the operation will not impose an unacceptable level of risk.

The level and extent of a PHA assessment required depends on the circumstances of the proposal (the nature and scale of the development) and its location in relation to surrounding land uses and the natural environment.

Applying SEPP 33 Guidelines sets out criteria for using the results of the risk screening to determine which of the following three levels of analysis is appropriate for the PHA:

- > Level 1 – an essentially qualitative approach based on comprehensive hazard identification to demonstrate that the activity does not pose a significant risk;
- > Level 2 – supplements the qualitative analysis by sufficiently quantifying the main risk contributors to show that risk criteria will not be exceeded; and
- > Level 3 – a full quantitative analysis.

According to *Applying SEPP 33 Guidelines* a qualitative (Level 1) PHA may be sufficient in the following circumstances:

- > where the materials are relatively non-hazardous (for example, corrosive substances and some classes of flammables);
- > where there are no major worst-case consequences;
- > where the technical and management safeguards are self-evident and readily implemented; and
- > where the surrounding land uses are relatively non-sensitive.

Based on the nature and scale of the development, a qualitative (Level 1) PHA assessment is assumed to adequately address the potentially hazardous scenarios associated with the development. The PHA has been undertaken in accordance with the SEPP33 legislation and relevant guidelines.

This PHA has been completed in accordance with the objectives and guidelines provided in the DOP (2011b) *Hazardous Industry Planning Advisory Paper No 6 – Hazard Analysis* and it considered to address the requirements of SEPP 33.

5.12.3.3 Preliminary Hazard Analysis Methodology

Potentially hazardous scenarios indicated for the proposed activities are identified in the following section. All of these scenarios have been considered as part of the Preliminary Hazard Analysis (PHA).

For the analysis and estimates of potential risk the following approach has been utilised and is adapted from the AS/NZS Standard for Risk Management ISO 31000:2009 (Standards Australia, 2009). For each of the potentially hazardous scenarios, the potential environmental issues are identified and classified as to its probability of occurrence and potential impact on the environment should the scenario eventuate. A standard classification system of, minor, moderate or major is used to rank the hazards.

Having identified the potential hazards, it is necessary to determine what event or action may cause that problem. This step is critical to linking potential hazards and potential solutions. Each potential hazard may

have several likely causes. Potential solutions are any preventive actions, which can reduce the probability of impacts occurring, or can reduce the consequence of the impact should it occur.

The risk scale adopted is provided in Table 5-21. Those risks highlighted in red are considered major risks, those highlighted in orange are considered moderate risks, and those highlighted in green are considered low risks. The classifications of likelihood and consequence are provided Table 5-21 and Table 5-22, respectively.

Following the initial analysis of risk, appropriate mitigation measures are identified to manage the risks and the likelihood and consequence classifications are updated accordingly to calculate the residual risk (i.e. the risk of the hazard after the mitigation measures have been implemented).

No further assessment under SEPP 33 is required for projects that are not considered to be potentially hazardous following a SEPP 33 Risk Assessment.

Table 5-21 Environmental Risk Assessment Matrix

		Likelihood				
		L1	L2	L3	L4	L5
Consequence	C1	Major	Major	Moderate	Moderate	Moderate
	C2	Major	Moderate	Moderate	Moderate	Low
	C3	Moderate	Moderate	Moderate	Low	Low
	C4	Moderate	Moderate	Low	Low	Low
	C5	Moderate	Low	Low	Low	Low

Table 5-22 Likelihood of Environmental Risk

Likelihood	Category	Description	Probability
L1	Nearly Certain	Expected to occur in most circumstances	>95%
L2	Likely	Will probably occur in most circumstances	66-95%
L3	Possible	May occur at some time	36-65%
L4	Unlikely	May occur at some time, but is considered unlikely	6-35%
L5	Rare	Could occur in exceptional circumstances	<5%

Table 5-23 Consequence of Environmental Risk

Consequence	Category	Description
C1	Extreme	Major irreversible impact
C2	Major	Significant impact, long term, potentially irreversible
C3	Moderate	Medium impacts, potential to reverse
C4	Minor	Low impact, localised
C5	Negligible	Insignificant impact

5.12.3.4 Hazard Analysis Results

The results of the hazard analysis are presented in Table 5-24 below.

Table 5-24 Hazard Analysis

Event/Issue	Cause/Comments	Impact/Potential Consequences	L	C	Initial Risk	Mitigation/Management Measures to be Implemented	L	C	Residual Risk
Receipt of hazardous liquid wastes onto the site not licensed to be accepted under the EPL.	Receipt of unacceptable liquid wastes such as industrial liquid wastes.	Breach of EPL licence. Risk to life and health of personnel due to toxic substances and/or fumes. Potential contamination of other liquid waste received compromising the whole waste treatment process.	L3	C3	Moderate	- The proposed development shall not accept liquid waste. - Adequate training of personnel to ensure compliance with accepted substances. - Refusal of entry of unacceptable waste by personnel.	L4	C4	Low
Receipt of hazardous solid waste.	Unacceptable waste accepted to the facility (e.g. asbestos).	Risk to life and health of personnel due to toxic and/or hazardous substances and/or fumes.	L2	C2	Moderate	- Signage at the site gate stating prohibited wastes that are not accepted at the facility. - Refusal of entry of unacceptable waste (if recognised). - Adequate training of site personnel to recognise unacceptable waste. - Adequate training of staff in WHS controls of hazardous waste. - Video surveillance of all vehicles entering the site. - Waste classification certification is requested prior to disposal for some waste types and is initiated from customer inquiries or through identification of suspect wastes at the waste recycling facility. - Should any unauthorised hazardous waste materials be found on site, the EPA is to be notified as soon as practicable.	L3	C2	Moderate
Fire within vehicles or buildings on site.	Overheating or ignition of combustible / flammable material.	Damage to site property and equipment	L3	C3	Moderate	Measures including the following should be specified in the EMP for the site: Appropriate maintenance of vehicle and plant equipment.	L4	C3	Low
		Risk to life and health of personnel in the vicinity of the site	L3	C2	Moderate	Regular cleaning and waste removal from buildings.	L4	C2	Moderate

Event/Issue	Cause/Comments	Impact/Potential Consequences	L	C	Initial Risk	Mitigation/Management Measures to be Implemented	L	C	Residual Risk
						21. Any spills of flammable material are to be contained and cleaned up immediately. 22. Asset Protection Zones should be maintained around individual buildings on site.			
Fire from combustible materials.	Fire due to improper storage of flammable gas in the vicinity of ignition sources such as cigarette butts, glass, cylinders.	Risk to life and health of personnel. Damage or loss of assets.	L3	C2	Moderate	Measures including the following should be specified in the EMP for the site: 23. Continual visual monitoring by site personnel. 24. Training and awareness of site personnel. 25. Flammable and combustible wastes would also be stored in accordance with relevant Work Health and Safety policies to minimise the likelihood of ignition. 26. Appropriate signage to prevent ignition sources to be in the vicinity of combustible materials.	L4	C2	Moderate
Generation of dust, odour and noise from the site.	Vehicle movements and operation of plant equipment.	Impacts on air quality could lead to environmental and health issues in the local area.	L2	C4	Moderate	The EMP outlines that paved areas are regularly watered to minimise dust problems. Additional mitigation measures include:	L3	C4	Low
		Noise impacts on local receivers could cause annoyance and/or health impacts.	L2	C4	Moderate	27. Spraying of stockpiles to minimise dust generation during stockpiling. 28. Internal routes of machinery and vehicles should be designed so that minimal reversing and manoeuvres are needed to limit reverse beacon noise and screeching."	L3	C4	Low
	Odour generation from waste processing activities.	Odour impacts on residences and visitors to the vicinity of the site.	L4	C4	Low	Odour can be managed by: 29. Implementing traffic management procedures to co-ordinate the delivery schedule and avoid a queue of the incoming or outgoing trucks for extended periods of time,	L5	C4	Low

Event/Issue	Cause/Comments	Impact/Potential Consequences	L	C	Initial Risk	Mitigation/Management Measures to be Implemented	L	C	Residual Risk
						30. Implementing a spill management procedures to include immediate clean-up of any spill/leakage from processing waste activities, and incoming and outgoing trucks, and 31. Maintaining an odour complaint logbook and in the event of a complaint immediately investigate any unusual odour sources (including spill or leakage in the traffic areas) within the site boundary and take appropriate action to eliminate these.			
Accidental fuel spill (i.e. during refuelling) or chemical spills on site.	Containment issues i.e. a breach in bunding of stored fuel. Incorrectly administering fuel during refuelling or bunding the designated re-fuelling area.	Environmental pollution by contamination of soil, surface water and/or ground water at and within close proximity to the site and possible fire if an ignition source is present.	L3	C4	Low	To minimise the frequency and damage of spills, the EMP includes: 32. All major maintenance of vehicles is undertaken off-site. 33. Spillage of liquids are absorbed using "dri-sorb" and is collected and transported to a suitable disposal location. Once the bulk of the spill has been removed, the area is cleaned appropriately. 34. All components of the wastewater management system is inspected and maintained in a regular basis; oil/water separator is pumped out following an emergency incident or spill. Additional mitigation measures can include: 35. Any refuelling of machinery/vehicles to be undertaken on site would be undertaken in a designated bunded area. 36. Appropriate spill kits should also be maintained on site and all site personnel trained in their use. 37. Any chemicals stored on site would be stored in appropriately bunded and ventilated areas, with both primary and	L4	C4	Low

Event/Issue	Cause/Comments	Impact/Potential Consequences	L	C	Initial Risk	Mitigation/Management Measures to be Implemented	L	C	Residual Risk
						secondary containment measures in place. All relevant Materials Safety Data Sheets (MSDS) would be maintained on site. All fuels/oils must also be stored within appropriately contained areas. 38. The Site Manager and the EPA should be notified immediately of any spills on site. 39. Appropriate flow diversion measures should be used to contain runoff that may be contaminated by a spill.			
Biological hazards spread on site.	Biological hazards from waste received spread by litter, vermin and pests.	Risk to life and health of personnel in the vicinity of the site	L3	C2	Moderate	Some litter and vermin controls are already implemented under the existing site operations and should continue to be adhered to including: 40. Daily collection of litter in the facility 41. Vermin population is controlled by a qualified pest exterminator inspecting the site once a year. Additional mitigation measures include: 42. Personnel should follow hygiene practices to prevent contact with biological hazard. 43. Personnel should wear protective clothing when handling received waste.	L4	C3	Low
Disruption to services if utilities are damaged.	Electrical power outages during construction, maintenance, day to day activities or external reasons.	Environmental pollution due to failure of systems due to power outages.	L3	C3	Moderate	Ensure a backup power source is available and regularly maintained.	L4	C4	Low
General work health and safety incidents at the site (i.e. slips/falls, etc).	Working in proximity to machinery / equipment, operating a vehicle, use of hazardous materials and working on an operational waste recycling site	Risk to life and injury to personnel.	L3	C2	Moderate	44. Implement a Work Safety Health and Safety Plan for the site. 45. Induction of work safety procedures for new personnel and continual training for existing personnel.	L4	C2	Moderate

Event/Issue	Cause/Comments	Impact/Potential Consequences	L	C	Initial Risk	Mitigation/Management Measures to be Implemented	L	C	Residual Risk
						46. Maintain Material Safety Data Sheets (MSDS) for hazardous materials kept on site. 47. Adhering to EMP procedures.			

5.12.4 Management and Mitigation Measures

Environmental risks during the operation of the site require management to control them to acceptable levels. The implementation of appropriate mitigation measures would minimise the likelihood of occurrence and also the severity of consequences, in the event an incident takes place.

Security of the facility and equipment would be achieved through maintenance of the lockable security gates and fencing around the site boundary as well as no trespassing signs to mitigate unauthorised access to the site.

Appropriate controls and procedures will be formally documented within the OEMP being developed for the site and shall include the following measures and plans as a minimum to address the range of hazards identified for the proposal:

- > Emergency Management/Response Plan;
- > Work Health and Safety Plan;
- > The implementation of operator training;
- > Emergency services (police, fire brigade) contacts;
- > The implementation of site security to limit public access, as required;
- > Regular inspections of equipment and environmental controls;
- > The preparation of a Traffic Management Plan;
- > Appropriate induction and training of personnel in emergency response procedures;
- > Non-conforming waste procedure; and
- > Complaints procedure.

5.13 Cumulative Impacts

Cumulative impacts are the successive, incremental and combined impacts of one or more activities upon a receptor, such as society, the economy and the environment. Cumulative impacts may be generated through the aggregation or interaction of impacts and can arise from the compounding activities of a single operation or from multiple operations and processes, as well as the interaction of the operation/s with other past, current and future activities that may or may not be interrelated. Cumulative impacts may interact such that they trigger or are associated with other impacts. They may aggregate linearly, exponentially or reach 'tipping points' after which major changes in environmental, social and economic systems may result.

Cumulative impacts can be both positive and negative and can vary in intensity as well as spatial and temporal extent. Sustainable development requires the full range of positive and negative impacts are understood in their environmental, economic and social context and the assessment of cumulative impacts seeks to identify, examine and respond to such impacts.

The site is located within an existing industrial area and the potential for impacts upon the receiving environment, when combined with other existing surrounding activities, could have potential to result in cumulative impacts upon the receiving environment. Potential for any cumulative adverse impacts have been considered in relation to the various assessments contained within this EIS relating to acoustic, traffic, air quality, greenhouse gas emissions, flood risk, soils and water quality investigations.

This EIS including the specialist technical assessments, demonstrates that the proposed expansion of the existing waste recycling facility would not - subject to the implementation of appropriate mitigation measures - result in any significant environmental impacts, nor any adverse cumulative impacts, when combined with other current or planned projects within the locality.

A search of the DP&I's Major Project Register and RMS Projects Map on 25 November 2015 indicated several major projects within the Bankstown LGA, including:

- > Fairfax Proposed Warehouse and Distribution Facility, Chullora
- > Chester Hill Waste Facility
- > Milperra Road and the River Road, addition of right turn lane
- > Alfords Point Road, Illawong/Alford's Point upgrade

Based on the nature and location of these projects, they are not anticipated to have any significant adverse cumulative impacts in conjunction with the proposed works. A similar existing waste recycling facility within the district is Benedict Recycling, located approx. 6 km from the site at 33-35 Riverside Road, Chipping Norton. Together these sites would cater for the waste recycling needs of Greater Sydney and shall result in significant positive cumulative impacts upon the ability of Greater Sydney to cater for increased waste recycling needs, instead of disposing of recyclable materials to landfill.

It is therefore considered that the resilience and capacity of the receiving environment to cope with the impacts of the proposal, in conjunction with past, existing and future operations would be acceptable, with the implementation of appropriate mitigation measures.

6 Environmental Risk Assessment

This chapter details the environmental risk assessment undertaken for the proposed expansion of the existing waste recycling facility. Each risk was considered as part of the environmental assessment and mitigation and management measures were developed, where practicable. An overview of the residual environmental risk, following application of mitigation measures is also provided.

6.1 Assessment Methodology

Risk management aims to identify, prevent, contain or reduce negative impacts whilst maximising any opportunities or positive outcomes for the project. For the analysis and management of risk, the following approach has been utilised and is adapted from the AS/NZS Standard for Risk Management ISO 31000:2009 (Standards Australia, 2009).

For each of the areas of consideration, the potential environmental issues are identified and classified as to its probability of occurrence and potential impact on the environment should the risk eventuate. A standard, minor, moderate or major classification is used. This enables focus on those risks most likely to impact the environment and prioritises effort in the development and implementation of preventative and contingency actions.

Having identified the potential risks, it is necessary to determine what event or action may cause that problem. This step is the key to linking potential risks and potential solutions. Each potential risk may have several likely causes. Potential solutions are any preventive actions, which can reduce the probability of impacts occurring, or can reduce the consequence of the impact should it occur.

The decision on whether or not to implement these actions would depend on the particular situation and the associated costs and practicalities. Where a risk cannot be avoided, it is necessary to identify contingent options with an appropriate trigger by which they would be implemented.

Potential environmental risks as a result of the project are outlined in Table 6-1 and include proposed management strategies to effectively mitigate and manage these risks. The risk level is provided both without (unmitigated risk), and with the management strategy (mitigated or residual risk).

The risk scale adopted is provided in Table 5-21 and is consistent with the assessment undertaken as part of the hazard and risk section of the EIS (refer Section 5.12). Risks highlighted in red are considered major risks, those in orange are considered moderate and those in green are considered low. The classifications of likelihood and consequence are provided in Table 5-22 and Table 5-23 respectively.

6.2 Risk and Residual Risk Assessment

The analysis of environmental risk for each key issue as identified in the SEARs and throughout the EIS assessment process is provided in Table 6-1. This also includes details of, or reference to management and mitigation measures and the corresponding residual risk.

Table 6-1 Environmental Risk Assessment

Aspect	Issue	Cause/Comments	Impact/Potential Consequences	L	C	Initial Risk	Mitigation/Management to be Implemented	Measures	L	C	Residual Risk
Waste Management	Non-conforming waste.	Non-conforming waste discovered in incoming waste streams.	Potential for health and safety risks to site personnel.	L2	C2	Mod	> The site Operation Environment Management Plan will include measures to limit the occurrence of non-conforming waste including a strict acceptance policy. > Putrescible waste would be placed in a bin dedicated for these materials and disposed to a facility licenced to accept these materials. > Noxious, special, hazardous or contaminated material will be appropriately handled and removed to a licenced facility. > Asbestos or any load found to contain asbestos will not be accepted onto the site. > Any non-conforming waste to be handled in accordance with non-conforming waste procedures.		L3	C2	Mod
Air Quality	Generation of dust from the facility during construction	High winds occurring during the presence of dusty materials.	Reduced air quality in the vicinity of the site.	L2	C4	Mod	> Water spraying for dust suppression. > Covering loads.		L3	C4	Low
	Generation of dust from the facility during operation.	Unloading of trucks, high winds and/or disturbance of stockpiles during operation of heavy machinery and equipment.	Reduced air quality in the vicinity of the site.	L2	C4	Mod	> Water spraying for dust suppression. > Covering loads.		L3	C4	Low
	Generation of odour from the facility during operation.	Odour emission from the storage of organic waste material.	Reduced air quality in the vicinity of the site.	L4	C4	Low	> Processing and storage of organic material will be limited. Organic material will be separated from the waste stream and removed from the site in a timely manner (within 48 hours).		L5	C4	Low

Aspect	Issue	Cause/Comments	Impact/Potential Consequences	L	C	Initial Risk	Mitigation/Management Measures to be Implemented	L	C	Residual Risk
Greenhouse gases	GHGs would be generated on site during the construction and operation of the facility. The project will have positive impacts on GHG emissions as a result of recycling all concrete, water and aggregates. This would reduce emissions associated with waste disposal and production of supplementary materials.	Use of machinery and equipment on site.	An increase in GHG emissions would contribute to global warming. A reduction in GHG emissions will help to reduce global warming.	L1	C3	Mod	> Implementation of measures to reduce GHG emissions such as maximising fuel and equipment efficiency. > The proposed facility should be operated correctly in order to maximize energy efficiency.	L1	C4	Mod
Traffic and Transport	Generation of traffic as a result of construction and operation.	Generation of traffic from vehicles entering and leaving the facility.	Minor increases in traffic movements during construction phase and operation phase.	L3	C4	Low	> Traffic control measures would be included in CEMP to manage movement of construction vehicles both in the surrounding road network. > Truck movements to and from the site would adhere to established heavy vehicles routes.	L4	C4	Low
	Pedestrian conflicts with trucks	Lack of pedestrian access and staff movements around site including to and from the car park to office, and worker movements around site.	Risk to pedestrian safety	L3	C4	Low	> Pedestrian safety control measures would be adopted for the operational phase including establishment of pedestrian zebra crossing, signposting to warn drivers of pedestrian, use of high visibility clothing when walking on site.	L4	C4	Low
Noise and Vibration	Noise during construction and	Plant and machinery	Increased noise levels to surrounding receivers.	L2	C4	Mod	> Construction of a noise barrier along the southern and south-	L3	C4	Low

Aspect	Issue	Cause/Comments	Impact/Potential Consequences	L	C	Initial Risk	Mitigation/Management Measures to be Implemented	L	C	Residual Risk
	operation exceeding accepted criteria levels.	operation during construction and operation. Increased traffic movements.					western boundary will reduce noise impacts to nearby receivers to below the project specific noise levels. > The EMP prepared for the site would include noise and vibration mitigation procedures which would be implemented prior to the commencement of the proposed works to address the potential noise impacts.			
Soils and Contamination	Soil erosion and sedimentation during operation.	Erosion from stockpiled material from wind and water.	Soils could be carried offsite into the storm water system.	L3	C3	Mod	> Dust suppression system will be in use on site for stockpiles, main processing building and roadways. > Stormwater and runoff from the yards and stockpiles will be diverted into a sump pit or sediment tank. > Erodible stockpiles will be covered with plastic during high winds.	L4	C4	Low
Hydrology and Water Quality	Contamination of nearby waterways by the release of fuel, oil or hydraulic fluid into stormwater flows.	Fuel or other chemical spill during refuelling or from storage areas.	Environmental pollution by contamination surface water and/or ground water at and within close proximity to the site.	L3	C4	Low	> All major maintenance of vehicles is undertaken off-site. > Spillage of liquids are absorbed using "dri-sorb" and is collected and transported to a suitable disposal location. Once the bulk of the spill has been removed, the area is cleaned appropriately. > All components of the wastewater management system is inspected and maintained in a regular basis; oil/water separator is pumped out following an emergency incident or spill. > Any refuelling of machinery/vehicles to be undertaken on site would be	L4	C4	Low

Aspect	Issue	Cause/Comments	Impact/Potential Consequences	L	C	Initial Risk	Mitigation/Management Measures to be Implemented	L	C	Residual Risk
							undertaken in a designated bunded area. > Appropriate spill kits should also be maintained on site and all site personnel trained in their use. > Any chemicals stored on site would be stored in appropriately bunded and ventilated areas, with both primary and secondary containment measures in place. All relevant Materials Safety Data Sheets (MSDS) would be maintained on site. All fuels/oils must also be stored within appropriately contained areas. > The Site Manager and the EPA should be notified immediately of any spills on site. > Appropriate flow diversion measures should be used to contain runoff that may be contaminated by a spill.			
Visual Amenity	Change in landscape features	Introduction of new buildings and stockpiles into existing landscape.	Reduced visual amenity of the current site as a result of the facility.	L4	C4	Low	> Works will be undertaken in an orderly manner during construction and operation. > Stockpiles of sorted waste will be stored in appropriately contained areas. > The western boundary fence has green shade cloth shielding the premises from the roadway; this shade cloth will be maintained during construction and operation. > Existing vegetation along the western boundary which provides beneficial screening will be protected and managed to ensure they remain healthy and continue to provide screening	L4	C5	Low

Aspect	Issue	Cause/Comments	Impact/Potential Consequences	L	C	Initial Risk	Mitigation/Management Measures to be Implemented	L	C	Residual Risk
							during the operation of the facility.			
Flora and Fauna	Flora and fauna may be disturbed during construction works	Damage to, or removal of, vegetation and habitat during construction works.	Potential injury or nuisance to native fauna species. Damage to removal of fauna habitat and native vegetation.	L4	C4	Low	> Tree protection fencing will be installed during construction to protect any trees adjacent to the site or access routes that are being retained, to avoid accidental damage. > If any animals are injured during the course of construction works, in particular threatened or native species, the NSW Wildlife Information, Rescue and Education Service (WIRES) would be contacted immediately.	L5	C5	Low
Heritage	Heritage items may be disturbed during construction works	Previously unidentified heritage items may be discovered during construction or operation.	Damage or displacement of heritage item.	L4	C4	Low	> The EMP will include mitigation measures relating to the cessation of work if a suspected heritage object is discovered during construction or operation, and the notification of Bankstown Council.	L5	C5	Low
Socio-economic	Short term impacts to the community.	Air quality, traffic and transport and noise impacts.	Potential nuisance to the community around the site.	L3	C3	Mod	> Nuisance to the community will be controlled through the specific mitigation measures detailed for air quality, traffic and transport and noise impacts.	L3	C5	Low
Hazards and Risk	Fire within buildings/vehicles or from combustible materials.	Overheating and Ignition of combustible / flammable material. Improper storage of flammable material in the vicinity of ignition sources.	Risk to life and health of personnel in vicinity of site. Damage to site property and equipment. Loss of assets.	L3	C2	Mod	> Appropriate maintenance of vehicle and plant equipment. > Regular cleaning and waste removal from buildings. > Any spills of flammable material are to be contained and cleaned up immediately. > Asset Protection Zones should be maintained around individual buildings on site. > Continual visual monitoring by site personnel.	L4	C2	Mod

Aspect	Issue	Cause/Comments	Impact/Potential Consequences	L	C	Initial Risk	Mitigation/Management Measures to be Implemented	L	C	Residual Risk
							> Training and awareness of site personnel. > Flammable and combustible wastes would also be stored in accordance with relevant Work Health and Safety policies to minimise the likelihood of ignition. > Appropriate signage to prevent ignition sources to be in the vicinity of combustible materials.			

As shown in Table 6-1 with the application of mitigation measures, the residual risk associated with the proposed works are all considered to be moderate or low with no major residual risks. The residual risks being rated as moderate are:

- > Risks associated with the inadvertent acceptance of non-conforming waste onto the site and the risk of fire – these risks are generally associated with risk to life or injury, where there are greater consequences rather than a higher likelihood.

With appropriate mitigation measures in place, it is considered that the risks and potential impacts associated with such risks can be effectively managed. The mitigation measures listed above would effectively manage the potential hazards associated with the proposed activities and potential hazards on the site. Therefore, there are no significant threats to human health, life, property and assets or the biophysical environment when appropriate mitigation measures are applied.

7 Consultation

This chapter describes the consultation activities undertaken during the preparation of the EIS. Consultation with relevant local and state government authorities, service providers and the community was undertaken.

7.1 SEARs Requirements

The Secretary's Environmental Assessment Requirements relevantly states:

Table 7-1 SEARs Requirements

Requirement	Details
Consultation	During the preparation of the EIS, you must consult with the relevant local, State or Commonwealth Government authorities, service providers, community groups and affected landowners. In particular you must consult with: > Bankstown City Council; > Environmental Protection Authority; > Department of Primary Industries; > NSW Roads and Maritime Service; and > The surrounding land owners and occupiers that may be affected by the proposal. The EIS must describe the consultation process and the issues raised, and identify where the design of the development has been amended in response to these issues. Where amendments have not been made to address an issue, a short explanation should be provided.

7.1.2 Agencies and Stakeholders

A range of consultation activities have been undertaken with various agencies and stakeholders during preparation of the EIS. Specific consultation was undertaken with:

- > Bankstown City Council;
- > Environmental Protection Authority;
- > Department of Primary Industries; and
- > NSW Road and Maritime Services.

Table 7-2 Results of Stakeholder Consultation During EIS Preparation

Agency	Comments Received	Where Addressed in EIS
Bankstown City Council > Letter from Cardno to Council dated 3 December 2015. > SEARs response received from Bankstown Council Strategic Planner dated 4 March 2016 > Further correspondence was conducted with Bankstown Council between March 2016 and May 2016.	Council seeks the following issues to be considered as part of the EIS: Details of the proposed operation 1. Hours of operation 2. Details of processing and transportation of the materials 3. Outline the licensing requirements under the <i>Protection of the Environment Operations Act 1997</i> 4. Emergency Management Plan Traffic 5. Vehicle enter and egress direction 6. Driveway design 7. Sight distance 8. Sight lines	Details of the proposed operation Details of the proposal can be found in Section 2 of this report. Traffic Details on traffic and transport can be found in Section 5.3 of this report, along with accompanying specialist assessment reports. Flooding and water quality Details of flooding and water quality can be found in Section 5.6 of this report, along with

Agency	Comments Received	Where Addressed in EIS
	9. Parking 10. Separated vehicular exits 11. Swept paths 12. Routes 13. Traffic surveys Flooding and water quality 14. Riverine flooding 15. Water quality 16. Stormwater flooding Biodiversity 17. Council's Biodiversity Strategic Plan 18. Removal of trees 19. Landscape plan 20. Other sustainability initiatives Air quality impact 21. Assess the potential air quality impacts to the surrounding area Noise impact 22. Prepare an acoustic report to include potential noise impacts associated with the use of all machinery and equipment.	accompanying specialist assessment reports. Biodiversity Details of biodiversity can be found in Section 5.8 of this report, along with accompanying specialist assessment reports. Air quality impact Details of air quality impacts can be found in Section 5.2 of this report, along with accompanying specialist assessment reports. Noise impact Details of noise impact can be found in Section 5.4 of this report, along with accompanying assessment reports.
Environment Protection Authority > SEARs response received from Unit Head Waste & Resources – Waste Management at EPA, dated 18 November 2015 > Further correspondence sent from Cardno to EPA dated 13 May 2016	The EPA's key information requirements for the proposal include an adequate assessment of: 1. Air quality (including potential impacts and mitigation measures) 2. Noise (including potential impacts and mitigation measures) 3. Waste Management	1. Section 5.2 – Air Quality, along with accompanying assessment reports. 2. Section 5.4 – Noise and Vibration, along with accompanying assessment reports. 3. Section 5.1 – Waste Management, along with accompanying assessment reports.
Department of Primary Industries	DPI Water recommended that the EIS includes: 1. Annual volumes of surface water and groundwater proposed to be taken by the activity (including through inflow and seepage) from each surface and groundwater source as defined by the relevant water sharing plan. 2. Assessment of any volumetric water licensing requirements (including those for ongoing water take following completion of the project). 3. The identification of an adequate and secure water supply for the life of the project. Confirmation that water can be sourced from an appropriately authorised and reliable supply. This is to include an assessment of the current market depth where water entitlement is required to be purchased. 4. A detailed and consolidated site water balance.	Cardno has prepared a Site Water Balance and Stormwater Management Report, which is found at Appendix F and summarised at Section 5.7. Cardno has also prepared a Flood Risk Assessment which is found at Appendix G and summarised at Section 5.6.

Agency	Comments Received	Where Addressed in EIS
	5. Assessment of impacts on surface and ground water sources (both quality and quantity), related infrastructure, adjacent licensed water users, basic landholder rights, watercourses, riparian land, and groundwater dependent ecosystems, and measures proposed to reduce and mitigate these impacts. 6. Full technical details and data of all surface and groundwater modelling. 7. Proposed surface and groundwater monitoring activities and methodologies. 8. Assessment of any potential cumulative impacts on water resources, and any proposed options to manage the cumulative impacts. 9. Consideration of relevant policies and guidelines. 10. A statement of where each element of the SEARs is addressed in the EIS (i.e. in the form of a table). DPI Agriculture, DPI Fisheries, and DPI GSNSW advised no issues on initial consultation. Subsequent consultation with DPI confirmed that no additional requirements are required by any DPI branch to those outlined in the SEARs submission.	
Roads and Maritime Services > SEARs response received from RMS' Manager Land Use Assessment, Network and Safety Section, , dated 6 November 2015 > Further correspondence sent from Cardno to RMS on 13 May 2016.	No additional assessment requirements for inclusion at this stage.	
Sydney Water	Correspondence between the applicant and Sydney Water regarding the necessary actions required for acquisition of a Section 73 Certificate.	Correspondence is appended to this report.

7.1.2.2 Further Agency Consultation

Cardno has been in further consultation with all relevant agencies with regard to any further recommendations and requests regarding the preparation of the EIS.

Bankstown Council

Extensive correspondence between Cardno and Bankstown Council staff is recorded as part of this EIS. In particular, Cardno requested up-to-date flood mapping to allow for an accurate assessment of the site's flood risk and how it will impact the proposed expansion. Bankstown Council provided Cardno with up-to-date flood maps in May 2016.

Further flooding information has been provided in Section 5.6 of this report. Email correspondence between Cardno and Bankstown Council is appended to this report.

EPA

Cardno sent additional correspondence to the Unit Head Waste & Resources – Waste Management of the EPA on 13 May 2016, including up-to-date plans of the location of the site and proposed works. The email correspondence is appended to this report.

RMS

Cardno exchanged additional correspondence with RMS' Manager Land Use Assessment and Land Use Planner on 13 May 2016, including up-to-date plans of the location of the site and proposed works.

On 27 May 2016, a RMS Land Use Planner telephoned Cardno to advise that RMS has no further comments to their response to the Department. Cardno requested that RMS provide an e-mail confirming that RMS has no further requirements. An email was received by Cardno on 7 June 2016 confirming that RMS is satisfied with the key issues in relation to traffic and access and that no further assessment requirements are required for inclusion in the EIS. The email correspondence is appended to this report.

DPI

Cardno exchanged additional correspondence with DPI in May 2016, including up-to-date plans of the location of the site and proposed works.

Responses were received by a number of DPI branches:

- > A Water Regulation Officer from DPI Water responded on 17 May 2016 that DPI Water has no additional requirements to those already outlined in its SEARs submission. DPI Water will provide further advice once the EIS is publically exhibited.
- > A Land Use Planner from DPI Agricultural Land Use Planning advised on 17 May 2016 that DPI Agriculture has no additional requirements to those set out in the initial SEARs submission.
- > The Coordinator Client Services from DPI Crown Property Services advised on 17 May 2016 of no additional requirements to those set out in the initial SEARs submission.

7.1.3 Community Consultation

Community consultation is a requirement under the SEARs provided by the NSW Department of Planning and Environment. Community consultation was undertaken in two forms, notifying local landowners and holding a community drop-in session. This methodology ensured the general public and the surrounding area were able to make any comments on the proposed development.

7.1.3.1 Local Landowners

Enviro Recycling personally distributed a neighbour consultation letter with attached site plan to the surrounding properties to inform them of the proposed expansion of the existing waste recycling facility.

The following properties were notified of the proposed expansion, as numbered in the map provided below.



Figure 7-1 Map of Neighbourhood Consultation

Source: Enviro Recycling

The properties that were notified include the following:

Table 7-3 Local Landowner Consultation

Business / Address	Response to Proposal
1. Bituminous Products – 33 Violet Street, Revesby	No response received
2. Bankstown City Spares	No response received
3. 58-62 Violet Street, Revesby	No response received
4. HT-HT Properties	No response received
5. 70-74 Violet Street, Revesby	No response received
6. SUEZ Australia	No response received
7. Generator Power – 69-73 Violet Street, Revesby	No response received
8. Panania Smash Repairs	No response received
9. Revesby Cantina – 81 Violet Street, Revesby	No response received
10. Transdev – 29 Daisy Street, Revesby	No response received

7.1.3.2 Community Drop-In Session

The Community Consultation Session was held at the Revesby Community Hall at Macarthur Avenue Revesby between 4 pm – 6 pm on Wednesday 16 December 2015.

The Community Centre is located within the Revesby Central Business District, in close proximity to the main multi-storey shopping centre also located in Macarthur Avenue. The weather during the afternoon was fine, dry and 24 degrees.

On 09 December 2015 a public advertisement for the meeting was published in the Bankstown Canterbury Torch, a local and online newspaper in the Bankstown-Canterbury region. Through the advertisement, members of the public were invited to join Cardno and Enviro Recycling representatives in a Community Drop-In Session with the intention of providing an overview of the project and answering any questions that may arise. A table of display material was set up for public viewing, as can be seen in the photographs below. Company representatives from Cardno, Enviro Recycling and Summit Enviro Consulting were in attendance during the entire allotted timeslot however, there were no public attendees to the Public Meeting.

Photographs taken at the meeting are included below, along with the advertisement that was printed in the local Bankstown-Canterbury Torch newspaper.



Figure 7-2 Community Consultation Session
Source: Cardno

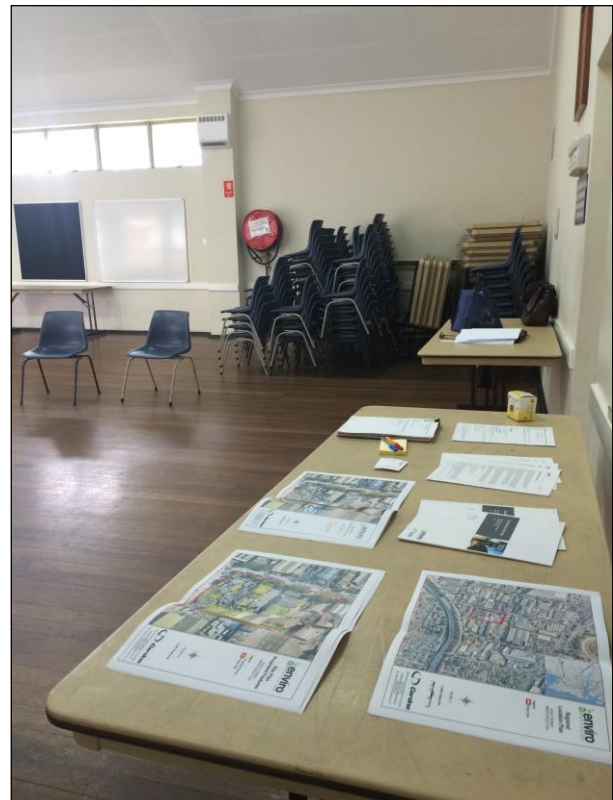


Figure 7-3 Community Consultation Session
Source: Cardno



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New Year Public Holidays
VIEW

December 2015
Friday 18th December at 1pm.
Friday 18th December at 2pm.
ay 29th December 2015
ay 5th January 2016

W-CANTERBURY TORCH
rd December 2015
Monday 21st December at 2pm.
Monday 21st December at 3pm.
th December 2015
Tuesday 22nd December at 1pm.
Tuesday 22nd December at 2pm.
n January 2016
Tuesday 5th January at 2pm.
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Tuesday 5th January at 3pm.
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Monday January 4, 2016

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ESMA, Alvina
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Public Notices

Public Meeting

On the **16th December** a public meeting will be held at the **Revesby Community Hall** regarding the proposed expansion of the recycling centre at **37 – 61 Violet St. Revesby**. Representatives will be on site between 4pm and 6pm to provide an overview of the project and answer any queries.

TAFE NSW SWSi
South Western Sydney Institute

TAFE NSW – South Western Sydney Institute (TAFE SWSi) have developed a DRAFT Pesticide Use Notification Plan. This is available for comment at swsi.tafensw.edu.au until 10th February 2016. Contact Joe Livolsi, Transformational Manager, Facilities for more details on (02) 9827 8442.

Figure 7-4 Extract from Bankstown-Canterbury Torch advertising Public Meeting to be held 9 December 2015
Source: Bankstown-Canterbury Torch

7.2 Consultation during EIS Report Exhibition

Enviro Recycling is committed to providing the opportunity for community and stakeholder input during assessment of the Proposal and, if approved, during the construction and operation phases of the project.

It is understood that the NSW Department of Planning and Environment will provide the following consultation activities during the exhibition of the EIS:

- > The EIS will be advertised and placed on public exhibition in accordance with the assessment process of Part 4 (State Significant Development) of the EP&A Act;
- > Enviro Recycling will place the EIS on their website;
- > The dates and venues of the public exhibition will be advertised in local media, and will be made available on the Department of Planning and Environment website;
- > During the exhibition period, all stakeholders will be invited to make written submissions to the Department of Planning and Environment in response to the EIS for the Proposal;
- > the communication channels identified for the Proposal within this chapter will remain available throughout the exhibition period.

During the assessment and post determination of the Proposal, stakeholder engagement activities would continue to be developed and Enviro Recycling would facilitate the engagement process. These activities may include:

- > Telephone line to communicate issues;
- > Complaints management process;
- > Updates of the Enviro Recycling website;
- > Clear signage at construction site during construction;

Ongoing review and refinement of construction and operation impact mitigation measures in accordance with conditions of approval.

8 Statement of Commitments

As required by the SEARs, this chapter provides a consolidated summary of the proposed environmental management and monitoring measures, highlighting commitments included in the EIS. It describes the measures that would be implemented to avoid, minimise and if necessary, offset the potential impacts of the development, including proposals for adaptive management and/or contingency plans to manage any significant risks to the environment.

Table 8-1 Statement of Commitments

Key Issue	Commitments
Waste Management	Waste will be managed in compliance with relevant legislation. Waste will be recycled and sold after the required testing and compliance is achieved as per current Resource Recovery Legislation and Exemptions. An EPL issued by the EPA under the POEO Act will be required for the facility. The licence conditions of the EPL will be complied with. Waste management would be a component of the Operational Environmental Management Plan (OEMP) for the operational phase of the facility. Methods for managing and monitoring waste generated by the proposed facility will be detailed in the OEMP and will include: <u>General Litter</u> > Regular litter inspection and collection will be undertaken and should problem areas be identified the need for waste receptacles will be reviewed. Inspections will involve weekly check to locate and remove any stray litter around the area. <u>Stockpile Management</u> > The current EPL for the site (EPL 20607) permits a maximum tonnage of 30,000 on site at any one time. Subject to the granting of consent, the proposed maximum storage tonnage at the expanded site shall not exceed 60,000 tonnes on site at any one time. > The EPL requires that each type of waste stored on site shall be stockpiled separately. > The EPL requires that stockpiles shall be placed within external stockpile bays or stockpile areas. The height of the materials within the external stockpile bays shall not exceed the height of the storage bays, being 3.2 m in height. > The EPL requires that the storage of materials shall not be closer than 3 metres from the boundary unless stored in the approved storage bays. > In the event of excessive rain, cover erodible stockpiles and monitor operations until runoff is appropriately managed. Inspect sediment controls after rain events, and implement a regular maintenance programme to ensure continued performance. <u>General Management</u> > Contractors and staff for all phases of the proposed works will undergo an induction program that outlines the relevant procedures within the OEMP: – Legal requirements for waste management; – Procedures for waste minimisation; – Location of waste receptacles and stockpiles; – Recycling practices and procedures; – Potential risks and means to minimise them; and – Reporting procedures for breaches of the procedures. > Records will be kept regarding the amount of material brought onto site and removed from site, utilising the weighbridge software. Waste transfer dockets will be collected and transferred into a record of the type and weight of waste brought onto site. The system will be regularly reviewed and monitored to ensure effective operation. Records to be kept include:

	- Monthly volume of recyclable material brought onto site; - Monthly volume of non-recyclable material brought onto site; and - Monthly volume of recyclable material removed from site. > All training records, and records of waste will be filed in site records for verification purposes. > Entry and exit gates will be locked outside of working hours. <u>Non-conforming waste</u> The waste recycling facility does not intend to receive any putrescible materials but should these materials be discovered in the incoming waste streams, then the putrescible materials will be placed into a bin dedicated for these materials and be disposed of to a facility licensed to accept these materials. Similarly any noxious, special, hazardous or contaminated material inadvertently arriving at the site will be appropriately handled and removed to a licensed facility. Measures will be included in the Management Plan for the facility for such materials including methods to be adopted to restrict their occurrences. In particular, the facility's acceptance policy will not allow asbestos waste to be accepted and any load found to contain asbestos would be refused. However, should any such waste be discovered on site, appropriate handling, in accordance with the relevant legislation, would be undertaken.
Air Quality and Greenhouse Gas	The Air Quality and Greenhouse Gas Assessment prepared by Pacific Environment recommends the following measures be implemented to reduce dust emissions: > Water sprays on truck haulage areas within the site; > Watering of storage bays; > Water sprays on concrete crusher; and > Misting within waste processing building. The proposed measures to reduce greenhouse gas emissions are: > Consideration of energy efficiency in plant and equipment selection/purchase, including the installation of timers on all equipment; > Power factor correction on incoming electricity supply; > Installation of LED lighting throughout the site; and > Recycling all concrete, water and aggregates that are returned to the plant. This would indirectly mitigate greenhouse gas emissions by reducing emissions associated with waste disposal and production of supplementary materials.
Traffic and Transport	The Traffic Impact Assessment prepared by Cardno recommends the following designs to be implemented in the proposed plans to improve the safety of all personnel on site: > Physically separate the staff carpark from the operational area with painted kerbs; > Provide a pedestrian zebra crossing to guide pedestrians from the staff carpark to the main office building; > Street sweeper machine and dust mitigation measures to keep pedestrian crossing visible to drivers and pedestrians; > Sign posting of zebra crossing to assist drivers. It is further recommended that all on-site personnel, including contractors, should be inducted on site safety prior to commencing work on site, including wearing of high-visibility clothing when walking on-site. The Traffic Impact Assessment considers that there are no further traffic and transport considerations that would preclude the proposed expansion of the existing waste facility from being approved and considers that the overall development is generally in accordance with the DPE, Council's DCP and AS2890 requirements.
Noise and Vibration	The Noise and Vibration Impact Assessment prepared by Cardno recommends the following measures be implemented:

The following best practice construction noise and vibration mitigation measures are based on recommendations provided within the NSW ICNG and Australian Standard AS 2436-1981: Guide to Noise Control on Construction, Maintenance and Demolition Sites. Whilst significant construction is not proposed for the site, the following best practice measures apply to the proposed operational sources which are similar in nature.

Construction noise and vibration should be minimised as far as is practically possible using methods such as:

- > Development and implementation of all reasonable and feasible site specific mitigation measures to meet noise criteria applicable to the proposal.
- > Use of noise attenuating controls at the source, such as mufflers, acoustic screens, etc.
- > Keeping plant and equipment well maintained.
- > Locating concentrated areas of noise such as the crushers as remotely as possible from noise sensitive receivers.
- > Adopt hours of operation which minimise potential impacts as far as is practically feasible.
- > Conducting noise monitoring during operations for the purposes of assisting in noise mitigation and to verify the findings of this noise assessment, if complaints are received or proposed activities and number of plant exceed those assumed in this assessment.
- > Use of noise barriers where practical.
- > Use of broadband reversing alarms, or "quackers", on mobile equipment in accordance with the relevant health and safety regulations.
- > Modification of work activities where noise or vibration is found to cause unacceptable impact.
- > Should operations be required outside daytime hours, all reasonable and feasible efforts should be undertaken to ensure noise levels will not exceed the INP Noise criteria stated in Table 5-3 of this assessment.
- > Implementing a procedure for dealing with complaints to ensure that all complaints are registered and dealt with appropriately.

An operational Noise and Vibration Management Plan should be prepared for the project, to include, but not be limited to, the above measures.

The following site specific measures are also recommended.

Recommended Mitigation Measures – Daytime Operation

- > A 3 metre high noise barrier is recommended along the south and south-eastern site boundary. The barrier shall be constructed from a material of at least 12.5 kg/m² panel mass and shall be continuous and free from gaps.
- > Adoption of maximum sound power levels for some plant items is recommended. The maximum sound power levels, and number of equipment/plant to be used during proposed daytime operation should not exceed the sound power levels presented in Table 22 of the Noise and Vibration Impact Assessment report.
- > Trucks should be restricted to 13 trucks per hour during the daytime (7am to 6pm) period.
- > Water truck movement should be restricted to 1 water truck circuit in every 2 hours during the daytime (7am to 6pm) period, and none at night.
- > Provide local temporary barriers around the Rotochopper and the Concrete Crusher to a height of 3 metres. Details of an example of the proposed temporary barriers are included in Appendix E of the Noise and Vibration Impact Assessment report.

	<u>Recommended Mitigation Measures – Evening / Night-time Operation</u> > A 3 metre high noise barrier is recommended along the south and south-eastern site boundary. The barrier shall be constructed from a material of at least 12.5 kg/m² panel mass and shall be continuous and free from gaps. > Trucks shall be restricted to 2 trucks per hour during evening (6 pm to 10 pm) and night-time (10 pm to 7 am) period. > Water truck movement shall not occur at night. > Maximum allowable sound power levels and number of equipment / plant during the proposed evening and night-time operations shall be as per the equipment list and sound power levels presented in Table 24 of the Noise and Vibration Impact Assessment report. <u>Management of Hours of Operation</u> > Carrying out “proposed daytime” works within daytime hours as follows: - o 7:00 am to 6:00 pm Monday to Friday and 7:00 am to 2:00 pm on Saturdays. > Evening and night-time operation shall be limited to 2 trucks per hour, for material handling and loading / unloading activities only. The recommended maximum number of plant / equipment and associated sound power levels for these activities are presented in Table 7-1 of the Noise and Vibration Impact Assessment report. <u>Management of Behaviour Controls</u> > Investigate whether “at plant” mitigation or muffled plant is available. This may not be practical for some of the plant given the nature of crushers and screeners, and the openness of the conveyors etc. However, provision of insulation lined steel enclosures around the stationery plant, and damping material applied to the areas impacted by dumping can significantly reduce noise emissions. Local noise barriers have also proven to be effective for similar facilities. > Keep all plant and equipment well maintained. > Use of broadband reversing alarms, or “quackers”, on mobile equipment in accordance with the relevant health and safety regulations. > Preference should be for electric powered plant over combustion engine powered plant. > Preference should be for hydraulic or electric powered plant over pneumatic powered plant. > Avoid metal to metal contact on equipment to reduce impulsive scraping noise. > Ensure that managers effectively communicate acceptable and unacceptable work practices for the site, through staff site inductions, notice boards and pre-start meetings. > Avoid the need for reversing in the new area by creating a loop road or similar. > Avoid dropping materials from height. > Workers should avoid shouting, minimise talking loudly and slamming vehicle doors.
Soils and Contamination	This EIS recommends that the following mitigation measures are proposed: > In the event of heavy rain or strong winds, cover any erodible stockpiles. > Regularly inspect and maintain sediment controls. > Stockpiles are screened from Violet Street through the application of a fine mesh fabric screen to control dust emissions from the site. > Maximum stockpile heights to comply with Environment Protection Licence of EPA. > Should putrescible materials be discovered in the incoming waste streams, then the putrescible materials will be placed into a bin dedicated for these materials and be disposed of to a facility licensed to accept these materials.

	> Similarly any noxious, special, hazardous or contaminated material inadvertently arriving at the site will be appropriately handled and removed to a licensed facility. Measures will be included in the Management Plan for the facility for such materials including methods to be adopted to restrict their occurrences. In particular, the facility's acceptance policy will not allow asbestos waste to be accepted and any load found to contain asbestos would be refused. Nevertheless, should any such waste be discovered on site, appropriate handling, in accordance with the relevant legislation, would be undertaken. > Maintain the site's delivery receiving procedures which include specifications that a thorough visual inspection of all waste material delivered to the site is carried out as each delivery vehicle is unloaded, prior to processing. Trained staff, with the assistance of a platform and CCTV, are to review all waste material upon arrival to classify the waste stream. The PSI prepared by Cardno recommends that: > The concrete hardstand be maintained across the site in order to limit exposure to soils; > Should a change to a more sensitive land use or disturbance of soils onsite be required, then assessment of soil and groundwater should be undertaken to confirm the contamination status and suitability of the site for the proposed land use. These investigations should be undertaken in accordance with relevant regulatory guidance including the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended 2013; > Should such an intrusive investigation identify risks to human health or the environment, these should be managed in accordance with the Contaminated Land Management Act 1997; and > Any future works involving soil disturbance should incorporate an unexpected finds protocol to facilitate the identification and management of previously undocumented contamination.
Flood Risk	The Flood Risk Assessment prepared by Cardno recommends no management and mitigation measures as: > The overland flow conditions experienced on site in all events up to and including the 100 year ARI event do not pose a risk to either vehicle or pedestrian stability therefore the controls relating to carpark design are deemed to be satisfied. > The majority of the site is not affected by floods up to and including the 100 year ARI event with the majority of the site flood free. Additionally, the site lies outside of the Georges River Probable Maximum Flood (PMF) extents therefore it is considered that the site does not require any evacuation routes to be assigned as flood risk is negligible. > No new buildings or additions are proposed; therefore the requirement for the preparation of a Site Emergency Response Flood Plan is not applicable to the proposed development. > The extent of flooding in the 100 year ARI event is restricted to the proposed access driveways and portions of the proposed carpark. The areas of minor affectation are not proposed for storage of any goods that may result in pollution or potentially hazardous materials. Therefore these controls are deemed to be satisfied.
Site Water Balance	The Site Water Balance and Stormwater Management Report prepared by Cardno recommends that: > As there are no additional buildings proposed as part of the proposed development, there is no opportunity to provide additional rain water tanks. The use of other alternative water sources is limited by health guidelines. > There are 3 separate stormwater catchments on the site each with a separate connection to the Council stormwater network in Violet Street. As only a small

	increase in impervious area is proposed the increase peak stormwater flows is negligible. > A HumeCeptor hydrodynamic separator is proposed to treat stormwater runoff from the catchment on No.57 Violet Street (Catchment No.3). This device is expected to meet the targets for reduction of sediment and suspended solids recommended in the Georges River Coastal Zone Management Plan. The remaining catchments (Catchments no.1 & no.2) already include stormwater treatment devices. No changes are proposed to the stormwater infrastructure in these catchments.
Visual Amenity	This EIS recommends that the following would be undertaken as part of the proposed works or currently exists to minimise the extent of visual impacts during construction and operation: > Works will be undertaken in an orderly manner during construction and operation; > Stockpiles of sorted waste will be stored in appropriately contained areas; > The western boundary fence has a dust screen / shade cloth, shielding the premises from the roadway; this shade cloth will be maintained during construction and operation to mitigate against potential adverse visual and dust impacts; and > Existing and additional vegetation along the western Violet Street setback area, which provides a natural visual screening effect shall be protected and managed to ensure the vegetation remains healthy and continues to provide adequate screening during the operation of the facility.
Flora and Fauna	This EIS recommends that: > Tree protection fencing be installed during construction to protect any trees adjacent to the site or access routes that are being retained, to avoid accidental damage; and > If any animals are injured during the course of construction works, in particular threatened or native species, the NSW Wildlife Information, Rescue and Education Service (WIRES) will be contacted immediately.
Heritage	This EIS recommends that: > Should any Aboriginal objects/sites be uncovered during the works, all work should cease in the vicinity of the find and Bankstown City Council must be notified. If the sites/objects cannot be avoided, an Aboriginal Heritage Impact Permit (AHIP) under Section 90 of the <i>National Parks and Wildlife Act 1974</i> may be required. If skeletal remains are identified then NSW Police also need to be contacted; and > In the event that a non-Aboriginal object is uncovered during construction, work is to cease in the vicinity of the find and Bankstown City Council must be notified. An excavation permit or an exception notification may be required under the <i>Heritage Act 1977</i>.
Socio-economic	This EIS recommends finds that the key amenity considerations likely to result in any adverse social impacts would relate to air quality, traffic and transport, and noise. Mitigation and management measures are proposed to ensure that there would be no adverse impact upon the community, as discussed in Sections 5.2, 5.3 and 5.4 respectively. The project would result in positive environmental, social and economic benefits, through: > protecting scarce natural resources by recycling construction and demolition waste, and commercial and industrial waste; > providing increased automation and improvements to the operating performance of Enviro Recycling's operations; and > improving resource recovery rates for both C&D and C&I materials that would otherwise be disposed of to landfill.

Hazards and Risks	Environmental risks during the operation of the site require management to control them to acceptable levels. The implementation of appropriate mitigation measures would minimise the likelihood of occurrence and also the severity of consequences, in the event an incident takes place. Security of the facility and equipment would be achieved through maintenance of the lockable security gates and fencing around the site boundary as well as no trespassing signs to mitigate unauthorised access to the site. Appropriate controls and procedures will be formally documented within the OEMP being developed for the site and shall include the following measures and plans as a minimum to address the range of hazards identified for the proposal: > Emergency Management/Response Plan; > Work Health and Safety Plan; > The implementation of operator training; > Emergency services (police, fire brigade) contacts; > The implementation of site security to limit public access, as required; > Regular inspections of equipment and environmental controls; > The preparation of a Traffic Management Plan; > Appropriate induction and training of personnel in emergency response procedures; and > Complaints procedure.
Cumulative Impacts	It is considered that the resilience and capacity of the receiving environment to cope with the impacts of the proposal, in conjunction with past, existing and future operations would be acceptable, with the implementation of the above recommended mitigation measures.

9 Conclusion

This Environmental Impact Statement (EIS), prepared by Cardno (NSW/ACT) Pty Ltd on behalf of Enviro Recycling, accompanies a State Significant Development application (SSD 7349) for the proposed expansion of an existing waste recycling facility / resource recovery facility. The objectives of the proposal are to expand and diversify an existing waste recycling facility that would continue to service Bankstown and the Greater Sydney Metropolitan region by:

- > increasing the volume of recyclable materials processed from 30,000 t/annum to 250,000 t/annum;
- > diversifying the recyclable waste streams processed to include both construction and demolition (C&D) waste and commercial and industrial (C&I) waste; and
- > increasing the site area to include the adjoining property to the south.

This EIS provides an assessment of key issues relating to the proposed expanded recycling facility as specified by the SEARs (dated 20 November 2015), in consultation with key government authorities.

As required by the SEARs, this EIS includes an assessment of the following key issues:

- | | |
|-----------------------------------|-----------------------|
| > Waste Management; | > Flora and Fauna; |
| > Air quality and Greenhouse Gas; | > Heritage; |
| > Traffic and Transport; | > Socio-economic; |
| > Noise and Vibration; | > Hazards and Risks; |
| > Soil and Water; | > Cumulative Impacts; |
| > Visual Amenity; and | > Contamination |

Approval of the proposal would allow Enviro Recycling to maximise the resource recovery rate of both C&D and C&I recyclable materials in an efficient and economical way so as to reduce Sydney's landfill waste and avoid adverse environmental impacts through the disposal to landfill of recyclable materials and the consumption of new scarce resources. The project has been assessed in terms of the full range of its potential environmental, social and economic impacts. The project would result in positive environmental, social and economic benefits, through:

- > protecting scarce natural resources by recycling construction and demolition waste, and commercial and industrial waste;
- > providing increased automation and improvements to the operating performance of Enviro Recycling's operations; and
- > improving resource recovery rates for both C&D and C&I materials that would otherwise be disposed of to landfill.

It is considered that the proposal:

- > is an appropriate and suitable development at the subject site, located within an existing industrial use area; and
- > would not likely result in any significant adverse environmental impacts.

This EIS finds the proposal to be acceptable and it is therefore recommended that the Minister grants consent to this SSD application.

10 References

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Environmental Impact Statement

APPENDIX

A

SEARS

Environmental Impact Statement

APPENDIX

B

DRAWINGS & SITE SURVEY

Environmental Impact Statement

APPENDIX

C

TRAFFIC IMPACT ASSESSMENT

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D

NOISE AND VIBRATION ASSESSMENT

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E

AIR QUALITY AND GREENHOUSE GAS ASSESSMENT

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SITE WATER BALANCE AND STORMWATER MANAGEMENT REPORT

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FLOOD RISK ASSESSMENT

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APPENDIX

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SYDNEY WATER FEASIBILITY LETTER

Environmental Impact Statement

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ENVIRONMENT PROTECTION LICENCE

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EPBC ACT SEARCH

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EMERGENCY MANAGEMENT PLANS

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Q

PRELIMINARY SITE INVESTIGATION

