ENVIRONMENTAL IMPACT STATEMENT
ENVIRO WASTE SERVICES GROUP PTY LTD
14-16 KIORA CRESCENT, YENNORA NSW

Prepared for: Enviro Waste Service Group Pty Ltd

Prepared by: Emma Hansma, Senior Engineer
Linda Zanotto, Senior Environmental Engineer
Kate Barker, Environmental Scientist
Victoria Hale, Environmental Scientist
Damien Thomas, Environmental Scientist
Matthew Taylor, Environmental Scientist
R T Benbow, Principal Consultant

Report No: 191251_EIS_Rev4
November 2020
(Released: 3 November 2020)

Benbow
ENVIRONMENTAL

Engineering a Sustainable Future for Our Environment

Head Office: 25-27 Sherwood Street Northmead NSW 2152 AUSTRALIA
Tel: +61 2 9896 0399 Fax: +61 2 9896 0544
Email: admin@benbowenviro.com.au
Visit our website: www.benbowenviro.com.au

Form 2

Submission of
environmental impact statement (EIS)
prepared under the Environmental Planning and Assessment Act 1979 Section 78(A)

EIS prepared by

name	Richard T Benbow
qualifications	Bachelor of Science (Engineering) With Merit
address	Benbow Environmental 25-27 Sherwood Street Northmead NSW 2152

in respect of

development application

applicant name	Enviro Waste Services Group Pty Ltd
applicant address	14-16 Kiora Crescent, Yennora NSW
land to be developed: address	14-16 Kiora Crescent, Yennora NSW 2161
lot no, DP/MPS, vol/fol etc	Lot 49, DP 18211
proposed development	Expansion of existing liquid waste treatment facility for increasing Processing and storage quantities and hours of operation to 24/7

or
☐ map(s) attached

environmental impact statement

☑ an environmental impact statement (EIS) is attached

certificate

I certify that I have prepared the contents of this Statement and to the best of my knowledge

- it is in accordance with Schedule 2 of the Environmental Planning and Assessment Regulation 2000,
- contains all available information that is relevant to the environmental assessment of the development, activity or infrastructure to which the statement relates, and
- the information contained in the statement is neither false nor misleading.

signature	
name	Richard T Benbow
date	3 November 2020

LIMITATIONS

Our services for this project are carried out in accordance with our current professional standards for site assessment investigations. No guarantees are either expressed or implied.

This report has been prepared solely for the use of Enviro Waste Services Group Pty Ltd, as per our agreement for providing environmental services. Only Enviro Waste Services Group Pty Ltd is entitled to rely upon the findings in the report within the scope of work described in this report. Otherwise, no responsibility is accepted for the use of any part of the report by another in any other context or for any other purpose.

Although all due care has been taken in the preparation of this study, no warranty is given, nor liability accepted (except that otherwise required by law) in relation to any of the information contained within this document. We accept no responsibility for the accuracy of any data or information provided to us by Enviro Waste Services Group Pty Ltd for the purposes of preparing this report.

Any opinions and judgements expressed herein, which are based on our understanding and interpretation of current regulatory standards, should not be construed as legal advice.

DOCUMENT CONTROL

Prepared by:	Position:	Signature:	Date:
Emma Hansma	Senior Engineer		03 November 2020
Linda Zanotto	Senior Environmental Engineer		03 November 2020
Damien Thomas	Environmental Scientist		03 November 2020
Kate Barker	Environmental Scientist		03 November 2020
Victoria Hale	Environmental Scientist		03 November 2020
Matthew Taylor	Environmental Scientist		03 November 2020
R T Benbow	Principal Consultant		03 November 2020
Reviewed by:	**Position:**	**Signature:**	**Date:**
Linda Zanotto	Senior Environmental Engineer		03 November 2020
R T Benbow	Principal Consultant		03 November 2020
Approved by:	**Position:**	**Signature:**	**Date:**
R T Benbow	Principal Consultant		03 November 2020

DOCUMENT REVISION RECORD

Revision	Date	Description	Checked	Approved
1	19-6-2020	Draft / Rev1	L Zanotto	R T Benbow
2	2-7-2020	Rev2	L Zanotto	R T Benbow
3	9-9-2020	Rev3	L Zanotto	R T Benbow
4	3-11-2020	Rev4	L Zanotto / R T Benbow	R T Benbow

DOCUMENT DISTRIBUTION

Revision	Issue Date	Issued To	Issued By
1	19-6-2020	Enviro Waste Services Group Pty Ltd	Benbow Environmental
2	2-7-2020	Enviro Waste Services Group Pty Ltd	Benbow Environmental
3	9-9-2020	Enviro Waste Services Group Pty Ltd	Benbow Environmental
4	3-11-2020	Enviro Waste Services Group Pty Ltd	Benbow Environmental

Benbow ENVIRONMENTAL
A.B.N. 17 160 013 641

Head Office:
25-27 Sherwood Street Northmead NSW 2152 Australia
P.O. Box 687 Parramatta NSW 2124 Australia
Telephone: +61 2 9896 0399 Facsimile: +61 2 9896 0544
E-mail: admin@benbowenviro.com.au
Visit our Website at www.benbowenviro.com.au

STUDY TEAM

R.T. Benbow	Benbow Environmental	Consultation, Justification, Alternatives, Description of Proposal, Environmental Impact Statement Compilation, Internal Review
Emma Hansma	Benbow Environmental	Project Manager Executive Summary, Introduction, Description of Proposal, Water, Soil, Flora & Fauna, Waste, Health, Visual, Greenhouse Gas Assessment, ESD, Cumulative Impacts, Summary of Impacts & Mitigation Measures, Environmental Impact Statement Compilation
Linda Zanotto		Internal Review
Kate Barker	Benbow Environmental	Air Quality Assessment, Soil and Water Assessment, Environmental Impact Statement Compilation
Victoria Hale	Benbow Environmental	Noise Impact Assessment, Environmental Impact Statement Compilation
Matthew Taylor	Benbow Environmental	Air Quality Assessment, Description of the existing environment, Health, Socio-economic impacts, Environmental Impact Statement Compilation
Damien Thomas	Benbow Environmental	Soil and Water Assessment
	ML Traffic	Traffic Assessment
	Baini Design	Architectural Drawings
	Ecological Consultants Australia	BDAR Waiver
	McCardle Cultural Heritage	Aboriginal Cultural Heritage Assessment

ABBREVIATIONS

ABL	Assessment background level
ABS	Australian Bureau of Statistics
AMMAAP	Approved Methods for the Modelling and Assessment of Air Pollutants in NSW
ASS	Acid Sulfate Soil
BDAR	Biodiversity Development Assessment Report
BOM	Bureau of Meteorology
C&D	Construction and Demolition
DA	Development Application
DCP	Development Control Plan
DECC	Department of Environment and Climate Change (now NSW EPA)
DEWHA	Department of the Environment, Water, Heritage and the Arts
DPI	Department of Primary Industry
DPI&E	Department of Planning, Industry and Environment
DoP	Department of Planning
EES	Environment Energy and Science Group
EIA	Environmental Impact Assessment
EIS	Environmental Impact Statement
EMP	Environmental Management Plan
EP	Emergency Plan
EPA	Environment Protection Authority
EP&A Act	Environmental Planning and Assessment Act 1979
EPBC Act	Environment Protection and Biodiversity Conservation Act 1999 (Cmth)
EPL	Environment Protection Licence
ESD	Ecologically Sustainable Development
FR NSW	Fire and Rescue New South Wales
INP	Industrial Noise Policy (guidelines developed by the EPA)
LEP	Local Environmental Plan
LPG	Liquefied Petroleum Gas
Mbgl	Metres below ground level
NES	National Environmental Significance
NIA	Noise Impact Assessment
NPI	National Pollutant Inventory
NRC	Natural Resources Commission
NOW	New South Wales Office of Water
NSW	New South Wales
NSW EPA	New South Wales Environment Protection Authority
NSW RNP	New South Wales Road Noise Policy
OIA	Odour Impact Assessment
PASS	Potential Acid Sulfate Soil
PHA	Preliminary Hazard Analysis
$PM_{2.5}$	Particulate matter less than 2.5 μm in aerodynamic equivalent diameter
PM_{10}	Particulate matter less than 10 μm in aerodynamic equivalent diameter
POEO	Protection of Environment Operations Act (1997)
RAP	Reclaimed asphalt pavement
RBL	Rating background level
RNP	NSW EPA Road Noise Policy
ROW	Right of Way
RTA	Roads and Traffic Authority
SEARs	Secretary's Environmental Assessment Requirements

SEPP	State Environmental Planning Policy
TFNSW	Transport For NSW
TMP	Traffic Management Plan
Tpa	Tonnes per annum
TSC Act	Threatened Species Conservation Act 1995
TSP	Total suspended particulates
VENM	Virgin Excavated Natural Material

UNITS OF MEASUREMENT

°C	degree centigrade	(unit of temperature)
dB(A)	A-weighted decibels	(unit of noise)
dB(lin)	Linear-weighted decibels	(unit of noise)
g	gram	(unit of mass)
kg	kilogram	(unit of mass)
kL	kilolitre	(unit of volume)
KPa	kilopascal	(unit of pressure)
m	metre	(unit of length)
m^3	cubic meter	(unit of volume)
T	Tonne (1000 kg)	(unit of mass)
μg	microgram	(10^{-6} gm – unit of mass)
$\mu g/m^3$	microgram/cubic meter	(concentration)
ODU	odour detection unit	(unit of odour)

EXECUTIVE SUMMARY

Benbow Environmental has been engaged by Enviro Waste Services Group Pty Ltd (Enviro Waste) to undertake an Environmental Impact Statement (EIS) for the increase in processing quantities at their existing liquid waste treatment facility located at 14-16 Kiora Crescent, Yennora NSW 2161.

The site has approval to process 900 tonnes per annum of waste liquids, with a maximum of 110 tonnes of liquid that can be stored at any one time at 14 Kiora Crescent, Yennora NSW.

After commencing the preparation of the EIS, Benbow Environmental became aware of the operation of a non-approved waste facility processing what are described as out-of-date liquid products in packaging. This operation has now ceased and the EIS has been expanded to include this operation.

Enviro Waste proposes to increase the processing quantity to 110,000 tonnes per annum and increase the maximum quantity to be stored at any one time to 477 tonnes. Waste processing streams and proposed quantities per location are listed below:

14 Kiora Crescent (existing facility – industrial waste treatment/disposal, liquid waste material, sewage sludge, grease trap waste etc)

Processing capacity per annum: 100,000 tonnes.
Maximum storage at any one time: 377 tonnes.

16 Kiora Crescent (additional facility - out-of-date liquid product/food waste destruction)

Processing capacity per annum: 10,000 tonnes.
Maximum storage at any one time: 100 tonnes.

The proposed increase in capacity will also require 24/7 operations.

This EIS provides an assessment of all potential impacts of the proposed development on the existing environment and provides for appropriate measures to avoid, minimise, mitigate and/or manage these potential impacts.

This EIS is submitted to the Department of Planning Industry and Environment (DPIE) as a draft document for adequacy review. The Aboriginal Cultural Heritage Assessment Report is currently in draft form, the closing date for the registered Aboriginal parties (RAPs) to respond is 13th July 2020.

A summary of the key issues is included below:

STATUTORY AND STRATEGIC CONTEXT

The site lies within an IN1 – General Industrial land zoning under the Holroyd Local Environmental Plan 2013. The immediate surrounding area is general industry. The nearest residential area is R2 – Low density residential, located 330 m to the south east of the site.

The proposal constitutes designated development under Clause 32(1) of Schedule 3 of the *Environmental Planning and Assessment Regulation 2000,* as a "Waste management facilities or work" as it would produce in excess of 1,000 tonnes per servicing of sludge or effluent and purifies/recovers/ reprocess or processes more than 5,000 tonnes per year of solid or liquid organic materials.

The site currently holds an Environment Protection Licence (EPL) licence no. 20444 for waste processing (non-thermal treatment). This will need to be updated for the increased quantities. Hence this proposal is integrated development.

PROCESS CAPACITY

The site currently holds a trade waste agreement for the 200 kL maximum daily discharge and 100 kL average daily discharge. This corresponds to approximately 36,000 tonnes per year. An application to Sydney Water will be made to increase the maximum and daily discharge rates after approval is obtained.

110,000 tonnes per annum corresponds to approximately 300 tonnes per day as an average. It is acknowledged that the site's storage capacity is only 477 tonnes, equivalent to approximately one and a half days of processing.

Despite the large proposed throughput quantities compared with the maximum storage capacity, the site's existing equipment is adequate for processing these quantities.

The main reason for this is the majority of liquid waste received on site leaves the facility as trade waste. This is because most of the liquid waste received has very high water content. Typically, 80-90% of the liquid waste can be processed to a state suitable for discharge to trade-waste within 2-3 hours. This allows for a large throughput with the storage quantities proposed.

AIR QUALITY AND ODOUR

Odour was identified as the primary source for potentially impacting air quality. A full quantitative Odour Impact Assessment has been undertaken in accordance with the *Approved Methods for the Modelling and Assessment of Air Pollutants in NSW* (AMMAAP). A full copy of the OIA is provided as Appendix 2.

Additionally, chemical compounds (e.g. volatile organic compounds (VOCs), vapours, noxious fumes) and dust or particulate matter were considered as having the potential to impact air quality. However, as outlined in the OIA, the chemical compound and dust/particulate emission levels were considered negligible or deemed absent from the proposed development, and therefore these emissions required no further assessment.

The majority of sources of odour will be generated within the building located at 14 Kiora Crescent. This building will receive liquid wastes including residues from industrial waste treatment/disposal operations, surfactants, waste oil/hydrocarbon mixtures/emulsions in water, among other liquid waste materials.

Minor odours may be generated from the out-of-date liquid product destruction within the building at 16 Kiora Crescent. These are considered negligible and are of the type that are not offensive in nature (e.g. smell of orange juice) and do not warrant further assessment.

Odour controls are in place at the site. The waste liquid brought on site is pumped directly from the vacuum tankers into tanks therefore minimising release of odorous emissions during the unloading process. Unloading is undertaken within a bunded area thus minimising the spread of potentially odorous oils should a spill occur.

Similarly the untreated liquids are securely stored in tanks in the bunded area limiting the movement of odorous liquids if a leak was to occur. All tanks are almost fully enclosed with only small diameter breathing vents which vent to the biotrickling filter system and then are dispersed through a stack.

The facility implements the following mitigation measures:

- Biotrickling filter system;
- Vertical dispersion stack, 6 m above roofline;
- Indoor operations; and
- Deodoriser.

The air dispersion model AERMOD was used for the prediction of odour impacts associated with the air emissions from the proposed operations.

The OIA utilises emission data derived from odour sampling undertaken on the 8th December 2016 at a similar facility. Two odour samples were taken from a vat of unfiltered cooking oil. Odour samples were analysed in accordance with AS/NZS4323.3:2001 by Odour Research Laboratories Australia a NATA accredited laboratory.

Two sources were included in the dispersion model. Emissions from the biotrickling filter system were included as a point source, and emissions from the DAF and filter were cumulatively modelled as a building source with a reduction factor of 0.1 to consider the enclosed space.

The predicted 99th percentile ground level impacts were modelled and compared against the odour concentration criterion of 7 OU/m^3 (for residences $\leq \approx 2$). The predicted impacts were significantly below the relevant criteria, with the highest impact of 0.424 OU at industrial receptor 12 Kiora Crescent, Yennora. All sensitive receptors considered in the assessment, including residents and childcare centres, were below 0.042 OU. As such odour emitted from the site would be very minor and is not anticipated to cause nuisance or offence to persons within the vicinity of the site.

The total amount of greenhouse gas emissions from the proposed development is approximately 1,600 tonnes CO_2-e per annum. This quantity is well below the reporting thresholds under the National Greenhouse and Energy Reporting Act 2007 (NGER Act).

NOISE AND VIBRATION

A full Noise Impact Assessment (NIA) has been undertaken for the proposed development and is provided in Appendix 3. The noise impact assessment was undertaken in accordance with the following guidelines:

- NSW Environment Protection Authority, Noise Policy for Industry (EPA, 2017);
- Department of Environment, Climate Change and Water NSW, Road Noise Policy (DECCW, 2011);

The nearest receivers were identified and project specific noise criteria were established. The main sources of noise from the site include vehicle movements, pumps, an air compressor and a shredder. The site operations were modelled using the predictive noise software, Sound Plan V7.3.

Operational noise levels are predicted to comply with the project specific criteria at all residential receivers during all time periods. Sleep disturbance was assessed during the night time period and compliance with the criteria is achieved at all residential receivers. Compliance with the guidelines set out in the NSW Road Noise Policy was predicted at all considered receptors.

While further noise mitigation measures are not required, the following noise mitigation measures are recommended in order to proactively further reduce noise levels at surrounding receivers:

- Prohibition of extended periods of on-site revving/idling;
- Keeping the roller shutter door closed where possible;
- Minimisation of the use of truck exhaust brakes on site;
- Enforcement of low on-site speed limits; and
- On-site vehicles and machinery to be maintained in accordance with a preventative maintenance program to ensure optimum performance and early detection of wearing or noisy components.

SOIL AND WATER

A Soil and Water Assessment has been undertaken for the proposed development and is provided as Appendix 4.

The majority of soil and water controls are already in place at the site and are considered appropriate for the proposed development. There are no earthworks proposed for the development or any disturbances to soil.

Surface and storm waters run off the roof into a downpipe and onto the hardstand at the front of the property. This then feeds into a stormwater gutter at the property line and runs to a stormwater drain approximately 50 m east. The entrance to the operational area is on a slight incline, allowing roof and hardstand water runoff to flow to the stormwater gutter at the front of the property. If any stormwater enters the operational area of the site, it is collected in the sump pit and treated onsite through settling tanks and then the DAF (dissolved air flotation unit) before release to tradewaste.

The facility accepts liquid waste for processing. The potential exists for contamination to be released onsite through spills or leaks from operational activities such as, filtering, transfer or storage procedures. Potential pollutants include:

- Heavy metals (iron, copper, zinc, lead, nickel, chromium);
- Inorganic compounds (ammonium, nitrates, phosphorus, phosphates);

- Potentially toxic gases (hydrogen sulphide, methane, carbon dioxide);
- Acids;
- Pesticides;
- Volatile Organic Compounds;
- Hydrocarbons;
- BETXN;
- Polycyclic Aromatic Hydrocarbons; and
- Perfluorocarbons.

These may be contained in:

- Grease trap waste;
- Septic waste;
- Sewage sludge;
- Surfactants; and
- Oily water.

The proposal does not require discharge into surface waters or to groundwater. The disposal of waste fluids unable to be further recycled or utilised are either removed offsite by tanker to a licenced waste facility for disposal or deposited into the mains sewer as per the tradewaste agreement.

The site contains no natural or artificial surface water. Storm events can produce surface water that flows across the site. Potentially, such water can collect surface pollutants deposited from site operations. If such contaminated surface water enters the stormwater system, it has the potential to pollute nearby waterways and groundwater. However, this potential is very low due to the design and operational procedures currently in place that are described as follows:

- Isolated stormwater pits and drains, water surface water captured is processed through the facility;
- No excavation or earth disturbing construction activities are taking place;
- Transfer of waste from truck to storage tanks occurs within a fully enclosed area;
- All work and process areas involving liquid wastes are fully bunded;
- Sealed blind sump pits are located within bunded areas;
- Blind sump pits and storage tanks are checked for leaks/blockages regularly;
- The site is covered by concrete hardstand;
- Procedures, signage and training in appropriate methods of spill avoidance and response protocols are implemented; and
- Only low levels of hazardous chemicals are stored on site, all are fully enclosed and bunded in accordance with the relevant Australian standards.

With these processes and safeguards in place, the risk of contaminants entering the soil and water through poor housekeeping, leaks or accidental spills, or as a result of onsite operations is considered low.

The concrete hardstand is a strong and impervious barrier to potential contaminants entering the soil beneath. The increase in waste storage and processing is expected to have negligible impact upon the surrounding soils. The safeguards and mitigation measures considered sufficient to prevent the discharge of contaminated water to offsite receptors.

TRAFFIC AND TRANSPORT

A traffic impact assessment was undertaken by ML Traffic Engineers (Appendix 5) and a brief summary of findings is provided below.

The traffic report concluded that the proposed development is a low trip generator for the weekday AM and PM peak hours. The additional trips from the proposed development can be accommodated at the nearby intersection without significantly affecting intersection performance delays or queues.

The provision of seven (7) on site car parking spaces will accommodate the expected car requirements for staff.

WASTE MANAGEMENT

Minor site changes would result in some demolition and construction waste. Most of this is recyclable. The majority of ongoing waste types would not change as a result of the proposed modifications. The facility would receive an increased quantity of liquid wastes that it is already licenced to receive including:

- Residues from industrial waste treatment/disposal operations – landfill leachates (N205);
- Liquid waste material in glass, plastic or aluminium containers;
- Surface active agents (surfactants) containing principally organic constituents and which may contain metals and inorganic materials (M250);
- Waste oil/hydrocarbons mixtures/emulsions in water (J120);
- Sewage sludge & residues (K130); and
- Grease trap waste (K110).

Additional waste types the facility will also receive:

- Out-of-date liquids (food waste);
- Shampoos/Liquid soaps;
- Clothes and Shoes; and
- Makeup.

The maximum waste storage quantity is 477 tonnes at any one time.

Waste will continue to be managed in line with the *NSW Waste Avoidance and Resource Recovery Strategy 2014-21* and the majority of waste is reused on site or sent off site for recycling.

HAZARDS AND RISK

The only dangerous goods to be stored on site are 200 L of LPG, Class 2.1, stored in a locked cage outside and 40 kg of Sodium Hydroxide, class 8, PG II within packages. All other chemicals stored are non-dangerous goods.

A preliminary risk screening of the proposed development in accordance *with State Environment Planning Policy No. 33 – Hazardous and Offensive Development* (SEPP 33) found that quantities of dangerous goods do not exceed the threshold quantities for applying SEPP 33 and a Preliminary Hazard Analysis (PHA) is not required.

In order to identify and characterise the nature of potential fire events, a series of Hazard Identification Charts have been compiled to assess the potential fire events of the proposed development. Fire risk is relatively low at liquid recycling facilities.

HERITAGE

The Aboriginal Cultural Heritage Assessment Report is currently presented in draft form in this EIS. The closing date for the registered Aboriginal parties (RAPs) to respond is 13th July 2020 at which time the report will be finalised.

BIODIVERSITY

There would be no changes to the existing grassed areas on site. The site does not contain critical habitat or threatened species. A biodiversity development assessment report (BDAR) waiver was lodged with the scoping report that clearly demonstrates that the development is not likely to have a significant impact on biodiversity values.

CONTAMINATION

The sites have not been listed on the EPA contaminated Land Registry. The proposed development does not require excavation or disturbance to soil, therefore SEPP No. 55 – Remediation of Land does not apply.

The sites are considered to be suitable for the proposed development in its current condition, and therefore no remediation is required.

HUMAN HEALTH

Impacts to air from the proposed development are primarily related to odour emission. Odour from the proposed development will be appropriately managed and controlled with the existing mitigation measures on site. Air quality impacts with regards to human health are considered negligible.

High noise levels can potentially cause health impacts (e.g. hearing loss) to workers who are exposed to it on a daily basis. Control practices that will be in place to minimise the risk of exposure to employees include the use of appropriate PPE and undertaking systematic equipment maintenance. Potential health impacts associated with external environmental noise are considered unlikely based on the results from the Noise Impact Assessment which show that noise impacts at nearest sensitive receptors are expected to be negligible.

Smoke released from a fire would cause a potential risk to human health through inhalation, as well as burns from a fire. With adequate fire services and equipment in place the risk of a fire

occurring on site is considered to be low. The majority of the liquid waste is water. The consumer products are also non-combustible.

Potential adverse impacts to health could result from unintended human contact with hazardous chemicals, upon their accidental release within the building and/or externally to the site, through the stormwater system. The possibility of such an event occurring is considered to be low due to the safeguards currently in place at the facility. . The potential health impacts from the accidental release of hazardous chemicals are considered to be minor for on-site workers and further insignificant for the local community.

All employees would undergo appropriate training as part of site induction and be provided with appropriate Personal Protective Equipment (PPE) for their role, such as ear plugs (if required), high visibility clothing and safety boots. The employer would ensure the operation is conducted as approved and appropriate resources are available for work safety. The proposed development would be required to comply with the Work Health and Safety Act 2011 and the Work Health and Safety Regulation 2017.

COMMUNITY AND STAKEHOLDER ENGAGEMENT

The EIS addresses issues raised through the consultation process with local government, statutory authorities, the proponent, adjoining properties and nearest sensitive receptors.

A pre-lodgement meeting was held with the Department of Planning Industry and Environment to discuss concerns regarding the proposed development that have been addressed in the EIS. Other statutory authorities raised issues of concern through the Secretary's Environmental Assessment Requirements (SEARs).

Communication has also occurred with Cumberland Council.

Consultation with adjoining properties and the surrounding areas was undertaken through distribution of an information leaflet. No face to face meetings were undertaken due to COVID-19. No objections or issues of concern were raised.

CONCLUSIONS

The environmental assessment process has enabled the potential impacts of the proposed development to be evaluated, and control strategies to be devised in order to ensure compliance with regulatory standards.

To ensure the impacts of the proposed development are kept low, Enviro Waste will update the following plans prior to the operation commencing: Pollution Incident Response Management Plan (PIRMP), Emergency Plan and (EP) Environmental Management Plan (EMP).

A Statement of Commitments is provided as Section 14. The Statement of Commitments summarises the commitment made by Enviro Waste to implement the environmental controls designed into the development. The size and nature of the proposed increase in capacity are considered to be suited to this site and the request is made that approval be granted.

Contents

Page

Tables Page

Figures

Appendices

Attachments

EIS Attachment 3: Trade Wastewater Agreement
EIS Attachment 4: Council Flood Advice Letter
EIS Attachment 5: BDAR Waiver
EIS Attachment 6: Development Consents and Approved Plans
EIS Attachment 7: Stormwater Sample Collection Analysis Results
EIS Attachment 8: Vehicle and Truck Register
EIS Attachment 9: Enviro Waste Public Complaint & Report Form
EIS Attachment 10: Council Traffic Consultation

1. INTRODUCTION

Benbow Environmental has been engaged by Enviro Waste Services Group Pty Ltd (Enviro Waste) to undertake an Environmental Impact Statement (EIS) for the increase in processing quantities at the liquid waste recycling facility located at 14-16 Kiora Crescent, Yennora NSW 2161.

The site at 14 Kiora Crescent, Yennora has approval to process 900 tonnes per annum of waste liquids, with a maximum of 110 tonnes of liquid that can be stored at any one time.

After commencing the preparation of the EIS, Benbow Environmental became aware of the operation of a non-approved waste facility processing what are described as out-of-date liquid products in packaging. This operation has now ceased and the EIS has been expanded to include this operation.

Enviro Waste proposes to increase the processing quantity to 110,000 tonnes per annum and increase the maximum quantity to be stored at any one time to 477 tonnes. Waste processing streams and proposed quantities per location are listed below:

14 Kiora Crescent (existing facility – industrial waste treatment/disposal, liquid waste material, sewage sludge, grease trap waste etc)

Processing capacity per annum: 100,000 tonnes.
Maximum storage at any one time: 377 tonnes.

16 Kiora Crescent (additional facility - out-of-date liquid product/food waste destruction)

Processing capacity per annum: 10,000 tonnes.
Maximum storage at any one time: 100 tonnes.

1.1 INTRODUCTION TO THE PROPONENT

Enviro Services Group, Liquid Waste Sydney (Enviro Waste) – is a family owned and operated Liquid Waste disposal company in Sydney who specialise in liquid waste removal founded on the extensive experience of its Owner and Director, Eddy Hawach.

Eddy has been in the Liquid Waste industry in Sydney for over 15 years and has built his company on the highest quality of care to ensure customer satisfaction without any impact on the surrounding environment.

Enviro Waste provides professional, high quality service but with the friendliness and personal follow-through of an Australian owned family-run company to all its clients, whether a multi-million-dollar commercial project, or a one-off domestic septic tank or grease trap pump-out. They assist the Sydney community with septic tank cleaning, grease trap cleaning and all other liquid waste removal services.

(Enviro Waste 2016).

1.1.1 Relationship with other Industries or Facilities

The proponent has a strong professional relationship with industry members, hospitality companies and related waste subcontractors across Sydney. The proponent is committed to a "ZERO HARM" approach in their business. This approach employs safety and sustainability practices to create awareness and build strong relationships with their various stakeholders.

1.2 PROJECT OVERVIEW

The proposed development consists of an increase in the volume of liquid waste accepted for processing at the current liquid waste recycling facility located at 14-16 Kiora Crescent, Yennora, with the facility processing up to 110,000 tonnes per annum (tpa) of liquid waste comprising up to:

- 30,000 tpa of waste cooking oil;
- 30,000 tpa of sewage sludge and residues;
- 12,500 tpa of industrial waste residues;
- 12,500 tpa of surfactants;
- 15,000 tpa of grease trap waste; and
- 10,000 tpa of out-of-date liquid product/food waste destruction,

with a maximum storage capacity of up to 477 tonnes of waste at any given time.

The facility would receive an increase in the quantity of liquid wastes it is currently licenced to receive, including:

- Residues from industrial waste treatment/disposal operations – landfill leachates (N205);
- Liquid waste material in glass, plastic or aluminium containers;
- Surface active agents (surfactants) containing principally organic constituents and which may contain metals and inorganic materials (M250);
- Waste oil/hydrocarbons mixtures/emulsions in water (J120);
- Sewage sludge and residues (K130); and
- Grease trap waste (K110).

The operation of the facility involves the following activities to be undertaken on site:

- Unloading and loading of liquid waste from tanker trucks;
- Filtration of solid debris;
- Separation of solids;
- Separation of clean oils and sludge; and
- Separation of oil and water.

The EIS addresses the requirements of the NSW Department of Planning and Environment, NSW Office of Environment and Heritage, NSW Transport Roads & Maritime Services; NSW Department of Industry, NSW Environment Protection Authority and Cumberland Council.

1.2.1 Objectives of the Proposal

The main objective of the proposal is to increase the resource recovery facilities processing capacity that improves the efficacy of Enviro Waste's on-going family-run business of liquid waste treatment. Secondary objectives include:

- Creating a facility to efficiently process liquid waste, reducing likelihood of illegal dumping; and
- To operate the facility to a high environmental standard and ensure cleaner production principles are implemented.

1.2.2 Staging of the Proposal

The proposal will be undertaken in one stage.

1.2.3 Need for Development

The demand for treatment facilities to cope with the increased liquid waste generation around NSW has been increasing. As such Enviro Services Group is looking to increase the processing capacity of their existing plant to meet this demand.

1.3 DEVELOPMENT ALTERNATIVES

This section of the EIS discusses alternatives to the proposed development in regards to both the site location and the proposed methods of operation.

1.3.1 Alternative Locations

As the existing recycling facility at the subject site has been able to operate without detriment to the surrounding community and the environment, expansion of the production capacity of this site is considered to be the most viable option. Therefore, no alternative locations were considered.

1.3.2 Alternative Design and Processes

The current method of liquid recycling at the existing site is considered to be one of the more conventional methods. Other methods are available; however, no specific environmental and economic benefits have been identified in the current literature which would warrant a change in current production methodologies.

The proposed development is considered to be the most cost-effective process with minimal environmental impact.

1.3.3 Site Selection

The subject site has been chosen for the expansion of the liquid recycling facility for the following reasons:

- The subject site already has the necessary infrastructure in place to support an increase in production.
- The subject site is located in a well-established industrial area with adequate services.
- The subject site is not in a sensitive land use area and has adequate separation distance from residential areas and ecologically sensitive receivers (i.e. waterways).
- The proposed development is a permitted use with consent at the subject site.

- The proposed development would service areas throughout NSW. Therefore, the subject site is well positioned when compared to alternative locations.
- The existing facility at the subject site has extensive environmental safeguards which can be utilised for the proposed development, providing assurance in regards to expected degree of environmental impacts.
- The subject site has ample room available to cater for the proposed operations.

In conclusion, the proposed development has been selected as the preferred option due to its ability to satisfy the objectives of the proposal, the advantages of utilising this specific site and the reliability of the proposed environmental impact mitigation measures to be replicated from the existing facility.

1.3.4 "No project" Option

The consequences of not proceeding with the project would be to deny the wider community of the benefits resulting from the increased efficiency of liquid waste recycling.

If the 'no project' option was implemented, the demand on liquid waste recycling would only increase, increasing the cost of this service across NSW, incentivising illegal dumping of liquid waste.

1.4 EIS Function and Structure

1.4.1 EIS Function

The EIS report has two main functions. Firstly, the EIS is required to document the existing built and natural environment and assess all potential impacts that the proposal may have on various environmental and social aspects. Based on the impacts' assessment, the EIS discusses the management and control measures required by the proposed development to mitigate negative impacts and to achieve compliance with any criteria that applies to the proposal or site.

Secondly, the other function of the EIS is to provide all necessary information needed by the consent authority, the community, the various government authorities and the applicant to make informed decisions in relation to the proposed development, including its approval.

1.4.2 EIS Structure

The EIS is organised into the following three main sections:

- **Executive Summary**
  This summarises the proposed development, justification and the environmental assessment of the proposal.

- **Main Contents of the EIS**
  The main contents of the EIS describe the proposed development in detail, including the location and settings, the planning framework, the process description and other operational details. Then, the existing environment and the identification of issues are presented, followed by all necessary assessments of the potential environmental and, to a minor extent, social impacts. For each issue, safeguards and mitigation measures are addressed. The need

and justification for the project are also included, together with a statement of commitments prepared for the proponent.

- **Appendices and Attachments**
  The Appendices contain the site plans and technical support documents, the Attachments include the requirements of the Secretary's Environmental Assessment Requirements (SEARs) and community consultation leaflet.

2. LOCATION AND SETTINGS

This section describes the existing site and the location of the development. The surroundings are characterised and a general description of the environment that is likely to be affected is provided.

2.1 SITE LOCATION

The development is located on two properties identified as; 14 Kiora Crescent Yennora (575 m^2), also known as Lot 49 DP18211; and 16 Kiora Crescent, Yennora (1,113 m^2), also known as Lot 50 DP18211. Both sites are within the Cumberland local government area. Figure 2-1 shows the site location in a regional context, with the site's local context shown in Figure 2-2. The site's current layout is shown in Figure 2-3.

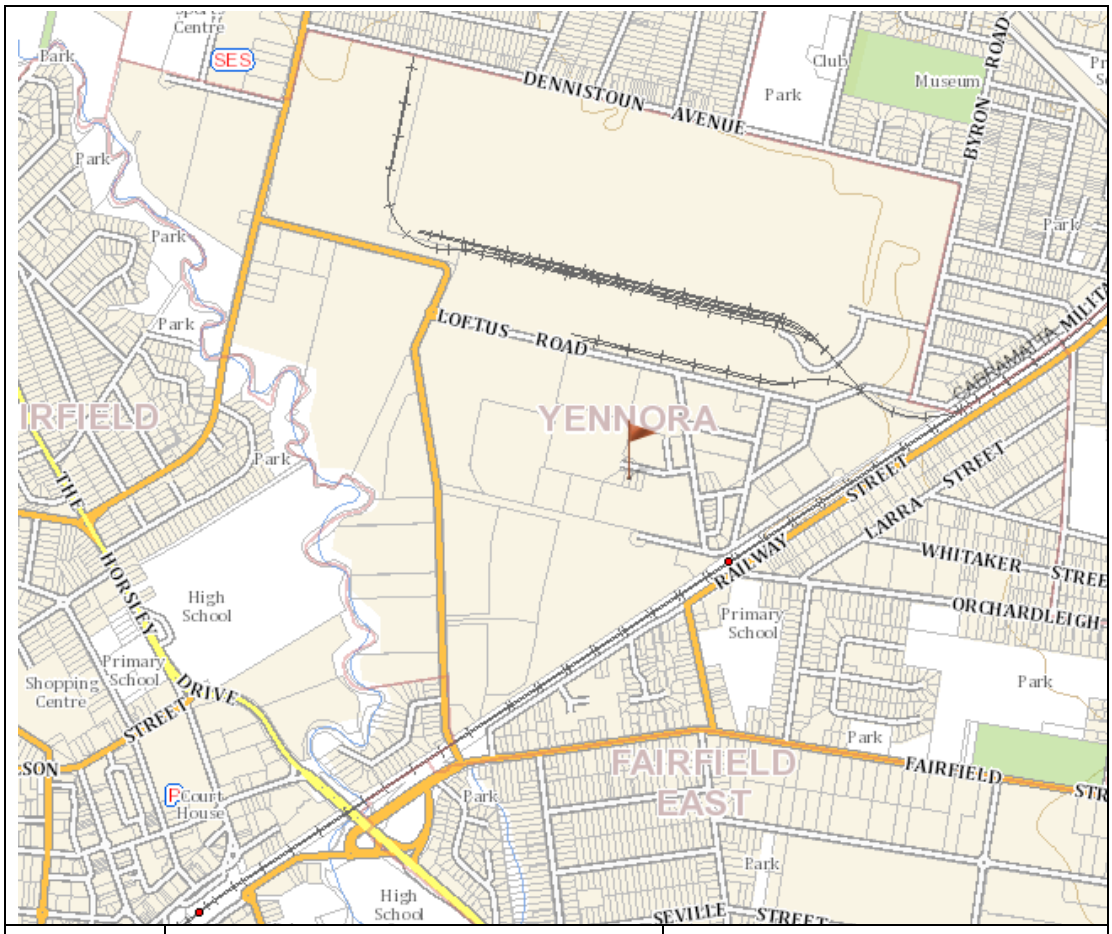
Figure 2-1: Site Location in a Regional Context

↑N

Source: SIX Maps 2019

Benbow Environmental
25-27 Sherwood Road
Northmead NSW 2152

Figure 2-2: The Site Location in a Local Context



↑N

Source: SIX Maps 2019

Legend: Site Boundary

Benbow Environmental
25-27 Sherwood Road
Northmead NSW 2152

Figure 2-3: Aerial View of the Site

↑N	**Source:** SIX Maps 2019 **Legend:** Site boundaries	Benbow Environmental 25-27 Sherwood Road Northmead NSW 2152

2.2 SITE LAYOUT

The following figure presents the site layout. Full plans are provided in Appendix 1.

Figure 2-4: Site Plan

2.3 EXISTING FACILITIES

The site at 14 Kiora Crescent is currently operating as a liquid waste treatment facility. The facility consists of a tank farm, filtration equipment, processing tanks, bunded areas, sump collection pits, odour control devices, unloading and loading areas, office and amenities.

The site at 16 Kiora Crescent is currently being used for office purposes. The site contains a single storey brick warehouse, a metal shed, concrete driveways and grassed areas. The warehouse currently contains the infrastructure required to undertake the processes proposed.

2.4 LAND USE

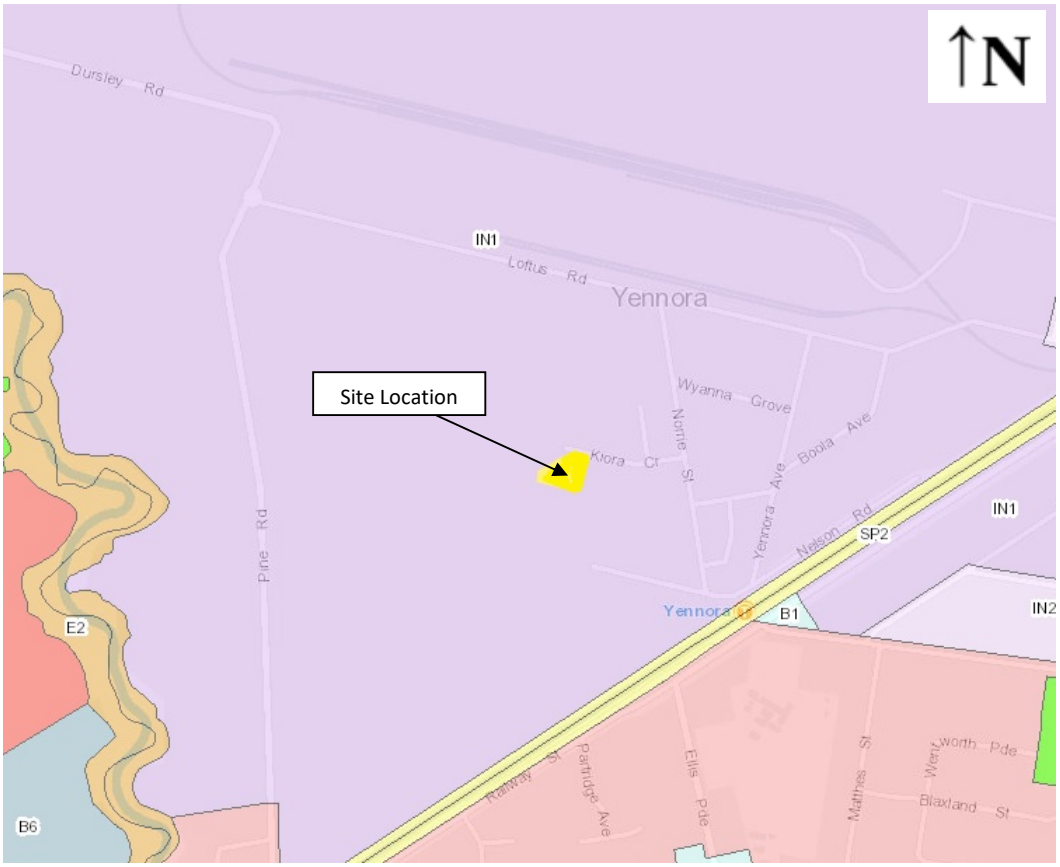
Both land parcels are situated in the IN1 – General Industrial land use zoning under the Holroyd LEP 2013 as shown in Figure 2-5.

The surroundings, in all directions, are mainly General Industrial IN1, with some Special Infrastructure SP2 (T5 – Leppington railway line) to the east and south and beyond that, Low Density Residential R2. Further to the east there are smaller areas of Light Industrial IN2. Beyond the General Industrial IN1 to the north there are also areas of Low Density Residential R2, Public Recreation RE1 and Environmental Conservation E2. At the edge of the General Industrial IN1 in the west is Prospect Creek, Environmental Conservation E2, beyond that is an area of Low Density Residential R2, Public Recreation RE1 and High Density Residential R4.

The T5 – Leppington railway line is located 325 m to the south east of the site. The Horsley Drive is located 1.02 km to the south west of the site and Prospect Creek is located 735 m to the south west.

The closest residential area is to south east of the site, 330 m to the south east of the site. The surrounding land zoning is shown in Figure 2-5.

Figure 2-5: Surrounding land use zoning



Source: https://www.planningportal.nsw.gov.au

Legend:

- B1 - Neighbourhood Centre
- B2 - Local Centre
- B3 - Commercial Core
- B4 - Mixed Use
- B5 - Business Development
- B6 - Enterprise Corridor
- B7 - Business Park
- B8 - Metropolitan Centre
- E1 - National Parks and Nature Reserves
- E2 - Environmental Conservation
- E3 - Environmental Management
- E4 - Environmental Living
- IN1 - General Industrial
- IN2 - Light Industrial
- IN3 - Heavy Industrial
- IN4 - Working Waterfront
- R1 - General Residential
- R2 - Low Density Residential
- R3 - Medium Density Residential
- R4 - High Density Residential
- R5 - Large Lot Residential
- RE1 - Public Recreation
- RE2 - Private Recreation
- RU1 - Primary Production
- RU2 - Rural Landscape
- RU3 - Forestry
- RU4 - Primary Production Small Lots
- RU5 - Village
- RU6 - Transition
- SP1 - Special Activities
- SP2 - Infrastructure
- SP3 - Tourist
- W1 - Natural Waterways
- W2 - Recreational Waterways
- W3 - Working Waterways

2.5 LOCAL COMMUNITY

2.5.1 Yennora and the Surrounding Area

The suburb of Yennora is located approximately 22 km west of Sydney's Central Business District. Surrounding suburbs include Guildford West (north), Guidlford (north east), Old Guildford (east), Fairfield East (south), Fairfield (west) and Smithfield (north west). Yennora is mainly made up of industrial areas, with some low density residential, public recreation and Prospect Creek. Prospect Reservoir is located 6.9 km north west. The T5 – Leppington railway line runs through Yennora and has its own train station.

2.5.2 Population Demographics

The Australian Bureau of Statistics (ABS) conducts a national census every 4 years. Data presented below has been sourced from the last census survey conducted in 2016.

At the time of the 2016 census, the population within the suburb of Yennora consisted of 1,615 people, of which 50% were males and 50% female. Of the total persons residing in Yennora, 462 people reported as being employed, of which approximately 51% worked full-time and 30% part-time. The largest occupation representation is technicians and trades 19.1%, followed by machinery operators and drivers 16.3%, labourers 16.1%, clerical and administrative workers 11.6%, professionals 11.1%, community and personal service workers 10.8%, sales workers 7.8% and managers 5.5% (ABS 2016).

2.6 NEAREST SENSITIVE RECEIVERS

The closest residential receivers are shown in Table 2-1 and Figure 2-6.

The nearest residences are located 330 m south east of the site along Railway Street.

The closest industrial receivers are Farmlink Engineering (west), Colorcraft (east) and Thompson Brothers Transport (south) all adjacent to the site.

The nearest waterway is Prospect Creek, approximately 640 m west of the site. Prospect Creek begins at Prospect Reservoir 6.9 km north west of the site and flows into Georges River at Georges Hall some 5.24 km south of the site.

The nearest ecological receivers are the Riparian Land adjacent to Prospect Creek, 620 m west of the site and Remnant Native Vegetation 875 m north east of the site. Both sites are situated in the IN1 – General Industrial land use zoning under the Holroyd LEP 2013 as shown in Figure 2-5.

The surroundings, in all directions, are mainly General Industrial IN1, with some Special Infrastructure SP2 (T5 – Leppington railway line) to the east and south and beyond that, Low Density Residential R2. Further to the east there are smaller areas of Light Industrial IN2. Beyond the General Industrial IN1 to the north there are also areas of Low Density Residential R2, Public Recreation RE1 and Environmental Conservation E2. At the edge of the General Industrial IN1 in the west is Prospect Creek, Environmental Conservation E2, beyond that is an area of Low Density Residential R2, Public Recreation RE1 and High Density Residential R4.

The T5 – Leppington railway line is located 325 m to the south east of the site. The Horsley Drive is located 1.02 km to the south west of the site and Prospect Creek is located 735 m to the south west.

The closest residential area is to south east of the site, 330 m to the south east of the site. The surrounding land zoning is shown in Figure 2-5.

Table 2-1: Residential and Non-Residential Receivers

Receptor ID	Address	Lot & DP	Approx. Distance from Proposed Development	Type of Receptor
R1	2A Ellis Parade, Yennora	Lot 1 DP 553522	330 m SSE	Residential
R2	45 Railway Street, Yennora	Lot 3 DP 574732	755 m ENE	Residential
R3	66 Byron Road, Guildford	Lot 2 DP 975284	965 m NE	Residential
R4	58 Tamplin Road, Guildford	Lot 7 DP 31391	920 m NNE	Residential
R5	45 Dennistoun Avenue, Guildford West	Lot 118 DP 10981	910 m N	Residential
R6	89 Dennistoun Avenue, Guildford West	Lot 50 DP 39199	1135 m NW	Residential
R7	28 Ace Avenue, Fairfield	Lot 30 DP 539236	830 m W	Residential
R8	17 Pine Road, Fairfield	Lot 39 DP 13605	645 m SW	Residential
R9	104 Railway Street, Yennora	Lot 5 DP 812983	425 m SSW	Residential
R10	Yennora Public School 1-9 Orchardleigh Street, Yennora	Lot 1 DP 447926	335 m SW	School/ Childcare Centre
R11	Mini Masterminds Guildford 16 Junction Street, Old Guildford	Lot 1 DP 509537	1070 m ENE	School/ Childcare Centre
R12	Fairfield High School 405 The Horsley Drive, Fairfield	Lot 1 DP 1063605	710 m W	School/ Childcare Centre
R13	Fairfield Road Park 241 Fairfield Road, Yennora	Lot 23 DP 610787	1020 m WNW	Active Recreation
R14	12 Kiora Crescent, Yennora	Lot 48 DP 18211	Adjacent E	Industrial
R15	27-49 Nelson Road, Yennora	Lot 1 DP 746982	Adjacent S	Industrial
R16	1 Norrie Street, Yennora	Lot 9 DP 1233715	130 m N	Industrial

Figure 2-6: Receptor Map

2.7 SITE HISTORY

Based on a review of historical aerial photographs of the site and surrounding area, revealed the following:

- The site was vegetated and undeveloped in the 1940s and occupied by large rural residential lots. The surrounding area showed the start of subdivisions into smaller residential lots.
- By the 1960s, 14 Kiora Crescent contained a small residential dwelling while 16 Kiora contained an industrial shed at the site's rear. The surrounding area was in the process of been developed into a large industrial estate.
- Approval to establish a factory building at 14 Kiora Crescent was granted in 1971. Construction likely occurred soon after.
- The warehouse at 16 Kiora Crescent remained unchanged until 2005 when a portion of the warehouse on the western side was removed, reducing the total footprint of the building to its existing size.

2.7.1 DA History

Table 2-2: Council's Development and Building Application and Consent Records from 14 Kiora Crescent, Yennora

Year	Number	Description
1971	71/302	Factory building
2013	DA 2013/351	Alterations to an existing industrial premises and fitout for a liquid waste facility

2.7.2 Recent Operational History

The site at 14 Kiora Crescent has been operating as a liquid waste facility since approval in 2013-2014.

16 Kiora Crescent operated without approval for product destruction of out-of-date liquid product/food waste from January 2020 to October 2020.

5 Kiora Crescent has been used for the parking of trucks associated with the operations at 14-16 Kiora Crescent without approval as a truck depot. This site has recently been approved for the development of an industrial complex and will not be used for parking for the proposed development. Trucks associated with the proposed development will be parked offsite. The site that is intended to be used initially is 49-53 Pine Rd, Yennora NSW.

Cumberland council has visited the site of the proposed developments 6/01/2020 the outcomes of which are presented in the SEARS.

The EPA have visited the site of the proposed development on 27/03/2020 where an official caution was issued for the unauthorised use of 16 and 5 Kiora Crescent. Another visit from the EPA was undertaken on 2/10/2020. The outcome of the latest visit resulted in the operations at 16 Kiora Crescent ceasing pending approval and eight (8) employees' jobs were terminated. It is also noted that additional machinery was located on 16 Kiora that is not included in the scope of this DA; this equipment has been removed offsite and is not proposed for this DA.

3. PLANNING FRAMEWORK

This section provides an assessment of the proposed development in accordance with all relevant statutory planning controls.

3.1 COMMONWEALTH CONTROLS

3.1.1 Environment Protection and Biodiversity Conservation Act 1999

The *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) would apply to the development of the subject land. The EPBC Act provides a legal framework to protect and manage nationally and internationally important flora, fauna, ecological communities and heritage places – defined in the EPBC Act as matter of national environmental significance.

The proposed development would not have a significant impact on matters of national environmental significance and it is not on Commonwealth land. Therefore, the Provisions of the Act do not have application and the approval of the Minister is not required.

3.2 STATE CONTROLS

3.2.1 Environmental Planning and Assessment Act and Regulation

The *Environmental Planning and Assessment Act 1979 (EP&A Act)* and the *Environmental Planning and Assessment Regulation 2000 (EP&A Regulation)* provide the framework for environmental planning in NSW. The EP&A Act and the Regulation include provisions to ensure that proposals, which have the potential to impact on the environment, are subject to detailed assessment. Under this legislation the proposed development is defined as state significant.

3.2.1.1 State Significant Development

State significant development is development declared under Clause 4.36 of the EPA Act.

Under Clause 8 (1) of the *State Environmental Planning Policy (State and Regional Development) 2011*, development is potentially state significant development if it is specified in Schedule 1 or Schedule 2.

Schedule 1 of the *State Environmental Planning Policy (State and Regional Development) 2011* applies to the development. Clause 23(3) could potentially be relevant to the proposed activities:

> ***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 per year 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 development **is State Significant Development** as it involves the handling of more than 10,000 tonnes per year of liquid food or grease trap waste and 1,000 tonnes of other aqueous or non-aqueous liquid industrial waste per year of waste. Additionally, the subject site is not an identified site under Schedule 2 of the SEPP.

3.2.1.2 Designated development

The proposed development potentially falls under the *EP&A Regulation 2000, Schedule 3, Part 1 "What is designated development?"*. The following clauses are of relevance.

32 Waste management facilities or works

(1) Waste management facilities or works that store, treat, purify or dispose of waste or sort, process, recycle, recover, use or reuse material from waste and:

(a) that dispose (by landfilling, incinerating, storing, placing or other means) of solid or liquid waste:

(i) that includes any substance classified in the Australian Dangerous Goods Code or medical, cytotoxic or quarantine waste, or

(ii) that comprises more than 100,000 tonnes of "clean fill" (such as soil, sand, gravel, bricks or other excavated or hard material) in a manner that, in the opinion of the consent authority, is likely to cause significant impacts on drainage or flooding, or

***(iii) that comprises more than 1,000 tonnes per year of sludge or effluent,** or*

(iv) that comprises more than 200 tonnes per year of other waste material, or

(b) that sort, consolidate or temporarily store waste at transfer stations or materials recycling facilities for transfer to another site for final disposal, permanent storage, reprocessing, recycling, use or reuse and:

(i) that handle substances classified in the Australian Dangerous Goods Code or medical, cytotoxic or quarantine waste, or

(ii) that have an intended handling capacity of more than 10,000 tonnes per year of waste containing food or livestock, agricultural or food processing industries waste or similar substances, or

(iii) that have an intended handling capacity of more than 30,000 tonnes per year of waste such as glass, plastic, paper, wood, metal, rubber or building demolition material, or

(c) that purify, recover, reprocess or process more than 5,000 tonnes per year of solid or liquid organic materials, *or*

(d) that are located:

(i) in or within 100 metres of a natural waterbody, wetland, coastal dune field or environmentally sensitive area, or

(ii) in an area of high watertable, highly permeable soils, acid sulphate, sodic or saline soils, or

(iii) within a drinking water catchment, or

(iv) within a catchment of an estuary where the entrance to the sea is intermittently open, or

(v) on a floodplain, or

(vi) within 500 metres of a residential zone or 250 metres of a dwelling not associated with the development and, in the opinion of the consent authority, having regard to topography and local meteorological conditions, are likely to significantly affect the amenity of the neighbourhood by reason of noise, visual impacts, air pollution (including odour, smoke, fumes or dust), vermin or traffic.

(2) This clause does not apply to:

(a) development comprising or involving any use of sludge or effluent if:

(i) the dominant purpose is not waste disposal, and

(ii) the development is carried out in a location other than one listed in subclause (1) (d), above, or

(b) development comprising or involving waste management facilities or works specifically referred to elsewhere in this Schedule, or

(c) development for which State Environmental Planning Policy No 52—Farm Dams and Other Works in Land and Water Management Plan Areas requires consent.

The proposed development will process more than 5,000 tonnes per year and will comprise more than 1,000 tonnes per year of sludge or effluent. Therefore the proposed development constitutes designated development. However, under the State Environmental Planning Policy (State and Regional Development) 2011, the development is State Significant Development (SSD). Clause 4.10(2) of the EPA Act states that "Designated development does not include State significant development despite any such declaration." Therefore, an application for SSD is made.

3.2.1.3 Integrated development

Part 4, Division 4.8, Section 4.46 of the EP&A Act defines what constitutes an "Integrated development". Integrated development is development (not being State significant development or complying development) that requires development consent and one or more of the following licences or approvals listed in Table 3-1.

Table 3-1: Licence/Approval Requirements as Integrated Development

Legislation	Require License or Approval
Coal Mine Subsidence Compensation Act 2017	No
Fisheries Management Act 1994	No
Heritage Act 1977	No
Mines Subsidence Compensation Act 1961	No
Mining Act 1992	No
National Parks and Wildlife Act 1974	No
Petroleum (Onshore) Act 1991	No
Protection of the Environment Operations Act 1997	**Yes**
Roads Act 1993	No
Rural Fires Act 1997	No
Water Management Act 2000	No

The site currently holds an EPL licence (20444) for waste processing (non-thermal treatment). This will need to be updated. The update will include the liquid food waste operations.

Hence this proposal is integrated development.

3.2.1.4 Section 4.15 (1) – Matters for Consideration

Under Section 4.15 of the EP&A Act, in determining a development application a consent authority is to take into consideration such of the following matters as are relevant to the development, the subject of the development application.

(a) The provisions of:

(i) Any environmental planning instrument

The *Holroyd Local Environmental Plan (HLEP) 2013* applies to the subject land. The subject land is zoned IN1 General Industrial. Under the provisions of this zone the proposed use is permitted with consent.

(ii) Any draft environmental planning instruments that have been placed on public exhibition.

None at this stage.

(iii) Any Development Control Plans

The proposed use has been assessed in accordance with the Holroyd DCP 2013 in Section 3.3.2.

(iv) Any matters prescribed by the regulations.

None at this stage.

(b) The likely impact of the development including environmental impacts in both the natural and built environment and social and economic impacts in the locality.

- *Context and Setting*

The proposed use will complement the surrounding area and strengthen the overall economic development of the area.

- *Potential Impact on Adjoining Properties*

There will be no negative impact on the adjoining or surrounding industrial or other adjoining properties.

- *Access, Transport and Traffic*

A traffic and parking assessment has been undertaken and found that the proposed design of the development is acceptable in all aspects of its traffic design. The nearby intersections perform well to accommodate additional traffic of the development site. The provision of seven on site car parking spaces will accommodate the expected car requirements for staff.

- *Public Domain*

The proposed use will have a positive contribution to the public domain.

- *Utilities*

The existing utilities are provided to service the proposed development.

- *Heritage*

There are no heritage issues.

- *Other Land Resources*

The proposed development will not require land resources.

- *Critical Habitat*

The land does not include or comprise critical habitat.

- *Air and Microclimate*

There are no microclimate issues. An air quality impact assessment has been conducted and found that there will be no significant impacts.

- *Waste*

Waste has been assessed; the proposed development will be a net benefit as it will recycle liquid waste, dispose of liquid product/foodwaste and manage environmental impacts effectively.

- *Energy*

The proposed operation would not involve energy intensive activities therefore there are no energy issues.

- *Noise*

Detailed noise impact assessments have been conducted in accordance with the NSW Noise Policy for Industry, and the NSW Road Noise Policy. The noise assessments concluded that the proposed development will not generate significant noise impacts.

- *Natural Hazards*

There are no acknowledged natural hazards.

- *Social Impact in the Locality*

There are no negative social impacts.

- *Economic Impact in the Locality*

The proposed use will contribute to the economic development of the area.

- *Site Design and Building Form*

There will be no major changes to the building design and form, the existing buildings are of a design suitable to the land zoning of the area and be in accordance with relevant DCP requirements and the Building Code of Australia.

- *Construction*

Minimal construction works are required for the proposed development.

- *Cumulative Impacts*

There are no cumulative impact issues given the nature of this locality.

(c) The suitability of the site for the development.

The proposed development is appropriate for this site.

(d) Any submissions made in accordance with the Act.

No submissions at this stage.

(e) The public interest

There are no aspects of the proposed use that would be contrary to the public interest.

3.2.2 Biodiversity Conservation Act 2016

The subject land is not biodiversity certified land within the meaning of Part 8 of the *Biodiversity Conservation Act 2010*. There is no element of the Biodiversity Offsets Scheme that applies to the land under Part 8 of the same Act. The subject land does not contain threatened species. A BDAR waiver was granted for the application and is provided in Attachment 5.

3.2.3 NSW Heritage Act 1977

The subject land does not contain an item of environmental heritage and there are no items of environmental heritage in the immediate vicinity of the subject land that would be impacted by its proposed use. Therefore, there are no issues in relation to the *NSW Heritage Act 1977*.

3.2.4 State and Regional Environmental Planning Policies

A number of State Environmental Planning Policies (SEPPs) and Draft SEPPs, apply to the subject land and are listed in Table 3-2. The most relevant SEPPs are then discussed in greater detail.

Table 3-2: State and Regional Environmental Planning Policies

Policy	Comments
Greater Metropolitan Regional Environmental Plan No. 2 – Georges River Catchment	**No application: Discussed below**
SEPP (Affordable Rental Housing) 2009	No application
SEPP (Coastal Management) 2018	**No application: Discussed below**
SEPP (Building Sustainability Index: BASIX) 2004	No application
SEPP (State Significant Precincts) 2005	**No application: Discussed below**
SEPP (Miscellaneous Consent Provisions) 2007	No application
SEPP (State and Regional Development) 2011	**Applies: Discussed below**
SEPP (Exempt and Complying Development Codes) 2008	No application
SEPP (Housing for Seniors or People with a Disability) 2004	No application
SEPP (Infrastructure) 2007	**Applies. Discussed below.**
SEPP (Mining, Petroleum Production and Extractive Industries) 2007	No application
SEPP No 1 – Development Standards	No application
SEPP No 19 – Bushland in Urban Areas	No application
SEPP No 21 – Caravan Parks	No application
SEPP No 33 – Hazardous and Offensive Development	**No application: Discussed below**
SEPP No 44 – Koala Habitat Protection	No application
SEPP No 50 – Canal Estate Development	No application
SEPP No 55 – Remediation of Land	**No application: Discussed below**
SEPP No 62 – Sustainable Aquaculture	No application
SEPP No 64 – Advertising and Signage	Existing signage will remain
SEPP No 65 – Design Quality of Residential Apartment Development	No application
SEPP No 70 – Affordable Housing	No application
SEPP (Primary Production and Rural Development) 2019	No application

Table 3-2: State and Regional Environmental Planning Policies

Policy	Comments
SEPP (Vegetation in Non-Urban Areas) 2017	No application
Draft SEPP – Integrating Land Use and Transport	No application
Draft SEPP (Environment) 2017	No application

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

The proposed development does not trigger the thresholds listed in SEPP No. 33 – Hazardous and Offensive Development and would not fit the definition of 'potentially hazardous industry' or 'hazardous storage establishment'. This is demonstrated in Section 8.6.2.

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

The proposed development does not require any excavation, therefore SEPP No. 55 – Remediation of Land does not apply.

The site is considered to be suitable for the proposed development in its current condition, and therefore no remediation is required.

3.2.4.3 State Environmental Planning Policy (Infrastructure) 2007

Resource recovery is permitted with consent under Clause 121 of Division 23, Part 3, of the *State Environmental Planning Policy* (SEPP) *(Infrastructure) 2007*, as reported below.

> ***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.*
>
> Where:
> ***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.*
>
> ***waste or resource management facility** means a waste or resource transfer station, a resource recovery facility or a waste disposal facility.*
>
> ***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 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.*

Therefore, the development for the purposes of the resource recovery facility is permissible with consent.

3.2.4.4 State Environmental Planning Policy (State Significant Precincts) 2005

The development is not within a state significant precinct and the provisions of the SEPP (State Significant Precincts) 2005 do not apply.

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

The aims of SEPP (State and Regional Development) 2011 is to identify development that is state significant development, state significant infrastructure or critical state significant infrastructure. Under Clause 8 (1) of the *State Environmental Planning Policy (State and Regional Development) 2011*, development is potentially State Significant Development if it is specified in Schedule 1 or Schedule 2. Clause 23(3) of Schedule 1 is relevant to the proposed activities:

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 per year 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 development **is State Significant Development** as it involves the handling more than 10,000 tonnes per year of liquid food or grease trap waste and 1,000 tonnes of other aqueous or non-aqueous liquid industrial waste per year of waste. Additionally, the subject site is not an identified site under Schedule 2 of the SEPP.

3.2.4.6 Greater Metropolitan Regional Environmental Plan No. 2 – Georges River Catchment

The proposed development must adhere to the specific matters for consideration of clause 23 of the Greater Metropolitan Regional Environmental Plan No. 2 – Georges River Catchment.

19 SEWERAGE MANAGEMENT SYSTEMS OR WORKS

Definition
Development for the purpose of any sewerage system or work which stores, treats or disposes of sewage (including domestic on-site disposal systems that are ancillary to other development which requires consent) but not including a public utility undertaking.

Planning control
Development consent required.
Advertised.

Specific matters for consideration
Whether the proposed development will be capable of connection to a Sydney Water Corporation Limited or council sewerage system either now or in the future.

The suitability of the site for on-site disposal of effluent or sludge and the ability of the sewerage systems or works to operate over the long-term without causing significant adverse effects on adjoining property. Where the proposal is for single dwelling residential development not connected to a reticulated sewerage system, the Environment and Health Protection Guidelines—On-site Sewage Management for Single Households (1998) prepared by and available from the Department of Local Government, the Department of Land and Water Conservation, the Department of Health and the Environment Protection Authority must be followed.

The likely effect of any on-site disposal area required by the proposed development on:

(a) any water bodies in the vicinity, including rivers, streams, creeks, dams, or

(b) any wetland areas identified and mapped by the National Parks and Wildlife Service, or

(c) any groundwater, or

(d) any flood liable land within the Catchment.

The sewage management facility or, in the case of on-site disposal systems, the effluent application area should make provision for the following:

(a) preventing the spread of disease by micro-organisms, emission of foul odours, contamination of water and degradation of soil and vegetation, discouraging insects and vermin and ensuring that persons do not come into contact with untreated sewage or effluent (whether treated or not) in their ordinary activities on the premises,

(b) the reuse of resources (including nutrients, organic matter and water) and the minimisation of any adverse impacts on the amenity of the land on which the facility or area is installed or constructed and other land in the vicinity of that land,

(c) the scope for recycling and reusing effluent or sludge on the site,

(d) the adequacy of wet weather storage and the wet weather treatment capacity (as necessary) of the proposed sewerage system or works,

(e) likely cumulative impacts downstream where direct discharge of effluent to the Georges River or its tributaries is proposed,

(f) the need for ongoing monitoring of the system or work.

Note. Direct discharge into the Georges River or its tributaries is strongly discouraged. Where that is permitted, the standards set by the Environment Protection Authority must be satisfied.

22 WASTE MANAGEMENT FACILITY OR WORKS

Definition

Development for the purpose of waste management facilities or works described in Schedule 3 (Designated Development) to the Environmental Planning and Assessment Regulation 1994.

Planning controls

Development consent required unless on flood liable land, in which case it is prohibited. Advertised.

Specific matters for consideration

A system is to be required to manage leachate surface controls on the land on which the waste management facility or works is or are proposed.

A site management plan is to be required for the land on which the waste management facility or works is or are proposed.

The likelihood of groundwater contamination.

The adequacy of the proposed leachate management system and surface water controls.

The long-term stability of the final landform and the adequacy of the site management plan.

Where the proposed development involves extraction of material, whether an adverse impact on the Georges River or its tributaries will result.

The specific matters for consideration listed above have been addressed in Section 8.

3.3 LOCAL CONTROLS

3.3.1 Local Environmental Plan

The *Holroyd Local Environmental Plan 2013* applies to the subject site.

The proposed development is considered to be consistent with the particular aims of the Plan under Part 1, Clause 1.2 (2), as follows:

a) to provide a clear framework for sustainable land use and development in Holroyd,
b) to provide for a range of land uses and development in appropriate locations to meet community needs, including housing, education, employment, recreation, infrastructure and services,
c) to promote ecologically sustainable development by facilitating economic prosperity, fostering social well-being and ensuring the conservation of the natural environment,
d) to concentrate intensive land uses, increased housing density and trip-generating activities in close proximity to centres and major public transport nodes in order to retain the low-density character of other areas,
e) to promote the efficient and equitable provision of public services, infrastructure and amenities,
f) to protect the environmental and cultural heritage of Holroyd including:
g) identifying, conserving and promoting cultural heritage as a significant feature of Holroyd's landscape and built form as a key element of its identity, and
h) effectively managing the natural environment (including remnant bushland and natural watercourses) to ensure its long-term conservation.

3.3.1.1 Permissibility

The land zoning for the subject land is described as IN1 – General Industrial under the provisions of the *Holroyd Local Environmental Plan 2013*, which applies to the subject site.

The proposed development is considered permitted with consent "general industries". In addition Resource recovery is permitted with consent under Clause 121 of Division 23, Part 3, of the *State Environmental Planning Policy* (SEPP) *(Infrastructure) 2007*, as discussed in Section 3.2.4.4.

The following objectives apply.

Zone IN1 General Industrial
1. Objectives of zone
- 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.
- To enable other land uses that provide facilities or services to meet the day to day needs of workers in the area.

2 Permitted without consent
Nil

3 Permitted with consent

Depots; Freight transport facilities; Garden centres; **General industries**; Hardware and building supplies; Industrial training facilities; Kiosks; Light industries; Liquid fuel depots; Neighbourhood shops; Oyster aquaculture; Places of public worship; Roads; Take away food and drink premises; Tank-based aquaculture; Warehouse or distribution centres; Any other development not specified in item 2 or 4.

4 Prohibited

Agriculture; Air transport facilities; Airstrips; Amusement centres; Animal boarding or training establishments; Boat launching ramps; Boat sheds; Camping grounds; Car parks; Caravan parks; Cemeteries; Charter and tourism boating facilities; Commercial premises; Correctional centres; Crematoria; Eco-tourist facilities; Educational establishments; Entertainment facilities; Environmental facilities; Exhibition homes; Exhibition villages; Extractive industries; Farm buildings; Forestry; Function centres; Health services facilities; Heavy industrial storage establishments; Helipads; Highway service centres; Home businesses; Home industries; Home occupations; Home occupations (sex services); Industries; Information and education facilities; Jetties; Livestock processing industries; Marinas; Mooring pens; Moorings; Pond-based aquaculture Recreation facilities (major); Registered clubs; Research stations; Residential accommodation; Restricted premises; Sawmill or log processing works; Sex services premises; Stock and sale yards; Tourist and visitor accommodation; Veterinary hospitals; Water recreation structures; Wharf or boating facilities

3.3.1.2 General LEP Requirements

The site is located in an area of Zone IN1 under the provisions of the Holroyd Local Environmental Plan 2013. The LEP states that the objectives of this zone are:

- 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.
- To enable other land uses that provide facilities or services to meet the day to day needs of workers in the area.

The proposal is for the development of the site for expanded use as a liquid waste treatment facility. The following definitions are of relevance:

> ***general industry*** *means a building or place (other than a heavy industry or light industry) that is used to carry out an industrial activity.*
>
> ***heavy industry*** *means a building or place used to carry out an industrial activity that requires separation from other development because of the nature of the processes involved, or the materials used, stored or produced, and includes:*
> *(a) hazardous industry, or*
> *(b) offensive industry.*
> *It may also involve the use of a hazardous storage establishment or offensive storage establishment.*
>
> ***industrial activity*** *means the manufacturing, production, assembling, altering, formulating, repairing, renovating, ornamenting, finishing, cleaning, washing, dismantling, transforming, processing, recycling, adapting or servicing of, or the research and*

development of, any goods, substances, food, products or articles for commercial purposes, and includes any storage or transportation associated with any such activity.

***industry** means any of the following:*
(a) general industry,
(b) heavy industry,
(c) light industry,
but does not include:
(d) rural industry, or
(e) extractive industry, or
(f) mining.

***light industry** means a building or place used to carry out an industrial activity that does not interfere with the amenity of the neighbourhood by reason of noise, vibration, smell, fumes, smoke, vapour, steam, soot, ash, dust, waste water, waste products, grit or oil, or otherwise, and includes any of the following:*

(a) high technology industry,
(b) home industry.

The proposed use is consistent with the definition of "general industry" and is permissible with consent in the zone. Furthermore, the proposed use is not covered by any of the categories in the prohibited development schedule for this Zone. It would readily meet the objectives of the plan as outlined above.

3.3.1.3 Building Height

There is no designated building height restriction on this location.

3.3.1.4 Floor Space Ratio

There is no designated floor space ratio restriction on this location.

3.3.1.5 Flood Planning

Flood planning is discussed in detail in Section 6.3.3

3.3.1.6 Terrestrial Biodiversity

Biodiversity is discussed in detail in Section 6.4.

3.3.1.7 Preservation of Trees or Vegetation

Landscaping and preservation of trees or vegetation is not part of this application. No tree removal is proposed.

3.3.1.8 Heritage Conservation

The Holroyd LEP 5.10 Heritage conservation objectives are as follows:

1) *Objectives*
   The objectives of this clause are as follows:
a. *to conserve the environmental heritage of Holroyd,*

b. to conserve the heritage significance of heritage items and heritage conservation areas, including associated fabric, settings and views,
c. to conserve archaeological sites,
d. to conserve Aboriginal objects and Aboriginal places of heritage significance.

There are no heritage items on or within the immediate vicinity of the site. The proposed development is in keeping with the above objectives, and due to the nature of the proposed use and the distance of nearest heritage items from the site, there would be no significant impacts on heritage items. An aboriginal and cultural heritage assessment is provided in Appendix 6.

3.3.1.9 Earthworks

No earthworks are proposed as part of this application.

3.3.1.10 Essential Services

Clause 6.3 Essential Services of the Holroyd LEP 2013 is addressed in the following table:

Table 3-3: Holroyd LEP Essential Services

Holroyd LEP Clause 6.3 Requirements	Comments
(1) Development consent must not be granted to development unless the consent authority is satisfied that any of the following services that are essential for the development are available or that adequate arrangements have been made to make them available when required:	
a) the supply of water,	The site will maintain the existing water supply connection to the mains water network.
b) the supply of electricity,	The site will maintain the existing electricity connection to the electricity grid.
c) the disposal and management of sewage,	The site will maintain the existing sewerage connection to the mains sewerage network.
d) stormwater drainage or on-site conservation,	The site's stormwater drainage is shown in the stormwater drainage plan which accompanies this DA and is considered adequate for the proposed use of the site.
e) suitable road access.	The site's road access is shown in the site plan and discussed in the traffic assessment and is considered suitable.

Table 3-3: Holroyd LEP Essential Services

Holroyd LEP Clause 6.3 Requirements	Comments
(2) This clause does not apply to development for the purpose of providing, extending, augmenting, maintaining or repairing any essential service referred to in this clause.	

3.3.1.11 Stormwater Management

Clause 6.7 Stormwater Management of the Holroyd LEP 2013 is addressed in the following table. For more stormwater details, see Appendix 4 for the Soil and Water Report.

Table 3-4: Holroyd LEP Stormwater Management

Holroyd LEP Clause 6.7 Requirements	Comments
(1) The objectives of this clause are as follows:	
a) to minimise the impacts of urban stormwater on properties, native vegetation and receiving waters,	Stormwater controls are implemented on site. The stormwater from the hardstand is captured and processed through the facility.
b) to avoid any adverse impacts on soils and land stability,	The site is concreted with minimal impact on soils.
c) to protect the environmental values of water identified for urban waterways in the Sydney Harbour and Parramatta River and Georges River catchments.	Stormwater controls are implemented on site. These protect the environmental values of the nearest waterways.
(2) Development consent must not be granted to development on any land unless the consent authority is satisfied that the development:	
a) is designed to maximise the use of water permeable surfaces on the land having regard to the soil characteristics affecting on-site infiltration of water, and	N/A
b) includes, if practicable, on-site stormwater retention for use as an alternative supply to mains water, groundwater or river water, and	Stormwater will be contained and processed through the facility. New rainwater tanks will be provided and rainwater will be reused for onsite cleaning and office and amenities water use.
c) avoids any adverse impacts of stormwater runoff on adjoining properties, native vegetation and receiving waters, or if that impact cannot be reasonably avoided, minimises and mitigates the impact.	Adverse impacts are avoided through the implementation of stormwater controls, where onsite stormwater is captured and processed through the facility. Therefore stormwater is not released from the site.

3.3.1.12 Salinity

Clause 6.8 Salinity of the Holroyd LEP 2013 is addressed in the Soil and Water Assessment (Appendix 4).

3.3.2 Development Control Plans

This section provides the Holroyd DCP requirements and details of compliance specific to this proposal in Table 3-5. Part A – General controls, Part D – Industrial controls apply to the land and are addressed.

Table 3-5: Holroyd DCP Requirements

Requirements	Compliance	Comments
Part A - General Controls		
1-Subdivision	N/A	No subdivision of land is proposed.
2-Roads and Access	Complies	No changes are proposed to the developed site.
3-Car Parking	Complies	Car parking is addressed in Section 5.9.5
4-Tree and Landscape works	Complies	No changes are proposed to the developed site.
5-Biodiversity	Complies	The site is not identified on the Holroyd Biodiversity Map as being an area of remnant native vegetation nor is it identified as a Zone E2 Environmental Conservation Zone on the Holroyd Land Use Planning Map.
6-Soil Management	Complies	The site is concreted and will have minimal impact to soils.
7-Stormwater Management	Complies	Stormwater infrastructure will be retained and isolated for the proposed operations. Site Stormwater runoff will be processed through the facility.
8-Flood Prone Land	Complies	The site is not located on flood prone land. See sections 3.3.1.5 and 6.3.3.
9-Managing External Road Noise and Vibration	Complies	Road noise is assessed as part of the Noise Impact Assessment provided in Appendix 3.
10-Safety and Security	Complies	The site will have adequate safety and security.
11-Waste Management	Complies	Details provided in Section 8.5.
12-Services	Complies	The development meets servicing and utility requirements.
Part D - Industrial Controls		
1-Subdivision	N/A	No subdivision of land is proposed.
2-Design Guidelines		
2.1-Site Area, Frontage and Gross Floor Area	Complies	No changes are proposed to the developed site.
2.2-Site Layout	Complies	The site layout is shown in Appendix 1.
2.3-Amenity Impacts on Nearby and Adjoining zones	Complies	The site is in and industrial zone and does not adjoin any residential, public open space or sensitive land uses. The scale of the buildings is similar to those on surrounding properties.

Table 3-5: Holroyd DCP Requirements

Requirements	Compliance	Comments
2.4-Building Design and Appearance	Complies	No changes are proposed to the developed site.
2.5-Setbacks	Complies	No changes are proposed to the developed site.
2.6-Parking and Vehicular Access	Complies	This is addresses in Section 5.9.4 and 5.9.5.
2.7-Road Design and Construction within Industrial Zones	Complies	Internal road design is shown in the swept path plans.
2.8-Fences	Complies	All fences comply with the requirements of the DCP.
3-Landscaping of Industrial Sites	Complies	No changes are proposed to the developed site.
4-Retail & Commercial use in Industrial Zones	N/A	Retail & Commercial use is not proposed.
5-Pollution Control	Complies	The pollution control of the proposed development is addressed throughout Section 4 of this SEE.
6-Factory Units	N/A	Factory units are not proposed.
7-Prospect Creek	N/A	The site is not within the immediate vicinity of Prospect Creek.
8-Planning Controls for Sex Services Premises	N/A	No sex service premises is proposed.
9-Yennora Distribution Park	N/A	The site is not within Yennora Distribution Park.

The proposed development is consistent with the aims and objectives of the Holroyd DCP and complies with requirements.

4. CONSULTATION

Consultation with government departments and the local community plays an important role in ensuring that all potential environmental impacts are evaluated and the most important issues are prioritised. The following sections provide details on consultation and stakeholder engagement, such as that with regulators and government bodies. Key aspects and assessment requirements identified through the consultation process are also summarised in the following sections, together with the reference to where these aspects and requirements have been addressed in the report.

4.1 STAKEHOLDER ENGAGEMENT

Liaison with all relevant government authorities regarding the proposed development and requirements of the EIS has been ongoing since the inception of the project. Consultation has been undertaken on a formal basis. Summarised below are all the regulatory stakeholders that have been consulted as part of this development application, together with the details of such consultation.

- Department of Planning Industry and Environment (DPIE)
  A request for the Secretary's Environmental Assessment Requirements (SEARs) and related Scoping Report was sent to the Planning Services Division and SEARs (document reference 10407) were provided on 04/06/2020 with requirements attached (Attachment 1). The DPIE has included input from specific DPIE departments: Environment, Energy and Science Group (EES) and (DPIE) Water and the Natural Resources Access Regulator (NRAR); as well as separate agencies/regulators including: NSW Environment Protection Authority (EPA), Transgrid, Transport for NSW (TfNSW), Sydney Water and Fire and Rescue NSW.
  Two draft EISs was submitted for adequacy review, a subsequent letter was received and a conference call undertaken.

- NSW Environment Protection Authority (EPA)
  Key issues and assessment requirements from the EPA were included in the SEARs.

- Cumberland Council
  Key issues and assessment requirements from Cumberland Council were included in the SEARs. At the request of DPIE, Cumberland Council was consulted again regarding outstanding traffic issues, the letter from Benbow (191251_Let5_Rev2) and the email response from Cumberland Council is provided in Attachment 7. It is noted that council is unable to support the traffic plans.

- Environment Energy and Science Group (EES)
  The EES comments are included in the SEARs.

- Transport for NSW (TfNSW)
  The TfNSW comments are included in the SEARs.

- Fire and Rescue NSW (FR NSW)
  The FR NSW comments are included in the SEARs.

- Transgrid
  Transgrid has no objections to the development, comments are included in the SEARS in Attachment 1

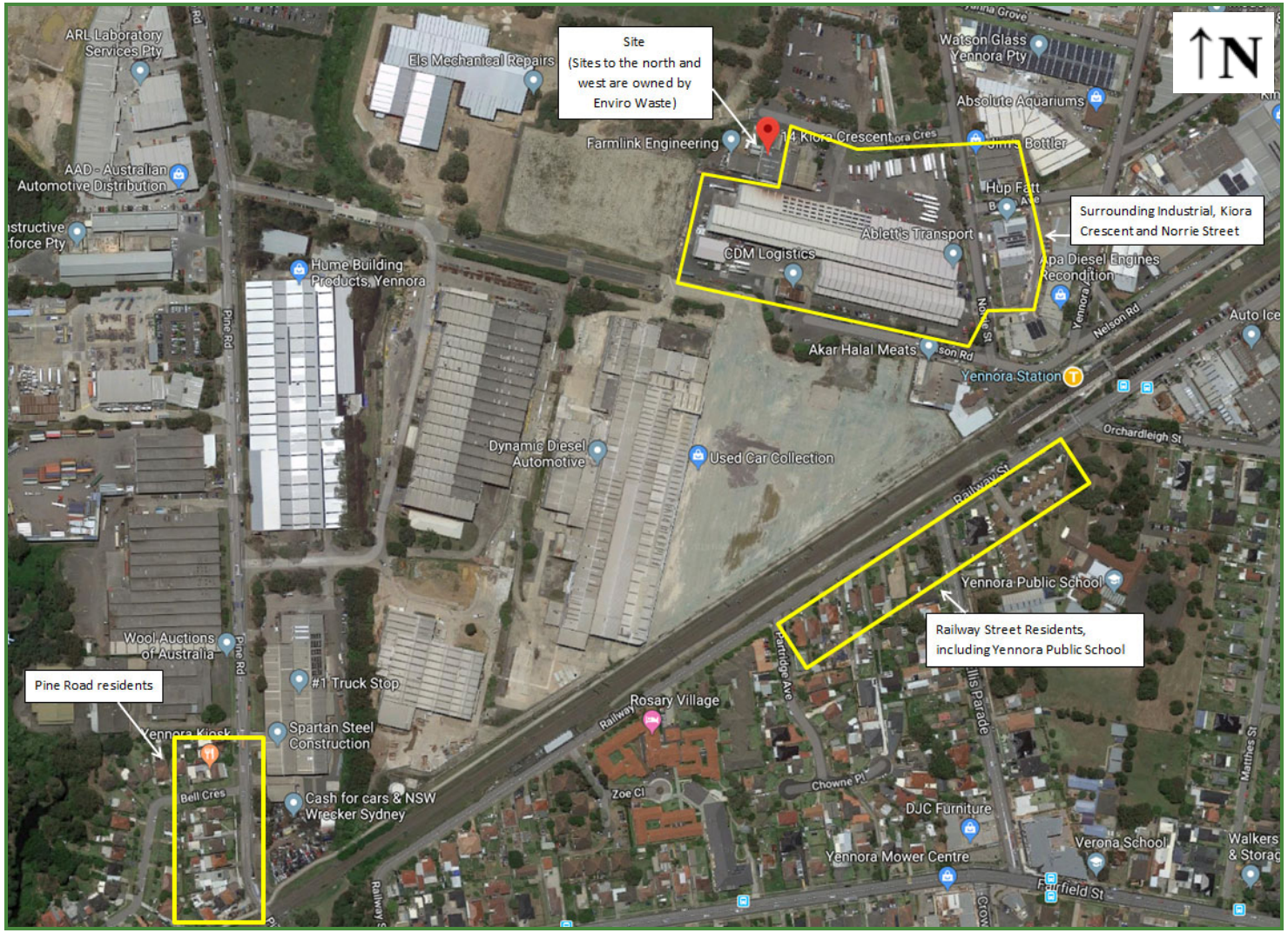
4.2 COMMUNITY CONSULTATION

A community consultation leaflet (Attachment 2) was prepared and sent to the following surrounding landowners and occupiers shown in Table 4-1 and via post on Thursday 11 June 2020. These locations were based on the nearest affected industrial receivers and the two nearest residential areas.

Table 4-1: Distribution of community leaflet

Address	Direction from Subject Site
1 Pine Rd, Yennora NSW 2161	SW
3 Pine Rd, Yennora NSW 2161	SW
5 Pine Rd, Yennora NSW 2161	SW
7 Pine Rd, Yennora NSW 2161	SW
9 Pine Rd, Yennora NSW 2161	SW
11 Pine Rd, Yennora NSW 2161	SW
88 Railway St, Yennora NSW 2161	S
90 Railway St, Yennora NSW 2161	S
91 Railway St, Yennora NSW 2161	S
91B Railway St, Yennora NSW 2161	S
92 Railway St, Yennora NSW 2161	S
94 Railway St, Yennora NSW 2161	S
96 Railway St, Yennora NSW 2161	S
2A Ellis Parade, Yennora NSW 2161	S
Unit 1/85 Railway St, Yennora NSW 2161	S
Unit 2/85 Railway St, Yennora NSW 2161	S
Unit 3/85 Railway St, Yennora NSW 2161	S
Unit 4/85 Railway St, Yennora NSW 2161	S
Unit 5/85 Railway St, Yennora NSW 2161	S
Unit 6/85 Railway St, Yennora NSW 2161	S
Unit 8/85 Railway St, Yennora NSW 2161	S
Unit 9/85 Railway St, Yennora NSW 2161	S
Unit 10/85 Railway St, Yennora NSW 2161	S
Unit 11/85 Railway St, Yennora NSW 2161	S
Unit 12/85 Railway St, Yennora NSW 2161	S
Unit 13/85 Railway St, Yennora NSW 2161	S
Unit 14/85 Railway St, Yennora NSW 2161	S
Unit 15/85 Railway St, Yennora NSW 2161	S
Unit 16/85 Railway St, Yennora NSW 2161	S
Unit 17/85 Railway St, Yennora NSW 2161	S
Unit 18/85 Railway St, Yennora NSW 2161	S
Unit 19/85 Railway St, Yennora NSW 2161	S

Figure 4-1: Map showing distribution of community leaflet



No face to face community consultation was undertaken due to COVID-19. No phone calls were received from residents as a result of the mail out.

4.3 ASSESSMENT REQUIREMENTS

The Secretary's Environmental Assessment Requirements (SEARs) obtained for the proposed development include key issues and requirements identified by the DPIE, EPA, EES, TfNSW, Cumberland Council and FR NSR, which have been provided in the following tables. A copy of the SEARs is also provided in Attachment 1.

Table 4-2: DPI&E Assessment Requirements and EIS Reference

Environmental Assessment Requirements – Key Issues	EIS Reference	
	Section	Page No
Statutory and Strategic Context		
• detailed justification for the proposal and the suitability of the site; • detailed justification that the proposed land use is permissible with consent; • details of any proposed consolidation of land; • a detailed description of the history of the site, including the relationship between the proposed development and all development consents and approved plans previously and/or currently applicable to the site; and • demonstration that the proposal is consistent with all relevant planning strategies, environmental planning instruments, adopted precinct plans, draft district plan(s) and adopted management plans, and justification for any inconsistencies.	1.2.3 3.3.1.1 2.7 5.2 3	1-3 3-12 2-11 5-1 3-1
Suitability of the Site		
• details of the development consents and approved plans for the existing development, including for all structures, plant and equipment; • a detailed justification that the site can accommodate the development; and • a detailed justification that the site can accommodate the proposed processing capacity, storage of the liquid waste and waste product destruction shredding plant, having regard to the scope of the operations of the existing facility and its environmental impacts and relevant mitigation measures.	1.2.3, 1.3, 2.3, 15.1 2.7	1-3, 1-3, 2-5, 15-1 2-11
Community and Stakeholder Engagement		
• who in the community has been consulted and a justification for their selection, other stakeholders consulted and the form(s) of the consultation, including a justification for this approach; • a report on the results of the implementation of the strategy including issues raised by the community and surrounding owners and occupiers that may be impacted by the proposal; • details of how issues raised during community and stakeholder consultation have been addressed and whether they have resulted in changes to the proposal; and • details of the proposed approach to future community and stakeholder engagement based on the results of the consultation.	4	4-1

Table 4-2: DPI&E Assessment Requirements and EIS Reference

Environmental Assessment Requirements – Key Issues	EIS Reference	
	Section	Page No
Waste Management		
• a description of each of the waste streams that would be accepted at the site including maximum daily, weekly and annual throughputs - details of the source of the waste streams to justify the need for the • proposed processing capacity; • a description of waste processing operations (including flow diagrams for each waste stream), including a description of the technology to be installed, resource outputs and the quality control measures that would be implemented; • details of how waste would be stored (including the maximum daily storage capacity of the site) 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 • detail the developments waste tracking system for incoming and outgoing waste; • detail the quality of waste produced and final dispatch locations; • details of the waste management strategy for ongoing operational waste generated; • details of the quantities and classification of all waste streams to be generated on site during the development; • details of waste storage, handling and disposal during the development; and • details of the measures that would be implemented to ensure that the development is consistent with the aims, objectives and guidance in the NSW Waste Avoidance and Resource Recovery Strategy 2014-2021.	8.5	8-23
Air Quality and Odour		
• a quantitative assessment of the potential air quality, dust and odour impacts of the development in accordance with relevant Environment Protection Authority guidelines; • the details of buildings and air handling systems and strong justification for any material handling, processing or stockpiling external to buildings; and • details of proposed mitigation, management and monitoring measures.	8.1	8-1

Table 4-2: DPI&E Assessment Requirements and EIS Reference

Environmental Assessment Requirements – Key Issues	EIS Reference	
	Section	Page No
Traffic and Transport		
• details of all traffic types and volumes likely to be generated during construction and operation, including a description of key access / haul routes; • 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; • plans demonstrating how all vehicles likely to be generated during construction and operation and awaiting loading, unloading or servicing can be accommodated on the site to avoid queuing in the street network; • details and plans of any proposed the internal road network, loading dock servicing and provisions, on-site parking provisions, and sufficient pedestrian and cyclist facilities, in accordance with the relevant Australian Standards; • details of the largest vehicle anticipated to access and move within the site, including swept path analysis - details of how all heavy vehicles will be able to leave the site in a forward direction; • swept path diagrams depicting vehicles entering, exiting and manoeuvring throughout the site; and • details of road upgrades, infrastructure works or new roads or access points required for the development if necessary.	Appendix 5	
Soils and Water		
• an assessment of potential surface and groundwater impacts associated with the development, including potential impacts on watercourses, riparian areas, groundwater, and groundwater-dependent communities nearby; • a detailed site water balance including a description of the water demands and breakdown of water supplies, and any water licensing requirements - details of stormwater/wastewater management system including the capacity of onsite detention system(s), onsite sewage management and measures to treat, reuse or dispose of water; • description of the measures to minimise water use; • detailed flooding assessment; • description of the proposed erosion and sediment controls during construction; • characterisation of water quality at the point of discharge to surface and/or groundwater against the relevant water quality criteria (including details of the contaminants of concern that may leach from the waste into the wastewater and proposed mitigation measures to manage any impacts to receiving waters and monitoring activities and methodologies); and • characterisation of the nature and extent of any contamination on the site and surrounding area	8.3	8-15

Table 4-2: DPI&E Assessment Requirements and EIS Reference

Environmental Assessment Requirements – Key Issues	EIS Reference	
	Section	Page No
Noise and Vibration		
• a quantitative noise and vibration impact assessment undertaken by a suitably qualified person in accordance with the relevant Environment Protection Authority guidelines and including an assessment of nearby sensitive receivers' • cumulative impacts of other developments; and • details and justification of the proposed noise mitigation, management and monitoring measures.	8.2	8-7
Urban Design and Visual		
• consideration of the layout and design of the development having regard to the surrounding vehicular, pedestrian and cycling networks; and • detailed plans showing suitable landscaping which incorporates endemic species. A detailed description of the measures to avoid, minimise, mitigate and offset biodiversity impacts.	9.2 8.4	9-2 8-21
Fire and Incident Management		
• technical information on the environmental protection equipment to be installed on the premises such as air, water and noise controls, spill clean-up equipment and fire (including location of fire hydrants and water flow rates at the hydrant) management and containment measures; • details regarding the fire hydrant system and its minimum water supply capabilities appropriate to the site's largest stockpile fire load; • details of size and volume of stockpiles and their management and separation to minimise fire spread and facilitate emergency vehicle access; • consideration of consistency with NSW Fire & Rescue draft Fire Safety Guideline – Fire Safety in Waste Facilities (November 2018); and • detailed information relating to the proposed structures addressing relevant levels of compliance with Volume One of the National Construction Code (NCC).	8.6.3	8-40
Hazards and Risk		
• A preliminary risk screening completed in accordance with State Environmental Planning Policy No. 33 – Hazardous and Offensive Development and Applying SEPP 33 (DoP, 2011), with a clear indication of class, quantity and location of all dangerous goods and hazardous materials associated with the development. Should preliminary screening indicate that the project is "potentially hazardous" a Preliminary Hazard Analysis (PHA) must be prepared in accordance with Hazardous Industry Planning Advisory Paper No. 6 – Guidelines for Hazard Analysis (DoP, 2011) and Multi-Level Risk Assessment (DoP, 2011).	8.6.2	8-37

Table 4-2: DPI&E Assessment Requirements and EIS Reference

Environmental Assessment Requirements – Key Issues	EIS Reference	
	Section	Page No
Human Health		
An assessment of the potential impacts to employees at the facility and any off-site impacts including: • details of measures to manage the exposure of employees to contaminants including the use of appropriate personal protective equipment and engineering controls at the facility to reduce exposure • details of health monitoring of employees and awareness and education measures - preventative measures for community exposure from the off-site transfer of contaminants; and • details of work health and safety system consistent with the requirements of the *Work Health and Safety Regulation 2011*	9.1	9-1
Greenhouse Gas and Energy Efficiency		
An assessment of the energy use of the proposal and all reasonable and feasible measures that would be implemented on site to minimise the proposal's greenhouse gas emissions.	8.1.6	8-4
Cultural Heritage and Aboriginal Cultural Heritage		
An assessment of Aboriginal cultural heritage values that satisfies the due diligence requirement of the National Parks and Wildlife Act 1974.	9.3	9-3
Biodiversity		
An assessment of the proposal's biodiversity impacts in accordance with the Biodiversity Conservation Act 2016, including the preparation of a Biodiversity Development Assessment Report (BDAR) where required under the Act, except where a waiver for preparation of a BDAR has been granted.	8.4	8-21
Contamination		
An assessment of site suitability under the provisions of State Environmental Planning Policy No. 55 – Remediation of Land.	8.3	8-15

Table 4-3: NSW EPA Assessment Requirements – EIS Reference

Environmental Assessment Requirements – Key Issues	EIS Reference	
	Section	Page No
A. EXECUTIVE SUMMARY		
The executive summary should include a brief discussion of the extent to which the proposal achieves identified environmental outcomes.	0	
B. THE PROPOSAL		
1. Objectives		
• The objectives of the proposal should be clearly stated and refer to: a) the size and type of the operation, the nature of the processes and the products, by-products and wastes produced b) a life cycle approach to the production, use or disposal of products c) the anticipated level of performance in meeting required environmental standards and cleaner production principles d) the staging and timing of the proposal and any plans for future expansion e) the proposal's relationship to any other industry or facility.	1.2.1	1-2
2. Description		
General		
• Outline the production process including: a) the environmental "mass balance" for the process – quantify in-flow and out-flow of materials, any b) points of discharge to the environment and their respective destinations (sewer, stormwater, c) atmosphere, recycling, landfill etc) d) any life-cycle strategies for the products.	5.5	5-7
• Outline cleaner production actions, including: a) measures to minimise waste (typically through addressing source reduction) b) proposals for use or recycling of by-products c) proposed disposal methods for solid and liquid waste d) air management systems including all potential sources of air emissions, proposals to re-use or treat emissions, emission levels relative to relevant standards in regulations, discharge points e) water management system including all potential sources of water pollution, proposals for re-use, treatment etc, emission levels of any wastewater discharged, discharge points, summary of options explored to avoid a discharge, reduce its frequency or reduce its impacts, and rationale for selection of option to discharge. f) soil contamination treatment and prevention systems.	5.11	5-13

Table 4-3: NSW EPA Assessment Requirements – EIS Reference

Environmental Assessment Requirements – Key Issues	EIS Reference	
	Section	Page No
• Outline construction works including: a) actions to address any existing soil contamination b) any earthworks or site clearing; re-use and disposal of cleared material (including use of spoil on-site) c) construction timetable and staging; hours of construction; proposed construction methods d) environment protection measures, including noise mitigation measures, dust control measures and erosion and sediment control measures. • Include a site diagram showing the site layout and location of environmental controls.	5.4	5-7
Air		
• Identify all sources or potential sources of air emissions from the development. Note: emissions can be classed as either: - point (e.g. emissions from stack or vent) or - fugitive (from wind erosion, leakages or spillages, associated with loading or unloading, conveyors, storage facilities, plant and yard operation, vehicle movements (dust from road, exhausts, loss from load), land clearing and construction works). • Provide details of the project that are essential for predicting and assessing air impacts including: a) the quantities and physio-chemical parameters (e.g. concentration, moisture content, bulk density, particle sizes etc) of materials to be used, transported, produced or stored b) an outline of procedures for handling, transport, production and storage c) the management of solid, liquid and gaseous waste streams with potential to generate emissions to air.	8.1	8-1
Noise and Vibration		
• Identify all noise sources or potential sources from the development (including both construction and operation phases). Detail all potentially noisy activities including ancillary activities such as transport of goods and raw materials. • Specify the times of operation for all phases of the development and for all noise producing activities. • For projects with a significant potential traffic noise impact provide details of road alignment (include gradients, road surface, topography, bridges, culverts etc), and land use along the proposed road and measurement locations – diagrams should be to a scale sufficient to delineate individual residential blocks.	8.2	8-7

Table 4-3: NSW EPA Assessment Requirements – EIS Reference

Environmental Assessment Requirements – Key Issues	EIS Reference	
	Section	Page No
Water		
• Provide details of the project that are essential for predicting and assessing impacts to waters including: a) the quantity and physio-chemical properties of all potential water pollutants and the risks they pose to the environment and human health, including the risks they pose to Water Quality Objectives in the ambient waters using technical criteria derived from the Australian and New Zealand Guidelines for Fresh and Marine Water Quality (ANZG, 2018). b) the management of discharges with potential for water impacts c) drainage works and associated infrastructure; land-forming and excavations; working capacity of structures; and water resource requirements of the proposal. • Outline site layout, demonstrating efforts to avoid proximity to water resources (especially for activities with significant potential impacts e.g. effluent ponds) and showing potential areas of modification of contours, drainage etc. • Outline how total water cycle considerations are to be addressed showing total water balances for the development (with the objective of minimising demands and impacts on water resources). Include water requirements (quantity, quality and source(s)) and proposed storm and wastewater disposal, including type, volumes, proposed treatment and management methods and re-use options.	8.3	8-15
Waste and Chemicals		
Provide details of the quantity and type of both liquid waste and non-liquid waste generated, handled, processed or disposed of at the premises. Waste must be classified according to the EPA's Waste Classification Guidelines 2014 (as amended from time to time) • Provide details of liquid waste and non-liquid waste management at the facility, including: a) the transportation, assessment and handling of waste arriving at or generated at the site b) any stockpiling of wastes or recovered materials at the site c) any waste processing related to the facility, including reuse, recycling, reprocessing (including composting) or treatment both on- and off-site d) the method for disposing of all wastes or recovered materials at the facility e) the emissions arising from the handling, storage, processing and reprocessing of waste at the facility f) the proposed controls for managing the environmental impacts of these activities. a)	8.5 8.6.1	8-23 8-36

Table 4-3: NSW EPA Assessment Requirements – EIS Reference

Environmental Assessment Requirements – Key Issues	EIS Reference	
	Section	Page No
• Provide details of spoil disposal with particular attention to: a) the quantity of spoil material likely to be generated b) proposed strategies for the handling, stockpiling, reuse/recycling and disposal of spoil c) the need to maximise reuse of spoil material in the construction industry d) identification of the history of spoil material and whether there is any likelihood of contaminated e) material, and if so, measures for the management of any contaminated material f) designation of transportation routes for transport of spoil. • Provide details of procedures for the assessment, handling, storage, transport and disposal of all hazardous and dangerous materials used, stored, processed or disposed of at the site, in addition to the requirements for liquid and non-liquid wastes. • Provide details of the type and quantity of any chemical substances to be used or stored and describe arrangements for their safe use and storage. • Reference should be made to the guidelines: EPA's Waste Classification Guidelines 2014 (as amended from time to time)		
ESD		
• Demonstrate that the planning process and any subsequent development incorporates objectives and mechanisms for achieving ESD, including: a) an assessment of a range of options available for use of the resource, including the benefits of each option to future generations proper valuation and pricing of environmental resources b) b) identification of who will bear the environmental costs of the proposal.	11	11-1
3. Rehabilitation		
• Outline considerations of site maintenance, and proposed plans for the final condition of the site (ensuring its suitability for future uses).	8.3	8-15

Table 4-3: NSW EPA Assessment Requirements – EIS Reference

Environmental Assessment Requirements – Key Issues	EIS Reference	
	Section	Page No
4. Consideration Of Alternatives And Justification For The Proposal		
• Consider the environmental consequences of adopting alternatives, including alternative: a) sites and site layouts b) access modes and routes c) materials handling and production processes d) waste and water management e) impact mitigation measures f) energy sources • Selection of the preferred option should be justified in terms of: a) ability to satisfy the objectives of the proposal b) relative environmental and other costs of each alternative c) acceptability of environmental impacts and contribution to identified environmental objectives d) acceptability of any environmental risks or uncertainties e) reliability of proposed environmental impact mitigation measures f) f) efficient use (including maximising re-use) of land, raw materials, energy and other resources.	1.3	1-3
C. LOCATION		
General		
• Provide an overview of the affected environment to place the proposal in its local and regional environmental context including: a) meteorological data (e.g. rainfall, temperature and evaporation, wind speed and direction) b) topography (landform element, slope type, gradient and length) c) surrounding land uses (potential synergies and conflicts) d) geomorphology (rates of landform change and current erosion and deposition processes) e) soil types and properties (including erodibility; engineering and structural properties; dispersibility; permeability; presence of acid sulfate soils and potential acid sulfate soils) f) ecological information (water system habitat, vegetation, fauna) g) availability of services and the accessibility of the site for passenger and freight transport.	2 6	2-1 6-1

Table 4-3: NSW EPA Assessment Requirements – EIS Reference

Environmental Assessment Requirements – Key Issues	EIS Reference	
	Section	Page No
Air		
• Describe the topography and surrounding land uses. Provide details of the exact locations of dwellings, schools and hospitals. Where appropriate provide a perspective view of the study area such as the terrain file used in dispersion models. • Describe surrounding buildings that may effect plume dispersion. • Provide and analyse site representative data on following meteorological parameters: a) temperature and humidity b) rainfall, evaporation and cloud cover c) wind speed and direction d) atmospheric stability class e) mixing height (the height that emissions will be ultimately mixed in the atmosphere) f) katabatic air drainage g) g) air re-circulation.	6.6 6.7	6-16 6-17
Noise and Vibration		
• Identify any noise sensitive locations likely to be affected by activities at the site, such as residential properties, schools, churches, and hospitals. Typically the location of any noise sensitive locations in relation to the site should be included on a map of the locality. • Identify the land use zoning of the site and the immediate vicinity and the potentially affected areas.	6.5	6-12
Water		
• Describe the catchment including proximity of the development to any waterways and provide an assessment of their sensitivity/significance from a public health, ecological and/or economic perspective. The Water Quality and River Flow Objectives on the website: http://www.environment.nsw.gov.au/ieo/index.htm should be used to identify the agreed environmental values and human uses for any affected waterways. This will help with the description of the local and regional area.	6.3	6-4
Soil Contamination Issues		
• Provide details of site history – if earthworks are proposed, this needs to be considered with regard to possible soil contamination, for example if the site was previously a landfill site or if irrigation of effluent has occurred.	8.3	8-15

Table 4-3: NSW EPA Assessment Requirements – EIS Reference

Environmental Assessment Requirements – Key Issues	EIS Reference	
	Section	Page No
D. IDENTIFICAITON AND PRIORITISATION OF ISSUES/SCOPING OF IMPACT ASSESSMENT		
• Provide an overview of the methodology used to identify and prioritise issues. The methodology should • Take into account: a) relevant NSW government guidelines b) industry guidelines c) EISs for similar projects d) relevant research and reference material e) relevant preliminary studies or reports for the proposal f) consultation with stakeholders. • Provide a summary of the outcomes of the process including: a) all issues identified including local, regional and global impacts (e.g. increased/ decreased greenhouse emissions) b) key issues which will require a full analysis (including comprehensive baseline assessment) c) issues not needing full analysis though they may be addressed in the mitigation strategy d) justification for the level of analysis proposed (the capacity of the proposal to give rise to high concentrations of pollution compared with the ambient environment or environmental outcomes is an important factor in setting the level of assessment).	7	7-1
E. THE ENVIRONMENTAL ISSUES		
1. General		
• The potential impacts identified in the scoping study need to be assessed to determine their significance, particularly in terms of achieving environmental outcomes, and minimising environmental pollution. • Identify gaps in information and data relevant to significant impacts of the proposal and any actions proposed to fill those information gaps so as to enable development of appropriate management and mitigation measures. This is in accordance with ESD requirements. *Note: The level of detail should match the level of importance of the issue in decision making which is dependent on the environmental risk.*		
Describe Baseline Conditions		
• Provide a description of existing environmental conditions for any potential impacts.	6	6-1

Table 4-3: NSW EPA Assessment Requirements – EIS Reference

Environmental Assessment Requirements – Key Issues	EIS Reference	
	Section	Page No
Assess Impacts		
• For any potential impacts relevant for the assessment of the proposal provide a detailed analysis of the impacts of the proposal on the environment including the cumulative impact of the proposal on the receiving environment especially where there are sensitive receivers. • Describe the methodology used and assumptions made in undertaking this analysis (including any modelling or monitoring undertaken) and indicate the level of confidence in the predicted outcomes and the resilience of the environment to cope with the predicted impacts. • The analysis should also make linkages between different areas of assessment where necessary to enable a full assessment of environmental impacts e.g. assessment of impacts on air quality will often need to draw on the analysis of traffic, health, social, soil and/or ecological systems impacts; etc. • The assessment needs to consider impacts at all phases of the project cycle including: exploration (if relevant or significant), construction, routine operation, start-up operations, upset operations and decommissioning if relevant. • The level of assessment should be commensurate with the risk to the environment.	8	8-1
Describe Management and Mitigation Measures		
• Describe any mitigation measures and management options proposed to prevent, control, abate or mitigate identified environmental impacts associated with the proposal and to reduce risks to human health and prevent the degradation of the environment. This should include an assessment of the effectiveness and reliability of the measures and any residual impacts after these measures are implemented. • Proponents are expected to implement a 'reasonable level of performance' to minimise environmental impacts. The proponent must indicate how the proposal meets reasonable levels of performance. For example, reference technology based criteria if available, or identify good practice for this type of activity or development. A 'reasonable level of performance' involves adopting and implementing technology and management practices to achieve certain pollutant emissions levels in economically viable operations. Technology-based criteria evolve gradually over time as technologies and practices change. • Use environmental impacts as key criteria in selecting between alternative sites, designs and technologies, and to avoid options having the highest environmental impacts.	8 12	8-1 12-1

Table 4-3: NSW EPA Assessment Requirements – EIS Reference

Environmental Assessment Requirements – Key Issues	EIS Reference	
	Section	Page No
• Outline any proposed approach (such as an Environmental Management Plan) that will demonstrate how commitments made in the EIS will be implemented. Areas that should be described include: a) operational procedures to manage environmental impacts b) monitoring procedures c) training programs d) community consultation e) complaint mechanisms including site contacts f) strategies to use monitoring information to improve performance g) strategies to achieve acceptable environmental impacts and to respond in event of exceedences.	12.2	12-3
4. Air		
Describe baseline conditions • Provide a description of existing air quality and meteorology, using existing information and site representative ambient monitoring data.	6.6 6.7	6-16 6-17
Assess impacts • Identify all pollutants of concern and estimate emissions by quantity (and size for particles), source and • discharge point. • Estimate the resulting ground level concentrations of all pollutants. Where necessary (e.g. potentially significant impacts and complex terrain effects), use an appropriate dispersion model to estimate ambient pollutant concentrations. Discuss choice of model and parameters with the EPA. • Describe the effects and significance of pollutant concentration on the environment, human health, amenity and regional ambient air quality standards or goals. • Describe the contribution that the development will make to regional and global pollution, particularly in sensitive locations. • For potentially odorous emissions provide the emission rates in terms of odour units (determined by techniques compatible with EPA procedures). Use sampling and analysis techniques for individual or complex odours and for point or diffuse sources, as appropriate. *Note: With dust and odour, it may be possible to use data from existing similar activities to generate emission rates.*	8.1	8-1

Table 4-3: NSW EPA Assessment Requirements – EIS Reference

Environmental Assessment Requirements – Key Issues	EIS Reference	
	Section	Page No
• Reference should be made to the Approved Methods for the Modelling and Assessment of Air Pollutants in NSW (EPA, 2016); Approved Methods for the Sampling and Analysis of Air Pollutants in NSW (DEC, 2007); Assessment and Management of Odour from Stationary Sources in NSW (DEC, 2006); Technical Notes: Assessment and Management of Odour from Stationary Sources in NSW (DEC, 2006); Load Calculation Protocol for use by holders of NSW Environment Protection Licences when calculating Assessable Pollutant Loads (DECC, 2009).		
Describe Management and Mitigation Measures		
• Outline specifications of pollution control equipment (including manufacturer's performance guarantees where available) and management protocols for both point and fugitive emissions. Where possible, this should include cleaner production processes.	8.1	8-1
5. Human Health Risk Assessment		
• A human health risk assessment must be undertaken in conjunction with the air quality and odour impact assessment. • The human health risk assessment must be undertaken in accordance with *Environmental Health Risk Assessment: Guidelines for assessing human health risks from environmental hazards* (enHealth) and must include: ► the inhalation of criteria pollutants and exposure from all pathways i.e., inhalation, ingestion and dermal to specific air toxics; and ► a demonstration of how the waste to energy facility would be operated in accordance with best practice measures to manage air emissions with consideration to the *EPA's Energy from Waste Policy Statement*.	9.1.1	9-1

Table 4-3: NSW EPA Assessment Requirements – EIS Reference

Environmental Assessment Requirements – Key Issues	EIS Reference	
	Section	Page No
6. Noise and Vibration		
Describe Baseline Conditions		
• Determine the existing background (LA90) and ambient (LAeq) noise levels, as relevant, in accordance with the NSW Noise Policy for Industry. • Determine the existing road traffic noise levels in accordance with the NSW Road Noise Policy, where road traffic noise impacts may occur. • The noise impact assessment report should provide details of all monitoring of existing ambient noise levels including: a) details of equipment used for the measurements b) a brief description of where the equipment was positioned c) a statement justifying the choice of monitoring site(s), including the procedure used to choose the site(s), having regards to Fact Sheets A and B of the NSW Noise Policy for Industry. d) details of the exact location of the monitoring site and a description of land uses in surrounding areas e) a description of the dominant and background noise sources at the site f) day, evening and night assessment background levels for each day of the monitoring period g) the final Rating Background Level (RBL) value h) graphs of the measured noise levels for each day should be provided i) a record of periods of affected data (due to adverse weather and extraneous noise), methods used to j) exclude invalid data and a statement indicating the need for any re-monitoring.	6.5	6-12
Assess Impacts		
• Determine the project noise trigger levels for the site. For each identified potentially affected receiver, this should include: a) determination of the project intrusive noise level for each identified potentially affected receiver b) selection and justification of the appropriate amenity category for each identified potentially affected receiver c) determination of the project amenity noise level for each receiver d) determination of the appropriate maximum noise level event assessment (sleep disturbance) trigger level.	8.2	8-7

Table 4-3: NSW EPA Assessment Requirements – EIS Reference

Environmental Assessment Requirements – Key Issues	EIS Reference	
	Section	Page No
• Maximum noise levels during night-time period (10pm-7am) should be assessed to analyse possible affects on sleep. Determine expected noise level and noise character likely to be generated from noise sources during: a) site establishment b) construction c) operational phases d) transport including traffic noise generated by the proposal e) other services. *Note: The noise impact assessment report should include noise source data for each source in 1/1 or 1/3 octave band frequencies including methods for references used to determine noise source levels. Noise source levels and characteristics can be sourced from direct measurement of similar activities or from literature (if full references are provided).* • Determine the noise levels likely to be received at the reasonably most affected location(s) (these may • vary for different activities at each phase of the development). • The noise impact assessment report should include: a) a plan showing the assumed location of each noise source for each prediction scenario b) a list of the number and type of noise sources used in each prediction scenario to simulate all potential significant operating conditions on the site c) any assumptions made in the predictions in terms of source heights, directivity effects, shielding from topography, buildings or barriers, etc d) methods used to predict noise impacts including identification of any noise models used. e) the weather conditions considered for the noise predictions f) the predicted noise impacts from each noise source as well as the combined noise level for each prediction scenario g) for developments where a significant level of noise impact is likely to occur, noise contours for the key prediction scenarios should be derived h) an assessment of the need to include modification factors as detailed in Fact Sheet C of the *NSW Noise Policy for Industry*.		

Table 4-3: NSW EPA Assessment Requirements – EIS Reference

Environmental Assessment Requirements – Key Issues	EIS Reference	
	Section	Page No
• Discuss the findings from the predictive modelling and, where relevant noise criteria have not been met, recommend additional feasible and reasonable mitigation measures. • The noise impact assessment report should include details of any mitigation proposed including the attenuation that will be achieved and the revised noise impact predictions following mitigation. a) Where relevant noise/vibration levels cannot be met after application of all feasible and reasonable mitigation measures the residual level of noise impact needs to be quantified • For the assessment of existing and future traffic noise, details of data for the road should be included such as assumed traffic volume; percentage heavy vehicles by time of day; and details of the calculation process. These details should be consistent with any traffic study carried out in the EIS.		
Describe Management and Mitigation Measures		
• Determine the most appropriate noise mitigation measures and expected noise reduction including both noise controls and management of impacts for both construction and operational noise. This will include selecting quiet equipment and construction methods, noise barriers or acoustic screens, location of stockpiles, temporary offices, compounds and vehicle routes, scheduling of activities, etc. • For traffic noise impacts, provide a description of the ameliorative measures considered (if required), reasons for inclusion or exclusion, and procedures for calculation of noise levels including ameliorative measures. Also include, where necessary, a discussion of any potential problems associated with the proposed ameliorative measures, such as overshadowing effects from barriers. Appropriate ameliorative measures may include:	8.2.1.3	8-13

Table 4-3: NSW EPA Assessment Requirements – EIS Reference

Environmental Assessment Requirements – Key Issues	EIS Reference	
	Section	Page No
a) use of alternative transportation modes, alternative routes, or other methods of avoiding the new road usage b) control of traffic (eg: limiting times of access or speed limitations) c) resurfacing of the road using a quiet surface d) use of (additional) noise barriers or bunds e) treatment of the façade to reduce internal noise levels buildings where the night-time criteria is a major concern f) more stringent limits for noise emission from vehicles (i.e. using specially designed 'quite' trucks and/or trucks to use air bag suspension g) driver education h) appropriate truck routes i) limit usage of exhaust brakes j) use of premium muffles on trucks k) reducing speed limits for trucks l) ongoing community liaison and monitoring of complaints phasing in the increased road use.		
4. Water		
Describe Baseline Conditions		
• Describe existing surface and groundwater quality – an assessment needs to be undertaken for any water resource likely to be affected by the proposal and for all conditions (e.g. a wet weather sampling program is needed if runoff events may cause impacts). *Note: Methods of sampling and analysis need to conform with an accepted standard (e.g. Approved Methods for the Sampling and Analysis of Water Pollutants in NSW* (DEC 2004) *or be approved and analyses undertaken by accredited laboratories).* • Provide site drainage details and surface runoff yield. • State the ambient Water Quality and River Flow Objectives for the receiving waters. These refer to the community's agreed environmental values and human uses endorsed by the Government as goals for the ambient waters. These environmental values are published on the website: http://www.environment.nsw.gov.au/ieo/index.htm. The EIS should state the environmental values listed for the catchment and waterway type relevant to your proposal. NB: A consolidated and approved list of environmental values are not available for groundwater resources. Where groundwater may be affected the EIS should identify appropriate groundwater environmental values and justify the choice.	6.3 8.3	6-4 8-15

Table 4-3: NSW EPA Assessment Requirements – EIS Reference

Environmental Assessment Requirements – Key Issues	EIS Reference	
	Section	Page No
• State the indicators and associated trigger values or criteria for the identified environmental values. This information should be sourced from the *Australian and New Zealand Guidelines for Fresh and Marine Water (ANZG, 2018)*. • State any locally specific objectives, criteria or targets, which have been endorsed by the government e.g. the Healthy Rivers Commission Inquiries or the NSW Salinity Strategy (DLWC, 2000) (http://www.environment.nsw.gov.au/salinity/government/nswstrategy.htm). • Where site specific studies are proposed to revise the trigger values supporting the ambient Water Quality and River Flow Objectives, and the results are to be used for regulatory purposes (e.g. to assess whether a licensed discharge impacts on water quality objectives), then prior agreement from the EPA on the approach and study design must be obtained. • Describe the state of the receiving waters and relate this to the relevant Water Quality and River Flow Objectives (i.e. are Water Quality and River Flow Objectives being achieved?). Proponents are generally only expected to source available data and information. However, proponents of large or high risk developments may be required to collect some ambient water quality / river flow / groundwater data to enable a suitable level of impact assessment. Issues to include in the description of the receiving waters could include: a) lake or estuary flushing characteristics b) specific human uses (e.g. exact location of drinking water offtake) c) sensitive ecosystems or species conservation values d) a description of the condition of the local catchment e.g. erosion levels, soils, vegetation cover, etc e) an outline of baseline groundwater information, including, but not restricted to, depth to watertable, flow direction and gradient, groundwater quality, reliance on groundwater by surrounding users and by the environment f) historic river flow data where available for the catchment.	6.3 8.3	6-4 8-15
Assess Impacts		
• No proposal should breach clause 120 of the Protection of the Environment Operations Act 1997 (i.e. pollution of waters is prohibited unless undertaken in accordance with relevant regulations). • Identify and estimate the quantity of all pollutants that may be introduced into the water cycle by source and discharge point including residual discharges after mitigation measures are implemented. • Include a rationale, along with relevant calculations, supporting the prediction of the discharges.	8.3	8-15

Table 4-3: NSW EPA Assessment Requirements – EIS Reference

Environmental Assessment Requirements – Key Issues	EIS Reference	
	Section	Page No
• Describe the effects and significance of any pollutant loads on the receiving environment. This should include impacts of residual discharges through modelling, monitoring or both, depending on the scale of the proposal. Determine changes to hydrology (including drainage patterns, surface runoff yield, flow regimes, wetland hydrologic regimes and groundwater). • Describe water quality impacts resulting from changes to hydrologic flow regimes (such as nutrient enrichment or turbidity resulting from changes in frequency and magnitude of stream flow). • Identify any potential impacts on quality or quantity of groundwater describing their source. • Identify potential impacts associated with geomorphological activities with potential to increase surface water and sediment runoff or to reduce surface runoff and sediment transport. Also consider possible impacts such as bed lowering, bank lowering, instream siltation, floodplain erosion and floodplain siltation. • Identify impacts associated with the disturbance of acid sulfate soils and potential acid sulfate soils. • Containment of spills and leaks shall be in accordance with EPA's guidelines section 'Bunding and Spill Management' at http://www.epa.nsw.gov.au/mao/bundingspill.htm and the most recent versions of the Australian Standards referred to in the Guidelines. Containment should be designed for no-discharge. • The significance of the impacts listed above should be predicted. When doing this it is important to predict the ambient water quality and river flow outcomes associated with the proposal and to demonstrate whether these are acceptable in terms of achieving protection of the Water Quality and River Flow Objectives. In particular the following questions should be answered: a) will the proposal protect Water Quality and River Flow Objectives where they are currently achieved in the ambient waters; and • will the proposal contribute towards the achievement of Water Quality and River Flow Objectives over time, where they are not currently achieved in the ambient waters.	6.3 8.3	6-4 8-15

Table 4-3: NSW EPA Assessment Requirements – EIS Reference

Environmental Assessment Requirements – Key Issues	EIS Reference	
	Section	Page No
• Consult with the EPA as soon as possible if a mixing zone is proposed (a mixing zone could exist where effluent is discharged into a receiving water body, where the quality of the water being discharged does not immediately meet water quality objectives. The mixing zone could result in dilution, assimilation and decay of the effluent to allow water quality objectives to be met further downstream, at the edge of the mixing zone). The EPA will advise the proponent under what conditions a mixing zone will and will not be acceptable, as well as the information and modelling requirements for assessment. *Note: The assessment of water quality impacts needs to be undertaken in a total catchment management context to provide a wide perspective on development impacts, in particular cumulative impacts.* • Where a licensed discharge is proposed, provide the rationale as to why it cannot be avoided through application of a reasonable level of performance, using available technology, management practice and industry guidelines. • Where a licensed discharge is proposed, provide the rationale as to why it represents the best environmental outcome and what measures can be taken to reduce its environmental impact. • Reference should be made to Australian and New Zealand Guidelines for Fresh hand Marine Water Quality (ANZG, 2018), and Managing Urban Stormwater: Soils and Construction (Landcom, 2004).	8.3	8-15
Describe Management and Mitigation Measures		
• Outline stormwater management to control pollutants at the source and contain them within the site. Also describe measures for maintaining and monitoring any stormwater controls. • Outline erosion and sediment control measures directed at minimising disturbance of land, minimising water flow through the site and filtering, trapping or detaining sediment. Also include measures to maintain and monitor controls as well as rehabilitation strategies. • Describe waste water treatment measures that are appropriate to the type and volume of waste water and are based on a hierarchy of avoiding generation of waste water; capturing all contaminated water (including stormwater) on the site; reusing/recycling waste water; and treating any unavoidable discharge from the site to meet specified water quality requirements. • Outline pollution control measures relating to storage of materials, possibility of accidental spills (e.g. preparation of contingency plans), appropriate disposal methods, and generation of leachate.	8.3	8-15

Table 4-3: NSW EPA Assessment Requirements – EIS Reference

Environmental Assessment Requirements – Key Issues	EIS Reference	
	Section	Page No
• Describe hydrological impact mitigation measures including: a) Site selection (avoiding sites prone to flooding and waterlogging, actively eroding or affected by deposition) b) minimising runoff c) minimising reductions or modifications to flow regimes d) avoiding modifications to groundwater. • Describe groundwater impact mitigation measures including: a) site selection b) retention of native vegetation and revegetation c) artificial recharge d) providing surface storages with impervious linings e) monitoring program. • Describe geomorphological impact mitigation measures including: a) site selection b) erosion and sediment controls c) minimising instream works d) treating existing accelerated erosion and deposition e) monitoring program. • Any proposed monitoring should be undertaken in accordance with the Approved Methods for the Sampling and Analysis of Water Pollutants in NSW (DEC 2004).	6.3	6-4
5. Soils and Contamination		
Describe Baseline Conditions		
• Provide any details (in addition to those provided in the location description - Section C) that are needed to describe the existing situation in terms of soil types and properties and soil contamination.	6.1	6-1

Table 4-3: NSW EPA Assessment Requirements – EIS Reference

Environmental Assessment Requirements – Key Issues	EIS Reference	
	Section	Page No
Assess Impacts		
• Identify any likely impacts resulting from the construction or operation of the proposal, including the likelihood of: a) disturbing any existing contaminated soil b) contamination of soil by operation of the activity c) subsidence or instability d) soil erosion e) disturbing acid sulfate or potential acid sulfate soils. • Reference should be made to Guidelines of the Duty to Report Contamination under the Contaminated Land Management Act 1997 (EPA, 2015).	8.3	8-15
Describe Management and Mitigation Measures		
• Describe and assess the effectiveness or adequacy of any soil management and mitigation measures during construction and operation of the proposal including: a) erosion and sediment control measures b) proposals for site remediation – see Managing Land Contamination, Planning Guidelines SEPP 55 – Remediation of Land (Department of Urban Affairs and Planning and Environment Protection Authority, 1998) c) proposals for the management of these soils – see Acid Sulfate Soil Manual (Acid Sulfate Soil Advisory Committee 1998) and Acid Sulfate Soils Assessment Guidelines (Acid Sulfate Soil Advisory Committee 1998).	8.3	8-15
6. Waste and Chemicals		
Describe Baseline Conditions		
• Describe any existing waste or chemicals operations related to the proposal.	2.3	2-5
Assess Impacts		
• Assess the adequacy of proposed measures to minimise natural resource consumption and minimise impacts from the handling, transporting, storage, processing and reprocessing of waste and/or chemicals. • Reference should be made to: the EPA's *Waste Classification Guidelines 2014 (as in force from time to time).*	8.5	8-23

Table 4-3: NSW EPA Assessment Requirements – EIS Reference

Environmental Assessment Requirements – Key Issues	EIS Reference	
	Section	Page No
• If the proposal is an energy from waste facility it must: ► demonstrate that the proposed operation will comply with the NSW EPA's Energy from Waste Policy Statement; ► describe of the classes and quantities of waste that would be thermally treated at the facility; ► demonstrate that waste used as a feedstock in the waste to energy plant would be the residual from a resource recovery process that maximises the recovery of material; ► detail procedures that would be implemented to control the inputs to the waste to energy plant, including contingency measures that would be implemented if inappropriate materials are identified; ► detail the location and size of stockpiles of unprocessed and processed recycled waste at the site; ► demonstrate any waste material (e.g. biochar, ash) produced from the waste to energy facility for land application is fit-for-purpose and poses minimal risk of harm to the environment in order to meet the requirements for consideration of a resource recovery order and /or exemption by the EPA; ► detail procedures for the management of other solid, liquid and gaseous waste streams; ► describe how waste would be treated, stored, used, disposed and handled on site, and transported to and from the site, and the potential impacts associated with these issues, including current and future offsite waste disposal methods; and ► identify the measures that would be implemented to ensure that the development is consistent with the aims, objectives and guidance in the *NSW Waste Avoidance and Resource Recovery Strategy 2014-21*.		
Describe Management and Mitigation Measures		
• Outline measures to minimise the consumption of natural resources. • Outline measures to avoid the generation of waste and promote the re-use and recycling and reprocessing of any waste. • Outline measures to support any approved regional or industry waste plans.	8.5	8-23

Table 4-3: NSW EPA Assessment Requirements – EIS Reference

Environmental Assessment Requirements – Key Issues	EIS Reference	
	Section	Page No
7. Cumulative Impacts		
• Identify the extent that the receiving environment is already stressed by existing development and background levels of emissions to which this proposal will contribute. • Assess the impact of the proposal against the long term air, noise and water quality objectives for the area or region. • Identify infrastructure requirements flowing from the proposal (e.g. water and sewerage services, transport infrastructure upgrades). • Assess likely impacts from such additional infrastructure and measures reasonably available to the proponent to contain such requirements or mitigate their impacts (e.g. travel demand management strategies).	10	10-1
F. List of Approvals and Licences		
• Identify all approvals and licences required under environment protection legislation including details of all scheduled activities, types of ancillary activities and types of discharges (to air, land, water).	13	13-1
G. Compilation of Mitigation Measures		
• Outline how the proposal and its environmental protection measures would be implemented and managed in an integrated manner so as to demonstrate that the proposal is capable of complying with statutory obligations under EPA licences or approvals (e.g. outline of an environmental management plan). • The mitigation strategy should include the environmental management and cleaner production principles which would be followed when planning, designing, establishing and operating the proposal. It should include two sections, one setting out the program for managing the proposal and the other outlining the monitoring program with a feedback loop to the management program.	12.1	12-1
H. Justification for the Proposal		
• Reasons should be included which justify undertaking the proposal in the manner proposed, having regard to the potential environmental impacts.	15.1	15-1

Table 4-4: Fire and Rescue NSW NSW Assessment Requirements – EIS Reference

Environmental Assessment Requirements – Key Issues	EIS Reference	
	Section	Page No
• It is understood that a preliminary screening of the proposed development has been undertaken in accordance with State Environment Planning Policy No. 33 – Hazardous and Offensive Development (SEPP 33) with threshold quantities of dangerous goods not being exceeded. • It is recommended that further details be provided within the EIS in regard to the liquid waste stored and processed at the facility, particularly those streams that may be considered flammable or combustible in nature, or may pose risk to attending emergency services responders in the event of an hazardous materials type incident. • It is understood that "Fire safeguards and recommendations will be detailed within the EIS". FRNSW recommend that this include an assessment of current fire and life safety measures afforded to the site and that required by the relevant provisions of the National Construction Code (NCC). The assessment should be undertaken by a suitably qualified building code consultant. Furthermore, it should be noted that systems and measures specified by the NCC represent the minimum requirements, and additional measures may be required commensurate with the hazards and risks presented by the development. • It is recommended that further consideration be given within the EIS to the requirement for the storage of contaminated fire water. Suitable provisions should be made for the containment of contaminated fire water run-off based on the worst credible fire scenario for the site. Any system(s) provided is to be automatic in nature and should not rely upon on-site staff or emergency services personnel to access or activate provided systems or valves in the event of fire. • Whilst there is currently no requirement for a Fire Safety Study, FRNSW may request one be undertaken following a review of information provided within the EIS should it is deemed that the development poses unique challenges to the response to and management of an incident.	8.6	8-36

Table 4-5: Transport for NSW Assessment Requirements – EIS Reference

Environmental Assessment Requirements – Key Issues	EIS Reference	
	Section	Page No
A detailed traffic impact assessment should be prepared and include, but not be limited to, the following: 1. Daily and peak traffic movements likely to be generated by the proposed redevelopment (including vehicle type and the likely arrival and departure times) and volumes likely to be generated during construction and operation, including a description of haul route origins and destinations; a) Plans demonstrating how all vehicles associated with construction and operation awaiting loading, unloading or servicing can be accommodated on the site to avoid queuing in the street network, and b) Swept path diagrams depicting vehicles entering, exiting and manoeuvring throughout the site for both light and heavy vehicles. 2. All affected intersections should be examined/ modelled and the need/associated funding for upgrading or road improvement works (if required), including consideration of cumulative traffic impacts at key intersections using SIDRA or similar traffic model as prescribed by Roads and Maritime. These should include, but not be limited to: a) The Horsley Drive/ Polding Street; b) Loftus Road/ Norrie Street, and; c) Loftus Road/ Yennora Avenue. 3. Details of the proposed accesses and the parking provisions associated with the proposed redevelopment including compliance with the requirements of the relevant Australian Standards (ie: turn paths, sight distance requirements, aisle widths, etc). 4. Proposed number of car parking spaces and compliance with the appropriate parking codes. 5. To ensure that the above requirements are fully addressed, the traffic impact assessment must properly ascertain the cumulative study area traffic impacts associated with the redevelopment (and any other known proposed developments in the area). This process provides an opportunity to identify a package of traffic and transport infrastructure measures required to support future development. Regional and local intersection and road improvements, vehicular access options for adjoining sites, public transport needs, the timing and cost of infrastructure works and the identification of funding responsibilities associated with the development should be identified. 6. TfNSW requires the Environmental Assessment report to assess the implications of the proposed development for non-car travel modes (including public transport use, walking and cycling); the potential for implementing a location-specific sustainable travel plan (eg 'Travelsmart' or other travel behaviour change initiative); and the provision of facilities to increase the non-car mode share for travel to and from the site. This will entail an assessment of the accessibility of the development site by public transport.	Appendix 5	

Table 4-5: Transport for NSW Assessment Requirements – EIS Reference

Environmental Assessment Requirements – Key Issues	EIS Reference	
	Section	Page No
The detailed traffic impact assessment should address the relevant planning provisions, goals and strategic planning objectives in the following: • Future Transport 2056 and supporting documents; • Draft NSW Freight and Ports Plans; • Guide to Traffic Generating Developments 2002(RTA); ► TDT 2013/04a Guide to Traffic Generating Developments, and; • Austroads Guide to Traffic Management Part 12: Traffic Impacts of Development.		

Table 4-6: Cumberland Council Assessment Requirements – EIS Reference

Environmental Assessment Requirements – Key Issues	EIS Reference	
	Section	Page No
April 2020		
Development Engineer Comments		
The proposed parking detail has not been provided to Council for comments. Department shall seek further Traffic impact report addressing the following: a) Appropriate right of way created on the title. b) Details of the existing development consent verifying that the proposed modifications will not conflict with the approved consent. c) Development proposal shall include the adjoining site also part of the proposal as driveway modification work should be carried out within 16 Kiora Crescent to facilitate the access. The following matters raised in Council's previous response letter remain unresolved: The swept path analysis shows that the turning path encroaches into Council footpath and nature strip. Reverse manoeuvring in Council's land should not be considered. Vehicles should enter and leave the site in a forward direction. Manoeuvring shall be limited to three-point turn. Truck swept path interferes with the car parking space. No parking spaces are available within the site for the delivery trucks to prevent any queuing or on street parking of trucks/delivery vehicles. Department to consider car parking on site to minimise adverse impacts on the street traffic and the adjoining developments.	Appendix 5	
Environmental Health Unit		
In addition to the previous comments provided by EHU the following recommendations are to be considered by the Department: Based on aerial photographs on Council's mapping system (intramaps), the property appears to be partly covered by concrete hardstand with the remainder of the site being exposed soil. Should the applicant proceed with the use of this site as a part of their operations, the part of the site used for truck access would need to be constructed of a sealed surface to prevent any potential soil contamination.	All areas used for truck access are concreted	

Table 4-6: Cumberland Council Assessment Requirements – EIS Reference

Environmental Assessment Requirements – Key Issues	EIS Reference	
	Section	Page No
The following documentation (as outlined in previous comments) would also need to be adjusted to include the impact of the site located at 16 Kiora Cresent, Yennora on surrounding properties: • - Acoustic report • - Environmental Impact Statement • - Waste Management Plano Odour Impact assessment • - Environmental Management Plan • - Site plans • - Details of site stormwater management	8	8-1
May 2020		
Environmental Health Unit		
A Scoping Report has been prepared by Benbow Environmental (report reference - 191251_Scoping_Rev4, dated November 2019). The Consultant has advised the following: The applicant seeks approval for the following additions to an existing liquid waste treatment facility: Increase the waste processing capacity to 100,000 Tonnes of waste per year – This requires changes to their existing EPA License and is considered integrated development under the EP&A Act and Regulation. Increase the maximum waste storage capacity to 200 tonnes per year. Increase operating hours to 24 hours per day/7 days per week. No construction work will allegedly take place. The applicant proposes that the existing equipment on site and the proposed changes to the hours of operation is enough to cater to the increased processing capacity of 100,000 tonnes of waste per year. Note: The business currently has approval to process 900 tonnes per year with a maximum storage capacity of 110 tonnes per year.	Noted	
Noise Impact Assessment		
Benbow Environmental have advised in their scoping report that a Noise impact assessment was undertaken and found that the proposed changes to the site activity will not have an impact on surrounding receivers. I could not locate a copy of the report on Council's file and as such, an assessment of the report could not be undertaken. It is requested that a copy of the report be provided to Council for further review. It is expected that the report will be submitted as part of the EIS.	8.2	8-7

Table 4-6: Cumberland Council Assessment Requirements – EIS Reference

Environmental Assessment Requirements – Key Issues	EIS Reference	
	Section	Page No
The applicant must ensure that the acoustic assessment makes reference to the EPA's Noise Policy for Industry. The report must include although is not limited to: Long term unattended background noise monitoring at the closest sensitive receivers. The consultant must also refer to the impact of the premises on neighbouring industrial receivers in addition to residential receivers. The background noise monitoring should be conducted at times where the current equipment used on site is not in operation. It should include all noise from the site including additional vehicle movements and the use of equipment/machinery on site on a 24/7 basis.		
Environmental Impact Statement (EIS)		
The Scoping Report prepared by Benbow Environmental (report reference - 191251_Scoping_Rev4, dated November 2019) states that Benbow Environmental has been engaged by Enviro Waste Services Group Pty Ltd (Enviro Waste) to undertake an Environmental Impact Statement (EIS). It is understood that the current scoping report sets out the relevant matters to be addressed in the EIS, and that an EIS will be provided to Council once the Department has issued the SEARs. A more detailed review of the issues raised in this memo will be undertaken once the EIS has been provided to Council for review and comment, along with the other technical reports alluded to in previous comments.		
Waste Management Plan and Contaminated Waste		
A Waste Management Plan will need to be prepared and submitted to Council for review. The waste management plan must include although is not limited to reporting on the type of waste received, how it is processed, transported, managed and stored/stockpiled on site and include all measures that the business aims to manage the environmental impact of these activities.	8.5	8-23

Table 4-6: Cumberland Council Assessment Requirements – EIS Reference

Environmental Assessment Requirements – Key Issues	EIS Reference	
	Section	Page No
The consultant has advised that contaminated waste is brought and processed on site. Details of this contaminated waste and how it is managed must also be included in the EIS so that an assessment can be made of the potential risk/mitigation measures to be installed at the facility. It is understood that contaminants which are currently processed on site include: • Residues from industrial waste treatment/disposal operations – landfill leachates; • Liquid waste material in glass, plastic or aluminium containers; • Surface active agents (surfactants) containing principally organic constituents and which may contain metals and inorganic materials; • Waste oil/hydrocarbons mixtures/emulsions in water; • Sewage sludge & residues; and Grease trap waste.		
Odour Impact Assessment and Dust Control		
The consultant has advised that "A full quantitative odour assessment (OIA) has been conducted for the operation of the proposed liquids waste recycling facility in accordance with the "Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales" (EPA 2016)." A copy of the odour impact assessment could not be located on Council's file. EHU can therefore not comment on the report to determine the odour/air quality impact on surrounding sensitive receivers. It is recommended that this is submitted to the EHU for review. It is expected that the report will be submitted as part of the EIS. The consultant also stated that "Dust is not considered as a potential emission that would be generated from the proposed development and therefore was not assessed." Given the site is a waste facility and will store to an extent, some solid wastes. It is recommended that an assessment be undertaken on the presence of airborne dust and its management if applicable. Wherever possible dust should be controlled through the use of physical means (such as a physical building structure) and dust should not create in external areas of the premises with only mechanical means of control such as water sprays.	8.1	8-1

Table 4-6: Cumberland Council Assessment Requirements – EIS Reference

Environmental Assessment Requirements – Key Issues	EIS Reference	
	Section	Page No
Environmental Management Plan		
An environmental management plan (EMP) should be prepared and submitted to Council for review. It is expected that the report will be submitted as part of the EIS. The EMP must be written in accordance with the Department of Environment – Environmental Management Plan Guidelines 2014. The EMP must include although is not limited to how the following pollution risks will be managed: • Stormwater pollution; • Acoustic amenity; • Air/odour pollution including dust mitigation measures; • Emergency management and spill response procedures; • Any required contamination management/control measures required to be installed at the site; and • Any other source of pollution that is identified as a risk onsite.	12.2.3	12-4
Trade Waste Agreement		
It is unclear whether the current trade waste agreement with Sydney Water accurately reflects the waste water predicted to enter the sewer system with the new proposal. Information should be submitted demonstrating the trade waste agreement will cover all of the new loads.	Attachment 3	
Site Plans		
The scoping report states that the applicant does not propose any constructional changes to the site and advises that the existing setup will accommodate for the additional waste. It is advised that the business submit to Council processing details and a site layout plan as to how the business will be able to accommodate for the additional 99,100 tonnes of additional waste per year without the addition of new equipment used for processing or additional space. Detailed existing and future site plans should be submitted to demonstrate the location of all equipment/machinery (and details as to what this equipment/machinery is used for), as well as the details of any stockpile locations of waste/material, parking of vehicles/trucks and any other equipment internally or externally used at this site.	Appendix 1	

Table 4-6: Cumberland Council Assessment Requirements – EIS Reference

Environmental Assessment Requirements – Key Issues	EIS Reference	
	Section	Page No
Stormwater Pollution		
Details of the site's entire stormwater management and drainage plan setup should be submitted to Council for review. In addition to this, the location of any waste processing, storage, transportation of waste, parking of vehicles which will be carried out in close proximity to the sites stormwater system should be outlined on the plans. Other information which must be provided: Are all operations restricted to inside the buildings onsite? I.e. will there be any activities carried out outside the buildings, such as the need to have trucks waiting on the street prior to entry to the site. This could impact on whether any contaminated material to be processed onsite could enter the roadway area.	8.3	8-15
Traffic		
The applicant is to liaise with RMS in accordance with Schedule 3 – Traffic Generating under the Infrastructure SEPP.	Appendix 5	
Onsite Inspection		
A site inspection at 14 Kiora Crescent was completed on 6 January 2020 at approximately 10:15am. I spoke with the operations manager on site John Paul Hawach. At the time of the inspection, all activities pertaining to waste disposal were carried out inside a shed at the premises. The site consisted of a large shed (where all equipment used to filter and dispose of liquid waste was located) and a concrete hardstand. Odours, dust, waste, excessive noise was not observed at the road at the time of the inspection. Upon entering the premises, there was a strong odour present as well as noise from vehicles and machinery in use at the time. It should be noted that an additional property across the road located at 5 Kiora Crescent Yennora (Lot 10/DP 1233715) was used to store IBC's (large plastic containers) some of which were empty although some of which contained some oils and other products used to service their trucks. The operations manager advised that this area was also used to park and service the business's vehicles as needed. The site consisted of some sealed areas however there were also some unsealed areas which were used to park vehicles. This site is also leased out to two other companies. EHU advises that this site be assessed as a part of the application.		

Table 4-7: DPIE EES Assessment Requirements – EIS Reference

Environmental Assessment Requirements – Key Issues	EIS Reference	
	Section	Page No
Aboriginal Culture Heritage		
1. Identify and describe the Aboriginal cultural heritage values that exist across the whole area that would be affected by the development and document these in an Aboriginal Cultural Heritage Assessment Report (ACHAR). This may include the need for surface survey and test excavation. The identification of cultural heritage values must be conducted in accordance with the Code of Practice for Archaeological Investigations of Aboriginal Objects in NSW (OEH 2010), and guided by the Guide to investigating, assessing and reporting on Aboriginal Cultural Heritage in NSW (DECCW, 2011). 2. Consultation with Aboriginal people must be undertaken and documented in accordance with the Aboriginal cultural heritage consultation requirements for proponents 2010 (DECCW). The significance of cultural heritage values for Aboriginal people who have a cultural association with the land must be documented in the ACHAR. 3. Impacts on Aboriginal cultural heritage values are to be assessed and documented in the ACHAR. The ACHAR must demonstrate attempts to avoid impact upon cultural heritage values and identify any conservation outcomes. Where impacts are unavoidable, the ACHAR must outline measures proposed to mitigate impacts. Any objects recorded as part of the assessment must be documented and notified to OEH. Note that due diligence is not an appropriate assessment, an ACHAR is required.	Appendix 6	
Biodiversity		
4. Biodiversity impacts related to the proposed development are to be assessed in accordance with Section 7.9 of the Biodiversity Conservation Act 2017 the Biodiversity Assessment Method and documented in a Biodiversity Development Assessment Report (BDAR). The BDAR must include information in the form detailed in the Biodiversity Conservation Act 2016 (s6.12), Biodiversity Conservation Regulation 2017 (s6.8) and Biodiversity Assessment Method, including an assessment of the impacts of the proposal (including an assessment of impacts prescribed by the regulations). 5. The BDAR must document the application of the avoid, minimise and offset framework including assessing all direct, indirect and prescribed impacts in accordance with the Biodiversity Assessment Method.	8.4 (Note: BDAR Waiver Approved)	8-21

Table 4-7: DPIE EES Assessment Requirements – EIS Reference

Environmental Assessment Requirements – Key Issues	EIS Reference	
	Section	Page No
6. The BDAR must include details of the measures proposed to address the offset obligation as follows: • The total number and classes of biodiversity credits required to be retired for the development/project; • The number and classes of like-for-like biodiversity credits proposed to be retired; • The number and classes of biodiversity credits proposed to be retired in accordance with the variation rules; • Any proposal to fund a biodiversity conservation action; • Any proposal to conduct ecological rehabilitation (if a mining project); • Any proposal to make a payment to the Biodiversity Conservation Fund. If seeking approval to use the variation rules, the BDAR must contain details of the reasonable steps that have been taken to obtain requisite like-for-like biodiversity credits. 7. The BDAR must be submitted with all spatial data associated with the survey and assessment as per Appendix 11 of the BAM. 8. The BDAR must be prepared by a person accredited in accordance with the Accreditation Scheme for the Application of the Biodiversity Assessment Method Order 2017 under s6.10 of the Biodiversity Conservation Act 2016.		
Water and Soils		
9. The EIS must map the following features relevant to water and soils including: a) Acid sulfate soils (Class 1, 2, 3 or 4 on the Acid Sulfate Soil Planning Map). b) Rivers, streams, wetlands, estuaries (as described in s4.2 of the Biodiversity Assessment Method). c) Wetlands as described in s4.2 of the Biodiversity Assessment Method. d) Groundwater. e) Groundwater dependent ecosystems f) Proposed intake and discharge locations	6.1 6.3	6-1 6-4
10. The EIS must describe background conditions for any water resource likely to be affected by the development, including: a) Existing surface and groundwater. b) Hydrology, including volume, frequency and quality of discharges at proposed intake and discharge locations.	6.1 6.3	6-1 6-4

Table 4-7: DPIE EES Assessment Requirements – EIS Reference

Environmental Assessment Requirements – Key Issues	EIS Reference	
	Section	Page No
c) Water Quality Objectives (as endorsed by the NSW Government http://www.environment.nsw.gov.au/ieo/index.htm) including groundwater as appropriate that represent the community's uses and values for the receiving waters. d) Indicators and trigger values/criteria for the environmental values identified at (c) in accordance with the ANZECC (2000) Guidelines for Fresh and Marine Water Quality and/or local objectives, criteria or targets endorsed by the NSW Government. e) Risk-based Framework for Considering Waterway Health Outcomes in Strategic Land-use Planning Decisions http://www.environment.nsw.gov.au/research-andpublications/publications-search/risk-based-framework-for-considering-waterwayhealth-outcomes-in-strategic-land-use-planning.		
11. The EIS must assess the impacts of the development on water quality, including: a) The nature and degree of impact on receiving waters for both surface and groundwater, demonstrating how the development protects the Water Quality Objectives where they are currently being achieved, and contributes towards achievement of the Water Quality Objectives over time where they are currently not being achieved. This should include an assessment of the mitigating effects of proposed stormwater and wastewater management during and after construction. b) Identification of proposed monitoring of water quality. c) c. Consistency with any relevant certified Coastal Management Program (or Coastal Zone Management Plan).	8.3	8-15
12. The EIS must assess the impact of the development on hydrology, including: a) Water balance including quantity, quality and source. b) Effects to downstream rivers, wetlands, estuaries, marine waters and floodplain areas. c) Effects to downstream water-dependent fauna and flora including groundwater dependent ecosystems. d) Impacts to natural processes and functions within rivers, wetlands, estuaries and floodplains that affect river system and landscape health such as nutrient flow, aquatic connectivity and access to habitat for spawning and refuge (e.g. river benches). e) Changes to environmental water availability, both regulated/licensed and unregulated/rules-based sources of such water. f) Mitigating effects of proposed stormwater and wastewater management during and after construction on hydrological attributes such as volumes, flow rates, management methods and re-use options. g) Identification of proposed monitoring of hydrological attributes.	8.3	8-15

Table 4-7: DPIE EES Assessment Requirements – EIS Reference

Environmental Assessment Requirements – Key Issues	EIS Reference	
	Section	Page No
Flooding and Coastal Hazards		
13. The EIS must map the following features relevant to flooding as described in the Floodplain Development Manual 2005 (NSW Government 2005) including: a) Flood prone land. b) Flood planning area, the area below the flood planning level. c) Hydraulic categorisation (floodways and flood storage areas) d) Flood Hazard. 14. The EIS must describe flood assessment and modelling undertaken in determining the design flood levels for events, including a minimum of the 5% Annual Exceedance Probability (AEP), 1% AEP, flood levels and the probable maximum flood, or an equivalent extreme event. 15. The EIS must model the effect of the proposed development (including fill) on the flood behaviour under the following scenarios: a) Current flood behaviour for a range of design events as identified in 14 above. This includes the 0.5% and 0.2% AEP year flood events as proxies for assessing sensitivity to an increase in rainfall intensity of flood producing rainfall events due to climate change. 16. Modelling in the EIS must consider and document: a) Existing council flood studies in the area and examine consistency to the flood behaviour documented in these studies. b) The impact on existing flood behaviour for a full range of flood events including up to the probable maximum flood, or an equivalent extreme flood. c) Impacts of the development on flood behaviour resulting in detrimental changes in potential flood affection of other developments or land. This may include redirection of flow, flow velocities, flood levels, hazard categories and hydraulic categories. d) Relevant provisions of the NSW Floodplain Development Manual 2005.	6.3.3	6-8

Table 4-7: DPIE EES Assessment Requirements – EIS Reference

Environmental Assessment Requirements – Key Issues	EIS Reference	
	Section	Page No
17. The EIS must assess the impacts on the proposed development on flood behaviour, including: a) Whether there will be detrimental increases in the potential flood affectation of other properties, assets and infrastructure. b) Consistency with Council floodplain risk management plans. c) Consistency with any Rural Floodplain Management Plans. d) Compatibility with the flood hazard of the land. e) Compatibility with the hydraulic functions of flow conveyance in floodways and storage in flood storage areas of the land. f) Whether there will be adverse effect to beneficial inundation of the floodplain environment, on, adjacent to or downstream of the site. g) Whether there will be direct or indirect increase in erosion, siltation, destruction of riparian vegetation or a reduction in the stability of river banks or watercourses. h) Any impacts the development may have upon existing community emergency management arrangements for flooding. These matters are to be discussed with the NSW SES and Council. i) Whether the proposal incorporates specific measures to manage risk to life from flood. These matters are to be discussed with the NSW SES and Council. j) Emergency management, evacuation and access, and contingency measures for the development considering the full range or flood risk (based upon the probable maximum flood or an equivalent extreme flood event). These matters are to be discussed with and have the support of Council and the NSW SES. k) Any impacts the development may have on the social and economic costs to the community as consequence of flooding.	6.3.3	6-8

5. DESCRIPTION OF PROPOSED DEVELOPMENT

The site at 14 Kiora Crescent, Yennora has approval to process 900 tonnes per annum of waste liquids and a maximum of 110 tonnes of liquid can be stored at any one time. Enviro Waste proposes to increase the processing quantity to 110,000 tonnes per annum and increase the maximum quantity to be stored at any one time to 477 tonnes. Waste processing streams and proposed quantities per location are listed below:

5.1 JUSTIFICATION OF PRODUCTION QUANTITIES

The site currently holds a trade waste agreement for the 200 kL maximum daily discharge and 100 kL average daily discharge. This corresponds to approximately 36,000 tonnes per year. An application to Sydney Water will be made to increase the maximum and daily discharge rates after approval is obtained.

110,000 tonnes per annum corresponds to approximately 300 tonnes per day as an average. It is acknowledged that the site's storage capacity is only 477 tonnes, equivalent to approximately one and a half days of processing.

Despite the large proposed throughput quantities compared with the maximum storage capacity, the site's existing equipment is adequate for processing these quantities.

The main reason for this is the majority of liquid waste received on site leaves the facility as trade waste. This is because most of the liquid waste received has very high water content. Typically, 80-90% of the liquid waste can be processed to a state suitable for discharge to trade-waste within 2-3 hours. This allows for a large throughput with the storage quantities proposed.

The development also proposes extending the operational times to 24 hours seven days a week.

Truck movements are also an important consideration for the proposed development. Truck size and tank capacity varies between fleet vehicles, staff vehicles and contractors utilising the site for its waste disposal services. Typically truck sizes range between 2,000 to 30,000 litre capacity trucks. The incoming waste arrives via trucks. Truck and vehicle movement associated with the increase of quantity will be approximately 10-30 trucks per day.

5.2 PROPOSED SITE ACTIVITIES AND SITE USE

The proposed site activities and site use are described for the two properties below. How these properties will interact is also discussed briefly.

5.2.1 14 Kiora Crescent, Yennora

The facility would receive an increased quantity of liquid wastes of a type that it is already licenced to receive including:

- Residues from industrial waste treatment/disposal operations – landfill leachates (N205);
- Liquid waste material in glass, plastic or aluminium containers;
- Surface active agents (surfactants) containing principally organic constituents and which may contain metals and inorganic materials (M250);
- Waste oil/hydrocarbons mixtures/emulsions in water (J120);

- Sewage sludge & residues (K130); and
- Grease trap waste (K110).

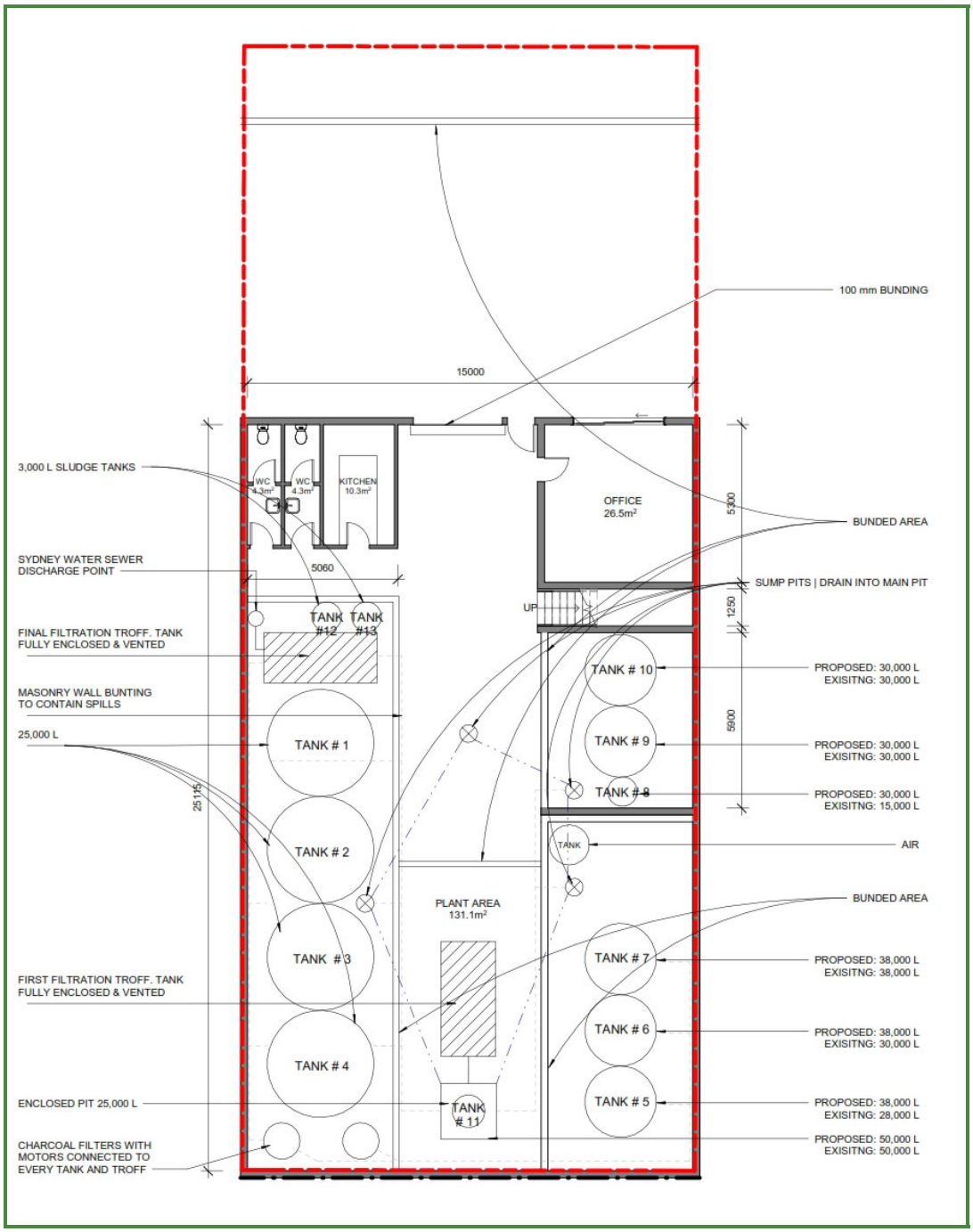
The operation of the facility involves the following activities to be undertaken on site:

- Unloading and loading of liquid waste from tanker trucks;
- Filtration of solid debris;
- Separation of solids;
- Separation of oils and sludge; and
- Separation of oil and water.

The increased processes quantities would utilise the existing equipment onsite. Minor modifications to tank sizes would be required to achieve a maximum storage at any one time: 377 tonnes (at 14 Kiora only).

Figure 5-1 shows the proposed site plan and layout (including tank quantities) at the 14 Kiora Crescent site.

Figure 5-1: Proposed floor plan for 14 Kiora Crescent



5.2.2 16 Kiora Crescent, Yennora

The facility at 16 Kiora Crescent would receive up to 10,000 tonnes per annum of waste including out-of-date liquid product/food waste for destruction. The total waste storage at any one time is limited to 100 tonnes. Additionally, the site at 16 Kiora Crescent would provide office space, access for trucks and car parking.

Annual tonnage of incoming and outgoing waste from the out-of-date liquid product destruction process is detailed below.

Incoming waste type (tonnes per annum)

- Out-of-date liquids (food waste): 6,700
- Shampoo/liquid soaps: 1,600
- Shoes: 200
- Clothes: 250
- Makeup: 1,250
  Total: 10,000

Outgoing waste type (tonnes per annum)

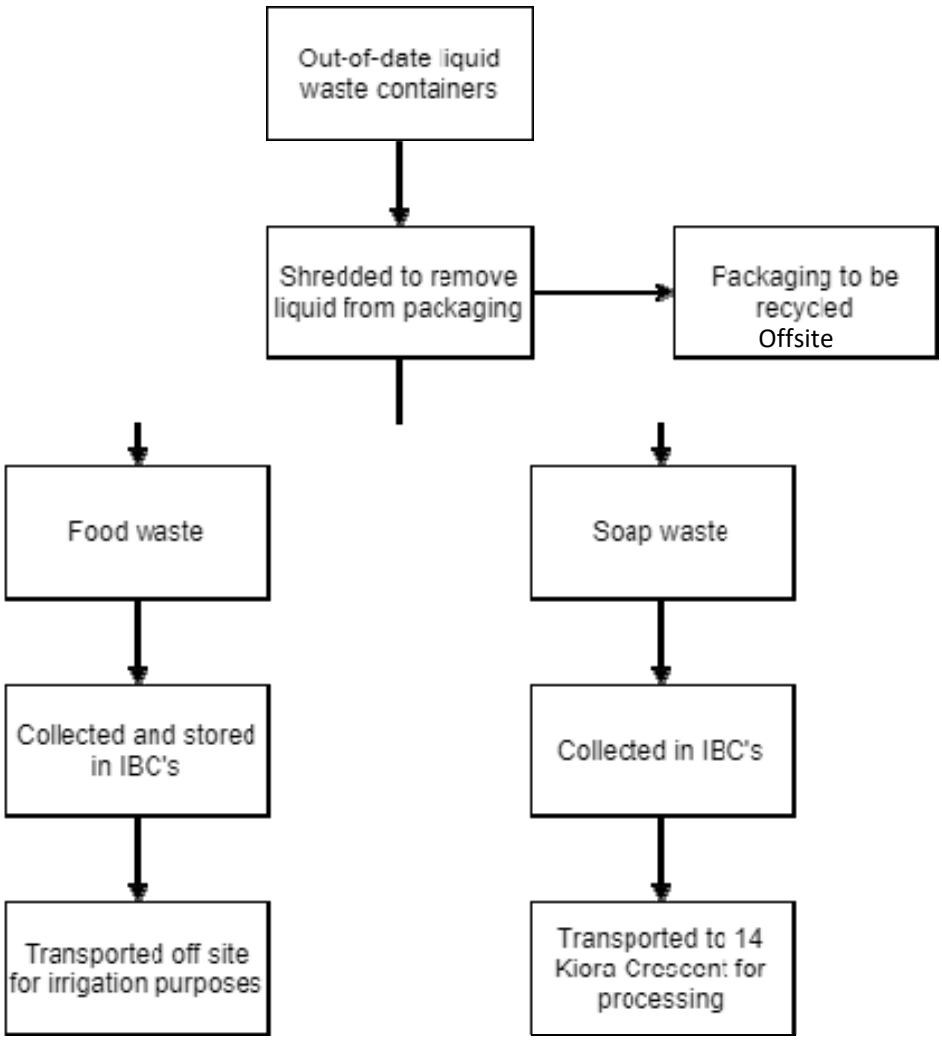
- Plastic: 950
- Cardboard: 950
- Aluminium: 950
- Liquid food waste: 4,600
- Liquid waste (other – for processing at 14 Kiora Crescent): 1,100
- Steel: 450
- Timber: 250
- Glass: 450
- Cloth: 200
- General solid waste: 100
  Total: 10,000

The destruction and disposal of out-of-date liquid products/food wastes would involve the following:

- Out-of-date, expired or perishable liquid food waste (such as fruit juices, soft drinks, shampoos and soaps) are divided by waste stream (food waste/liquid soaps etc.) and fed into a shredder to separate liquids from packaging.
- Shredded packaging containers (cardboard, plastics, aluminium) are collected and recycled.
- Liquid food wastes are collected into intermediate bulk containers (IBCs) and stored at 16 Kiora Crescent.
- Liquid soap wastes are collected and sent to 14 Kiora Crescent for further processing.
- IBCs containing food waste are transported off site to be used in irrigation practices for agricultural properties/farmlands. The contents of the IBCs would comply with the relevant resource recover exemptions/orders and/or NSW Department of Environment and Conservation “Use of Effluent by Irrigation” (2004) and ANZECC & ARMCANZ “Guidelines for Fresh and Marine Water Quality” Volume 3, Primary Industries — Rationale and Background Information (Irrigation and general water uses, stock drinking water, aquaculture and human consumers of aquatic foods) (2000).

Figure 5-2 shows the process diagram for out-of-date liquid product destruction at 16 Kiora Crescent.

Figure 5-2: Process diagram of liquid product waste destruction

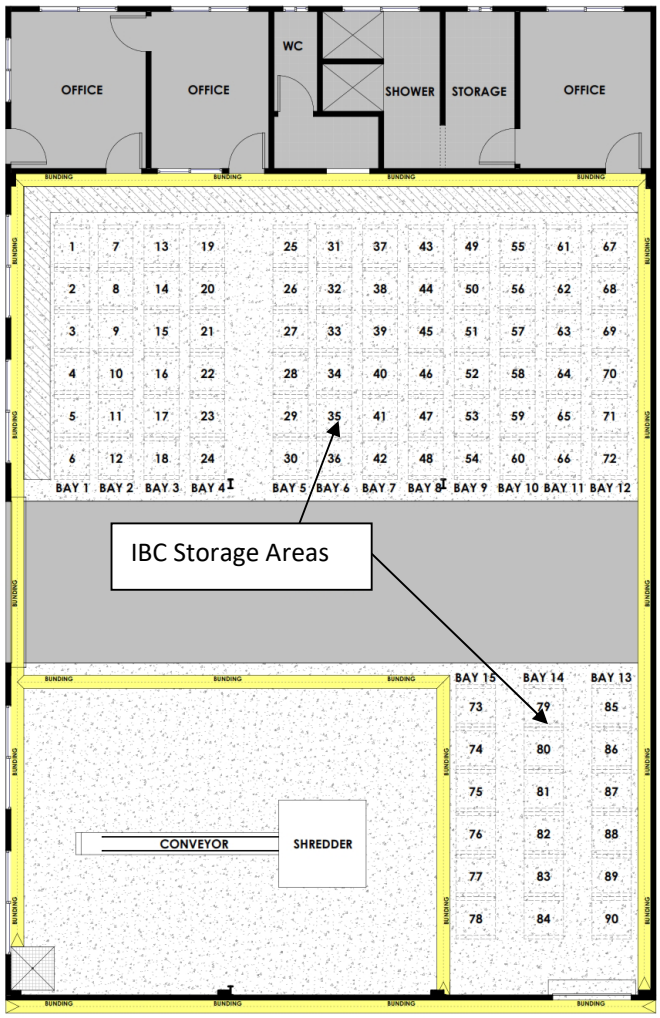


Additionally, the site at 16 Kiora Crescent would also provide improved access and manoeuvring arrangements and reduce the requirement for trucks to use the street for manoeuvring purposes. The swept paths show how trucks would access the building by entering the driveway at 16 Kiora Crescent and reversing into the building on 14 Kiora Crescent. This would allow trucks to enter and leave the sites in a forward direction with minimal manoeuvring on the street, significantly improving the current access and manoeuvring arrangements.

Car parking currently provided on 14 Kiora Crescent is impractical as truck paths cross car parking spaces. Car and tanker truck parking would be provided for the development at the rear of 16 Kiora Crescent.

The proposed warehouse floorplan for 16 Kiora Crescent is shown below in Figure 5-3.

Figure 5-3: Proposed floor plan for product destruction processes at 16 Kiora Crescent



5.3 SITE LAYOUT PLANS

A set of plans for the proposed development are provided in Appendix 1. These include:

- 14 Kiora Ground Floor Plan;
- 16 Kiora Ground Floor Plan;
- 14-16 Kiora Site Plan;
- 14-16 Kiora Drainage Plan;
- 14-16 Kiora Swept Paths;
- 16 Kiora Equipment Floor plan;
- 16 Kiora Sections; and
- 16 Kiora Equipment Elevations

5.4 CONSTRUCTION WORKS

No excavation or extensive construction work is necessary for the proposed development. The existing equipment will be utilised with an increased throughput and operational hours. Minor increases in tank sizes for tanks Tanks #5, #6, #8 the increased capacity is shown in Table 5-1 they are also shown in Figure 5-1.

New slim-line rainwater tanks will be installed. The demountable building currently located on 16 Kiora Crescent will be removed to create space for on-site truck manoeuvring.

5.4.1 Construction Staging

Stage 1: The demountable structure will be removed, and all works required to fully seal the hardstand area beneath the structure will be undertaken. The rainwater tanks will be installed. This will take approximately 1 month to complete.

Stage 2: Upgrading the tanks will be undertaken as needed, depending on the demand. The tanks will likely be upgraded within 3 years of the approval.

5.5 PRODUCTION PROCESS

The purpose of the facility is to receive waste liquids and process the liquid so suitably cleaned water is removed for discharge to tradewaste and remaining sludges are sent offsite to a licenced waste contractor to be further processed, predominantly as grease trap waste. A detailed process flow diagram is provided in Figure 5-4.

The processes involved in the site operations are as follows:

1. Waste liquids are collected from sites throughout the Sydney Metropolitan Area. Most of the liquids are collected from special purpose tanks which separate the solid residues from the liquids, minimising the solids collected. The waste liquids are collected via vacuum tankers. The vacuum pump is mounted on the truck and runs on the truck's diesel engine. A flexible hose connected to the pump and tank intake transfers the liquid through the intake nozzle, hose assembly and then into the tank. A pressure valve allows the displaced air to be released to the atmosphere.

2. The liquids are delivered to the recycling facility. Vacuum trucks reverse into the unloading area located inside the building at 14 Kiora Crescent. Pallets of out-of-date liquid product/food waste for destruction are also delivered to the site and unloaded in the external area outside the building at 16 Kiora Crescent and immediately transferred inside the building. Swept paths are shown in the site plans in Appendix 1.

3. A flexible hose connected to the outlet point of the tanker truck delivering to the building on 14 Kiora Crescent and is connected to a filter which removes any solids. The filtration devices are on wheels and can be manoeuvred such that a flexible hose connected to the outlet of the filter connected to any one of the tanks within the facility. Typically tanks on the eastern side of the facility (14 Kiora Crescent) are assigned to oily liquid wastes (grease trap waste (K110); waste oil/hydrocarbons mixtures/emulsions in water (J120); surfactants (M250)) and tanks on the western side of the facility store other organic liquid wastes such as stormwater/sewage sludge & residues (K130) and landfill leachates (N205).

4. Solids from the filters are manually transferred to a storage bin that once full is classified in accordance with waste guidelines and sent accordingly to a licenced landfill.

5. The waste liquids are pumped from the tankers using the main pump within the facility not the tanker pump, the liquids are pumped to a series of settling tanks and pipework at the facility. The main pumps flow direction and valves throughout the facility controls the movement of liquid waste depending on the operations which vary dependant on volumes of different wastes received.

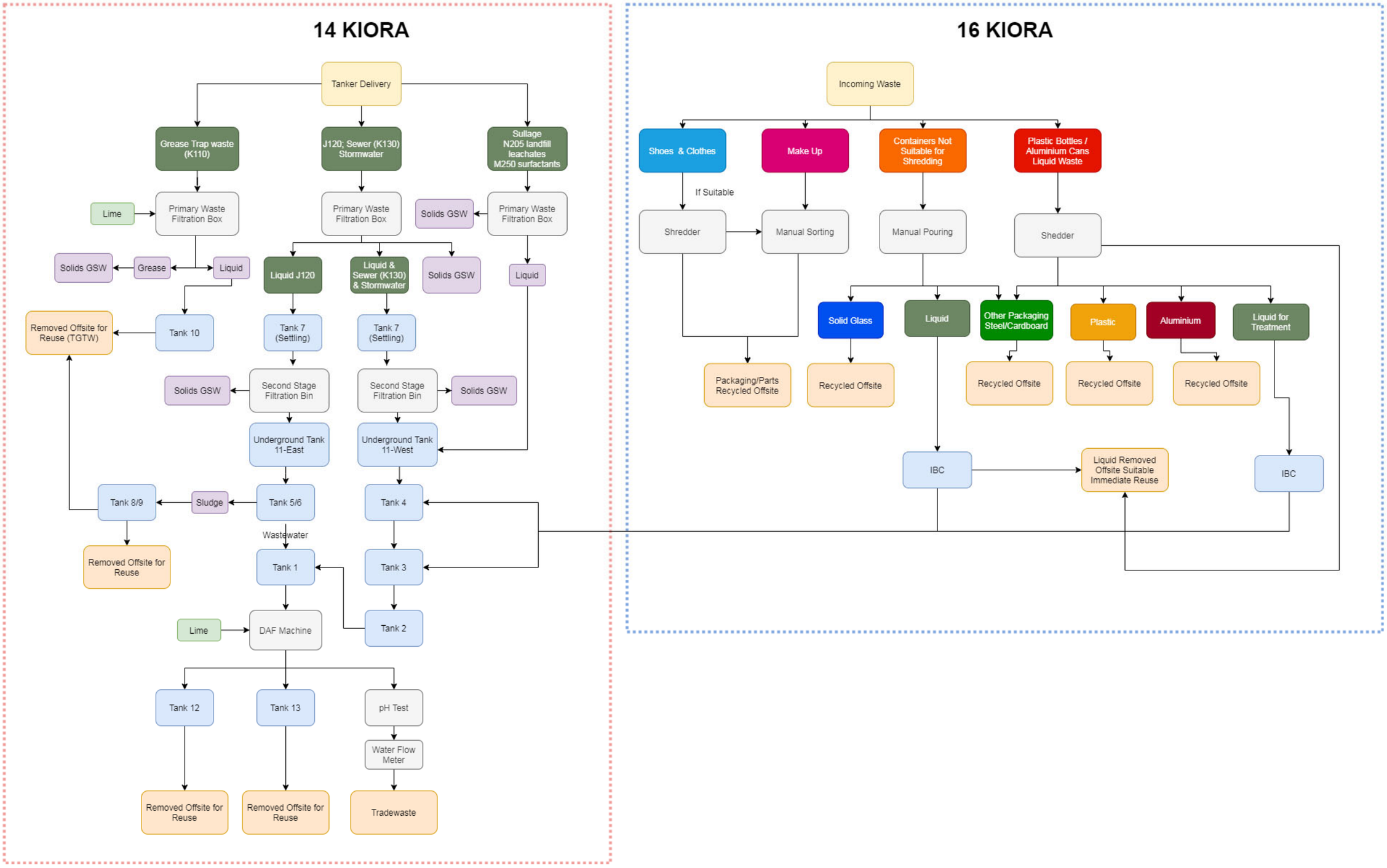
6. Before final treatment, the majority of the waste liquid destined for tradewaste is pumped from the storage tanks into the DAF (Dissolved air flotation) which separates the solid and remaining oil from the water.

7. Oil and sludge are transferred from the DAF to small storage tanks near the DAF. This is removed from site by a licenced waste contractor to be processed as grease trap waste.

8. Wastewater from the DAF is discharged to the Sydney Water sewer under a Trade Wastewater Agreement (see Attachment 3).

9. The pallets transferred to the 16 Kiora Crescent building where out-of date liquids are fed onto a conveyor and shredded. The shredder removes the liquid from the packaging to be transferred into IBCs (1000L container). Any packages unsuitable for handling are manually poured into IBCs. Packaging is recycled off-site. The liquid wastes are either sent offsite for reuse or further processed within the 14 Kiora Crescent Building.

Figure 5-4: Process Flow Diagram



5.6 RESOURCES

Raw materials to be brought onto site include:

- Residues from industrial waste treatment/disposal operations – landfill leachates (N205);
- Liquid waste material in glass, plastic or aluminium containers;
- Surface active agents (surfactants) containing principally organic constituents and which may contain metals and inorganic materials (M250);
- Waste oil/hydrocarbons mixtures/emulsions in water (J120);
- Sewage sludge & residues (K130);
- Grease trap waste (K110);
- Out-of-date liquids (food waste);
- Shampoo/liquid soaps;
- Shoes;
- Clothes;
- Makeup;
- Lime; and
- Sodium Hydroxide/Caustic Soda.

5.7 EQUIPMENT

Equipment required for the operation of the facility includes:

- Pump;
- Air Compressor;
- Forklift (LPG);
- Trucks;
- DAF Filter (liquid);
- Tanks (liquid);
- Biofilters (air);
- Shredder; and
- Conveyor.

All equipment is existing, three tanks will be upgraded in size as presented in the following section.

5.7.1 Liquid Waste Tanks

The following table summarises the liquid waste tanks and sizes shown in Figure 5-1.

Table 5-1: Tank Volumes

	Existing	Proposed (L)
Tank 1	25,000	25,000
Tank 2	25,000	25,000
Tank 3	25,000	25,000
Tank 4	25,000	25,000
Tank 5	28,000	38,000
Tank 6	30,000	38,000
Tank 7	38,000	38,000

Table 5-1: Tank Volumes

	Existing	Proposed (L)
Tank 8	15,000	30,000
Tank 9	30,000	30,000
Tank 10	30,000	30,000
Tank 11*	50,000	50,000
Tank 12	3,000	3,000
Tank 13	3,000	3,000

Notes: * Tank 11 is an underground tank that is split into 2 compartments of 25,000 L each (Tank 11 – west and Tank 11 – east)

5.8 CHEMICALS

The site will store minor quantities of LPG, lime and caustic soda. Additional details are provided in Section 8.6.1.

5.9 OPERATIONAL DETAILS

5.9.1 Utility Connections

5.9.1.1 Water

The site is connected to mains water.

5.9.1.2 Sewage and Wastewater

The site is connected to the main sewerage system. Wastewater from the process is discharged to the Sydney Water Tradewaste System.

5.9.1.3 Electricity

The site is connected to the electricity network.

5.9.1.4 Telecommunications

Service to be provided by local network.

5.9.1.5 Gas, Petrol and Diesel

Trucks refuel offsite and forklifts operate using LPG cylinders.

5.9.2 Hours of Operation

The facility is proposed to operate from 24 hours seven days a week.

5.9.3 Employment

The site currently employs 2 full time staff and will employ 3 additional staff with the proposed increase in production.

5.9.4 Traffic

Access and egress to the site is via Kiora Crescent. The largest truck that will enter the site is a 10 m long rigid truck.

A traffic impact assessment was undertaken by ML Traffic Engineers (Appendix 5) and is summarised in Section 9.4 of the EIS. The traffic report concluded that the proposed development is a low trip generator for the weekday AM and PM peak hours. The additional trips from the proposed development can be accommodated at the nearby intersection without significantly affecting intersection performance delays or queues.

5.9.5 Parking

The provision of seven (7) on site car parking spaces will accommodate the expected car requirements for staff. Visitors arriving by car is a rare event as business is generated by staff visiting the customer's premises and discussions over the phone etc. Customers do not visit the liquid processing facility.

The expected truck parking demand is four per hour. There is no overall no peak hour for truck arrival and departures.

The proposed expansion of the liquid processing facility provides sufficient car spaces on site.

Trucks will be parked offsite. The leased site that will provide parking for the site for the proposed development is 49-53 Pine Rd, Yennora NSW, however as this will be a leased site this may change in the future.

5.9.6 Site Security

Staff will be on site 24/7 which provides security. The industrial buildings have existing security provisions including fencing, gates and lighting.

5.10 EMISSIONS AND WASTE

An outline of the potential emissions and wastes resulting from the proposed development is provided in the following sub-sections. Detailed assessments are provided in Section 8 of the EIS.

5.10.1 Air and Odour

The primary air pollution concern from the proposed development is odour impacts. An Air Quality Impact Assessment has been undertaken and is provided in Appendix 3.

5.10.2 Noise and Vibration

On a typical operational day, noise will come from the following sources:

- Pump;
- Air compressor;
- Shredder
- Forklift;
- Material Handling; and
- Trucks.

The majority of sources will be inside the building.

A noise assessment in provided in Appendix 3.

5.10.3 Water and Wastewater

Currently, all activities obtain water from the mains supply. The proposal includes rainwater tanks to capture water falling on the roof. Such water will be used for onsite purposes such as surface cleaning.

Water is used on site predominantly in the wastewater filter systems to flush contaminants in storage tanks. It is also used to wash external surfaces of vehicles, filters and storage containers in the operational area. Excess water from these activities is collected in blind sump pits, treated before disposal into the sewerage.

Groundwater is not proposed to be extracted nor used for the proposed development.

As the core nature of the business involves the treatment and disposal of liquid wastes, wastewater is both collected and produced through a number of procedures on site. These include:

- Filtering, storage and disposal of wastewaters;
- Washing down and cleaning of vehicles and hardstand operational areas;
- General wastewater from office amenities.

Wastewater is treated and processed before its discharge into the sewer, as is permitted with the site's current trade waste agreement and environment protection licence.

5.10.4 Waste

The site receives and recycles liquid wastes. The site generates wastewater disposed of as trade waste and waste solid material from filter/separators. Waste is fully assessed in section 8.5.

5.11 Cleaner Production Actions

Cleaner production involves improving the environmental and economic efficiency of production processes, products and services. The site's current technologies and ongoing operating practices have been established using the principals of cleaner production actions to enhance their

operation to maximise the efficacy of the processes. The site will continue to implement cleaner production actions as part of ongoing environmental management.

5.12 SITE REHABILITATION

The proposed development is unlikely to require any rehabilitation.

6. EXISTING ENVIRONMENT

6.1 GEOLOGY AND SOILS

6.1.1 Geological and Soil Landscapes

The 'Penrith 1:100,000 Geological Map Sheet 9030' describes the geological composition of the area as follows:

'WIANAMATTA GROUP Rw (undifferentiated)
Rwb: Shale, carbonaceous claystone, laminate, fine to medium-grained lithic sandstone, rare cool and tuff.'

The soil map 'Soil Landscape of Penrith 1:100,000 Sheet 9030' shows that the subject site is located in an area classified as 'Blacktown (bt)', which is described as follows:

> *'Landscape* – gently undulating rises on Wianamatta Group shales. Local relief to 30 m, slopes are usually >5%. Broad rounded crests and ridges with gently inclined slopes. Cleared Eucalypt woodland and tall open-forest (dry sclerophyll forest).
>
> *Soils* – shallow to moderately deep (>100 cm) hardsetting mottled texture contrast soils, Red and Brown Podzolic Soils (Dr3.21, Dr3.31, Db2.11, Db2.21) on crests grading to Yellow Podzolic Soils (Dy2.11, Dy3.11) on lower slopes and in drainage lines.
>
> *Limitations* – moderately reactive highly plastic subsoil, low soil fertility, poor soil drainage.'

6.1.2 Acid Sulfate Soils

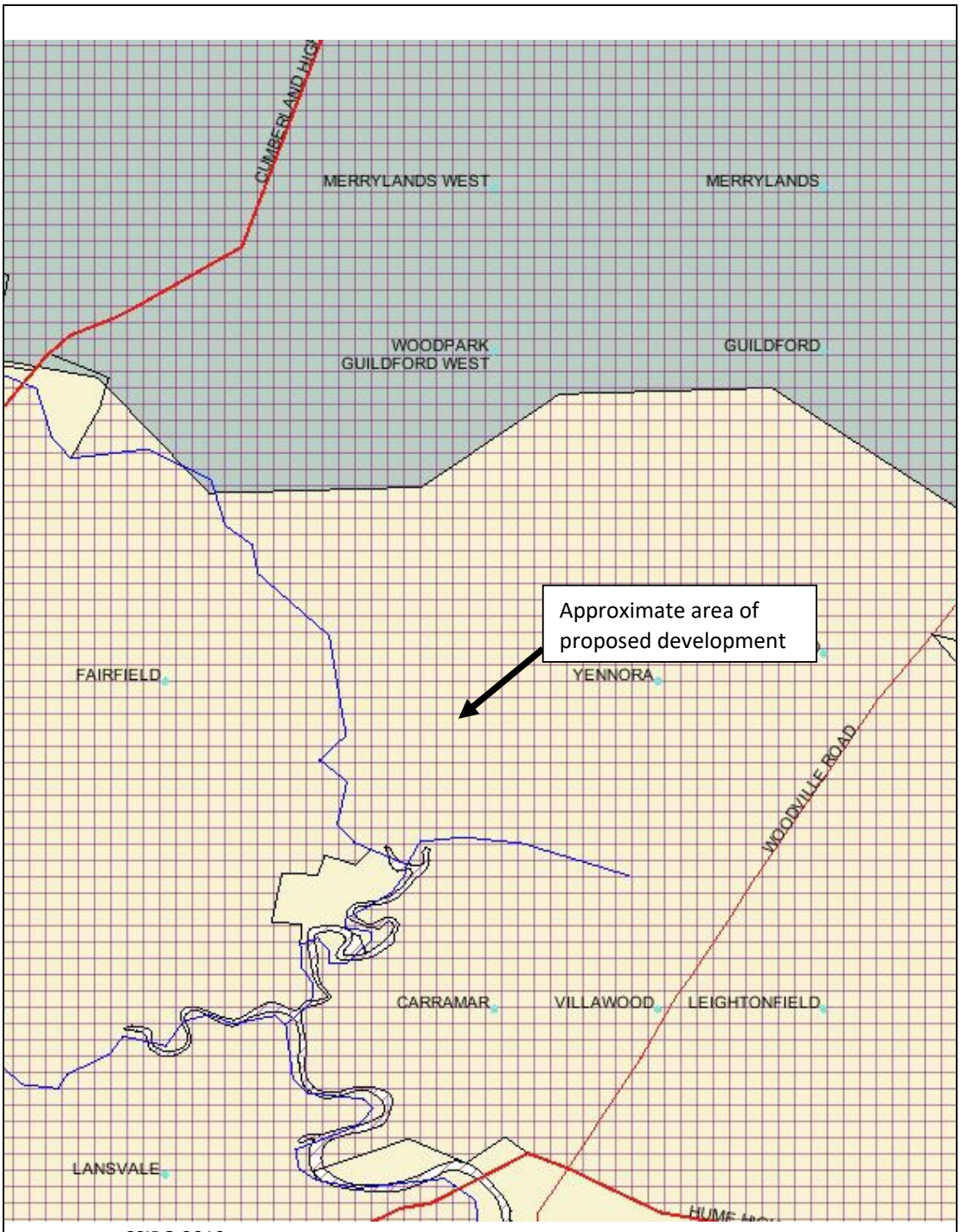
Acid Sulfate Soils are naturally occurring soils and sediments that formed under waterlogged conditions. They contain iron sulfide (predominantly pyrite), when water logged, or in an anoxic environment, ASS remain benign. However, if drained, excavated or exposed to air by a lowering of the water table, the sulphides react with oxygen to form sulfuric acid, sometimes in large quantities (for every tonne of sulfidic material that completely oxidises, 1.6 tonnes of pure sulfuric acid is produced). ASS contains traces of metals such as iron, aluminium and arsenic. Once acid forms, it mobilises any metals held within the soil. Rainfall washes this mixture into the surrounding environment, polluting land and nearby waterways. Accumulation of acid and metals becomes toxic to plants and animals, especially aquatic organisms. Built structures are highly susceptible to ASS, as acid will slowly corrode concrete, steel, roads and building foundations.

A search of the CSIRO Atlas of Australian Acid Sulfate Soils database shows this site is located over an area having a low probability of occurrence and a very low confidence level of Acid Sulfate Soil (ASS) occurrence. The map in Figure 6-1 illustrates these findings.

The subject site is not classed on an area of acid sulfate soils on the Holroyd LEP 2013 maps.

No excavation or earth disturbing works are planned for this proposal, therefore an acid sulfate soil assessment is not required.

Figure 6-1: Acid Sulfate Soil Map



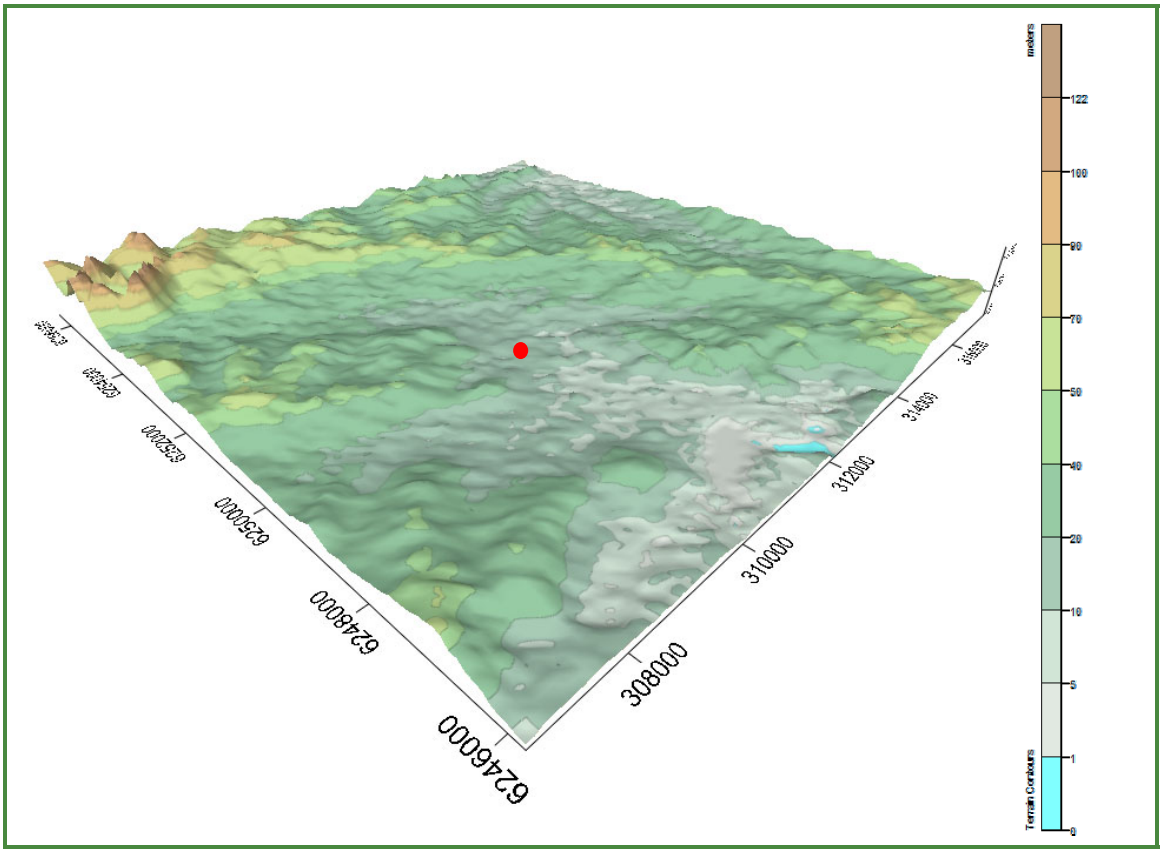
Source: ASRIS CSIRO 2019

6.2 TOPOGRAPHY

The site is within an industrial area. Its surface terrain is flat and concreted, with little height variation across the site. The site itself sits slightly higher than its access road. Surface water that leaves the site flows into the road's gutter and stormwater system.

A three-dimensional view of the local topography surrounding the site has been provided in Figure 6-2, with the terrain/vertical axis exaggerated by a factor of 10. It should be noted that this figure approximates the actual terrain, based on information that has been digitised from local contour maps.

Figure 6-2: Local Topography with Vertical Exaggeration of 10



Note: ● = Approximate location of site

6.3 HYDROLOGY

The following section details the hydrological aspect of the site and surrounding region. Specifics on surface water, waterways and groundwater have been described, together with overall catchment issues such as salinity and flooding.

6.3.1 Waterways and Catchment

There are no waterbodies located onsite with the nearest offsite source, Prospect Creek, situated approx. 640 m due west from the site (Figure 6-3). Prospect Creek is within the Georges River Catchment (Figure 6-4); and rises beneath Prospect Reservoir, 7.1 km Northwest of the site. The creek flows for 26 km in a generally south-easterly direction through the local government areas of Cumberland, Liverpool and Bankstown, before reaching its confluence with the Georges River in Dhurawal Bay, Georges Hall just over 5 km directly south of the site. Georges River flows into Botany Bay, being the Bay's main tributary. The Georges River catchment spans an area of 930.9 km^2.

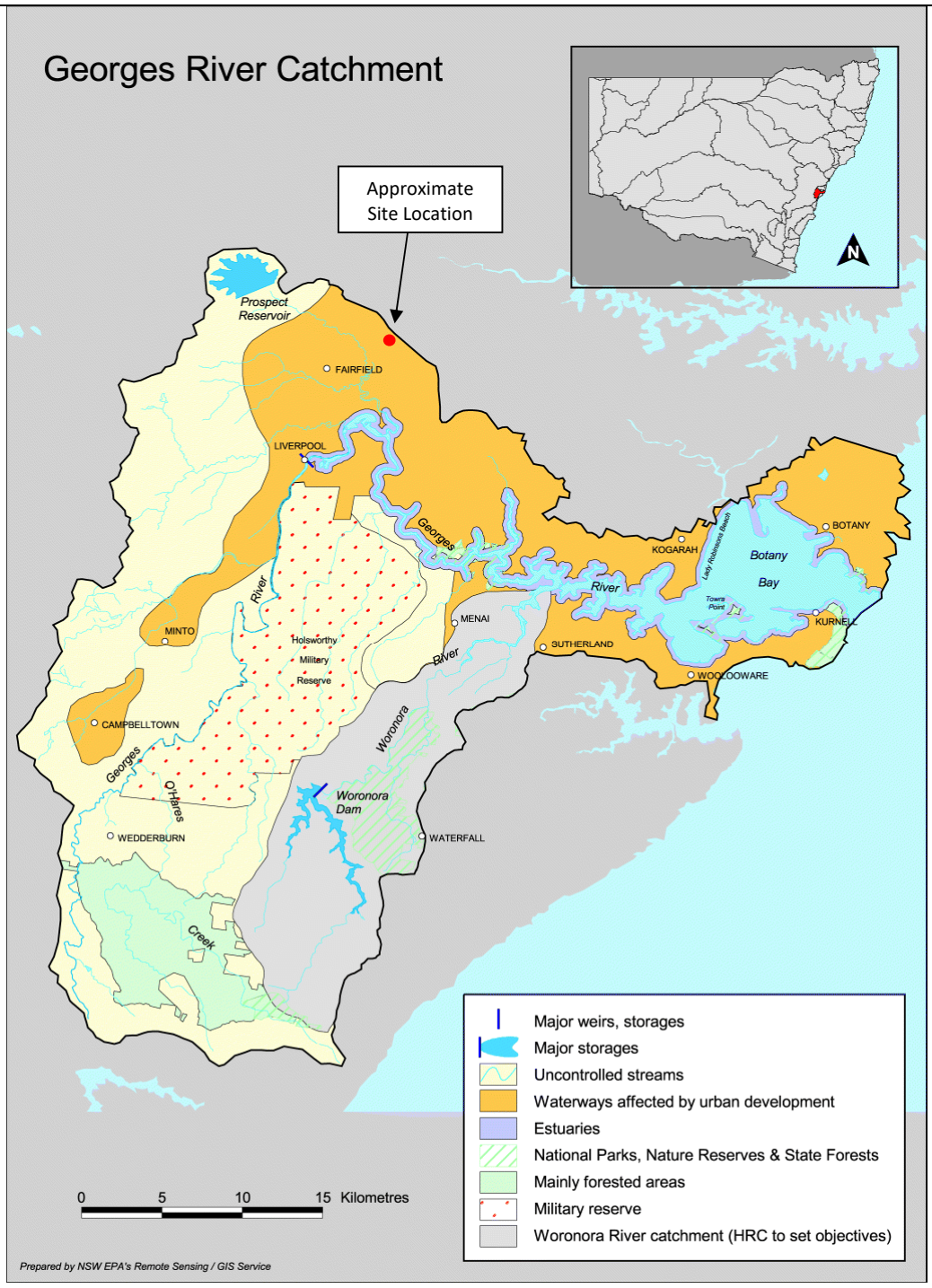
Riparian vegetation lines both banks of Prospect Creek, for its entire length. It is identified on the Holroyd LEP 2013 Riparian Lands and Watercourses Map (see Figure 6-3).

Figure 6-3: Nearest Waterways

Source: Google Maps 2019

N Not to scale	LEGEND: - Site location	Benbow Environmental 25-27 Sherwood Street, Northmead NSW 2152

Figure 6-4: Georges River Catchment



Source: NSW EPA

N Not to scale	LEGEND: ● Subject Site	Benbow Environmental 25-27 Sherwood Street, Northmead NSW 2152

6.3.1.1 Water Quality and River Flow Objectives

This section provides the Water Quality Objectives (WQOs) and the River Flow Objectives (RFOs) in Table 6-1 and Table 6-2 for the Georges River catchment, which should be used to develop plans and actions affecting water quality and river health. There are no discharges to waterways associated with the proposed development; nevertheless, WQOs and RFOs are provided for completeness of information on the potentially receiving waters.

As shown in Figure 6-4, the site is located in 'Waterways affected by Urban Development'. The relevant WQOs and RFOs are summarised below in Table 6-1 and Table 6-2 respectively. If needed, key water quality indicators and related numerical criteria (default trigger values) relevant to assessing and monitoring the health of aquatic ecosystems can be found at: http://www.environment.nsw.gov.au/ieo/GeorgesRiver/report-02.htm

Table 6-1: Relevant Water Quality Objectives (WQOs)

WQO	Objective
Aquatic Ecosystems	*Maintaining or improving the ecological condition of waterbodies and their riparian zones over the long term*
Visual Amenity	*Aesthetic qualities of waters*
Secondary Contact Recreation	*Maintaining or improving water quality for activities such as boating and wading, where there is a low probability of water being swallowed*
Primary Contact Recreation	*Maintaining or improving water quality for activities such as swimming in which there is a high probability of water being swallowed*

Table 6-2: Relevant River Flow Objectives (RFOs)

RFO	Objective
Maintain wetland and floodplain inundation	*Maintain or restore the natural inundation patterns and distribution of floodwaters supporting natural wetland and floodplain ecosystems*
Maintain Natural Flow Variability	*Maintain or mimic natural flow variability in all streams*
Maintain Natural Rates of Change in Water Levels	*Maintain rates of rise and fall of river heights within natural bounds*
Minimise Effects of Weirs and Other Structures	*Minimise the impact of instream structures*

6.3.1.2 Catchment Management Plan

Georges Riverkeeper Strategic Plan 2018-2022 is a four-year plan produced by Georges Riverkeeper. Georges Riverkeeper is a management body that facilitates proactive waterway management that is adaptive and integrated across other areas of member councils, rather than being reactive and piecemeal. There are five focus areas in the Strategic Plan which are:

- Catchment Actions Program, previously the Riverkeeper Program
- River Health Monitoring Program
- Stormwater Program
- Research Program
- Education & Capacity Building Program

6.3.2 Groundwater

According to the groundwater map by the NSW Department of Primary Industries – Office of Water, there are two groundwater bores within 500m of the subject site. Available data for these bores is presented in Table 6-3.

Table 6-3: Available Data for Groundwater Bores within 500 m of the subject site.

Bore	Depth (m)	Standing Water Level (m)	Saline
GW114855.1.1	7	-	no
GW114854.1.1	7	-	no

Note: ' - ' indicates no data available

There is no evidence to suggest groundwater contamination exists due to past practises. The site currently has two underground tanks.

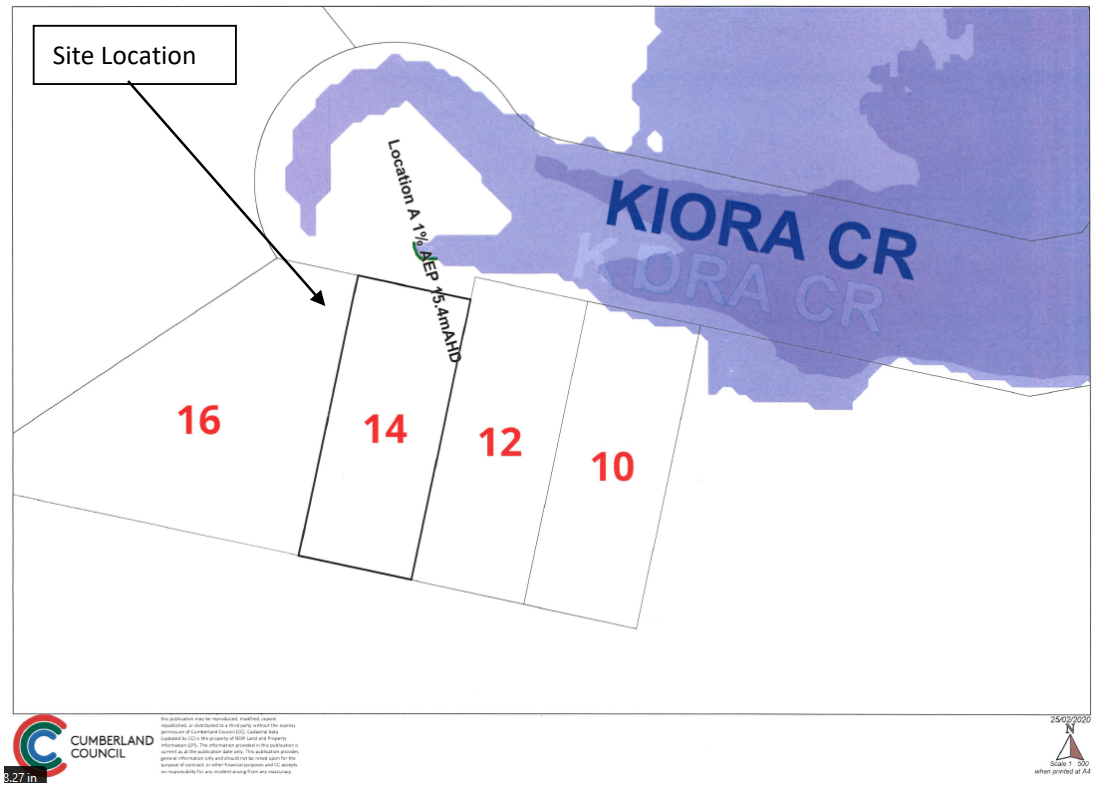
6.3.3 Flooding

Advice was received from Cumberland Council regarding the site's flood risk. A flood map is shown in Figure 6-5.

"[T]he property is not affected by the 1% Annual Exceedance Probability (AEP) flood. However, it is located within the floor level control area in which the floor levels of the new buildings are required to be set with sufficient freeboard above the adjacent flood level" (see Attachment 4).

As the proposal does not include the erection of a new building on the site, no further action is required.

Figure 6-5: Cumberland Council Issued Flood Map for Kiora Crescent



↑N Not to scale	LEGEND:		Benbow Environmental 25-27 Sherwood Street, Northmead NSW 2152

6.4 FLORA AND FAUNA

A targeted search was undertaken using data from the BioNet Atlas of NSW Wildlife website to identify any threatened species in the area surrounding the proposed development. The search criteria included all valid records, from the past five years, of entities threatened in NSW (listed under the *Threatened Species Conservation Act 1995*) and entities threatened nationally (listed under the *Environment Protection and Biodiversity Conservation Act 1999*) within a selected area. The proposed development is located in the middle of the selected area, a 10 km × 10 km extent with the following coordinates: North -33.82, West 150.92, East 151.02, South -33.92. The results from the search are listed in Table 6-4, and presented in their geographical context in Figure 6-6.

The targeted search shows that one threatened species has been sighted within close proximity to the subject site. The vulnerable, protected Grey-headed Flying Fox was sighted 220 m west of the site (Figure 6-6) and in numerous other locations, further away. The vulnerable Large Bent-winged Bat was sighted 1.34 km south west of the site. The vulnerable, protected Eastern Coastal Freetail-bat and the vulnerable, protected Southern Myotis were sighted 1 km west north west of the site in a riparian area adjacent to Prospect Creek. The vulnerable, protected koala was sighted 2.68 km south east of the site.

In the Holroyd LEP 2013 Maps the subject site is not identified as containing a critical habitat or biodiversity. The nearest area of biodiversity is 875 m north east of the site and is known as Remnant Native Vegetation. The closest Riparian Land is 610 m to the west of the site adjacent to Prospect Creek.

Table 6-4: List of threatened species in the selected area within the last 5 years

Kingdom	Class	Scientific Name	Common Name	NSW Status	Sightings
Animalia	Aves	*Hailiaeetus leucogaster*	White-bellied Sea-Eagle	Vulnerable Protected	1
Animalia	Aves	*Calyptorhynchus lathami*	Glossy Black-Cockatoo	Vulnerable Protected Sensitivity Class 2	1
Animalia	Aves	*Glossopsitta pusilla*	Little Lorikeet	Vulnerable Protected	5
Animalia	Aves	*Ninox strenua*	Powerful Owl	Vulnerable Protected Sensitivity Class 3	3
Animalia	Aves	*Artamus Cyanopterus cyanopterus*	Dusky Woodswallow	Vulnerable Protected	1
Animalia	Aves	*Petroica boodang*	Scarlet Robin	Vulnerable Protected	1
Animalia	Mammalia	*Phascolarctus cinereus*	Koala	Vulnerable Protected	1
Animalia	Mammalia	*Pteropus poliocephalus*	Grey-headed Flying Fox	Vulnerable Protected	241
Animalia	Mammalia	*Saccolaimus flaviventris*	Yellow-bellied Sheathtail-bat	Vulnerable Protected	1
Animalia	Mammalia	*Miniopterus australis*	Little Bent-winged Bat	Vulnerable Protected	1
Animalia	Mammalia	*Miniopterus orianae oceanensis*	Large Bent-winged Bat	Vulnerable	6
Animalia	Mammalia	*Mormopterus norfolkensis*	Eastern Coastal Freetail-bat	Vulnerable Protected	3
Animalia	Mammalia	*Myotis macropus*	Southern Myotis	Vulnerable Protected	5
Animalia	Gastropoda	*Meridolum corneovirens*	Cumberland Plain Land Snail	Endangered	5

Table 6-4: List of threatened species in the selected area within the last 5 years

Kingdom	Class	Scientific Name	Common Name	NSW Status	Sightings
Plantae	Flora	*Marsdenia viridflora subsp. viridflora*	Marsdenia viridflora subsp. Viridflora population in the Bankstown, Blacktown, Camden, Campbelltown, Fairfield, Holroyd, Liverpool and Penrith local government areas	Endangered Population	2
Plantae	Flora	*Hibbertia fumana*	-	Critically Endangered	1
Plantae	Flora	*Hibbertia sp. Bankstown*	-	Critically Endangered	214
Plantae	Flora	*Acacia pubescens*	Downy Wattle	Vulnerable	11
Plantae	Flora	*Pimelea spicata*	Spiked Rice-flower	Endangered	1

Note: Data taken from between January 2014 and September 2019.

Figure 6-6: Nearby Fauna Sightings

Source: BioNet Atlas of NSW Wildlife (2019)

↑N Not to scale	LEGEND: ▲ - Grey-headed Flying-fox ● - Koala ◆ - Eastern Coastal Free-tailed Bat ▼ - Southern Myotis ■ - Large Bent-winged Bat	Benbow Environmental 25-27 Sherwood Street, Northmead NSW 2152

6.5 NOISE AMENITY

The following sections describe the existing acoustical environment of the site and surrounding area, with specifics on the nearest sensitive receivers, noise monitoring results and relevant meteorological conditions. For more details refer to the Noise Impact Assessment, provided in Appendix 3.

6.5.1 Nearest Receptors

Table 2-1 identifies the nearest sensitive receptors that have the potential to be affected by the proposal. The aerial photographs of the sensitive receivers are shown in Figure 6-7. These receptors were selected based on their proximity and directional bearing from the subject site.

Table 6-5: Residential and Non-Residential Receivers

Receptor ID	Address	Lot & DP	Approx. Distance from Proposed Development	Type of Receptor
R1	2A Ellis Parade, Yennora	Lot 1 DP553522	330 m SSE	Residential
R2	45 Railway Street, Yennora	Lot 3 DP 574732	755 m ENE	Residential
R3	66 Byron Road, Guildford	Lot 2 DP 975284	965 m NE	Residential
R4	58 Tamplin Road, Guildford	Lot 7 DP 31391	920 m NNE	Residential
R5	45 Dennistoun Avenue, Guildford West	Lot 118 DP 10981	910 m N	Residential
R6	89 Dennistoun Avenue, Guildford West	Lot 50 DP 39199	1135 m NW	Residential
R7	28 Ace Avenue, Fairfield	Lot 30 DP 539236	830 m W	Residential
R8	17 Pine Road, Fairfield	Lot 39 DP 13605	645 m SW	Residential
R9	104 Railway Street, Yennora	Lot 5 DP 812983	425 m SSW	Residential
R10	Yennora Public School 1-9 Orchardleigh Street, Yennora	Lot 1 DP 447926	335 m SW	School/ Childcare Centre
R11	Mini Masterminds Guildford 16 Junction Street, Old Guildford	Lot 1 DP 509537	1070 m ENE	School/ Childcare Centre
R12	Fairfield High School 405 The Horsley Drive, Fairfield	Lot 1 DP 1063605	710 m W	School/ Childcare Centre
R13	Fairfield Road Park 241 Fairfield Road, Yennora	Lot 23 DP 610787	1020 m WNW	Active Recreation
R14	12 Kiora Crescent, Yennora	Lot 48 DP 18211	Adjacent E	Industrial
R15	27-49 Nelson Road, Yennora	Lot 1 DP 746982	Adjacent S	Industrial
R16	1 Norrie Street, Yennora	Lot 9 DP 1233715	130 m N	Industrial

Figure 6-7: Nearby Receptors

Legend: Site Receptor +

6.5.2 Existing Acoustic Environment

The level of background and ambient noise is assessed separately for the daytime, evening and night time assessment periods. The NSW EPA Noise Policy for Industry defines these periods as follows:

- **Day** is defined as 7.00am to 6.00pm, Monday to Saturday and 8.00am to 6.00pm Sundays and Public Holidays;
- **Evening** is defined as 6.00pm to 10.00pm, Monday to Sunday and Public Holidays; and
- **Night** is defined as 10.00pm to 7.00am, Monday to Saturday and 10.00pm to 8.00am Sundays and Public Holidays.

An attended noise measurement was conducted on the 24th of September 2019 at one (1) residential location.

6.5.2.1 Measured Noise Levels

6.5.2.1.1 Short Term Operator Attended Noise Monitoring Results

Attended noise monitoring was conducted on Tuesday the 24th of September 2019 in order to gain an understanding of the background noise sources of the area. Noise contributions were obtained from ambient noise sources such as local fauna, road traffic and industrial sources. The results of the short-term attended noise monitoring are displayed in Table 6-6.

The attended measurements showed that the background noise levels were dominated by road traffic and noise from trains passing by.

Table 6-6: Operator Attended Noise Measurements, dB(A)

Location & Date/Time	L_{Aeq}	L_{A90}	L_{A10}	L_{A1}	Comments
Location A 95 Railway Street, Yennora Tuesday 24/09/2019 11:50am Daytime Period	63	42	67	74	Truck Passing <79 dB(A) Car Passing <75 dB(A) Train <74 dB(A) Plane <58 dB(A) Residential Noise <57 dB(A) Birds <56 dB(A) Nearby work site <56 dB(A)

6.5.2.1.2 Long-Term Unattended Noise Monitoring Results

The data was analysed to determine a single assessment background level (ABL) for each day, evening and night time period, in accordance with the NSW EPA Noise Policy for Industry. That is, the ABL is established by determining the lowest tenth-percentile level of the L_{A90} noise data over each period of interest. The background noise level or rating background level (RBL) representing the day, evening and night assessment periods is based on the median of individual ABL's determined over the entire monitoring period. The results of the long-term unattended noise monitoring are displayed in Table 6-11.

Table 6-7: Unattended Noise Monitoring Results, dB(A)

Monitoring Location and associated receptors	Assessment Background Level ABL (L_{90})		
	Day	Evening	Night
Logger A	42	42	38

6.5.3 Meteorological Conditions

The full Noise Impact Assessment (Appendix 3) assessed whether wind and temperature inversions are considered to be a feature of the area with the following conclusions:

- Source-to receiver wind speeds of 3 m/s or below are present for less than 30% of the time therefore wind effects have not been included in the assessment.
- The analysis conducted on the 2018 weather data highlighted that during winter 32.4% of the nights presented temperature inversion conditions, therefore these effects have been included in the noise impact assessment.

The following conditions will be considered in this noise impact assessment considered:

- Neutral Weather Conditions
- Temperature Inversion

Details of the considered meteorological conditions have been displayed in Table 6-8.

Table 6-8: Meteorological Conditions Assessed in Noise Propagation Modelling

Classification	Ambient Temp.	Ambient Humidity	Wind Speed	Wind Direction (blowing from)	Temperature Inversion	Affected Receiver	Applicability
Neutral	10 °C	70%	0 m/s	-	No	All	All periods
Inversion	10 °C	70%	2 m/s	Source to receiver	3°C/100 m	All	Night period

6.6 Background Air Quality

Background air quality parameters from 2019 were obtained from the NSW EPA Chullora air quality monitoring station, located approximately 7.95 km south-east of the subject site within the grounds of the Southern Sydney TAFE. This station is considered to be site-representative. The relevant pollutant parameters available from this station were $PM_{2.5}$ and PM_{10}.

The relevant data is summarised in Table 6-9. Due to numerous exceedances of the NSW EPA criteria for $PM_{2.5}$ and PM_{10} (as per the *Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales* (2016)), only the three (3) highest concentrations per parameter are displayed, followed by the first concentration below the *Approved Methods* criteria.

Table 6-9: Summary of 2019 Data for $PM_{2.5}$ and PM_{10} from Chullora Air Quality Monitoring Station.

Pollutant	Averaging period	Concentration (µg/m^3)
$PM_{2.5}$	Maximum 24 hr average for 2019	**97.6**
	2nd highest 24 hr average for 2019	**75.8**
	3rd highest 24 hr average for 2019	**71.5**
	…	…
	19th highest 24 hr average for 2019	24.9
	Annual average for 2019	**11.7**
PM_{10}	Maximum 24 hr average for 2019	**140.4**
	2nd highest 24 hr average for 2019	**134.6**
	3rd highest 24 hr average for 2019	**119.8**
	…	…
	21st highest 24 hr average for 2019	48.4
	Annual average for 2019	24.6

Note: Bold values exceed the *Approved Methods* criteria.

Background odour for the site is not available.

6.7 CLIMATE

This section provides background information on the meteorological conditions of the existing area surrounding the proposed development. The referenced meteorological information for rainfall and temperature has been sourced from the Bureau of Meteorology (BoM) monitoring station at Bankstown Airport AWS, Station No. 066137. This station is located approximately 6.3 km south east of the subject site and is considered suitable for reference to general climate conditions in the local area.

6.7.1 Temperature

The mean annual minimum and maximum temperatures at Bankstown Airport AWS are 12.0°C and 23.3°C respectively. The lowest temperatures occur in July, with a mean maximum of 17.4°C and a mean minimum of 5.1°C. The hottest temperatures are recorded during January, with the highest maximum average of 28.5°C. This data is shown in Table 6-10.

Table 6-10: Temperature Statistics at Bankstown Airport AWS

Months / Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Mean Maximum Temperature (ºC)	28.5	27.9	26.4	23.8	20.6	17.8	17.4	19.0	21.7	23.9	25.4	27.5	23.3
Mean Minimum Temperature (ºC)	18.3	18.2	16.3	12.8	9.4	6.8	5.1	6.0	8.7	11.9	14.4	16.7	12.0

Source: Bureau of Meteorology, 2019
Note: Statistics are based on data collected from the Year 1968 to 2019

6.7.2 Rainfall

Rainfall data from Bankstown Airport AWS shows mean annual rainfall of 868 mm, which results in a monthly mean of 72.3 mm. February is the wettest month, where the mean rainfall reading is 101 mm, while the driest month is July with 42.7 mm mean rainfall. The annual mean number of rainy days (with rainfall above 1 mm) is calculated as 81.3 days. This data is shown in Table 6-11.

Table 6-11: Rainfall Statistics – Bankstown Airport AWS

Months / Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Mean Rainfall (mm)	91.9	101.0	100.5	83.0	63.5	80.3	42.7	49.2	43.9	60.9	76.4	68.5	868.0
Decile 5 (Median) Rainfall (mm)	74.6	75.0	78.6	57.5	51.4	57.2	29.6	24.6	34.8	40.0	72.8	56.6	885.8
Mean No. of Days of Rain ≥ 1 mm	8.0	7.9	8.5	6.6	6.5	6.8	5.2	4.5	5.4	6.7	8.0	7.2	81.3

Source: Bureau of Meteorology, 2019
Note: Statistics are based on data collected from the Year 1968 to 2019

6.7.3 Wind

Seasonal wind rose plots for this site utilising Bankstown Airport AWS 2018 data have been included as Figure 6-8.

Based on the information presented from the 2018 data for Bankstown Airport, annual average wind speeds of 3.22 m/s and a calms frequency of 16.35% were estimated. Annual winds from the south-east were found to be dominant and were present for approximately 13% of the time.

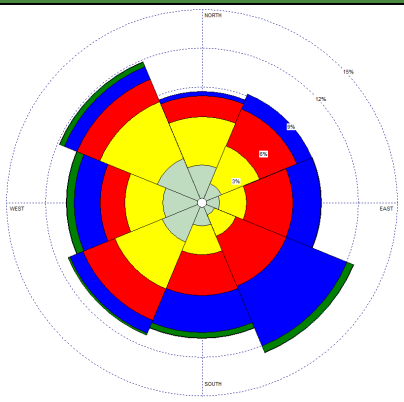
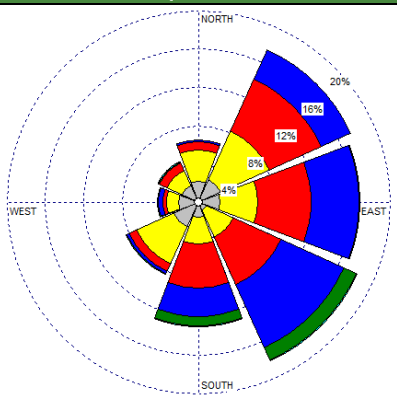
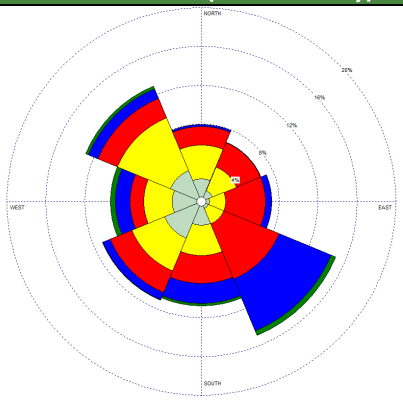
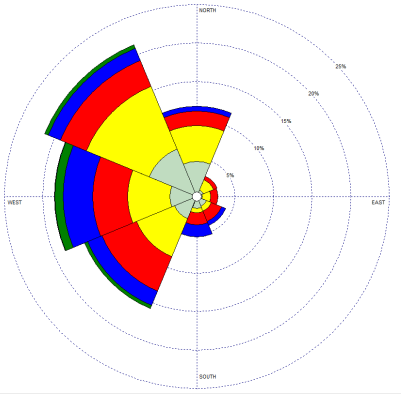
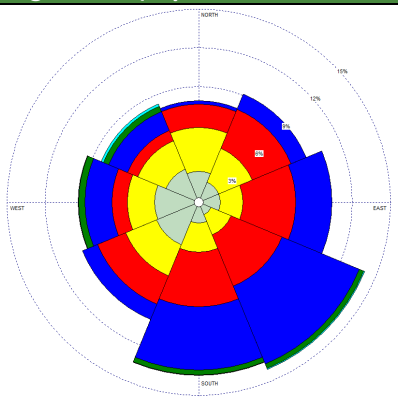
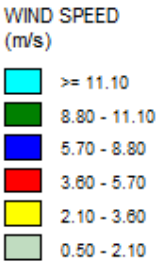
The average summer wind speed was estimated to be 3.68 m/s, with a calms frequency of 11.21%. North-easterly and south-easterly winds were found to be dominant both at a frequency of around 18%. Winds from the east were found to be present for approximately 16% of the time while the remainder of the wind directions have contributions of less than 13%.

In autumn, dominant winds were blowing from the south-east (14%) and north-west (13%). All other wind directions occurred at frequencies less than 11%. The average autumn wind speed was 3.00 m/s with a calms frequency of 18.88%.

The winter season data showed the prevalence of winds from the south-west, west and north-west at frequencies of 16%, 18% and 21% respectively. All other wind directions occurred at frequencies less than 12%. The average winter wind speed was determined to be 2.82 m/s with a calms frequency of 17.53%.

In the spring time, average wind speeds of 3.39 m/s with a frequency of calms of 17.68% were recorded. Dominant strong winds were found to be present from the south east (14%) and south (13%). The rest of the wind directions were found to be present at frequencies less than 11%.

Figure 6-8: Wind Rose Plots for the Referenced Meteorological Station – Bureau of Meteorology Bankstown Airport AWS (2018)

All Seasons	Summer Season (December – February)
	
Average Wind Speed: 3.22 m/s Calms Frequency: 16.35% Axis Frequencies: 3%, 6%, 9%, 12%, 15%	Average Wind Speed: 3.68 m/s Calms Frequency: 11.21% Axis Frequencies: 4%, 8%, 12%, 16%, 20%
Autumn Season (March – May)	**Winter Season (June – August)**
	
Average Wind Speed: 3.00 m/s Calms Frequency: 18.88% Axis Frequencies: 4%, 8%, 12%, 16%, 20%	Average Wind Speed: 2.82 m/s Calms Frequency: 17.53% Axis Frequencies: 5%, 10%, 15%, 20%, 25%
Spring Season (September – November)	**Legend**
	
Average Wind Speed: 3.39 m/s Calms Frequency: 17.68 % Axis Frequencies: 3%, 6%, 9%, 12%, 15%	

7. IDENTIFICATION AND PRIORITISATION OF ISSUES

The identification and prioritisation of the potential environmental impacts of the proposed development were fundamental steps in preparing the EIS.

This process involved the following stages:

1. Review of the proposal and existing site operations

Initial meetings with the proponent were undertaken to discuss the details of the proposal. This established the nature of the proposal. An inspection of the site and surrounding areas was undertaken which lead to identification of potential sensitive receptors.

2. Identification of planning requirements

Review of planning instruments that apply to the land was undertaken to determine any planning constraints and zoning rules affecting the property.

3. Guidelines and reference material

Past reports for the existing site and relevant NSW government/industry guidelines were reviewed.

4. Preparation of Scoping Report

Experience with similar projects and a previous Scoping Report assisted in development of a Scoping Report that outlined the proposal and potential environmental impacts.

5. Consultation with regulatory authorities & stakeholders

Secretary's Environmental Assessment Requirements for the EIS from the DPIE were obtained. This included feedback from NSW EPA, EES, TfNSW, FR NSW and Cumberland Council.

These steps led to the design and objectives of the Proposal.

7.1 SUMMARY OF POTENTIAL ISSUES

The statutory requirements and Benbow's experience in conjunction with the government consultation process enabled the identification of the potential issues associated with the proposal. These are listed below in alphabetical order:

- Air quality;
- Chemical management;
- Cumulative impacts;
- Fire and incident management;
- Flooding;
- Flora and Fauna/Biodiversity;
- Hazards and risk;
- Heritage;

- Human health and safety;
- Noise and vibration;
- Soil and land;
- Strategic context;
- Traffic and transport;
- Visual amenity;
- Waste management; and
- Water.

SEARs (document reference 10407) were issued on 04/06/2020 by the DPIE (refer to Attachment 1) and provides general requirements for the EIS as well as key issues to assess. The DP&E stated that the EIS must include an assessment of all potential impacts of the proposed development on the existing environment (including cumulative impacts if necessary) and develop appropriate measures to avoid, minimise, mitigate and/or manage these potential impacts. As part of the EIS assessment, the following key issues must be addressed:

- Statutory and strategic context;
- Suitability of the site;
- Community and stakeholder engagement;
- Waste Management;
- Air quality and odour;
- Traffic and transport;
- Soil and water;
- Noise and vibration;
- Urban design and visual;
- Fire and incident management;
- Hazards and risk;
- Human health;
- Greenhouse gas and energy efficiency;
- Cultural Heritage and Aboriginal Cultural Heritage;
- Biodiversity; and
- Contamination

EPA's key information requirements for the proposal include an adequate assessment of:

- Air quality management;
- Soil and water management including sediment controls;
- Noise management;
- Waste Management;
- Appropriate classification, storage and handling of waste materials generated at the premises;
- Incident risks and contingency practices; and
- Community liaison

TfNSW require the following issues to be included in the transport and traffic impact assessment of the proposed development:

- Daily and peak traffic movements likely to be generated by the proposed redevelopment;
- All affected intersections should be examined;
- Details of the proposed accesses and parking;

- Proposed number of car parking spaces;
- Ascertain the cumulative study area traffic impacts associated with the redevelopment; and
- Assess the implications of the proposed development for non-car travel modes.

Fire and Rescue recommend the following to be in the report:

- Preliminary screening of the proposed development undertaken in accordance with SEPP 33;
- Further details provided in regards to the liquid waste stored and processed;
- An assessment of current fire and life safety measures afforded to the site and that are required by the relevant provisions of the National Construction Code (NCC); and
- Further consideration to the requirement for the storage of contaminated fire water.

EES provide the following recommendations for the SEARs:

- Aboriginal Cultural Heritage requirements;
- Biodiversity requirements;
- Flooding requirements; and
- Water and soil requirements.

Based on all the above considerations, potential issues have been prioritised as follows:

- Noise and vibration
  A noise impact assessment is required due to the 24/7 operation, the noise generating sources proposed and proximity to sensitive receptors.

- Air quality and odour
  An air quality assessment is required due to the odour generated from the process. Therefore, a quantitative assessment has been undertaken. Also included is a greenhouse gas assessment.

- Traffic and transport
  A full traffic assessment has been undertaken due to the potential for traffic increases to impact on the existing road network. The site layout and design of combined sites with regard to the surrounding road, pedestrian and cycling network has been considered.

- Strategic Context
  A detailed justification for the proposal and suitability of the site was undertaken. The proposal also needed to be assessed against all relevant planning strategies, environmental planning instruments and development control plans.

- Flora and Fauna
  Preliminary findings determined that land does not include or comprise critical habitat, nor is it in the immediate vicinity of any threatened species. Therefore a BDAR waiver was obtained and a brief discussion is provided.

- Hazards and Risks (including Chemical Management and Fire)
  No significant quantities of hazardous chemicals are to be used in the process. Chemical management has been assessed. Quantities of chemicals are relatively minor and do not trigger SEPP 33, therefore a preliminary hazard analysis is not required.

Fire is a potential environmental issue as the site and therefore a fire risk assessment has been undertaken.

- Water
  The proposed operations require some water use and will generate wastewater requiring a management system. The site processes liquid waste. Surface and groundwater impacts are minimised largely through the entire process being contained within an enclosed building on a concrete hardstand surface that is fully bunded. A qualitative water assessment has been undertaken.

- Waste management
  The proposed operations would generate similar waste types as the existing process however on a larger scale. Therefore, the management of waste has been addressed in detail.

- Soil
  No excavations and no disturbance to soil is proposed therefore a qualitative soil assessment has been undertaken.

- Flooding
  The site is not subject to flood related development controls. Flooding has been briefly addressed. A full flood assessment is not considered warranted.

- Visual amenity
  Minimal changes to the visual appearance of the site are proposed. Visual amenity has been briefly discussed.

- Heritage
  The site does not contain any heritage items. However, Aboriginal and Cultural Heritage Assessment has been undertaken.

- Cumulative Impacts
  Due to the size and nature of the proposed development, controlling for direct environmental impacts would minimise any cumulative impacts from the proposed development. Cumulative impacts are briefly discussed.

- Human Health and Safety
  Preliminary investigations into the potential impacts to human health resulting from liquid waste recycling facilities are either negligible or appropriately mitigated therefore a detailed assessment is not warranted. A brief discussion is provided that addresses requirements in the SEARs.

8. ENVIRONMENTAL IMPACTS AND SAFEGUARDS

8.1 AIR QUALITY

Odour was identified as the primary source for potentially impacting air quality. A full quantitative Odour Impact Assessment has been undertaken for the proposed development. A copy of the OIA is provided as Appendix 2.

Additionally, chemical compounds (e.g. volatile organic compounds (VOCs), vapours, noxious fumes) and dust or particulate matter were considered as having the potential to impact air quality. However, as outlined in the OIA, the chemical compound and dust/particulate emission levels were considered negligible or deemed absent from the proposed development, and therefore required no further assessment.

8.1.1 Sources of Odour

The majority of sources of odour will be generated within the building located at 14 Kiora Crescent. This building will receive liquid wastes including residues from industrial waste treatment/disposal operations, surfactants, waste oil/hydrocarbon mixtures/emulsions in water, among other liquid waste materials.

Minor odours may be generated from the out-of-date liquid product destruction within the building at 16 Kiora Crescent. These are considered negligible and are not offensive in nature (e.g. smell of orange juice) and do not warrant further assessment.

8.1.2 Odour Criteria

Odour emissions were modelled for the operation of the proposed liquids waste recycling facility in accordance with the "*Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales*" (EPA 2016).

The *Approved Methods* provides guidance on methodology and thresholds that are to be used for the air impact assessment of a proposed development. The odour impact assessment has been conducted in accordance with these guidelines, summarised Table 8-1.

Table 8-1: Relevant odour impact assessment criteria from the Approved Methods for Modelling and Assessment of Air Pollutants in New South Wales (2016)

Size of Affected Community	Odour Performance Criteria (Odour Units) (to be complied with for 99.0% of the time)
Urban (Population ≥ ≈ 2000)	2.0 OU/m^3
Population ≈ 500	3.0 OU/m^3
Population ≈ 125	4.0 OU/m^3
Population ≈ 30	5.0 OU/m^3
Population ≈ 10	6.0 OU/m^3
Single residence (≤ ≈ 2)	7.0 OU/m^3

The Approved Methods provides the following formula to determine the appropriate impact assessment criteria for complex mixtures of odorous air pollutants:

Impact Assessment Criteria (OU) = [log_{10} (population)-4.5]/-0.6

The affected community is based on the population within the 2 OU contour. This means the criteria varies dependant on the modelling results and the average household size in the Cumberland LGA is 3.2 people according to the 2016 Census (ABS, 2018 (Statistics, 2016)).

8.1.3 Odour Control Measures

The waste liquid brought on site is pumped directly from the vacuum tankers into tanks therefore minimising release of odorous emissions during the unloading process. Unloading is undertaken within a bunded area thus minimising the spread of potentially odorous oils should a spill occur.

Similarly the untreated liquids are securely stored in tanks in the bunded area limiting the movement of odorous liquids if a leak was to occur. All tanks are almost fully enclosed with only small diameter breathing vents which vent to the biotrickling filter system and then are dispersed through a stack.

The facility used the following mitigation measures:

- Biotrickling filter system;
- Vertical dispersion stack, 6 m above roofline;
- Indoor operations; and
- Deodoriser.

8.1.3.1 Biotrickling filter system

All displaced air from tank filling is vented through an existing biotrickling filter (supplied by Gebel Tanks). The biotrickling filter system uses a packed bed consisting of porous material that bacteria affix to and create a biomass film, this film degrades pollutants that are transferred to the packed bed as the air/gas is transported through the material.

The odour impact assessment assumes maximum designed flow rate of the biotrickling filter for 100% of the proposed operating time which is within the capabilities of the filtration system. Existing processing quantities do not operate at max flow rate constantly or for 100% of the time. This is considered to accurately represent worst case scenario regardless of quantities.

The maximum flow rate through the system is not expected to increase and therefore the biotrickling filter system is considered adequate for the proposed increased quantities.

The biotrickling filter system is currently maintained, and will continue to be maintained, by the proponent. This is undertaken on a monthly basis and includes system checks and replacement of filters.

8.1.3.2 Stack

From the biotrickling system the site discharges the filtered air vertically through a stack 6m above the roofline.

8.1.3.3 Building

All liquid waste handling occurs within the building, reducing odour impacts from fugitive emissions.

8.1.3.4 Deodoriser

There are 5 existing deodoriser spray points in the facility. Two are positioned at the top of the front roller door and spray inwards, two more in on the back wall of the facility pointed towards the filtering/screening process, and one positioned directly above the DAF plant.

The deodoriser system sprays every 15 minutes. No additional changes are considered required due to the increased quantities as the deodoriser concentration in the air at any one time using this spraying frequency is considered optimum.

8.1.4 Dispersion Model and Emission Data

The air dispersion model AERMOD was used for the prediction of odour impacts associated with the air emissions from the proposed operations.

The OIA utilises emission data derived from odour sampling undertaken on the 8th December 2016 at a similar facility. Two odour samples were taken from a vat of unfiltered waste cooking oil. Odour samples were analysed in accordance with AS/NZS4323.3:2001 by Odour Research Laboratories Australia a NATA accredited laboratory.

Two sources were included in the dispersion model. Emissions from the biotrickling filter system were included as a point source, and emissions from the DAF and filter were cumulatively modelled as a building source with a reduction factor of 0.1 to account for the enclosed space.

8.1.5 Predicted Impacts

The results of the OIA are as follows:

The predicted 99th percentile ground level impacts were modelled and compared against the odour concentration criterion of 7 OU/m^3 (for residences ≤ ≈ 2) as per the methods described in Table 8-1.

The predicted impacts were significantly below the limit of 7OU, with the highest impact of 0.424 OU at industrial receptor 12 Kiora Crescent, Yennora. All sensitive receptors considered in the assessment, including residents and childcare centres, were below 0.042 OU. As such odour emitted from the site would result in very minor ground level concentrations and is not anticipated to cause nuisance or offence to persons within the vicinity of the site.

Given the above predicted results, no further odour controls are considered necessary to be implemented at the site.

8.1.6 Greenhouse Gas (GHG)

The following standards, sources and guidelines have been used as part of this greenhouse gas (GHG) assessment:

- Australian Standard AS ISO 14064.1: 2018– "Greenhouse gases" – "Part 1: Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals";
- Department of Climate Change and Energy Efficiency, August 2019. *Australian National Greenhouse Accounts – National Greenhouse Accounts Factors*;
- Department of Climate Change and Energy Efficiency, October 2017. *National Greenhouse and Energy Reporting System Measurement – Technical Guidelines*;
- Greenhouse Gas Protocol, revised edition 2015. *Corporate Accounting and Reporting Standard*.
- National Greenhouse and Energy Reporting (NGER) Act, 2007
- Department of Climate Change and Energy Efficiency, 2019. *Australian National Greenhouse Accounts, Quarterly Update of Australia's National Greenhouse Gas Inventory, September Quarter 2019*; and

8.1.6.1 Direct and Indirect Emissions

Emissions are commonly classified as direct or indirect emissions, which are defined by the GHG Protocol as:

- Direct GHG emissions are emissions from sources within the boundary of an organisation and as a result of that organisations activities; and
- Indirect GHG emissions are emissions generated in the wider economy that are a consequence of the activities of the organisation, but occur at sources owned or controlled by another entity.

Direct and indirect emissions are further categorised into three broad scopes:

- Scope 1: All direct GHG emissions;
- Scope 2: Indirect emissions from consumption of purchased electricity; and
- Scope 3: Other indirect emissions, such as the extraction and production of purchased materials and fuels, transport-related activities in vehicles not owned or controlled by the reporting entity, electricity-related activities not covered in Scope 2, outsourced activities, etc.

8.1.6.1.1 Direct Emissions

Direct greenhouse gas emissions from the proposed development would be generated from the consumption of diesel from the use of company owned trucks. This would contribute to Scope 1 emissions.

8.1.6.1.2 Indirect Emissions

Indirect emissions can be Scope 2 or Scope 3 emissions generated by the proposed development. These include:

- Consumption of generated electricity (Scope 2); and
- Other indirect emissions are considered minimal and are not assessed (Scope 3).

8.1.6.1.3 Scope 1 GHG Emissions

Scope 1 greenhouse gas emissions are produced as a result of gas consumption within the generator.

The National Greenhouse Accounts (NGA) Factors, August 2019 was used to estimate the Scope 1 GHG emissions. The following formula for fuel combustion emissions of gaseous fuels was adopted:

$$E = \frac{Q \times EF}{1{,}000}$$

Where:
E is the amount of estimated greenhouse gas in tonnes CO_2-e
Q is the annual consumption quantity of natural gas in GJ
EF is the greenhouse gas emission factor specific to fuel type in kg CO_2-e/GJ

Calculation of these emissions is estimated based on the assumptions that up to 500,000L of Diesel will be used per annum. The NGA 2019 factors Diesel Oil as 38.6 GJ/KL. Therefore the Diesel consumption 19,300 GJ/Year. Table 8-2 details the annual Scope 1 GHG emissions for Scenario 1.

Table 8-2: Estimated Scope 1 (Direct) Greenhouse Gas Emissions

Activity	Annual Consumption (GJ/year)	Emission Factor (kg $CO_{2\text{-}e}$/GJ)			Annual GHG Emissions (tonnes $CO_{2\text{-}e}$)
		CO_2	CH_4	N_2O	
Consumption of Diesel	19,300	69.9	0.1	0.2	1,400*
Total Annual Scope 1 GHG Emissions					1,400*

Note: * Results for GHG emissions are in 2 significant figures

8.1.6.1.4 Scope 2 GHG Emissions

Scope 2 GHG emissions are associated with the consumption of purchased electricity due to the use of equipment onsite.

Electricity Consumption emission factor used is 0.81 kg CO_2/kWh DEE (2019).

An estimated 200,000 kwh of electricity will be consumed per year for the proposed development.

Table 8-3: Estimated Scope 2 (Indirect) Greenhouse Gas Emissions

Activity	Annual Consumption (kWh)	Emission Factor (kg CO2/kWh)	Annual GHG Emissions (tonnes CO_{2-e})
Consumption of Electricity	200,000	0.81	160*
		Total Annual Scope 2 GHG Emissions	160*

Note: * Results for GHG emissions are in 2 significant figures

8.1.6.1.5 Scope 3 GHG Emissions

Scope 3 emissions encompass a wide range of potential sources which are expected to be negligible for the proposed development. Therefore scope 3 is not assessed any further.

8.1.6.2 Summary of GHG Emissions

A summary of the above-calculated GHG emissions is shown in Table 8-4.

Table 8-4: GHG Emission Summary

Emission Type	Annual GHG Emissions (tonnes CO_{2-e})
	Scenario 1
Scope 1 – Diesel Consumption due to Vehicles	1400*
Scope 2 – Electricity consumption	160*
Scope 3 – Natural gas scope 3 emissions	Not Included
Total (Scope 1 + 2 + 3)	**1600***

Note: *Results are in 2 significant figures

The total amount of greenhouse gas emissions from the proposed development is approximately 1,600 tonnes CO_2-e per annum. This quantity is well below the reporting thresholds under the National Greenhouse and Energy Reporting Act 2007 (NGER Act).

Australia's total emissions for the year to September 2019 which are estimated to be 530.8 Mt CO_2-e. In comparison, the estimated annual greenhouse emission for the Project is 0.0016 Mt CO_2-e. Therefore, the annual contribution of greenhouse emissions from the project in comparison to the Australian greenhouse emissions in 2019 is approximately 0.0003%.

8.1.6.3 Measures to Reduce Greenhouse Emissions

Opportunities to reduce greenhouse gas emissions need to be considered as an ongoing objective within the site's Environmental Management Plan.

8.2 NOISE

A Noise Impact Assessment has been undertaken for the proposed development. A full copy is provided as Appendix 3. Section 6-12 details the nearest sensitive receivers and the existing acoustic environment.

8.2.1 Operational Noise Impact Assessment

8.2.1.1 Project Noise Trigger Levels

The project noise trigger levels for the site have been established in accordance with the principles and methodologies of the NSW Noise Policy for Industry (EPA, 2017).

The table below presents the rating background level, project intrusive noise level, recommended amenity noise level, and project amenity noise level. The project noise trigger level is the lowest value of intrusiveness or project amenity noise level after conversion to $L_{Aeq\ 15\ minute}$, dB(A) equivalent level. Sleep disturbance trigger levels associated with operational activities are presented in Table 8-5 below.

Table 8-5: Project Noise Trigger Levels (PNTL) for Operational Activities, dB(A)

Receiver	Type of Receptor	Time of day	Rating background noise level	Project intrusiveness noise level ($L_{eq(15\ minute)}$)	Recommended amenity noise level $L_{Aeq\ period}$	Project amenity noise level $L_{Aeq\ 15\ minute}$[1]	PNTL $L_{Aeq\ 15\ minute}$	Sleep Disturbance L_{Amax}
R1-R9	Residential - Suburban	Day	42	**47**	55	53	**47**	-
		Evening	42	47	45	**43**	**43**	-
		Night	38	43	40	**38**	**38**	**52**
R10-R12	School Classroom (Childcare Centre)	Noisiest 1-hour period when in use	-	-	$L_{Aeq\ 1hr}$ = 50 (external)	50[2]	**50**	-
R13	Active Recreation	When in use	-	-	55	53	**53**	-
R14-R17	Industrial	When in use	-	-	70	68	**68**	-

Notes:

1) These levels have been converted to $\mathbf{L_{Aeq\ 15\ minute}}$ using the following: $\mathbf{L_{Aeq\ 15\ minute} = L_{Aeq\ period} + 3\ dB}$ (NSW Noise Policy for Industry Section 2.2).
2) This value has been conservatively assumed that $L_{Aeq\ 15\ minute}$ is equivalent to $L_{Aeq\ 1hr}$.

8.2.1.2 Predicted Impacts

Noise propagation modelling was carried out using Sound PLAN v7.3. Two operational scenarios were considered in the noise model. The first scenario considered a situation in which all equipment were running for 100% of the time over the 15 minute assessment period, with two vehicle movements being considered within a 15 minute period. The second scenario considers a full operational scenario but with temperature inversion weather conditions. It is understood that the air compressor generally does not run for a full 15 minute period, therefore both scenarios present a conservative analysis and are considered worst case. Results of the predictive noise modelling of the operational scenarios are shown in Table 8-7.

The following table shows the noise sources and modelled scenarios:

Table 8-6: Modelled Scenarios for Proposed Operations

Stage	Time of the day	Noise Sources for Worst 15-minute Period
Scenario 1. All operations Neutral Weather Conditions	24/7	**14 Kiora Crescent** Indoor Noise Sources • Pump • Air compressor • Truck Engine • Truck Exhaust Outdoor Noise sources • Truck Engine • Truck Exhaust • LPG Forklift **16 Kiora Crescent** Indoor Noise Sources • Conveyor • Shredder • Material Handling Outdoor Noise sources • Truck Engine • Truck Exhaust • LPG Forklift
Scenario 2. All operations Temperature Inversions	24/7	**14 Kiora Crescent** Indoor Noise Sources • Pump • Air compressor • Truck Engine • Truck Exhaust Outdoor Noise sources • Truck Engine • Truck Exhaust • LPG Forklift **16 Kiora Crescent** Indoor Noise Sources • Conveyor • Shredder • Material Handling Outdoor Noise sources • Truck Engine • Truck Exhaust • LPG Forklift

During the day, evening and night periods the operational noise levels are predicted to comply with the Noise Policy for Industry at all receivers for both scenarios. During standard operations, sleep disturbance is not expected to occur at any residential receiver.

It is therefore concluded that the proposed site activities will not have a detrimental impact on surrounding receivers. Proactive noise control measures are recommended.

Table 8-7: Predicted Noise Levels – Operational Activities dB(A)

Receptor	Project Criteria $L_{eq(15\ minute)}$			Project Criteria	Scenario 1		Scenario 2	
	Day	Evening	Night	L_{Amax}	Predicted $L_{Aeq(15\ minute)}$	Predicted L_{Amax}	Predicted $L_{Aeq(15\ minute)}$	Predicted L_{Amax}
R1	47	43	38	52	22 ✓	32 ✓	26 ✓	37 ✓
R2	47	43	38	52	29 ✓	38 ✓	34 ✓	43 ✓
R3	47	43	38	52	26 ✓	38 ✓	32 ✓	44 ✓
R4	47	43	38	52	29 ✓	39 ✓	35 ✓	45 ✓
R5	47	43	38	52	30 ✓	40 ✓	35 ✓	46 ✓
R6	47	43	38	52	26 ✓	36 ✓	31 ✓	43 ✓
R7	47	43	38	52	24 ✓	37 ✓	29 ✓	43 ✓
R8	47	43	38	52	16 ✓	19 ✓	21 ✓	25 ✓
R9	47	43	38	52	19 ✓	29 ✓	24 ✓	34 ✓
R10	50			NA	22 ✓	NA	26 ✓	NA
R11	50			NA	22 ✓	NA	29 ✓	NA
R12	50			NA	26 ✓	NA	31 ✓	NA
R13	53			NA	21 ✓	NA	27 ✓	NA
R14	68			NA	62 ✓	NA	63 ✓	NA
R15	68			NA	42 ✓	NA	43 ✓	NA
R16	68			NA	52 ✓	NA	54 ✓	NA

✓Complies × Non-compliance

8.2.1.3 Noise Control Measures

As mentioned in Section 8.2.1.2, operational noise levels are predicted to comply with the project criteria at all receivers.

Whilst further noise controls are not predicted to be required to meet the operational noise criteria, the following management practices are recommended as good practice:

- Prohibition of extended periods of on-site revving/idling;
- Keeping the roller shutter door closed where possible;
- Minimisation of the use of truck exhaust brakes on site;
- Enforcement of low on-site speed limits; and
- On-site vehicles and machinery to be maintained in accordance with a preventative maintenance program to ensure optimum performance and early detection of wearing or noisy components.

8.2.2 Road Traffic Noise Impact Assessment

8.2.2.1 Noise Assessment Criteria

Vehicles are proposed to access the site from Kiora Crescent. There are no residents located along Kiora Crescent. The closest residents are located adjacent to Military Road a 'sub-arterial road' and Pine Road, Fairfield Road and Polding Street North, 'local roads'.

Section 2.3 of the RNP outlines the criteria for assessing road traffic noise. The relevant sections of Table 3 of the RNP are shown in Table 8-8.

Table 8-8: Road Traffic Noise Assessment Criteria For Residential Land Uses, dB(A)

Road Category	Type of Project/Land Use	Assessment Criteria, dB(A)*	
		Day (7am-10pm)	Night (10pm-7am)
Sub-arterial roads	3. Existing residences affected by additional traffic on existing arterial roads generated by land use developments	$L_{Aeq\ (15\ hour)}$ 60 dB (external)	$L_{Aeq\ (9\ hour)}$ 55 dB (external)
Local roads	6. Existing residences affected by additional traffic on existing local roads generated by land use developments	$L_{Aeq\ (1\ hour)}$ 55 dB (external)	$L_{Aeq\ (1\ hour)}$ 50 dB (external)

* measured at 1 m from a building façade.

8.2.2.2 Relative Increase Criteria

In addition to the assessment criteria outlined above, any increase in the total traffic noise level at a location due to a proposed project or traffic-generating development, must be considered.

Residences experiencing increases in total traffic noise levels above the relative criteria should also be considered for mitigation as described in Section 3.4 of the RNP. For road projects where the main subject road is a local road, the relative increase criterion does not apply.

Table 6 of the RNP outlines the relative increase criteria for residential land uses, with the details applicable to this project shown in Table 8-9.

Table 8-9: Relative Increase Criteria For Residential Land Uses, dB(A)

Road Category	Type of Project/Land Use	Total Traffic Noise Level Increase, dB(A)	
		Day (7am-10pm)	Night (10pm-7am)
Arterial road	Land use development with potential to generate additional traffic on existing road	Existing traffic $L_{Aeq\ (15\ hour)}$ + 12 dB (external)	Existing traffic $L_{Aeq\ (9\ hour)}$ + 12 dB (external)

The assessment criteria provided in Table 8-8 and the relative increase criteria provided in Table 8-9 should both be considered when designing project specific noise levels. When existing traffic levels are below the criteria in Table 8-8, the lower of the relative increase criteria and the assessment criteria in Table 8-9 should be adopted. For example, if the assessment criteria is 60 dB(A) and the relative increase criteria is 42 dB(A), then a project specific noise level of 42 dB(A) should be adopted. Similarly, if the assessment criteria is 60 dB(A) and the relative increase criteria is 65 dB(A), a project specific noise level of 60 dB(A) should be adopted.

8.2.2.3 Road Noise Impacts

The $L_{Aeq,\ 15\ hour}$ and $L_{Aeq,\ 9\ hour}$ noise descriptors have been calculated at the most affected residential receptor located along the closest sub-arterial road and the $L_{Aeq,\ 1\ hour}$ noise descriptor has been used for the closest residential receptors along local roads. The predicted noise levels are displayed in Table 8-10.

Table 8-10: Predicted Levels for Road Traffic Noise

Receptor	Local Roads Noise Criteria		Site Contribution	
	Day	Night	Day	Night
163 Military Road, Guildford	60 $L_{Aeq,\ 15\ hour}$	55 $L_{Aeq,\ 9\ hour}$	50 $L_{Aeq,\ 15\ hour}$ ✓	46 $L_{Aeq,\ 9\ hour}$ ✓
R8, 17 Pine Road, Fairfield	55 $L_{Aeq,\ 1\ hour}$	50 $L_{Aeq,\ 1\ hour}$	52 $L_{Aeq,\ 1\ hour}$ ✓	49 $L_{Aeq,\ 1\ hour}$ ✓
134 Fairfield Road, Guildford West	55 $L_{Aeq,\ 1\ hour}$	50 $L_{Aeq,\ 1\ hour}$	51 $L_{Aeq,\ 1\ hour}$ ✓	48 $L_{Aeq,\ 1\ hour}$ ✓
4 Polding Street North, Fairfield	55 $L_{Aeq,\ 1\ hour}$	50 $L_{Aeq,\ 1\ hour}$	50 $L_{Aeq,\ 1\ hour}$ ✓	47 $L_{Aeq,\ 1\ hour}$ ✓

✓Complies × Non-compliance

The proposed vehicle movements comply with the NSW Road Noise Policy, and no additional mitigation strategies are recommended. For further details regarding the road traffic noise assessment refer to the Noise Impact Assessment (Appendix 3).

8.2.3 Statement of Potential Noise Impacts

A noise impact assessment was undertaken to assess the potential noise emissions from the proposed increase of processing capacity from 900 tonnes to 110,000 tonnes of liquid waste at the processing facility at 14-16 Kiora Crescent, Yennora.

The noise impact assessment was undertaken in accordance with the following guidelines:

- NSW Environment Protection Authority, Noise Policy for Industry 2017; and
- Department of Environment, Climate Change and Water NSW, Road Noise Policy (DECCW, 2011).

The nearest receivers and noise criteria were identified. The site operations were modelled using the predictive noise software, Sound Plan V7.3.

The activities proposed by the proponent were found to comply with the framework of the NSW EPA Noise Policy for Industry.

The noise generating scenario is predicted to comply with the project specific noise levels at all receivers.

Compliance with the guidelines set out in the NSW Road Noise Policy was predicted at all considered receptors.

No construction will take place therefore construction noise and vibration impacts are not expected.

8.3 SOIL AND WATER

A Soil and Water Assessment has been undertaken for the proposed development (Appendix 4).

The site is an established industrial developed and soil and water infrastructure is already in place. This is considered adequate for the proposed development. There are no earthworks proposed for the development and no disturbance to soil will result.

Surface and storm waters currently run off the roof into a downpipe and onto the hardstand at the front of the property. This then feeds into a stormwater gutter at the property line and runs to a stormwater drain approximately 50 m east. The entrance to the operational area is on a slight incline, allowing roof and hardstand water runoff to flow to the stormwater gutter at the front of the property. If any stormwater enters the operational area of the site, it is collected in the sump pit and treated before release to the tradewaste system.

The site has not been listed on the EPA contaminated Land Registry, nor are any of the neighbouring premises. The closest contaminated site is approx. 600 m southwest of the site at 19 Pine Road, Yennora. The site and surrounding area is not subject to acid sulfate soil risk.

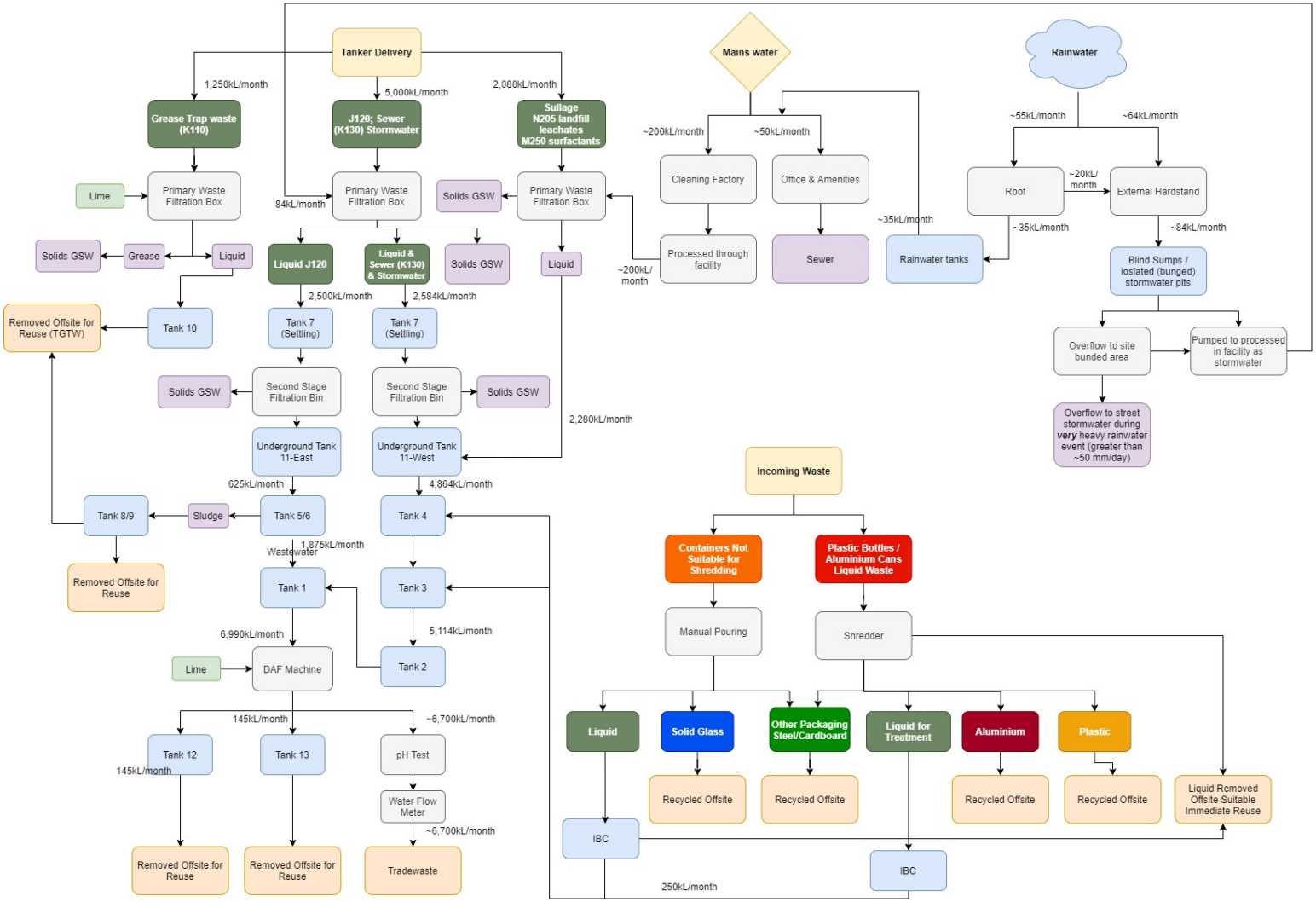
The subject site is situated within "Moderate Salinity Potential" zoned land. All proposed operations will take place within the existing building. The proposed increase in waste liquid capacity will not contribute to any increase in soil salinity as there is no pathway (exposed soil) onsite, since the site is fully covered by concrete hardstand.

Flood maps obtained from Cumberland Council show the site is not subject to any of the following: a high hazard flood area, a flood control lot, a flood storage, a floodway area, a flood flow path, or a high-risk flood area. Survey of the site shows that the site is at 15.4 mAHD and advice from Cumberland council states that the site is not affected by the 1% Annual Exceedance Probability (AEP) flood. As the proposal does not include the erection of a new building on the site, no further investigation or action is required.

8.3.1 Site water balance

The water usage from the site is based off water utility bills of the current operations. The rainwater is based on the surface areas of the site and the mean rainfall from BOM Bankstown AWS climate statistics data.

Figure 8-1: Flow Chart Depicting the Site Water Balance – Proposed Development



8.3.2 Water Use & Supply

Water for activities is currently obtained from mains supply.

Water is used on site predominantly in the wastewater filter systems to flush out contaminants in storage tanks. It is also used to wash external surfaces of vehicles, filters and storage containers in the operational area. Excess water from these activities is collected in blind sump pits within the building which are pumped out and treated onsite before release to tradewaste.

The proposal includes the installation of slim-line water tanks to store rainwater captured from the roofs. Rainwater captured in these tanks would be used for general onsite activities including office and amenities and for washing down purposes within the facility.

8.3.3 Potential Pollutants

The facility accepts liquid waste for processing. The potential exists for contamination to be released onsite through spills or leaks from operational activities such as, filtering, transfer or storage procedures. Potential pollutants include:

- Heavy metals (iron, copper, zinc, lead, nickel, chromium);
- Inorganic compounds (ammonium, nitrates, phosphorus, phosphates);
- Potentially toxic gases (hydrogen sulphide, methane, carbon dioxide);
- Acids;
- Pesticides;
- Volatile Organic Compounds;
- Hydrocarbons;
- BETXN;
- Polycyclic Aromatic Hydrocarbons; and
- Perfluorocarbons.

These pollutants may be contained in incoming wastes such as:

- Grease trap waste;
- Septic waste;
- Sewage sludge;
- Surfactants; and
- Oily water.

8.3.4 Surface Water and Ground Water

There are no discharge points to natural waterways. Stormwater on site is isolated. Stormwater captured in the pits are processed through the facility pumping the liquid through a box filter then into settling tanks 1-4 and then the DAF where waste water is discharged to tradewaste and sludge is collected into separate tanks (12 and 13) for removal offsite by a licenced contractor.

Current site operations do not access groundwater, nor does the proposal require the use of groundwater. No earthworks are required that may facilitate a pathway to soil or groundwater beneath the site. All activities that involve the transfer, treatment or discharge of liquid waste from tanker trucks, occurs internally and within concrete bunded areas within the facility's main building.

The site contains no natural or artificial surface water such as creeks, rivers or dams.

Storm events can produce surface water that flows across the site. Potentially, such water can collect surface pollutants deposited from site operations. If such contaminated surface water enters the stormwater system, it has the potential to pollute nearby waterways and groundwater.

Stormwater sample collection and analysis for the purposes of characterisation of water quality was undertaken on 28 July 2020 (Attachment 7). Chemicals and parameters selected for analysis included those associated with industrial activities such as heavy metals, VOCs/SVOCs, PAH, BTEXN and TRH. Samples were collected from two (2) on site stormwater pits at the commencement of an independent rain event; one sample from 14 Kiora and one sample from 16 Kiora.

Results of analysis were reviewed against the criteria outlined in the Australian and New Zealand Environment and Conservation Council (ANZECC) *Australian and New Zealand Guidelines for Fresh and Marine Water Quality Guidelines* (2000). The criteria parameters relevant to the site are "slightly–moderately disturbed systems" and the conservative 80% protection value for freshwater was selected. All analysis was undertaken at NATA accredited facility, ALS Environmental.

Results of stormwater characterisation showed samples below LOR or within the adopted and selected ANZECC criteria. Additionally, the potential for ground and stormwater contamination may be deemed very low due to the design and operational procedures currently in place that are listed below:

- Isolated storm water system, captured water processed through the facility;
- No excavation or earth disturbing construction activities are taking place;
- Transfer of waste from truck to storage tanks occurs within a fully enclosed area;
- All work and process areas involving liquid wastes are fully bunded;
- Sealed blind sump pits are located within bunded areas;
- Blind sump pits and storage tanks are checked for leaks/blockages regularly;
- The site is covered by concrete hardstand;
- Procedures, signage and training in appropriate methods of spill avoidance and response protocols are implemented; and
- Minimal hazardous chemicals are stored on site, all are fully enclosed and bunded in accordance with the relevant Australian standards.

With these processes and safeguards in place, the risk of contaminants entering the soil and water through poor housekeeping, leaks or accidental spills, or as a result of onsite operations is considered low.

The concrete hardstand is a strong and impervious barrier to potential contaminants from entering the soil beneath. The increase in waste storage and processing is expected to have negligible impact upon the surrounding soils. The safeguards and mitigation measures are considered sufficient to prevent the discharge of contaminated water to the surrounding environment.

8.3.4.1 Overflow Events

External surface areas are all bunded into sections with each section containing blind sumps or isolated stormwater drains. Water collected during rain events is pumped out of the isolated pits and processed through the facility as liquid stormwater. It is anticipated that overflow events will only occur during very heavy rainfall events greater than 50mm of rain in 24 hours where the stormwater would overflow the bunded site area onto the street and into the streets stormwater system.

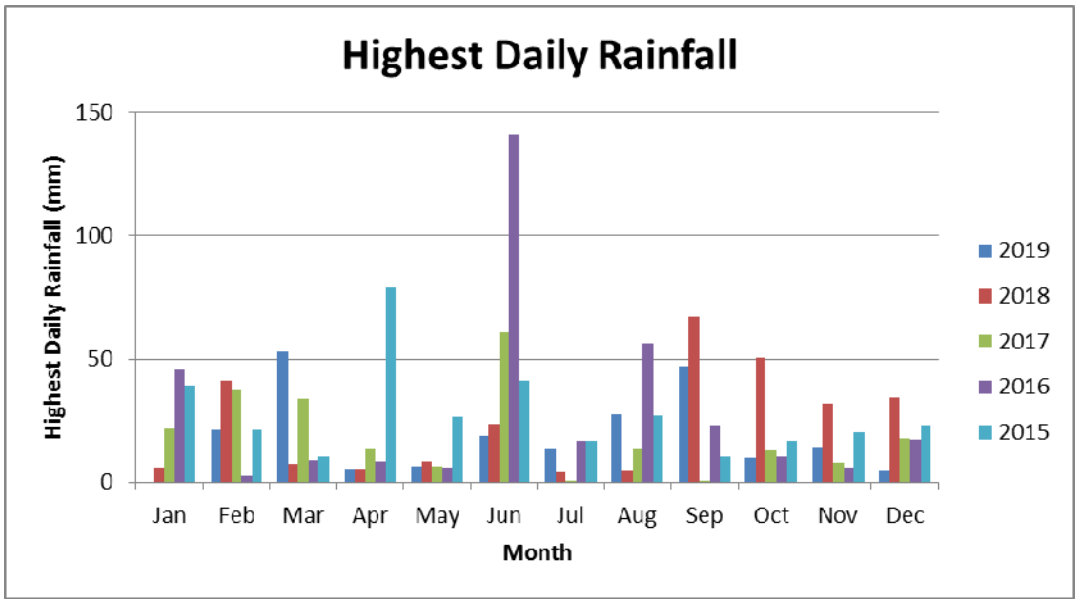
The Bankstown AWS shows that the mean number of days that exceed 25mm of rainfall is 8.5 per year and Figure 8-2 shows the highest daily rainfall events per month from the last 5 years showing rainfall events >50mm are rare.

Furthermore it is noted that the stormwater characterisation in the section above shows that the stormwater samples were below limit of reporting or within the adopted and selected ANZECC criteria.

Therefore the current mitigation measure of processing the stormwater from the isolated external stormwater pits is more than adequate as:

- There is no discharge from the site unless during very heavy rain events;
- The stormwater on site complies with the ANZECC criteria, so no discharge waters will cause pollution to waters; and
- There are no sources of pollution from operational activities other than standard use of truck movements, typical of most industrial facilities.

Figure 8-2: Highest Daily Rainfall 2015-2019 Bankstown AWS



8.4 FLORA AND FAUNA

The site is a fully developed industrial site that contains very little vegetation. There are grassed areas on both sides of the entrance driveway to 16 Kiora Crescent. No tree removal would be required as part of the proposal.

8.4.1 Species

To identify threatened species within the area, a 10 km x 10 km target area surrounding the development was selected to search the BioNet Atlas of NSW Wildlife website. The search criteria included all valid records, from the past five years, of entities threatened in NSW under the *Threatened Species Conservation Act 1995* and entities threatened nationally under the *Environment Protection and Biodiversity Conservation Act 1999* within a selected area.

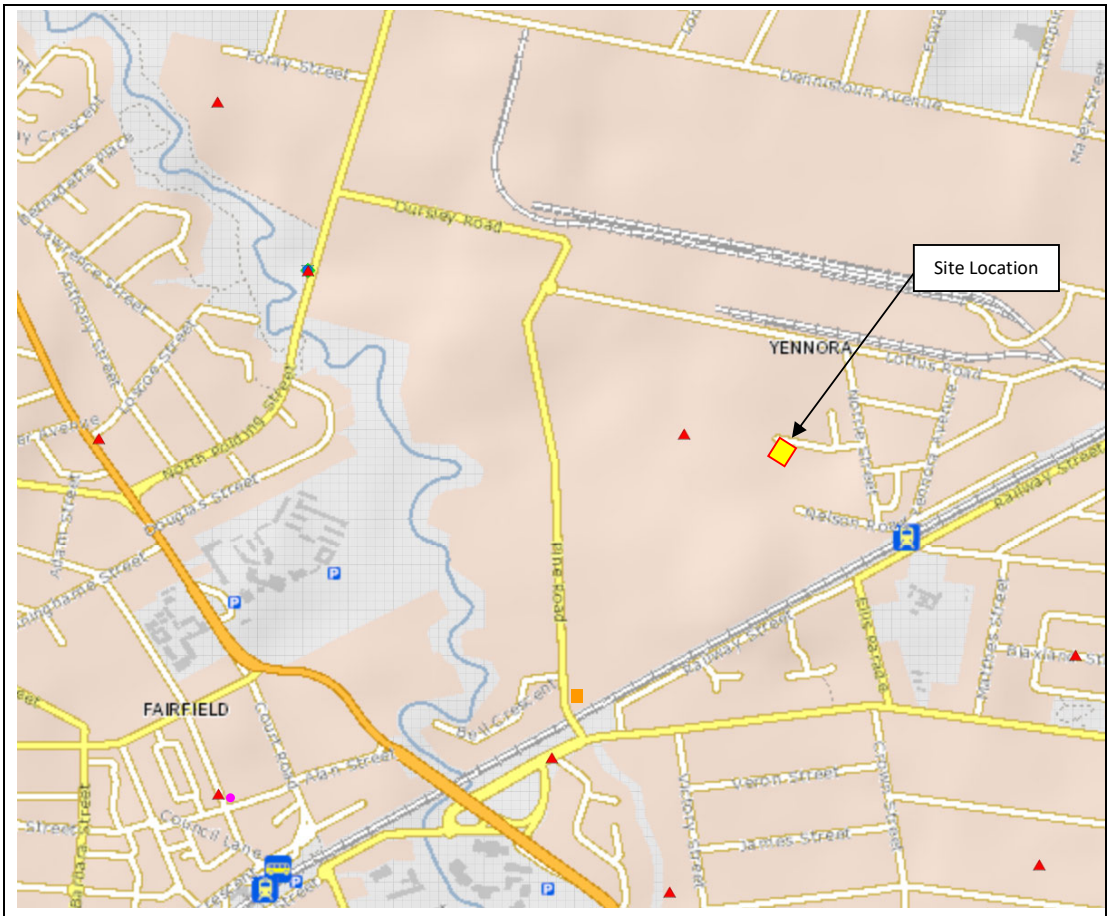
The targeted search shows one threatened species has been sighted within close proximity to the subject site. The vulnerable, protected Grey-headed Flying Fox was sighted 220 m west of the site (Figure 6-6) and in numerous other locations, further away. The vulnerable Large Bent-winged Bat was sighted 1.34 km south west of the site. The vulnerable, protected Eastern Coastal Freetail-bat and the vulnerable, protected Southern Myotis were sighted 1 km west north west of the site in a riparian area adjacent to Prospect Creek. The vulnerable, protected koala was sighted 2.68 km south east of the site.

In the Holroyd LEP 2013 Maps the subject site is not identified as containing biodiversity or critical habitat. The nearest area of biodiversity is 875 m north east of the site that of Remnant Native Vegetation. Prospect Creek's riparian zone is 620 west of the site. It is the closest riparian land to the site.

Table 8-11: List of vulnerable species near to the site

Scientific Name	Common Name	NSW Status
Phascolarctus cinereus	Koala	Vulnerable Protected
Pteropus poliocephalus	Grey-headed Flying Fox	Vulnerable Protected
Miniopterus orianae oceanensis	Large Bent-winged Bat	Vulnerable
Mormopterus norfolkensis	Eastern Coastal Freetail-bat	Vulnerable Protected
Myotis macropus	Southern Myotis	Vulnerable Protected

Figure 8-3: Nearby Fauna Sightings



Source: BioNet Atlas of NSW Wildlife (2019)

↑N Not to scale	LEGEND: ▲ - Grey-headed Flying-fox ● - Koala ◆ - Eastern Coastal Free-tailed Bat ▼ - Southern Myotis ■ - Large Bent-winged Bat	Benbow Environmental 25-27 Sherwood Street, Northmead NSW 2152

8.4.2 Flora and Fauna Impacts

The proposed modifications will not result in removal of existing vegetation or landscape alteration as the site is already developed. The site is not in close proximity to any critical habitats. Impacts from site activities to flora and fauna are considered negligible. No further assessment is warranted.

Ecological Consultants Australia Pty Ltd have undertaken a biodiversity development assessment report (BDAR) waiver and this was lodged with the scoping report (Attachment 5). This report clearly demonstrated that the development is not likely to have a significant impact on biodiversity values.

8.5 WASTE GENERATION AND MANAGEMENT

This section addresses the waste generation and management of the proposed development, together with a description of measures to avoid the generation of waste and to promote the re-use, recycling and re-processing of any wastes generated.

Construction and demolition required is limited to removal the existing demountable, installation of rainwater tanks and minor site changes to allow for the manoeuvring of trucks on site.

The majority of ongoing waste types would not change as a result of the proposed modifications. The facility would receive an increased quantity of liquid wastes that it is already licenced to receive including:

- Residues from industrial waste treatment/disposal operations – landfill leachates (N205);
- Liquid waste material in glass, plastic or aluminium containers;
- Surface active agents (surfactants) containing principally organic constituents and which may contain metals and inorganic materials (M250);
- Waste oil/hydrocarbons mixtures/emulsions in water (J120);
- Sewage sludge & residues (K130); and
- Grease trap waste (K110).

Additional waste types the facility will also receive:

- Out-of-date liquids (food waste);
- Shampoos/Liquid soaps;
- Clothes and Shoes; and
- Makeup.

Out-of-date liquids that will be processed include soft drink, energy drinks, alcoholic beverages, juices and similar types of products.

A detailed description of processing operations is presented in Section 5.5 and the flow diagram in Figure 5-4.

Waste will continue to be managed in line with the *NSW Waste Avoidance and Resource Recovery Strategy 2014-21* as detailed in Section 8.5.4.

8.5.1 Waste Generation

Types and estimated quantities of waste generated across the whole site are reported below.

Table 8-12: Waste Generation

Waste Type/Source	Code	Classification	Maximum Quantity			Incoming/Outgoing	Management
			Daily	Weekly	Yearly		
Waste Oil **Source:** Industrial oil water separators, car washes, car parks etc.	J120	Liquid waste	400 t/day	1500 t/wk	30,000 tpa	Incoming	Vacuum tankers will pump waste liquid oil through box filters to remove residual fine solids and into a pressurised settling tank (Tank 7). The liquid goes through a second box filter, then into the underground tank (tank 11-east) and is then pumped into settling tanks 5 or 6 where the oil, grease-trap waste\sludge is separated from the wastewater which is transferred to the DAF and discharged as tradewaste. The grease-trap waste is pumped to the treated grease trap waste tank (tank 10) and removed offsite as greasetrap waste
Residues from Industrial Waste **Source:** Runoff from tips	N205	Liquid waste	170t/day	600t/wk	12,500 tpa	Incoming	This material goes through a primary filtration box before being pumped in the underground tank (tank 11-west) which is then pumped into settling tanks 1-4 before entering the DAF, being treated with lime if required and sent to trade-waste. Sludge from the DAF is transferred to tanks 12 or 13 to be removed offsite by a licenced contractor.

Table 8-12: Waste Generation

Waste Type/Source	Code	Classification	Maximum Quantity			Incoming/Outgoing	Management
			Daily	Weekly	Yearly		
Surface active agents (surfactants) containing principally organic constituents and which may contain metals and inorganic materials. **Source:** Surfactant manufacturing facilities (JALCO etc)	M250	Liquid waste	170t/day	600t/wk	12,500 tpa	Incoming	This material goes through a primary filtration box before being pumped in the underground tank (tank 11-west) which is then pumped into settling tanks 1-4 before entering the DAF, being treated with lime if required and sent to trade-waste. Sludge from the DAF is transferred to tanks 12 or 13 to be removed offsite by a licenced contractor.
Grease trap waste **Source:** Restaurants, clubs, take away facilities	K110	Liquid waste	200t/day	750t/wk	15,000 tpa	Incoming	Greasetrap waste goes through a primary filtration box and treated with lime if required. The waste is transferred to tank 10. This waste is removed via a licenced waste contractor for further processing.
Sewage sludge & residues **Source:** Domestic septic systems	K130	Liquid waste	400 t/day	1500 t/wk	30,000 tpa	Incoming	Vacuum tankers will pump waste liquid oil through box filters to remove residual fine solids and into a pressurised settling tank (Tank 7). The liquid goes through a second box filter, then into the underground tank (tank 11-west) which is then pumped into settling tanks 1-4 before entering the DAF, being treated with lime if required and sent to trade-waste. Sludge from the DAF is transferred to tanks 12 or 13 to be removed offsite by a licenced contractor.
Stormwater **Source:** stormwater pits, drains, sediment ponds etc.	N/A						

Table 8-12: Waste Generation

Waste Type/Source	Code	Classification	Maximum Quantity			Incoming/Outgoing	Management
			Daily	Weekly	Yearly		
Out-of-date liquids (food waste) **Source:** Supermarkets, manufacturers, retail outlets	-	Liquid waste	100t/day	300t/wk	6,700 tpa	Incoming	The majority of liquids come in pallets of bottles, these bottles are fed onto a conveyor and into a shredder which removes the liquid from the packaging and transfers the liquid into an IBC. Any bottles that are not suitable for shredding will be manually poured out into an IBC and then recycled.
Shampoos/Liquid soaps **Source:** Supermarkets, manufacturers, retail outlets	-	Liquid waste	20t/day	100t/wk	1,600 tpa	Incoming	The majority of liquids come in pallets of bottles, these bottles are fed onto a conveyor and into a shredder which remove the liquid from the packaging and transfers the liquid into an IBC. Any bottles that are not suitable for shredding will be manually poured out into an IBC.
Clothes and Shoes **Source:** Supermarkets, manufacturers, retail outlets	-	General solid waste (putrescible)	5t/day	25t/wk	450 tpa	Incoming	This waste is manually sorted by staff and sent for further recycling
Makeup **Source:** Supermarkets, manufacturers, retail outlets	-	General solid waste (putrescible)	20t/day	60t/wk	1,250 tpa	Incoming	These containers are fed onto a conveyor and into a shredder which remove the liquid from the packaging and transfers the liquid into an IBC. Any containers that are not suitable for shredding will be manually poured out into an IBC.
Waste Water	NA	Liquid waste	1,200t/day	4,000t/wk	80,000 kL/yr	Outgoing	Treated wastewater is discharged to sewer in accordance with trade waste agreement.

Table 8-12: Waste Generation

Waste Type/Source	Code	Classification	Maximum Quantity			Incoming/Outgoing	Management
			Daily	Weekly	Yearly		
Waste Oil Residue/Sludge	K110	Liquid waste	300t/day	1,000t/wk	20,000 kL/yr	Outgoing	Oil and sludge will be transferred from the filters/DAF to a waste storage tank. This waste will be removed from site by a licenced waste contractor to be processed as grease trap waste.
Oily solids from box filters	NA	General solid waste (putrescible)	1kL/day	2kL/wk	50kL/yr	Outgoing	Disposed to landfill through general waste disposal (240 L bins). Serviced weekly.
General office waste	NA	General solid waste (non-putrescible)	<1t/day	<1t/wk	2 tpa	Outgoing	Recycled/disposed using regular 240 L domestic bins. Serviced weekly
Plastic	NA	General solid waste (non-putrescible)	10t/day	50t/wk	950 tpa	Outgoing	Recycled offsite (eg. Visy)
Cardboard	NA	General solid waste (non-putrescible)	10t/day	50t/wk	950 tpa	Outgoing	Recycled offsite (eg. Visy)
Aluminium	NA	General solid waste (non-putrescible)	10t/day	50t/wk	950 tpa	Outgoing	Recycled offsite (eg. Sims Metal Management)

Table 8-12: Waste Generation

Waste Type/Source	Code	Classification	Maximum Quantity			Incoming/Outgoing	Management
			Daily	Weekly	Yearly		
Liquid food waste: including soft drink, energy drinks, alcoholic beverages, juices and similar types of of products	NA	Liquid waste	80t/day	250t/wk	4,600 tpa	Outgoing	IBCs containing food waste are transported off site to be used in irrigation practices for agricultural properties/farmlands. The contents of the IBCs would comply with the relevant resource recover exemptions/orders and/or NSW Department of Environment and Conservation "Use of Effluent by Irrigation" (2004) and ANZECC & ARMCANZ "Guidelines for Fresh and Marine Water Quality" Volume 3, Primary Industries — Rationale and Background Information (Irrigation and general water uses, stock drinking water, aquaculture and human consumers of aquatic foods) (2000).
Liquid waste (other – for processing at 14 Kiora Crescent)	NA	Liquid waste	15t/day	50t/wk	1,100 tpa	Onsite	IBC transferred to building at 14 Kiora Crescent then pumped into settling tanks 1-4 before entering the DAF, being treated with lime if required and sent to trade-waste. Sludge from the DAF is transferred to tanks 12 or 13 to be removed offsite by a licenced contractor.
Steel	NA	General solid waste (non-putrescible)	5t/day	25t/wk	450 tpa	Outgoing	Recycled offsite (eg. sims metal)
Timber	NA	General solid waste (non-putrescible)	3t/day	12t/wk	250 tpa	Outgoing	Recycled offsite

Table 8-12: Waste Generation

Waste Type/Source	Code	Classification	Maximum Quantity			Incoming/Outgoing	Management
			Daily	Weekly	Yearly		
Glass	NA	General solid waste (non-putrescible)	5t/day	25t/wk	450 tpa	Outgoing	Recycled offsite
Cloth	NA	General solid waste (non-putrescible)	3t/day	10t/wk	200 tpa	Outgoing	Recycled offsite
General solid waste		General solid waste (non-putrescible)	1t/day	5t/wk	100 tpa	Outgoing	This will be stored internally inside the building located at 16 Kiora Crescent. Where material cannot be recycled it will be disposed of at a licenced waste contractor.

8.5.2 Waste Legislation

The main legislation and guidelines that have been addressed in the writing of this report are:

- *Waste Classification Guidelines* – Part 1: *Classification of waste* (NSW EPA, 2014);
- *Protection of the Environment Operations Act 1997*;
- *Protection of the Environment Operations (Waste) Regulation 2014;* and
- *Waste Avoidance and Resource Recovery Act 2001.*

8.5.2.1 Waste Classification Guidelines

In the NSW EPA's *Waste Classification Guidelines* (2014), waste is described as:

a) any substance whether solid, liquid or gaseous that is discharged, emitted or deposited in the environment in such volume, constituency or manner as to cause an alteration in the environment; or
b) any discarded, rejected, unwanted, surplus or abandoned substance; or
c) any otherwise discarded, rejected, unwanted, surplus or abandoned substance intended for sale or for recycling, reprocessing, recovery or purification.

All waste materials generated or received on the subject site must be classified into one of six different categories described the *Waste Classification Guidelines* (see table below).

Table 8-13: Classes of Waste from Waste Classification Guidelines

Class	Definitions / Examples
Special waste	• Clinical and related wastes; • Asbestos waste; • Waste tyres.
Liquid waste	• Waste that has an angle of repose <5 degrees; • Waste that becomes free flowing at or below 60ºC; • Is not generally capable of being picked up by a spade or shovel.
Hazardous waste	• Waste with a pH ≤2 or ≥12.5; • Containers that have not been cleaned and contained dangerous goods within the meaning of the Transport of Dangerous Goods Code; • Lead-acid or nickel-cadmium batteries.
Restricted solid waste	• This type of waste is determined by chemical tests.
General solid waste (putrescible)	• Waste from litter bins collected by local councils; • Animal waste and food waste; • Grit or screenings from sewage treatment systems that have been dewatered so that the grit of screenings do not contain free liquids.

Table 8-13: Classes of Waste from Waste Classification Guidelines

Class	Definitions / Examples
General solid waste (non-putrescible)	• Paper or cardboard; • Glass, plastic, rubber, plasterboard, ceramic, bricks, concrete or metal; • Grit, sediment, litter and gross pollutants collected in, and removed from, stormwater treatment devices and/or stormwater management systems, that has been dewatered so that they do not contain free liquids

8.5.2.2 Protection of the Environment Operations Act 1997

The *Protection of the Environment Operations Act 1997* (POEO Act) is the principal environment protection legislation for NSW. It defines 'waste' for regulatory purposes and establishes management and licensing requirements for waste. It defines offences relating to waste and sets penalties. The POEO Act also establishes the ability to set various waste management requirements via the *Protection of the Environment Operations (Waste) Regulation 2014*.

8.5.2.3 Protection of the Environment Operations (Waste) Regulation 2014

The *Protection of the Environment Operations (Waste) Regulation 2014*, referred to as the 'Waste Regulation', identifies provisions relating to waste management and disposal. Certain types of waste that have significant potential to be harmful to the environment are listed in Schedule 1 of the *Protection of the Environment Operations (Waste) Regulation 2014* and are required to be tracked from the source to the waste disposal facility.

Part 4 of this Regulation details the requirements associated with tracking waste. Certain types of waste (listed in Schedule 1 of this legislation) which have the potential to be harmful to the environment are required to be tracked from the source to the waste disposal facility.

The facility receives and generates waste that:

- Must be tracked when transported within NSW or interstate including:
  - Waste oil/water, hydrocarbons/water mixtures or emulsions (waste code: J120)
  - Disposal operations reducing agents (waste code: N205)
  - Surface active agents (surfactants), containing principally organic constituents and which may contain metals and inorganic materials (waste code: M250)
- Must be tracked when transported interstate only:
  - Grease trap waste (waste code: K110)
- No longer requires tracking because of changes to the POEO (Waste) Regulations:
  - Sewage sludge and residues including nightsoil and septic tank sludge (K130)

8.5.2.4 Waste Avoidance and Resource Recovery Act 2001

Waste minimisation and resource recovery would be practised as part of Enviro Waste's commitment to the principles of Ecologically Sustainable Development (ESD) and the *Waste Avoidance and Resource Recovery Act 2001*. The company also follows the NSW EPA's hierarchy

of waste management, for the management of wastes generated as a result of its operations. Additionally, waste avoidance and resource recovery practices implemented at the site would be in accordance with the primary goal of the *NSW Waste Avoidance and Resource Recovery Strategy 2014-2021*, which is "to enable all of the NSW community to improve environment and community well-being by reducing the environmental impact of waste and using resources more efficiently."

8.5.3 Waste Management

A summary of the management of each waste type generated by the proposed development is provided in 8.5.1.

Quantities of liquids received at 14 Kiora Crescent are measure as using scales underneath the pressurised tanks (#5-7). The other non-pressurised tanks which receive liquids (#1-4 and #8-10) have flow meters on the inlet which measure volume of liquid received.

Quantities of waste received at 16 Kiora Crescent are measured before and after receipt at a public weighbridge, typically 14 Sammut Street Smithfield.

8.5.3.1 Incoming Waste Procedure

An incoming waste procedure will to confirm the type and quantity of incoming waste and to ensure appropriate waste records are maintained. Details of how the receipt of non-conforming waste are dealt are to be included. This is to be applied as part of the site's environmental management plan. This would need to be implemented from the first load accepted at the site.

The site must comply with the Waste Levy Guidelines 2018 requirements for record and reporting for trackable liquid waste:

> *Scheduled waste facilities receiving trackable liquid waste must also maintain original records of the information required under Part 3 of the Waste Regulation for:*
> - *trackable liquid waste and other material received at the facility*
> - *trackable liquid waste and other material stored at the facility*
> - *trackable liquid waste transported from the facility*
> - *waste and material other than trackable liquid waste transported from the facility*

For each load of waste received and sent out of the facility, the transporter, receiver or generator must make a record of the following:

- Name and address of the transporter;
- Registration number of the vehicle used to transport the waste;
- Type and quantity of the waste transported, including trackable waste;
- Date on which the waste is delivered to the receiver;
- Name and address of the receiver; and
- Date on which the record was made.

Enviro Waste must retain the copy of the record referred to above for a period of not less than four years after the time the record was made and, on request, must make a copy of the record available for inspection by an authorised officer.

The facility rarely accepts waste that is transported from vehicles outside its own fleet. This is enforced by clearly specifying employee responsibilities with the potential consequence of termination of the employment contract if staff does not meet their obligations.

The site at 16 Kiora Crescent will require an application for a weighbridge exemption based on the limited space available on site. The NSW *EPA waste levy guidelines 2018* presents acceptable ways to measure waste including the use of a weighbridge; and the use of volumetric surveys for resource recovery facilities which are to be submitted to the NSW EPA for approval.

The details of the applicant's fleet are provided in attachment 8. Trucks will be parked offsite. The leased site that will provide parking for the site for the proposed development is 49-53 Pine Rd, Yennora NSW, however as this will be a leased site this may change in the future.

8.5.3.2 Waste Storage

Waste storage for the site is presented in the following table, details of waste handling is presented in the process description in Section 5.5 and the flow diagram in Figure 5-4.

Table 8-14: Site Waste Storage

Tank ID	L/Kg	Waste Type(s)
Tank 1	25,000	Wastewater from Waste oil/hydrocarbons mixtures/emulsions in water (J120); Sewage sludge & residues (K130); Residues from industrial waste treatment/disposal operations – landfill leachates (N205); Surface active agents (surfactants) containing principally organic constituents and which may contain metals and inorganic materials (M250);
Tank 2	25,000	Sewage sludge & residues (K130); Residues from industrial waste treatment/disposal operations – landfill leachates (N205); Surface active agents (surfactants) containing principally organic constituents and which may contain metals and inorganic materials (M250);
Tank 3	25,000	
Tank 4	25,000	
Tank 5	38,000	Waste oil/hydrocarbons mixtures/emulsions in water (J120);
Tank 6	38,000	
Tank 7	38,000	Waste oil/hydrocarbons mixtures/emulsions in water (J120); Sewage sludge & residues (K130);
Tank 8	30,000	Sludge from Waste oil/hydrocarbons mixtures/emulsions in water (J120);
Tank 9	30,000	
Tank 10	30,000	Treated grease trap waste (K110)
Tank 11*	50,000	West Containment (25,000L): Sewage sludge & residues (K130); Residues from industrial waste treatment/disposal operations – landfill leachates (N205); Surface active agents (surfactants) containing principally organic constituents and which may contain metals and inorganic materials (M250); East Containment (25,000L): Waste oil/hydrocarbons mixtures/emulsions in water (J120);

Table 8-14: Site Waste Storage

Tank ID	L/Kg	Waste Type(s)
Tank 12	3,000	Sludge from DAF from Tank 1
Tank 13	3,000	
IBC Storage	100,000	Out-of-date liquids (food waste); Shampoos/Liquid soaps; Clothes and Shoes;

8.5.3.3 Non-Conforming Waste

Operator owned and trained vacuum truck drivers and the incoming waste procedure prevent non-conforming liquid wastes from entering the site.

All non-conforming waste will be rejected and sent back generation site or to a facility licenced to receive that waste. Any existing wastes contaminated by the non-conforming waste will also be removed offsite to a facility licenced to accept that waste. All equipment will be decontaminated where required, any contaminated wash water would be disposed of at a facility licenced to receive that waste.

8.5.4 Waste Avoidance and Resource Recovery

The proposed development will continue to support and remain consistent with a number of statutory policies including the "Waste Avoidance and Resource Recovery Act, 2001" (WARR Act) and the "NSW Waste Avoidance and Resource Recovery Strategy 2014-21". The NSW Waste Avoidance and Resource Recovery Strategy 2014-21 is a key policy tool under the WARR Act.

The site currently operates as liquid waste recycling facility. Additionally, the proposed development aims to provide additional liquid waste recycling operations in the form of out-of-date liquid product/food waste recycling.

In line with the most relevant *Waste Avoidance and Resource Recovery Strategy 2014-2021* objectives and targets to the site, Enviro Waste Services Group Pty Ltd will:

- Avoid and reduce waste generation – by 2021–22, reduce the rate of waste generation per capita.

  Comment: By continuing to offer a liquid waste recycling service, the proposed development will continue to reduce waste generation per capita.

- Increase recycling – by 2021-22 increase recycling rates for municipal solid waste from 52% to 70%, commercial and industrial waste from 57% to 70% and for construction and demolition waste from 75% to 80%.

  Comment: The proposed development would continue its commercial and industrial liquid waste recycling operations, increase its throughput and establish additional liquid waste recycling options to its offering, thereby supporting an increase in the recycling rates for these wastes.

- Divert more waste from landfill – by 2021-22 increase the waste diverted from landfill from 63% to 75%.

  Comment: The addition of out-of-date liquid product/food waste destruction will ensure packaging from waste products is diverted from landfill and recycled.

- Manage problem wastes better – By 2021–22, establish or upgrade 86 drop-off facilities or services for managing household problem wastes statewide.

  Comment: The proposed development increase to processing quantity and addition of out-of-date liquid product/food waste destruction will allow for better management and recycling potential of liquid wastes.

- Reduce illegal dumping.

  Comment: The proposed development supports the reduction in illegal dumping by providing competitive, cost effective liquid waste facility that will reduce incentive for illegal dumping.

In summary, these measures demonstrate that the facility is in line with the *NSW Waste Avoidance and Resource Recovery Strategy 2014-21*, and is continually looking to increase the percentage of wastes that can be reused in order to improve the economic efficiency of the process and the principles of ESD.

8.5.5 Orders & exemptions

The following orders and exemptions may be utilised by the site to beneficially reuse the wastes generated from the site:

Table 15: Resource Recovery Exemption/Orders

Material	Order	Exemption	Notes/Comment
Biosolids	The biosolids order 2014	The biosolids exemption 2014	*The biosolids order means organic product that results from sewage treatment processes (sometimes referred to as sewage sludge).* To comply with the biosolids order Envirowaste, or the licenced waste contractor collecting the waste must demonstrate compliance with the NSW EPA Environmental Guidelines for *use and disposal of biosolids products* this contains testing requirements for contaminants, classification/grading/stabilisation and beneficial land applications for different classifications.
Liquid food waste	The liquid food waste order 2014	The liquid food exemption order 2014	The order requires the generator, Envirowaste, to ensure and certify the product *does not include post-consumer food waste, grease trap waste or animal waste; is not corrosive, and does not contain any physical contaminants, including but not limited to glass, metal, rigid plastics, flexible plastics, or polystyrene; and is in a form and condition that is suitable for land application.*
Treated grease trap waste	The treated grease trap waste order 2014	The treated grease trap waste exemption 2014	The order requires the generator, Envirowaste or the licenced waste contractor collecting the waste must certify the treated grease trap waste meets the definition in the order and complies with the sampling requirements which require the testing of chemicals and attributes specified in Table 2 of the order.

8.6 HAZARDS AND RISKS

This section presents the hazards and risks associated with the proposed modifications.

8.6.1 Chemicals and Dangerous Goods Storage

The site will store small quantities of LPG, lime and sodium hydroxide. Details of use and quantities are shown in the following table:

Table 8-16: Chemical Storage

Product Name	Un No.	ADG/GHS	GHS Signal Word	Quantity Storage Capacity	Storage Type	Storage Location
LPG	1075	ADG: Class 2.1, Flammable gas GHS: Flammable gases, Category 1; Liquefied Gas (Low Pressure)	DANGER	200L	Cylinder	Locked in cage outside
Lime	Not regulated	ADG: Not regulated GHS: Serious Eye Damage / Eye Irritation: Category 1; Skin Corrosion/Irritation: Category 2; Specific Target Organ Systemic Toxicity (Single Exposure): Category 3	DANGER	100kg	Packages	Stored on Mezzanine Level
Sodium Hydroxide/ Caustic Soda	1823	ADG: Class 8 PGII Corrosive GHS: Corrosive to Metals - Category 1; Skin Corrosion - Sub-category 1B; Eye Damage - Category 1	POISON	40kg	Packages	Stored in chemical storage cabinet

8.6.2 Preliminary Risk Screening

Details of Dangerous Goods (DG Code) and/or Hazardous Chemicals (GHS Classification) typically used and stored on site, with current and proposed storage quantities and annual usage quantities, have been provided in Table 8-17. Safety Data Sheets (SDS) of all the listed chemicals are available on request.

The only dangerous goods to be stored on site up to 6 cylinders of LPG, Class 2.1, stored in chains and 40 kg of Sodium Hydroxide, class 8, PG II within packages.

Chemical management requires a site to comply with the requirements of the *Work, Health and Safety Regulation 2017*. Notification to SafeWork Australia is not required as chemical quantities do not exceed the manifest quantities.

The tank of grease-trap waste may be classed as a non-dangerous good, C2 combustible liquid.

Requirements in Australian Standards also need to be applied when a site stores more than minor quantities of a hazardous substance/chemical belonging to one of the nine Classes of Dangerous Goods. The basis of chemical management safeguards for these classes are described in the following Australian Standards:

- AS 1940–2017 *The storage and handling of flammable and combustible liquids;*
- AS 3780-2008 *The storage and handling of corrosive substances*;
- AS/NZS 1596:2014 *The storage and handling of LP Gas;* and
- AS 4332–2004 *The storage and handling of gases in cylinders.*

Storage of all hazardous chemicals would comply with the above standards. General controls that need to be met for adequate chemical management at the site are as follows:

- Storage of LPG cylinders outside the building, inside a lockable cage, in accordance with AS/NZS 1596:2014;
- Provision of adequate fire protection services;
- Provision of spill kits near chemical storage area;
- Site securely locked when not in operation;
- Up to date environmental and safety management procedures and systems; and
- Personnel regularly trained and competency tested in matters regarding the use of firefighting equipment.

A preliminary risk screening of the proposed development in accordance *with State Environment Planning Policy No. 33 – Hazardous and Offensive Development* (SEPP 33) has been undertaken, with results provided below. The quantities of dangerous goods do not exceed the threshold quantities for applying SEPP 33. Therefore, a Preliminary Hazard Analysis (PHA) is not required.

Table 8-17: SEPP 33 Preliminary Risk Screening

Class	Screening Threshold	Description	Site Specific Description	Quantity to be stored	Triggers SEPP 33
Class 1.2	5 tonne	Explosives	None	None	No
Class 1.3	10 tonne	Explosives	None	None	No
Class 2.1	10 tonne or 16 m^3 if stored above ground 40 tonnes or 64 m^3 if stored underground or mounded	Flammable Gases	Category 1 Liquid Petroleum Gas Chained in storage	Cylinder 200L	No
Class 2.2	Not Relevant	Non-flammable, non-toxic gases	None	None	Not relevant
Combustible Liquid C1	Not relevant	Combustible liquid with flashpoint of 150°C or less	Diesel stored in self-bunded tank	None	Not Applicable
Combustible Liquid C2	Not relevant	Combustible liquid with flashpoint exceeding 150°C	Treated Grease Trap Waste	Up to 30,000L	Not Applicable
Class 2.3	5 tonne	Anhydrous ammonia	None	None	No
	1 tonne	Chlorine and sulphur dioxide stored as liquefied gas in contains <100 kg	None	None	No
	2.5 tonne	Chlorine and sulphur dioxide stored as liquefied gas in containers >100 kg	None	None	No

Table 8-17: SEPP 33 Preliminary Risk Screening

Class	Screening Threshold	Description	Site Specific Description	Quantity to be stored	Triggers SEPP 33
	100 kg	Liquefied gas kept in or on premises	None	None	No
	100 kg	Other toxic gases	None	None	No
Class 3	Assessed by reference to figures 8 & 9 of applying Sepp 33	Flammable liquids PG I, II and III	None	None	No
Class 4.1	5 tonne	Flammable Solids	None	None	No
Class 4.2	1 tonne	Substances liable to spontaneous combustion	None	None	No
Class 4.3	1 tonne	Substances which, in contact with water, emit flammable gases	None	None	No
Class 5.1	25 tonne	Ammonium nitrate – high density fertiliser grade	None	None	No
Class 5.1	5 tonne	Oxidising substances	None	None	No
Class 5.1	2.5 tonne	Dry pool chlorine – in containers <30 kg	None	None	No
Class 5.1	1 tonne	Dry pool chlorine – in containers >30 kg	None	None	No
Class 5.1	5 tonne	Any other Class 5.1	None	None	No
Class 5.2	10 tonne	Organic peroxides	None	None	No
Class 6.1 PGI	0.5 tonne	Toxic substances	None	None	No
Class 6.1 PGII & III	2.5 tonne	Toxic substances	None	None	No
Class 6.2	0.5 tonne	Infectious substances	None	None	No
Class 7	All	Radioactive Material	None	None	No
Class 8 PGI	5 tonne	Corrosive substance	None	None	No
Class 8 PGII	25 tonne	Corrosive substance	Caustic Soda stored in packages	40kg	No
Class 8 PGIII	50 tonne	Corrosive substance	None	None	No

8.6.3 Fire

8.6.3.1 Fire Services

The following figures present the fire services currently provided on site.
A summary of the fire services is provided below:

14 Kiora Crescent:

- 5 Fire Extinguishers
- 1 Hose Reel

(no hydrants or sprinklers)

16 Kiora Crescent:

- 2 Fire Extinguishers

(no hose reels, hydrants or sprinklers)

Figure 8-4: 14 Kiora Evacuation Plan and Fire Services Locations

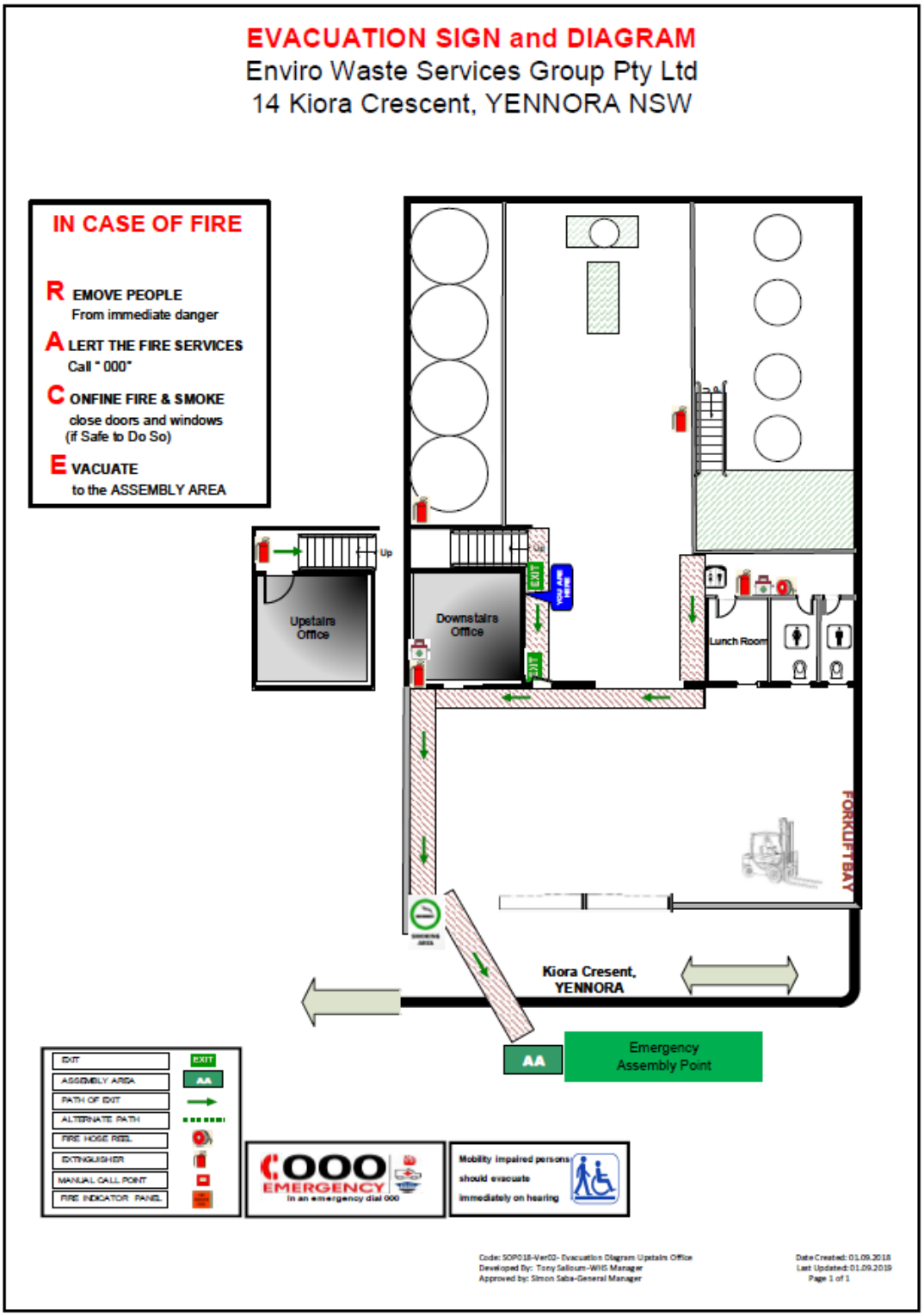
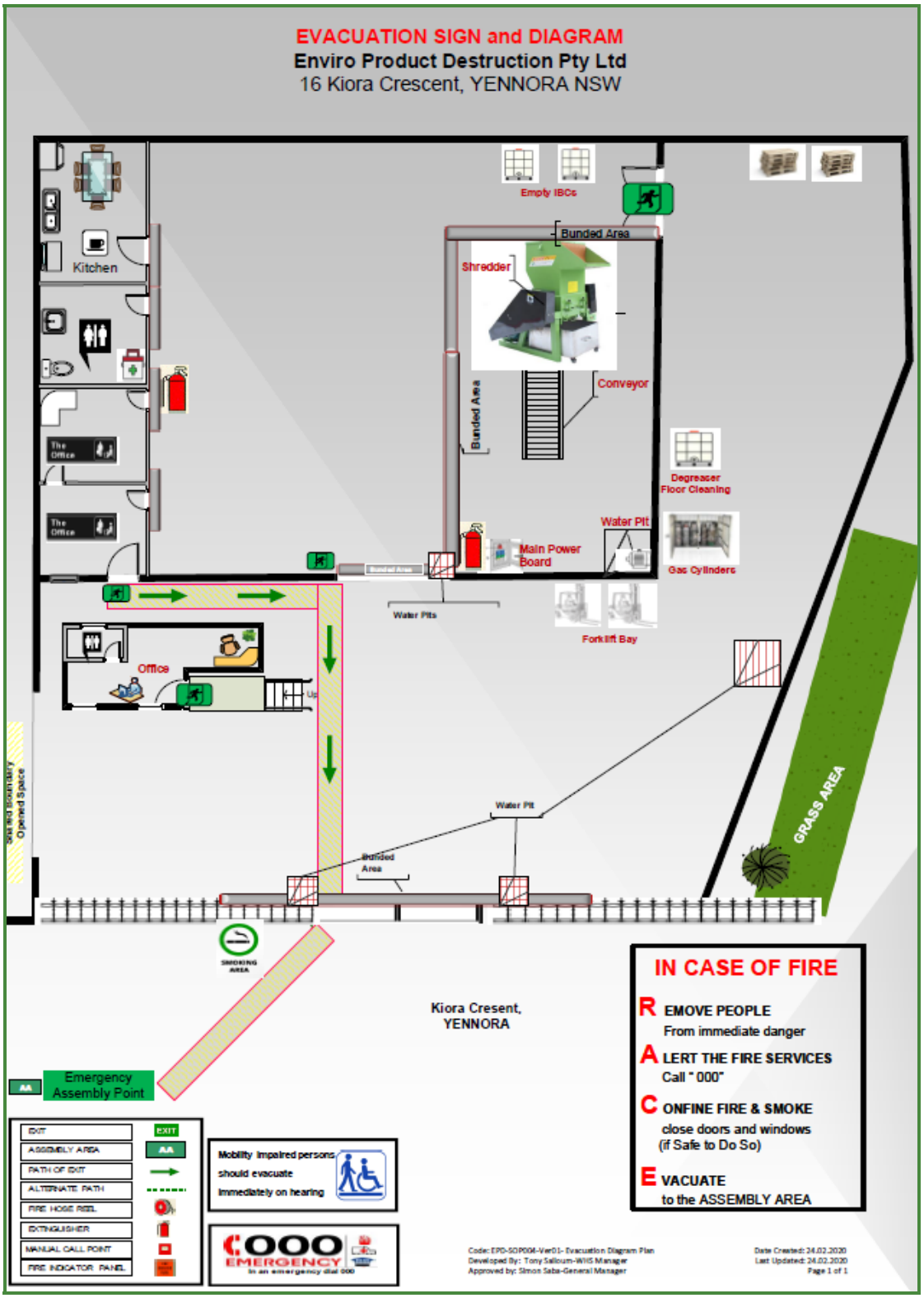


Figure 8-5: 16 Kiora Crescent Evacuation Plan and fire Services Location



8.6.3.2 NSW Fire & Rescue Fire Safety Guideline – Fire Safety in Waste Facilities

NSW Fire & Rescue Fire Safety Guideline – Fire Safety in Waste Facilities (February 2020) details fire safety requirements in waste facilities states the following.

This guideline does not apply to any waste facility, or areas of that are being used for:

a) Landfill (but, may apply to a waste facility on the landfill site)
b) Composting, including in-vessel, green waste and anaerobic digestion
c) Liquid waste treatment
d) Hazardous chemicals or special waste treatment (e.g. waste tyres), or
e) Less than 50 m^3 of combustible waste material.

Note: Fire safety requirements still apply to waste facilities not covered by this guideline.

The processes at 14-16 Kiora constitute liquid waste treatment, furthermore combustible packaging stored at 16 Kiora Crescent will be much less than 50m^3 therefore this guideline does not apply.

8.6.3.3 Fire Risk Assessment

8.6.3.3.1 Hazard Identification Charts

In order to identify and characterise the nature of potential fire events, a series of Hazard Identification Charts have been compiled. The compiled charts are provided overleaf. The charts, for the purpose of this study, only assess the potential fire events of the proposed development. Each chart consists of four columns:

Column 1: *Functional/Operational Area*
The process area of the Site involved with the potential event is listed e.g. Flammable Liquid Store.

Column 2: *Possible Initiating Event*
The events that are considered to be likely or realistic are listed. Where the possible consequences are similar, the events are listed together and individually numbered.

Column 3: *Possible Consequences*
The outcomes from an event occurring are listed e.g. Fire, Explosion.

Column 4: *Prevention/Protection Measures*
The measures designed into the function/operation of the particular area of the site are listed. The measures include for example safeguards, design features, management methods and operator training.

Table 8-18: Event/Consequence Analysis Table

Functional/Operational Area	Possible Initiating Event	Possible Consequences	Prevention/Protection Measures
LPG • LPG cylinder storage	1. Vehicle collision: LPG cylinder is hit	1. LP gas release, ignition and explosion/fire causing injury or death or damage to property 2. LPG bottle becoming missile causing injury or death or damage to property	1. Gas cylinders regularly inspected and damaged cylinders removed. 2. Gas cylinders stored in locked cage. 3. Employees are in regular attendance on-site and gas release control action can be immediately implemented. 4. All employees have access to the relevant personal protection equipment. 5. Strict control of ignition sources. 6. Dangerous good training provided for all staff. 7. Fire extinguishers 8. Fire service equipment available 9. Emergency response plan includes actions to take if a fire occurs 10. Fully fenced site and locked gates during after hours 11. Smoke detectors within building
Grease trap waste • Grease trap waste material handling	1. Vehicle collision: parked tanker is hit, tanker hose is hit, tanker drives off with hose still connected, tank is hit. 2. Leak: tanker drives off with hose still connected, tank is overfilled, tank vent is blocked, equipment failure, 3. Smoking and other personal ignition sources 4. Lightning strike 5. Adjacent property fire 6. Arson	1. Spill is ignited causing fire, damage to property, injury or death. 2. Spilt fuel enters the environment, soil, stormwater, ground water	1. Tanker driver training; 2. Overfill protection, 3. Fill Gauges; 4. Containment system (bunded tanks and loading areas); 5. Safe location of fill point; 6. No smoking on site 7. Signage prohibiting use of ignition sources; 8. Staff dangerous goods training 9. Low speed limit; 10. Fire extinguishers 11. Fire service equipment available 12. Emergency response plan includes actions to take if a fire occurs 13. Fully fenced site and locked gates during after hours 14. Smoke detectors within building

Table 8-18: Event/Consequence Analysis Table

Functional/Operational Area	Possible Initiating Event	Possible Consequences	Prevention/Protection Measures
Fire in office building	1. Smoking 2. Appliance fire 3. Broken fluorescent light 4. Faulty electrics 5. Arson 6. Adjacent property fire 7. Heaters near flammable objects	1. Full scale building fire; 2. Possible spread of fire to other areas.	1. No smoking on site 2. Fire extinguishers 3. Fire service equipment available 4. Emergency response plan includes actions to take if a fire occurs 5. Fully fenced site and locked gates during after hours 6. Smoke detectors within building

8.6.3.3.2 Assessment of Fire Threat

There is potential fire risk from grease trap waste being stored and handled onsite. Serious risk from grease trap waste is not foreseeable since the activities occurring on-site do not involve heating at high temperatures or chemical processing. However, the nature of the operation would provide a fire hazard arising from a possible arson, incidental fire, malfunctioning equipment or off site fire.

The Emergency Plan for the site will need to provide work practice procedures to reduce this risk to a low level. No further assessment is considered warranted.

The following safeguards and recommendations would be adhered to at the site to control potential fire risks:

- Hose reel systems are provided in accordance with AS 2441–2005.
- Fire services at the site are to be maintained in accordance with AS 1851–2012.
- Emergency lighting and exit signage are to be provided in accordance with the BCA and AS 2293–2005.
- Specific on site personnel are to be trained in specific site procedures, emergency procedures and the use of hose reels. Hose reels near to the tank farm would have foam available.
- Strict control of ignition sources to be enforced on site.
- Maintenance and housekeeping practices provided in accordance with AS/NZS 4745:2012.

8.6.3.4 Containment of Fire Fighting Water

The site is isolated from stormwater, however there is limited detention capacity. In the event of a fire the isolated stormwater system would fill up and firefighting water would pool in the Kiora Crescent cul-de-sac which is relatively flat at a lower elevation to the site, Enviro Waste's fleet of vacuum trucks will be made available to suck up contaminated firefighting water from a location where it is safe to do so. This would likely be one or more stormwater pits along Kiora Crescent, for example the pit outside 10 Kiora Crescent, approximately 70 m from the site. The firefighting water eventually pool along the street and into this stormwater pit where is could be immediately sucked up by the vacuum trucks.

8.6.3.5 Bushfire Hazard

The subject site is not located on bushfire prone land. Fire safety equipment adequate for the proposed modifications would be provided on site as discussed in the previous section. No further assessment is warranted.

9. SOCIAL IMPACTS AND SAFEGUARDS

This section addresses the most significant social impacts that could result from the proposed development, which are human health and traffic issues. Visual impacts and heritage are also discussed briefly.

9.1 HUMAN HEALTH

Potential health impacts from the proposed development have been assessed with reference to the *Health Impact Assessment Guidelines* (enHealth, 2001). Identified issues concerning human health are related to the following operational aspects: high noise levels and harmful consequences of a potential fire or incident occurring on site.

9.1.1 Air Quality

Impacts to air from the proposed development are primarily related to odour emissions, as discussed in Section 8.1. Chemical compound and dust/particulate emission levels were considered negligible or deemed absent from the proposed development.

Odour from the proposed development will be appropriately managed and controlled with the existing mitigation measures on site. Predicted odour levels from the proposed development are well below the Approved Methods criteria and will result in very minor ground level concentrations. Therefore, air quality impacts with regards to human health are considered negligible.

9.1.2 Generation of Noise

High noise levels can potentially cause health impacts (e.g. hearing loss) to workers who are exposed to it on a daily basis. Control practices that will be in place to minimise the risk of exposure to employees include the use of appropriate PPE (see Section 9.1.5) and undertaking systematic equipment maintenance. Additionally, occupational noise assessments can be carried out initially to monitor internal noise levels.

Potential health impacts associated with external environmental noise are considered unlikely based on the results from the Noise Impact Assessment (Appendix 3), which show that noise impacts at nearest sensitive receptors are expected to be negligible.

9.1.3 Fire Risk

Smoke released from a fire would cause a potential risk to human health through inhalation, as well as burns from a fire. With adequate fire services and equipment in place the risk of a fire occurring on site is considered to be low.

9.1.4 Chemical Spill

Potential adverse impacts to health could result from unintended human contact with hazardous chemicals, upon their accidental release within the building and/or externally to the site, through the stormwater system. The possibility of such an event occurring is considered to be low and a number of safeguards are in place to reduce the risk of any material spill. Firstly, storage and

processing within a building reduces risk of contaminants making contact with the environment and, consequently, the surrounding community. Secondly, all chemicals are to be safely stored according to the relevant Australian Standard, including bunding for storage of dangerous goods and spill clean-up equipment is available on site to clean up potential chemical spills should these occur. Thirdly, the quantities of chemicals stored at the site are minor. Therefore, the potential health impacts from the accidental release of hazardous chemicals are considered to be minor for on-site workers and further insignificant for the local community.

9.1.5 Employee Health and Safety

All employees would undergo appropriate training as part of site induction and be provided with appropriate Personal Protective Equipment (PPE) for their role, such as ear plugs (if required), high visibility clothing and safety boots. The employer would ensure the operation is conducted as approved and appropriate resources are available for work safety. The proposed development would be required to comply with the following Acts and Regulations relating to health and safety:

- Work Health & Safety Act 2011; and
- Work Health & Safety Regulation 2017.

Employees would be trained in the appropriate safety procedures applicable to their role including use of firefighting equipment.

9.2 VISUAL IMPACTS

Figure 9-1 below shows the existing view of the site from Kiora Crescent. The minor site changes include removal of the demountable building on 16 Kiora Cres and would not result in significant changes to the site appearance from Kiora Crescent, therefore visual impacts will be negligible.

The site is at the end of the cul-de-sac with minimal impacts on pedestrians/cyclists.
The site contains no landscaped areas.

Figure 9-1: Existing view of site from Kiora Crescent

9.3 HERITAGE

A search for heritage places and items was conducted via the OE&H State Heritage Inventory, an online heritage database which includes listings from Aboriginal Places, State Heritage Register, Interim Heritage Orders, State Agency Heritage Registers and Local Environmental Plans.

The subject land was found not to be affected by an Interim Heritage Order under the provisions of the NSW *Heritage Act 1977*. No Aboriginal Places or European heritage locations have been identified or uncovered on the subject site or in its vicinity.

The site is also not listed as being a heritage item or containing items under the Holroyd LEP 2013.

The nearest general heritage items to the site are; "Linnwood" 1.08 km to the north-east, Fairfield Public School 1.2 km to the west-south-west and Fairfield Railway viaduct 975 m to the south-west shown in Figure 9-2 and Figure 9-3.

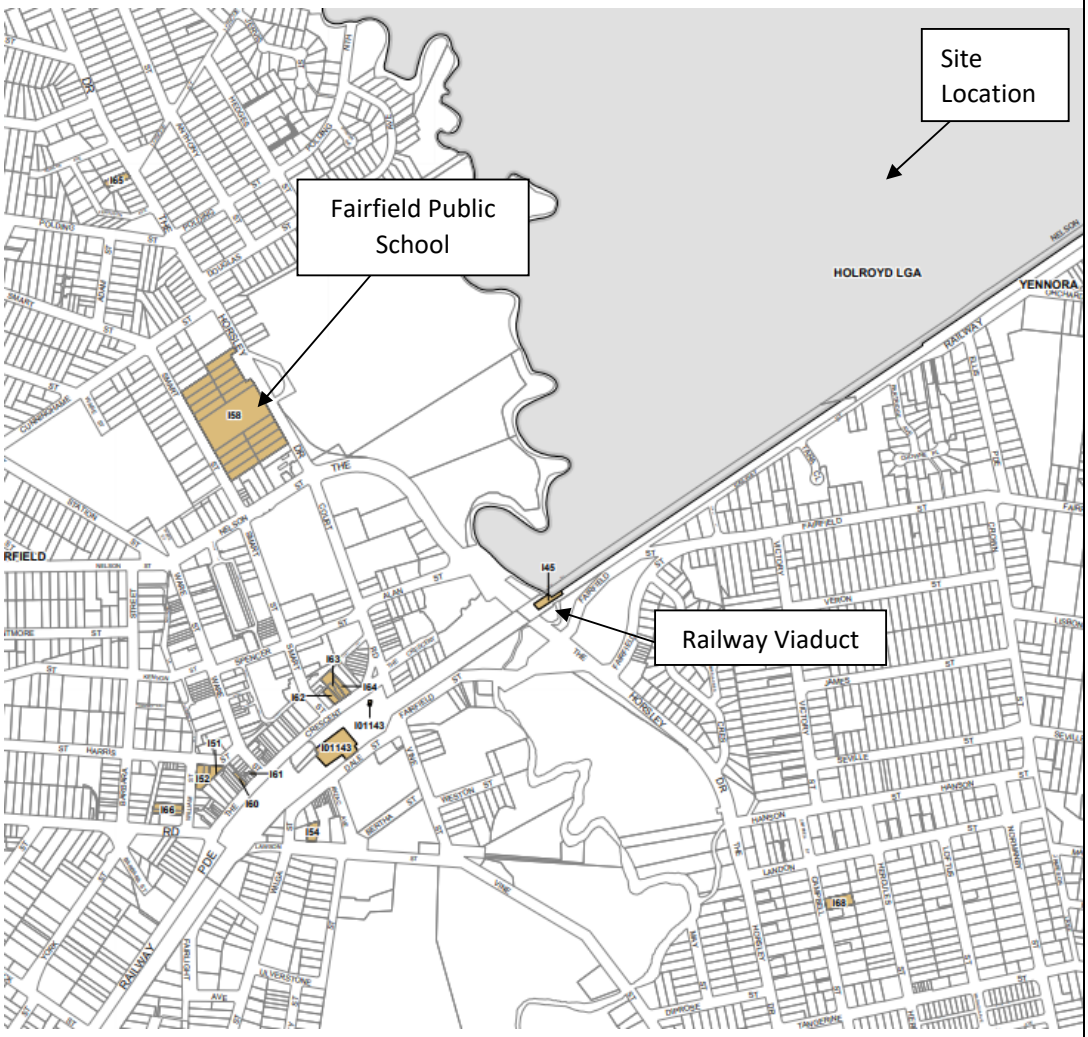
An Aboriginal and Cultural Heritage Assessment has been undertaken and provided in Appendix 6.

Figure 9-2: Holroyd Heritage Map

Source: Holroyd LEP 2013 Heritage Map – Sheet HER_007

↑N Not to scale	LEGEND: **Heritage** Conservation Area - General Item - General Item - Archaeological Item - Landscape	Benbow Environmental 25-27 Sherwood St Northmead NSW 2152

Figure 9-3: Fairfield Heritage Map



Source: Fairfield LEP 2013 Heritage Map – Sheet HER_020

↑N
Not to scale

LEGEND:

Heritage

- Conservation Area - General
- Item - General
- Item - Archaeological
- Item - Landscape

Benbow Environmental
25-27 Sherwood St
Northmead NSW 2152

9.4 ROAD, TRAFFIC AND TRANSPORT

A traffic impact assessment was undertaken by ML Traffic Engineers. A summary of the outcomes of this assessment are provided below:

- Vehicles access the site via the egress point on Kiora Crescent.

- The proposed expansion will increase truck movements by 30 a day (30 arrivals and 30 departures). Currently one (1) truck arrives and departs per hour. This will increase to three (3) trucks per hour.

- Peak hours have been assessed and are 8:00am to 9:00am and 5:00pm to 6:00pm for the weekday AM and PM peak hours respectively

- SIDRA software analysis for Level of Service (LoS) was provided for the intersections of:
  - Priority intersection of Norrie Street with Kiora Crescent;
  - Priority intersection of Loftus Road with Norrie Street;
  - Priority intersection of Loftus Road with Yennora Avenue;
  - Signalised intersection of Fairfield Road with Dursley Road; and
  - Signalised intersection of The Horsley Drive with Polding Street.

Table 9-1 displays the SIDRA criteria for intersection operating performance.

Table 9-1: Level of Service (LoS) for intersections

LoS	Traffic Signal / Roundabout	Give Way / Stop Sign / T Junction control
A	Good operation	Good operation
B	Good with acceptable delays and spare capacity	Acceptable delays and spare capacity
C	Satisfactory	Satisfactory, but accident study required
D	Operating near capacity	Near capacity & accident study required
E	At capacity, at signals incidents will cause excessive delays.	At capacity, requires other control mode
F	Unsatisfactory and requires additional capacity, Roundabouts require other control mode	At capacity, requires other control mode

SIDRA analysis shows turn movements have a LoS A (good operation) for the priority intersections of Norrie Street with Kiora Crescent, Loftus Road with Norrie Street and Loftus Road with Yennora Avenue for the AM and PM peak hours.

Signalised intersections of Fairfield Road with Dursley Road and The Horsley Drive with Polding Street have a LoS of C and B and D and C for the AM and PM peak hours, respectively.

The additional trips do not change the LoS for any turn movement or the overall intersection. All intersections will have spare capacity.

In summary, the proposed development will be a low trip generator for the weekday AM and PM peak hours. The additional trips from the proposed expansion to an existing liquid waste facility can be accommodated at the nearby intersection without significantly affecting intersection performance, delays or queues.

The full traffic impact assessment is provided as Appendix 5.

10. CUMULATIVE IMPACTS AND SAFEGUARDS

This section provides an assessment of the potential cumulative impacts that may arise as a result of the operations from the proposed development, concurrently or sequentially with other projects in the region.

Cumulative impacts are incremental environmental impacts that are caused by past, present or future activities that, when combined, may have further cumulative effect. In fact, the environmental impacts of any single project upon a receiver or resource may not be significant when considered in isolation; however, the potential impacts may increase when individual effects are considered in combination, either with the same project or together with other projects.

The potential cumulative impacts that could arise from the operations of the proposed development are assessed in the following subsections.

10.1 AIR QUALITY

The air quality impact from the proposed development has been assessed in accordance with the NSW EPA *Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales 2016*. This document specifies air pollutants (including odour) which are assessed as a cumulative impact; incremental impact from site + background. The cumulatively assessed pollutant relevant to the subject site is odour, expressed in odour units (OU).

Chemical compounds (e.g. volatile organic compounds (VOCs), vapours, noxious fumes) and dust or particulate matter were considered negligible or deemed absent from the proposed development, and therefore required no further assessment.

The population of an affected community is dependent on modelling results and average household size within the 2 OU contour. The average household size in the Cumberland LGA is 3.2 people according to the 2016 Census (ABS, 2018 (Statistics, 2016)). There are 0 houses within the 2 OU contour, and therefore a population of 0. As per the population based selection method described in Section Table 8-1 an odour concentration criterion of 7 OU/m^3 for residences $\leq \approx 2$ has been considered applicable.

Results from odour impact modelling showed predicted impacts were significantly below the limit of 7 OU, with the highest impact of 0.424 OU at industrial receptor 12 Kiora Crescent, Yennora. All sensitive receptors considered in the assessment, including residents and childcare centres, were below 0.042 OU. As such odour emitted from the site would be very minor and is not anticipated to cause nuisance or offence to persons within the vicinity of the site.

10.2 NOISE AND VIBRATION

Operational noise is a critical environmental issue in any area with surrounding residential receivers. The existing background noise levels were used in determining the project criteria for the noise impact assessment. The cumulative impact of the development was assessed in the road traffic noise study included in the Noise Impact Assessment (Appendix 3). All relevant noise criteria were satisfied at nearest residential receivers in all time periods.

10.3 SURFACE WATERS

The site's process and storage areas are fully contained so there will be no discharge of contaminated surface water.

Surface and storm waters run off the roof into a downpipes and then either into the stormwater system, rainwater tanks or onto the hardstand. All stormwater falling on the site is either directed into blind sumps or isolated (with bungs) stormwater pits/gutters, these are shown in the drainage plans which accompany the suite of architectural plans. The stormwater collected is captured and processed, as liquid stormwater, within the facility.

Therefore, contribution of the individual site has been appropriately mitigated and cumulative long term impacts are considered to be insignificant.

10.4 WASTE MANAGEMENT

A major incident or recurring incidents involving the storage and management of waste products could have potential cumulative impacts if considered in the context of the surrounding area, which has the potential to deal with large volumes of waste generation. Incidents include accidental spillages that have the potential to enter the surrounding environment causing land and water pollution.

A number of safeguards and management measures would continue to be implemented at the site in order to prevent accidental release of any waste. With these procedures and safeguards in place, the contribution of the site to cumulative impacts from the incorrect handling and management of waste would be insignificant.

10.5 HAZARDS AND RISK

Hazards and risk associated with the proposed development are related to the potential for fires, spillage of chemicals and release of particulates into the surrounding environment.

The site is storage and processing areas are fully contained therefore the release of spills and chemicals is considered low risk. There are safeguards established at the site to reduce the risk of fires as well as the risk of release of chemicals and particulates, such as the storage of chemicals according to relevant standards including bunding, provision of spill kits and appropriate staff training in emergency response.

Cumulative impacts are not expected due to the current safeguards and procedures in place. These would be maintained.

10.6 TRAFFIC AND TRANSPORT

The traffic impact assessment for the proposed development, undertaken by ML Traffic Engineers, considered cumulative impacts on the existing road network by using existing traffic count data of the surrounding road networks. Key intersections were assessed for the additional traffic generated by the proposal during AM and PM peak hour traffic.

Results of this assessment are presented in Appendix 5. The report concludes that the proposed development is a low trip generator for the weekday AM and PM peak hours. The additional trips from the proposed development can be accommodated at the nearby intersection without significantly affecting intersection performance delays or queues.

The proposal would have an acceptable traffic impact and there is no requirement for provision of any new traffic capacity roadworks.

11. ECOLOGICALLY SUSTAINABLE DEVELOPMENT

Ecologically sustainable development is defined as "development that meets the need of the present generation without compromising the ability of future generations to meet their own needs". Ecological sustainability requires a combination of good planning, and effective and environmentally sound approach to design, operations and management. The principles of ESD throughout the project's life cycle are outlined in the following paragraphs.

Decision making should be based on sound environmental management principles which consider not only the present, but also the future, particularly in relation to:

- Precautionary principle – if threats of serious or irreversible environmental damage exist, lack of full scientific evidence should not be used as a reason for postponing measures to prevent environmental degradation;
- Inter-generational equity – the present generation should ensure that health, diversity and productivity of the environment is maintained or enhanced for the benefit of future generations;
- The conservation of biodiversity and ecological integrity – the conservation of biological diversity and ecological integrity should be a fundamental consideration; and
- The valuation of the environment and resources and the establishment for the efficient use of resources.

The above principles have been incorporated into the overall design of the project and into the management of operations on site. The EIS outlines safeguards that would be implemented on site so that the proposed operations would cause minimal harm to the environment and that resources would be sustained to ensure availability to future generations, through reducing the environmental impacts on the surrounding community.

The main environmental safeguards to be implemented in order to minimise environmental harm, in line with ESD principles, are as follows:

- Implementation of odour controls;
- Stormwater pollution controls, including fully contained process and storage areas.
- Fire protection services;
- Storage and handling of hazardous chemicals including hardstand area integrity management and maintenance of hazardous chemicals and liquid waste storage area;
- Waste management and stringent procedures to manage the incoming and outgoing waste; and
- Environmental Management Plan (EMP).

The proposed development would not have any foreseeable negative impacts on socio-economic aspects. Instead, a positive contribution from the increased operations on site would be the creation of jobs, with additional employment opportunities being provided. Increased operations are also to focus heavily on servicing the local markets. As a result, the proposal could have positive economic "spin-off" effects in the local region, by enhancing social productivity while not undermining ecological systems. This aspect would be in accordance with the inter-generational equity principle of ESD.

In order to monitor the sustainable performance of a development, various sustainability indicators can be used.

Examples of these indicators are outlined in the table below and have been addressed in relation to the subject site and its considerations for ESD and sustainable practices. The site's EMP will be is to be continually updated in order to maintain the principles of ESD and monitor the sustainability indicators mentioned in the table.

Table 11-1: Sustainability Indicators

Indicator category	Comments and Description
Community	• Increase in employment opportunities; • Strengthening of local economy; • Level of knowledge based investment increased; • No net loss of heritage or other features, buildings, places of high community importance; and • No loss of community integrity.
Ecosystems	• No net reduction in richness or abundance of flora and fauna species in aquatic or terrestrial environments; • No net reduction in the existing landscaping of the site; • No net increase of pests or disease threats to the health of the ecosystem; and • Reduction of hazards which are threats to the health of the ecosystem (fire, pollution, etc.).
Soils	• No net topsoil erosion; • No increase in area of land affected by salinisation; and • No reduction in soil pH below certain levels.
Water	• No net increase in levels of acidification or toxic substances, heavy metals, nutrient and sediment levels; and • No net reduction in quality of water bodies as aquatic habitats.
Air	• No net reduction in air quality.
Energy	• Programs to reduce the use of fossil fuels for transportation and energy consumption.

12. MITIGATION MEASURES AND MANAGEMENT

This section provides a summary of the mitigation measures required to ensure that the surrounding natural and built environment is safeguarded from potential impacts of the proposed development. An overview of the site management plans to be used on site is also provided, together with a description of incident management procedures.

12.1 SUMMARY OF CONTROLS AND MITIGATION MEASURES

Table 12-1 presents a summary of the potential impacts of the site activities discussed in Section 8, and identifies the environmental safeguards and control measures that are recommended throughout the EIS to provide a sufficient level of protection, to both the built and natural environment surrounding the development.

Table 12-1: Summary of Potential Impacts, Environmental Safeguards and Control Measures

Potential Impacts	Safeguards and Control Measures
Air	
Generation of odour emissions exceeding compliance levels, and resulting in impacts to air quality and complaints from the community. Residual impacts after management and mitigation measures: minor impacts from odour emissions.	Maintain current mitigation controls • Biotrickling filter system; • Vertical dispersion stack, 6m above roofline; • Indoor operations; and • Deodoriser.
Noise	
Generation of noise by use of equipment on site and vehicle movements exceeding compliance levels and resulting in impacts to acoustic amenity and complaints from the community.	**Operational Noise** Whilst further noise controls are not predicted to be required to meet the operational noise criteria, the following management practices are recommended as good practice: • Prohibition of extended periods of on-site revving/idling; • Keeping the roller shutter door closed where possible; • Minimisation of the use of truck exhaust brakes on site; • Enforcement of low on-site speed limits; and • On-site vehicles and machinery to be maintained in accordance with a preventative maintenance program to ensure optimum performance and early detection of wearing or noisy components.

Table 12-1: Summary of Potential Impacts, Environmental Safeguards and Control Measures

Potential Impacts	Safeguards and Control Measures
Water	
Contamination of stormwater run-off and consequent impacts on nearby surface waters. Residual impacts after management and mitigation measures: insignificant impacts from potential discharges to water.	• Isolated storm water system, captured water processed through the facility • The site is fully sealed; • Bunded tanks and operational areas; • Blind sump pits within bunded areas • Daily site cleaning; • Clearing and maintaining blind sump pits regularly; • Regular workplace inspection and high standard of housekeeping; and • Segregated and designated waste bays and bins.
Waste Management	
Potential environmental and off-site impacts associated with excessive generation of waste and potential release of waste to surrounding environment. Residual impacts after management and mitigation measures:	• Dedicated waste storage tanks; • Licenced waste contractors for collection; • Waste minimisation and resource recovery practices implemented; • Additional measures recommended include: ▸ Waste audits; ▸ Continual improvement of waste minimisation and resource recovery practices.
Hazards and Risk	
Incident involving the potential for a spill or fire. Residual impacts after management and mitigation measures: potential for fire to cause serious material damage and impact on human life is low.	• Chemical storage in accordance with relevant standard; • Control of ignition sources, including “no smoking” policy; • Adequate provision for escape; • Adequate fire services; • Spill controls including, DG storage bunding, spill kits and spill kit training; • Building security; • Forklift driver training; and • Emergency plan and emergency response training.

Table 12-1: Summary of Potential Impacts, Environmental Safeguards and Control Measures

Potential Impacts	Safeguards and Control Measures
Human Health	
Impacts stemming from other aspects including air quality, noise and hazards and risk: airborne tissue fibres, high internal noise levels and harmful consequences of a potential fire or chemical spill incident. Residual impacts after management and mitigation measures: minor to insignificant impacts to human health of workers and local community.	• Implementation of EMP; • Use of Personal Protective Equipment; • Undertake occupational health assessments if required; • Regular workplace inspection and high standard of housekeeping; • Regular equipment maintenance; • Safeguards and control measures implemented for Air Quality; • Safeguards and control measures implemented for Hazards and Risks; and • Safeguards and control measures recommended for Noise.
Traffic and transport	
Low traffic impact	No requirement for road upgrades

12.2 Site Management Plans

Various site management plans would need to be prepared or updated by Enviro Waste to ensure that proposed operations are undertaken in an environmentally safe manner and with consideration to work health and safety. The most important site management plans include the following:

- Pollution Incident Response Management Plan (PIRMP);
- Emergency Plan (EP); and
- Environmental Management Plan (EMP).

An outline of these reports is provided in the following sub-sections.

12.2.1 Pollution Incident Response Management Plan

The facility has implemented a Pollution Incident Response Management Plan (See Appendix 7) that has been prepared based on Guideline: Pollution Incident Response Management Plans (PIRMP Guideline) and related to their existing EPL No. 20444. This document will need to be updated when a licence variation is issued.

A copy of the facility's PIRMP is provided as Appendix 7.

12.2.2 Emergency Plan

The site's existing emergency plan would be updated with consideration to the following guidelines and standards:

- NSW Rural Fire Service Guidelines for the Preparation of Emergency/Evacuation Plans;
- AS 3745–2010 *Planning for Emergencies in Facilities*;
- AS/NZS 1596:2014 *The storage and handling of LP Gas;* and
- AS 4332–2004 *The storage and handling of gases in cylinders.*
- AS 1940-2017 *The storage and handling of flammable and combustible liquids*

The aims of the plan are: to provide a clear understanding of how to handle and react to any emergency situation that may occur at the site in the form of effective control structures, procedures and directives; to prevent or minimise the impact of an emergency and pollution incident on human life, the community and surrounding environment; and to facilitate a return to *normal* or *safe* operations as soon as possible.

The procedures contained in the plan should be designed to protect life and where possible prevent or minimise damage to the equipment, site and installations at the site and facilitate a return to normal operations by providing effective utilisation of the safety features, systems and/or equipment installed at the site. The procedures would be updated as continually improving guidelines to support site management and handling of unanticipated situations.

An Incident Reporting and Investigation procedure should be included in the plan to address the following aspects and actions:

- If the incident poses a risk to human health or the environment, report the incident immediately, otherwise report incident within 24 hours of the occurrence of the incident;
- Undertake an incident investigation especially if multiple incidents occur or if the incident results in serious injury/death or property damage; and
- Monitor and review incidents to determine follow-up actions, prevent the recurrence of the incident and ensure that follow-up actions are implemented.

A copy of the current Emergency Plan is provided as Appendix 8.

12.2.3 Environmental Management Plan

Enviro Waste will require their existing Environmental Management Plan (EMP) to incorporate activities undertaken on both properties. The EMP would address the following major elements:

- Legal and regulatory requirements;
- Site description including environmental characteristics and general infrastructure;
- Operational conditions and controls;
- Environmental management activities in relation to particular aspects and impacts;
- Reporting, staffing and training requirements;
- Environmental monitoring and review; and
- Environmental procedures including but not limited to:
  - Air Quality and Odour management;
  - Noise management;
  - Stormwater management;

- Waste Management;
- Equipment monitoring and maintenance schedule; and
- Regular Workplace Inspection.

The revised EMP would adopt the framework suggested by the ISO 14001 Standard. This would maximise consistency and simplicity in the administration and implementation of the EMP procedures. Additional procedures would be developed and existing procedures updated to manage the identified environmental aspects and impacts of site activities.

A copy of the existing EMP's environmental aspects and impacts register for the current activities undertaken on 14 Kiora Crescent is provided as Appendix 9.

12.2.4 Complaints management

The site has an existing system for management of complaints. The sites will continue to be monitored and managed using Envirowaste's complaint forms provided in Attachment 9.

13. LIST OF APPROVALS AND LICENCES

A list of licences, approvals and permits required for the proposed development are shown in the following table in **bold**.

Table 13-1: Required licences, approvals and permits

Type	Relevant Legislation	Required?	Agency
LICENCES			
Environment Protection Licence	**Clause 41 of Schedule 1 of the Protection of the Environment Operations Act 1997**	**Yes**	**NSW EPA**
Surface Water Licence	Water Act 1912	No	Office of Water
Groundwater Licence	Water Act 1912	No	Office of Water
Controlled Activity Approval	Water Management Act 2000	No	Office of Water
PERMITS			
Permits under the Fisheries Management Act	Fisheries Management Act 1994	No	DPI Fishing and Aquaculture
Aboriginal Heritage Impact Permit	National Parks & Wildlife Act 1974	No	OEH
Permits under the Heritage Act 1977	Heritage Act 1977	No	OEH
APPROVALS			
Development Consent	**Environmental Planning and Assessment Act 1979**	**Yes**	**Department of Planning Industry and Environment**
Alter or erect improvements within a mine subsidence district	Mine Subsidence Compensation Act 1961	No	Mine Subsidence Board
Consent for works and structures in a public road	Roads Act 1993	No	Transport for NSW
Sub-division or development of bush fire prone land	Rural Fires Act 1997	No	Commissioner of the NSW Rural Fire Service

14. STATEMENT OF COMMITMENTS

Enviro Waste commits to the following course of action during the site modifications and operations of the proposed development at 14-16 Kiora Crescent, Yennora:

- Enviro Waste will abide by all legal requirements, licence conditions and approvals pertaining to the site.
- Enviro Waste will ensure the external areas are kept tidy and free of items and debris to facilitate movement of vehicles on site and minimise potential pollution.
- Enviro Waste will implement and maintain the following safeguards and mitigation measures at the site, as detailed in this EIS.
  - Enviro Waste should ensure maintenance of noisy machinery so criteria are not exceeded and the nearest sensitive receivers.
  - Odour control equipment must be used and maintained.
  - Bunding must be implemented for the storage of liquid waste and dangerous Goods/hazardous chemicals and combustible liquids in accordance with the relevant Australian Standards.
  - Hardstand processing areas, tanks, blind sump pits and pollution control devices are to be regularly inspected and/or cleaned and maintained in good working condition.
  - Staff must be trained in spill response and emergency procedures, including firefighting techniques.
  - Good housekeeping must be undertaken for all operational and storage areas at the site;
  - Fire services and equipment must be provided, and the existing ones should be maintained, in accordance with BCA and relevant Australian Standards.
  - All equipment should be regularly inspected and maintained.
  - All staff must wear PPE relevant to their role.
- Enviro Waste will update and implement their existing Environmental Management Plan and ensure it incorporates the commitments, safeguards, mitigation measures and recommendations documented in this EIS.
- Enviro Waste will update and implement their existing Emergency Plan and Pollution Incident Response Management Plan.

15. JUSTIFICATION AND CONCLUDING REMARKS

15.1 PROJECT JUSTIFICATION

The demand for liquid waste recycling around NSW has been increasing. The site has the capacity to increase process quantities of liquid waste.

The justifications for selecting the subject site and for implementing the proposed increased processing are listed as follows:

- The subject site has existing equipment is capable of processing the increased quantities;
- The proposal is considered to be the most cost-effective process with minimal environmental impact;
- The site is not in a sensitive land use area;
- The development is a permitted use with consent;
- The development generates local employment;
- Transport routes are readily available and the local road network would not be affected;
- The site has sufficient room for on-site parking and truck manoeuvring;
- The site's ability to process a greater quantity of liquid waste will reduce the likelihood of illegal dumping; and
- The proposed development will have extensive environmental safeguards to provide assurance in regards to the expected degree of environmental impacts.

15.2 CONCLUDING REMARKS

The environmental assessment process has enabled the potential impacts of the proposed increase in processing capacity of an existing liquid waste recycling facility be evaluated, and control strategies to be devised in order to ensure compliance with regulatory standards.

The use of a site that is already developed with buildings and infrastructure in place is a major advantage. Being readily able to meet the demand for liquid waste recycling without the construction of a new site is also a benefit of this site.

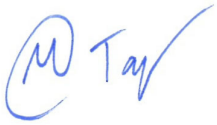
The nature of the increase in capacity is considered to be suited to this site and the request is made that approval be granted.

Prepared by:

Victoria Hale
Environmental Scientist

Kate Barker
Environmental Scientist

Emma Hansma
Senior Engineer



Matthew Taylor
Environmental Scientist

Damien Thomas
Environmental Scientist

Linda Zanotto
Senior Environmental Engineer

R T Benbow
Principal Consultant

16. REFERENCES

NSW Government. (2000). *Environmental Planning and Assessment Regulation*. Retrieved from http://www.legislation.nsw.gov.au/#/view/regulation/2000/557

Australian Federal Governmet. (2011). *Work Health and Safety Act 2011*. Retrieved from https://www.legislation.gov.au/Details/C2016C00887

Australian Government. (1999). *Environment Protection and Biodiversity Conservation Act*. Retrieved from https://www.comlaw.gov.au/Details/C2015C00422

Australian Soil Resource Information System ASRIS. (2017). *Atlas of Australian Acid Sulfate Soils*. Retrieved from http://www.asris.csiro.au/themes/AcidSulfateSoils.html

enHEALTH. (2001). *Health Impact Assessment Guidelines*. Retrieved from http://www.pc.gov.au/inquiries/completed/freight/submissions/department_of_health_and_ageing_/sub057attachmenta.pdf

Holroyd City Council. (2013). *Holroyd Development Control Plan (DCP)*. Retrieved from http://www.holroyd.nsw.gov.au/your-development/policies-plans/development-control-plan-2013/

Holroyd City Council. (2013). *Holroyd Local Environmental Plan*. Retrieved from http://www.legislation.nsw.gov.au/#/view/EPI/2013/139

Holroyd City Council. (n.d.). *Policies & Plans - Flood Maps*. Retrieved from http://www.holroyd.nsw.gov.au/your-development/policies-plans/

New South Wales Consolidated Acts. (1961). *MINE SUBSIDENCE COMPENSATION ACT*. Retrieved from http://www.austlii.edu.au/au/legis/nsw/consol_act/msca1961281/

New South Wales Consolidated Acts. (1977). *HERITAGE ACT*. Retrieved from http://www.austlii.edu.au/au/legis/nsw/consol_act/ha197786/

New South Wales Consolidated Acts. (1979). *ENVIRONMENTAL PLANNING AND ASSESSMENT ACT*. Retrieved from http://www.austlii.edu.au/au/legis/nsw/consol_act/epaaa1979389/

New South Wales Consolidated Acts. (1994). *FISHERIES MANAGEMENT ACT*. Retrieved from http://www.austlii.edu.au/au/legis/nsw/consol_act/fma1994193/

New South Wales Consolidated Acts. (1997). *PROTECTION OF THE ENVIRONMENT OPERATIONS ACT*. Retrieved from http://www.austlii.edu.au/au/legis/nsw/consol_act/poteoa1997455/

New South Wales Consolidated Acts. (2000). *WATER MANAGEMENT ACT*. Retrieved from http://www.austlii.edu.au/au/legis/nsw/consol_act/wma2000166/

New South Wales Consolidated Regulations. (2009). *GREATER METROPOLITAN REGIONAL ENVIRONMENTAL PLAN NO 2--GEORGES RIVER CATCHMENT*. Retrieved from http://www5.austlii.edu.au/au/legis/nsw/consol_reg/gmrepn2rc715/

New South Wales Environment Protection Authority. (2011). *Road Noise Policy*. Retrieved from http://www.epa.nsw.gov.au/resources/noise/2011236nswroadnoisepolicy.pdf

New South Wales Government. (1997). *Rural Fires Act.* Retrieved from http://www.legislation.nsw.gov.au/#/view/act/1997/65

New South Wales Government. (2007). *State Environmental Planning Policy (Infrastructure)*. Retrieved from http://www.legislation.nsw.gov.au/sessionalview/sessional/epi/2007-641.pdf

New South Wales Government. (2011). *State Environmental Planning Policy (State and Regional Development)*. Retrieved from http://www.legislation.nsw.gov.au/maintop/view/inforce/epi+511+2011+cd+0+N

New South Wales Government. (2014). *State Environmental Planning Policy No 55 – Remediation of Land*. Retrieved from http://www.legislation.nsw.gov.au/maintop/view/inforce/epi+520+1998+cd+0+N

New South Wales Government. (n.d.). *State Environmental Planning Policy No 64 – Advertising and Signage.* Retrieved from http://www.legislation.nsw.gov.au/maintop/view/inforce/epi+199+2001+cd+0+N

NSW EPA. (2014). *NSW Waste Avoidance and Resource Recovery Strategy 2014–21*. Retrieved from http://www.epa.nsw.gov.au/resources/wastestrategy/140876-WARR-strategy-14-21.pdf

NSW EPA. (2014). *Waste Classification Guidelines*. Retrieved from http://www.environment.nsw.gov.au/resources/wasteregulation/140796-classify-waste.pdf

NSW EPA. (2016). *Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales*. Retrieved from http://www.epa.nsw.gov.au/resources/epa/approved-methods-for-modelling-and-assessment-of-air-pollutants-in-NSW-160666.pdf

NSW EPA. (2017). *Noise Policy for Industry*. Retrieved from https://www.epa.nsw.gov.au/-/media/epa/corporate-site/resources/noise/17p0524-noise-policy-for-industry.pdf

NSW Government. (1992). *State Environmental Planning Policy No 33—Hazardous and Offensive Development*. Retrieved from http://www.legislation.nsw.gov.au/#/view/EPI/1992/129

NSW Government. (2001). *Waste Avoidance and Resource Recovery Act*. Retrieved from http://www.legislation.nsw.gov.au/acts/2001-58.pdf

NSW Government. (2015). *Water Act 1912 No 44*. Retrieved from http://www.legislation.nsw.gov.au/#/view/act/1912/44

NSW Government. (2016). *Protection of the Environment Operations (Waste) Regulation 2014*. Retrieved from http://www.legislation.nsw.gov.au/#/view/regulation/2014/666

NSW Government. (2016). *Roads Act 1993 No 33*. Retrieved from http://www.legislation.nsw.gov.au/#/view/act/1993/33

NSW Government. (2016). *State Environmental Planning Policy (State Significant Precincts) 2005*. Retrieved from http://www.legislation.nsw.gov.au/#/view/EPI/2005/194

NSW Government. (2016). *Sydney Regional Environmental Plan No 20—Hawkesbury-Nepean River (No 2—1997)*. Retrieved from http://www.legislation.nsw.gov.au/#/view/EPI/1997/592

NSW Government. (2017). *Work Health and Safety Regulation 2017*. Retrieved from https://www.legislation.nsw.gov.au/#/view/regulation/2017/404/full

NSW Government Department of Planning & Environment Resources & Energy. (1991). *Penrith 1:100 000 Geological Map 9030*. Retrieved from http://www.resourcesandenergy.nsw.gov.au/miners-and-explorers/geoscience-information/products-and-data/maps/geological-maps/1-100-000/penrith-1100-000-geological-map

NSW Government Environment & Heritage. (n.d.). *BioNet Atlas of NSW Wildlife*. Retrieved from https://www.environment.nsw.gov.au/atlaspublicapp/UI_Modules/ATLAS_/AtlasSearch.aspx

NSW Government Office of Environment & Heritage. (1990). *Soil Landscapes of the Penrith 1:100,000 Sheet 9030.* Retrieved from https://datasets.seed.nsw.gov.au/dataset/soil-landscapes-of-the-penrith-1-100000-sheet0cca7

NSW Government-Six Maps. (2020). *Land Property and Information*. Retrieved from http://maps.six.nsw.gov.au/

NSW Office of Environment & Heritage. (n.d.). *Search for NSW heritage*. Retrieved from http://www.environment.nsw.gov.au/heritageapp/heritagesearch.aspx

Our Services. (2020, January 14). Retrieved from Envirowaste: http://www.envirowaste.com.au/services/

Standards Australia. (2004). *AS 1940-2017 The storage and handling of flammable and combustible liquids*.

Standards Australia. (2004). *AS 4332-2004 (R2016) The storage and handling of gases in cylinders*. Retrieved from https://infostore.saiglobal.com/store/details.aspx?ProductID=313443

STANDARDS Australia. (2006). *AS ISO 14064.1-2006 Greenhouse gases - Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals.*

Standards Australia. (2008). *AS 3780-2008 The storage and handling of corrosive substances*. Retrieved from http://infostore.saiglobal.com/store/details.aspx?ProductID=1017574

Standards Australia. (2014). *AS/NZS 1596:2014 The storage and handling of LP Gas*. Retrieved from https://infostore.saiglobal.com/store/details.aspx?ProductID=1728387